

## ภาคผนวก ค

เอกสารประกอบมาตรการติดตามตรวจสอบ  
ผลกระทบสิ่งแวดล้อม



# ภาคผนวก ค-1

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ใบรับรองผลการตรวจวิเคราะห์



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## คุณภาพอากาศในบรรยากาศ





## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24118758**  
**Date Received :** Nov 01, 2024  
**Date Reported :** Nov 07, 2024  
**Report Number:** 3139639-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดสวนหลวง (GPS 47P 744062, 1420454)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118758-1 Oct 21, 2024	24118758-2 Oct 22, 2024	24118758-3 Oct 23, 2024	24118758-4 Oct 24, 2024	24118758-5 Oct 25, 2024	24118758-6 Oct 26, 2024	24118758-7 Oct 27, 2024
11:00 AM - 12:00 PM	0.0067	0.0057	0.0066	0.0066	0.0057	0.0059	0.0058
12:00 PM - 01:00 PM	0.0077	0.0058	0.0075	0.0071	0.0058	0.0059	0.0056
01:00 PM - 02:00 PM	0.0075	0.0062	0.0082	0.0078	0.0061	0.0059	0.0056
02:00 PM - 03:00 PM	0.0079	0.0066	0.0082	0.0075	0.0062	0.0061	0.0055
03:00 PM - 04:00 PM	0.0071	0.0071	0.0084	0.0077	0.0066	0.0065	0.0058
04:00 PM - 05:00 PM	0.0070	0.0073	0.0085	0.0080	0.0070	0.0067	0.0061
05:00 PM - 06:00 PM	0.0071	0.0076	0.0087	0.0083	0.0073	0.0068	0.0063
06:00 PM - 07:00 PM	0.0075	0.0079	0.0088	0.0085	0.0077	0.0072	0.0066
07:00 PM - 08:00 PM	0.0083	0.0080	0.0088	0.0086	0.0078	0.0073	0.0069
08:00 PM - 09:00 PM	0.0081	0.0080	0.0087	0.0086	0.0081	0.0075	0.0070
09:00 PM - 10:00 PM	0.0081	0.0081	0.0087	0.0086	0.0082	0.0075	0.0070
10:00 PM - 11:00 PM	0.0080	0.0085	0.0085	0.0086	0.0082	0.0075	0.0071
11:00 PM - 12:00 AM	0.0081	0.0088	0.0085	0.0085	0.0080	0.0078	0.0072
12:00 AM - 01:00 AM	0.0080	0.0086	0.0087	0.0085	0.0080	0.0080	0.0072
01:00 AM - 02:00 AM	0.0080	0.0088	0.0086	0.0084	0.0079	0.0079	0.0072
02:00 AM - 03:00 AM	0.0078	0.0088	0.0088	0.0085	0.0076	0.0076	0.0073
03:00 AM - 04:00 AM	0.0079	0.0087	0.0088	0.0086	0.0075	0.0077	0.0075
04:00 AM - 05:00 AM	0.0079	0.0086	0.0088	0.0084	0.0074	0.0074	0.0075
05:00 AM - 06:00 AM	0.0079	0.0083	0.0085	0.0081	0.0075	0.0072	0.0074
06:00 AM - 07:00 AM	0.0079	0.0079	0.0082	0.0075	0.0075	0.0072	0.0072
07:00 AM - 08:00 AM	0.0079	0.0073	0.0077	0.0066	0.0071	0.0070	0.0066
08:00 AM - 09:00 AM	0.0041	0.0066	0.0072	0.0062	0.0063	0.0070	0.0060
09:00 AM - 10:00 AM	0.0062	0.0065	0.0070	0.0059	0.0061	0.0064	0.0056
10:00 AM - 11:00 AM	0.0061	0.0065	0.0067	0.0056	0.0060	0.0060	0.0038
Average	0.0074	0.0076	0.0082	0.0078	0.0072	0.0070	0.0065
1hr - Maximum	0.0083	0.0088	0.0088	0.0086	0.0082	0.0080	0.0075
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).							
Reference Method : US EPA Method Part 53 and 58							

Approved by

*Orawan R.*

Orawan Rakpong  
Scientist (3)

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24118758**  
**Date Received :** Nov 01, 2024  
**Date Reported :** Nov 07, 2024  
**Report Number:** 3158175-1

Page 1 of 1

Sample Description	Air Quality						
Location	พ.ส.ต.บ้านคลองน้ำเย็น (GSP 47P 747473, 1419148)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118758-8 Oct 21, 2024	24118758-9 Oct 22, 2024	24118758-10 Oct 23, 2024	24118758-11 Oct 24, 2024	24118758-12 Oct 25, 2024	24118758-13 Oct 26, 2024	24118758-14 Oct 27, 2024
12:00 PM - 01:00 PM	0.0051	0.0042	0.0043	0.0043	0.0051	0.0052	0.0077
01:00 PM - 02:00 PM	0.0051	0.0043	0.0047	0.0043	0.0049	0.0051	0.0094
02:00 PM - 03:00 PM	0.0054	0.0043	0.0051	0.0044	0.0049	0.0054	0.0063
03:00 PM - 04:00 PM	0.0055	0.0044	0.0054	0.0045	0.0050	0.0057	0.0057
04:00 PM - 05:00 PM	0.0055	0.0044	0.0051	0.0044	0.0050	0.0085	0.0063
05:00 PM - 06:00 PM	0.0039	0.0041	0.0049	0.0042	0.0049	0.0070	0.0051
06:00 PM - 07:00 PM	0.0037	0.0039	0.0045	0.0037	0.0046	0.0055	0.0088
07:00 PM - 08:00 PM	0.0041	0.0038	0.0042	0.0038	0.0046	0.0043	0.0069
08:00 PM - 09:00 PM	0.0038	0.0037	0.0040	0.0037	0.0043	0.0042	0.0043
09:00 PM - 10:00 PM	0.0035	0.0038	0.0040	0.0036	0.0041	0.0040	0.0038
10:00 PM - 11:00 PM	0.0035	0.0035	0.0041	0.0036	0.0041	0.0046	0.0037
11:00 PM - 12:00 AM	0.0035	0.0035	0.0040	0.0038	0.0042	0.0044	0.0045
12:00 AM - 01:00 AM	0.0034	0.0037	0.0040	0.0039	0.0042	0.0044	0.0045
01:00 AM - 02:00 AM	0.0036	0.0038	0.0041	0.0042	0.0043	0.0049	0.0043
02:00 AM - 03:00 AM	0.0035	0.0035	0.0042	0.0046	0.0044	0.0045	0.0041
03:00 AM - 04:00 AM	0.0035	0.0037	0.0040	0.0051	0.0045	0.0045	0.0038
04:00 AM - 05:00 AM	0.0035	0.0033	0.0041	0.0060	0.0044	0.0045	0.0039
05:00 AM - 06:00 AM	0.0035	0.0034	0.0041	0.0067	0.0045	0.0047	0.0040
06:00 AM - 07:00 AM	0.0036	0.0032	0.0042	0.0071	0.0048	0.0050	0.0032
07:00 AM - 08:00 AM	0.0036	0.0033	0.0039	0.0074	0.0050	0.0053	0.0033
08:00 AM - 09:00 AM	0.0038	0.0037	0.0038	0.0079	0.0051	0.0060	0.0062
09:00 AM - 10:00 AM	0.0038	0.0038	0.0038	0.0075	0.0056	0.0056	0.0056
10:00 AM - 11:00 AM	0.0040	0.0039	0.0040	0.0062	0.0069	0.0059	0.0032
11:00 AM - 12:00 PM	0.0041	0.0039	0.0042	0.0054	0.0066	0.0053	0.0026
Average	0.0040	0.0038	0.0043	0.0050	0.0048	0.0052	0.0050
1hr - Maximum	0.0055	0.0044	0.0054	0.0079	0.0069	0.0085	0.0094
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).							
Reference Method : US EPA Method Part 53 and 58							

Approved by

*Orawan R.*

Orawan Rakpong  
Scientist (3)

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118758  
Date Received : Nov 01, 2024  
Date Reported : Nov 07, 2024  
Report Number: 3158177-1

Page 1 of 1

Sample Description	Air Quality						
Location	บ้านคลองสน (GPS 47P 742172, 1417901)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118758-15 Oct 21, 2024	24118758-16 Oct 22, 2024	24118758-17 Oct 23, 2024	24118758-18 Oct 24, 2024	24118758-19 Oct 25, 2024	24118758-20 Oct 26, 2024	24118758-21 Oct 27, 2024
03:00 PM - 04:00 PM	0.0023	0.0030	0.0022	0.0021	0.0022	0.0029	0.0027
04:00 PM - 05:00 PM	0.0021	0.0030	0.0022	0.0021	0.0020	0.0028	0.0027
05:00 PM - 06:00 PM	0.0022	0.0029	0.0020	0.0029	0.0020	0.0028	0.0027
06:00 PM - 07:00 PM	0.0021	0.0023	0.0022	0.0029	0.0020	0.0028	0.0026
07:00 PM - 08:00 PM	0.0029	0.0023	0.0022	0.0020	0.0021	0.0029	0.0027
08:00 PM - 09:00 PM	0.0028	0.0025	0.0020	0.0020	0.0020	0.0028	0.0027
09:00 PM - 10:00 PM	0.0035	0.0024	0.0020	0.0020	0.0021	0.0028	0.0028
10:00 PM - 11:00 PM	0.0035	0.0023	0.0029	0.0029	0.0029	0.0028	0.0027
11:00 PM - 12:00 AM	0.0035	0.0022	0.0039	0.0028	0.0028	0.0029	0.0027
12:00 AM - 01:00 AM	0.0023	0.0023	0.0020	0.0029	0.0029	0.0028	0.0027
01:00 AM - 02:00 AM	0.0027	0.0023	0.0021	0.0027	0.0029	0.0027	0.0027
02:00 AM - 03:00 AM	0.0029	0.0022	0.0029	0.0027	0.0027	0.0028	0.0027
03:00 AM - 04:00 AM	0.0036	0.0022	0.0029	0.0027	0.0027	0.0027	0.0027
04:00 AM - 05:00 AM	0.0035	0.0023	0.0027	0.0027	0.0030	0.0028	0.0027
05:00 AM - 06:00 AM	0.0034	0.0022	0.0029	0.0027	0.0027	0.0028	0.0027
06:00 AM - 07:00 AM	0.0033	0.0021	0.0028	0.0037	0.0027	0.0027	0.0027
07:00 AM - 08:00 AM	0.0032	0.0021	0.0028	0.0027	0.0026	0.0027	0.0026
08:00 AM - 09:00 AM	0.0031	0.0020	0.0029	0.0027	0.0026	0.0027	0.0026
09:00 AM - 10:00 AM	0.0032	0.0021	0.0028	0.0029	0.0027	0.0027	0.0026
10:00 AM - 11:00 AM	0.0033	0.0020	0.0029	0.0021	0.0028	0.0027	0.0026
11:00 AM - 12:00 PM	0.0033	0.0026	0.0020	0.0029	0.0026	0.0026	0.0026
12:00 PM - 01:00 PM	0.0032	0.0022	0.0021	0.0021	0.0029	0.0028	0.0025
01:00 PM - 02:00 PM	0.0031	0.0023	0.0022	0.0022	0.0029	0.0025	0.0025
02:00 PM - 03:00 PM	0.0031	0.0021	0.0023	0.0021	0.0029	0.0028	0.0027
Average	0.0030	0.0023	0.0025	0.0025	0.0026	0.0028	0.0027
1hr - Maximum	0.0036	0.0030	0.0039	0.0037	0.0030	0.0029	0.0028
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).  
Reference Method : US EPA Method Part 53 and 58

Approved by

*Orawan R.*  
Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118758  
Date Received : Nov 01, 2024  
Date Reported : Nov 07, 2024  
Report Number: 3158185-1

Page 1 of 1

Sample Description	Air Quality						
Location	บ้านคลองสน (GPS 47P 747552, 1413909)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118758-22 Oct 21, 2024	24118758-23 Oct 22, 2024	24118758-24 Oct 23, 2024	24118758-25 Oct 24, 2024	24118758-26 Oct 25, 2024	24118758-27 Oct 26, 2024	24118758-28 Oct 27, 2024
12:00 PM - 01:00 PM	0.0177	0.0175	0.0156	0.0146	0.0140	0.0136	0.0131
01:00 PM - 02:00 PM	0.0136	0.0173	0.0156	0.0147	0.0140	0.0135	0.0132
02:00 PM - 03:00 PM	0.0186	0.0172	0.0156	0.0146	0.0139	0.0135	0.0132
03:00 PM - 04:00 PM	0.0198	0.0171	0.0158	0.0144	0.0139	0.0135	0.0131
04:00 PM - 05:00 PM	0.0198	0.0170	0.0155	0.0148	0.0140	0.0135	0.0133
05:00 PM - 06:00 PM	0.0196	0.0170	0.0154	0.0149	0.0139	0.0135	0.0132
06:00 PM - 07:00 PM	0.0195	0.0167	0.0155	0.0148	0.0139	0.0135	0.0132
07:00 PM - 08:00 PM	0.0193	0.0165	0.0156	0.0146	0.0139	0.0135	0.0132
08:00 PM - 09:00 PM	0.0193	0.0164	0.0155	0.0145	0.0139	0.0131	0.0133
09:00 PM - 10:00 PM	0.0191	0.0166	0.0154	0.0144	0.0137	0.0135	0.0132
10:00 PM - 11:00 PM	0.0187	0.0165	0.0156	0.0145	0.0139	0.0135	0.0132
11:00 PM - 12:00 AM	0.0189	0.0163	0.0153	0.0144	0.0137	0.0135	0.0134
12:00 AM - 01:00 AM	0.0186	0.0160	0.0153	0.0144	0.0138	0.0133	0.0132
01:00 AM - 02:00 AM	0.0183	0.0161	0.0152	0.0145	0.0138	0.0134	0.0133
02:00 AM - 03:00 AM	0.0183	0.0161	0.0151	0.0144	0.0138	0.0134	0.0133
03:00 AM - 04:00 AM	0.0181	0.0162	0.0148	0.0143	0.0137	0.0136	0.0131
04:00 AM - 05:00 AM	0.0178	0.0161	0.0152	0.0143	0.0135	0.0135	0.0130
05:00 AM - 06:00 AM	0.0176	0.0162	0.0150	0.0142	0.0136	0.0134	0.0130
06:00 AM - 07:00 AM	0.0179	0.0160	0.0150	0.0142	0.0136	0.0133	0.0128
07:00 AM - 08:00 AM	0.0177	0.0159	0.0146	0.0141	0.0136	0.0135	0.0129
08:00 AM - 09:00 AM	0.0180	0.0157	0.0145	0.0142	0.0134	0.0136	0.0127
09:00 AM - 10:00 AM	0.0178	0.0161	0.0151	0.0141	0.0136	0.0134	0.0128
10:00 AM - 11:00 AM	0.0176	0.0157	0.0146	0.0139	0.0134	0.0133	0.0134
11:00 AM - 12:00 PM	0.0176	0.0157	0.0147	0.0139	0.0135	0.0133	0.0126
Average	0.0183	0.0164	0.0152	0.0144	0.0138	0.0134	0.0131
1hr - Maximum	0.0198	0.0175	0.0158	0.0149	0.0140	0.0136	0.0134
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).							
Reference Method : US EPA Method Part 53 and 58							

Approved by

*Orawan R.*  
Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118754  
Date Received : Nov 01, 2024  
Date Reported : Nov 07, 2024  
Report Number: 3139622-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดสวนหลวง (GPS 47P 744062, 1420454)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118754-1 Oct 21, 2024	24118754-2 Oct 22, 2024	24118754-3 Oct 23, 2024	24118754-4 Oct 24, 2024	24118754-5 Oct 25, 2024	24118754-6 Oct 26, 2024	24118754-7 Oct 27, 2024
11:00 AM - 12:00 PM	0.0014	0.0054	0.0014	0.0009	0.0061	0.0045	0.0015
12:00 PM - 01:00 PM	0.0015	0.0064	0.0011	0.0010	0.0052	0.0028	0.0008
01:00 PM - 02:00 PM	0.0018	0.0032	0.0011	0.0018	0.0050	0.0029	0.0005
02:00 PM - 03:00 PM	0.0019	0.0061	0.0012	0.0011	0.0046	0.0030	0.0007
03:00 PM - 04:00 PM	0.0036	0.0067	0.0083	0.0013	0.0061	0.0028	0.0008
04:00 PM - 05:00 PM	0.0058	0.0067	0.0091	0.0070	0.0080	0.0040	0.0017
05:00 PM - 06:00 PM	0.0079	0.0068	0.0092	0.0080	0.0081	0.0052	0.0029
06:00 PM - 07:00 PM	0.0056	0.0089	0.0056	0.0079	0.0083	0.0068	0.0094
07:00 PM - 08:00 PM	0.0072	0.0099	0.0076	0.0097	0.0116	0.0094	0.0097
08:00 PM - 09:00 PM	0.0074	0.0079	0.0080	0.0085	0.0162	0.0080	0.0097
09:00 PM - 10:00 PM	0.0066	0.0092	0.0088	0.0096	0.0156	0.0099	0.0083
10:00 PM - 11:00 PM	0.0048	0.0051	0.0057	0.0094	0.0127	0.0078	0.0093
11:00 PM - 12:00 AM	0.0048	0.0043	0.0057	0.0093	0.0085	0.0094	0.0089
12:00 AM - 01:00 AM	0.0070	0.0043	0.0046	0.0082	0.0090	0.0063	0.0053
01:00 AM - 02:00 AM	0.0039	0.0036	0.0052	0.0096	0.0085	0.0057	0.0034
02:00 AM - 03:00 AM	0.0029	0.0034	0.0051	0.0071	0.0084	0.0042	0.0013
03:00 AM - 04:00 AM	0.0043	0.0035	0.0038	0.0056	0.0056	0.0034	0.0016
04:00 AM - 05:00 AM	0.0032	0.0034	0.0035	0.0042	0.0046	0.0041	0.0016
05:00 AM - 06:00 AM	0.0057	0.0013	0.0051	0.0040	0.0053	0.0040	0.0028
06:00 AM - 07:00 AM	0.0057	0.0036	0.0072	0.0033	0.0075	0.0036	0.0029
07:00 AM - 08:00 AM	0.0050	0.0034	0.0077	0.0069	0.0063	0.0032	0.0043
08:00 AM - 09:00 AM	0.0050	0.0032	0.0048	0.0092	0.0053	0.0069	0.0049
09:00 AM - 10:00 AM	0.0094	0.0027	0.0016	0.0084	0.0063	0.0044	0.0029
10:00 AM - 11:00 AM	0.0055	0.0025	0.0011	0.0088	0.0056	0.0033	0.0030
Average	0.0049	0.0051	0.0051	0.0063	0.0078	0.0052	0.0041
1hr - Maximum	0.0094	0.0099	0.0092	0.0097	0.0162	0.0099	0.0097
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170
Standard	: Notification of the National Environment Board No. 33, 2009 (B.E. 2552).						
Reference Method	: US EPAMethod Part 50 App. F (Chemiluminescence)						

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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S:\Reports\_Air SOxNOx rpt ( 2.18PM)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118754  
Date Received : Nov 01, 2024  
Date Reported : Nov 07, 2024  
Report Number: 3158189-1

Page 1 of 1

Sample Description	Air Quality						
Location	รพ.สต.บ้านคลองน้ำเย็น (GSP 47P 747473, 1419148)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118754-8 Oct 21, 2024	24118754-9 Oct 22, 2024	24118754-10 Oct 23, 2024	24118754-11 Oct 24, 2024	24118754-12 Oct 25, 2024	24118754-13 Oct 26, 2024	24118754-14 Oct 27, 2024
12:00 PM - 01:00 PM	0.0023	0.0052	0.0078	0.0021	0.0075	0.0061	0.0015
01:00 PM - 02:00 PM	0.0055	0.0057	0.0026	0.0016	0.0059	0.0029	0.0012
02:00 PM - 03:00 PM	0.0035	0.0033	0.0012	0.0016	0.0044	0.0023	0.0012
03:00 PM - 04:00 PM	0.0049	0.0037	0.0014	0.0015	0.0036	0.0024	0.0018
04:00 PM - 05:00 PM	0.0056	0.0067	0.0019	0.0012	0.0089	0.0042	0.0012
05:00 PM - 06:00 PM	0.0039	0.0061	0.0030	0.0045	0.0042	0.0028	0.0014
06:00 PM - 07:00 PM	0.0034	0.0054	0.0061	0.0056	0.0049	0.0036	0.0019
07:00 PM - 08:00 PM	0.0035	0.0042	0.0060	0.0064	0.0059	0.0061	0.0038
08:00 PM - 09:00 PM	0.0038	0.0058	0.0071	0.0072	0.0079	0.0059	0.0039
09:00 PM - 10:00 PM	0.0055	0.0092	0.0092	0.0084	0.0096	0.0073	0.0060
10:00 PM - 11:00 PM	0.0067	0.0055	0.0057	0.0094	0.0086	0.0096	0.0086
11:00 PM - 12:00 AM	0.0070	0.0049	0.0057	0.0067	0.0097	0.0083	0.0075
12:00 AM - 01:00 AM	0.0062	0.0046	0.0049	0.0061	0.0085	0.0067	0.0078
01:00 AM - 02:00 AM	0.0052	0.0038	0.0040	0.0055	0.0072	0.0064	0.0070
02:00 AM - 03:00 AM	0.0062	0.0031	0.0049	0.0048	0.0063	0.0064	0.0067
03:00 AM - 04:00 AM	0.0050	0.0026	0.0038	0.0055	0.0061	0.0062	0.0011
04:00 AM - 05:00 AM	0.0046	0.0031	0.0028	0.0044	0.0054	0.0050	0.0016
05:00 AM - 06:00 AM	0.0043	0.0031	0.0031	0.0076	0.0044	0.0054	0.0020
06:00 AM - 07:00 AM	0.0040	0.0029	0.0035	0.0038	0.0049	0.0039	0.0023
07:00 AM - 08:00 AM	0.0041	0.0029	0.0059	0.0043	0.0057	0.0043	0.0031
08:00 AM - 09:00 AM	0.0061	0.0046	0.0082	0.0071	0.0084	0.0059	0.0031
09:00 AM - 10:00 AM	0.0084	0.0062	0.0099	0.0095	0.0085	0.0058	0.0043
10:00 AM - 11:00 AM	0.0071	0.0027	0.0052	0.0088	0.0066	0.0053	0.0042
11:00 AM - 12:00 PM	0.0082	0.0013	0.0048	0.0090	0.0056	0.0034	0.0042
Average	0.0052	0.0045	0.0049	0.0055	0.0066	0.0053	0.0036
1hr - Maximum	0.0084	0.0092	0.0099	0.0095	0.0097	0.0096	0.0086
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170
Standard	: Notification of the National Environment Board No. 33, 2009 (B.E. 2552).						
Reference Method	: US EPAMethod Part 50 App. F (Chemiluminescence)						

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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S:\Reports\_Air SOxNOx rpt ( 2.18PM)





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : GNLL2-4210900304  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118710  
Date Received : Nov 01, 2024  
Date Reported : Nov 07, 2024  
Report Number: 3158200-1C15

Page 1 of 1

Sample Description	Air Quality						
Location	ชุมชนบ้านสวนนก						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118710-8 Oct 21, 2024	24118710-9 Oct 22, 2024	24118710-10 Oct 23, 2024	24118710-11 Oct 24, 2024	24118710-12 Oct 25, 2024	24118710-13 Oct 26, 2024	24118710-14 Oct 27, 2024
03:00 PM - 04:00 PM	0.0086	0.0097	0.0054	0.0081	0.0084	0.0092	0.0067
04:00 PM - 05:00 PM	0.0095	0.0098	0.0075	0.0078	0.0087	0.0093	0.0095
05:00 PM - 06:00 PM	0.0075	0.0099	0.0068	0.0068	0.0073	0.0081	0.0099
06:00 PM - 07:00 PM	0.0094	0.0074	0.0095	0.0089	0.0088	0.0087	0.0096
07:00 PM - 08:00 PM	0.0088	0.0090	0.0085	0.0092	0.0071	0.0098	0.0061
08:00 PM - 09:00 PM	0.0067	0.0064	0.0067	0.0096	0.0089	0.0089	0.0053
09:00 PM - 10:00 PM	0.0083	0.0068	0.0048	0.0087	0.0088	0.0095	0.0093
10:00 PM - 11:00 PM	0.0094	0.0072	0.0078	0.0099	0.0092	0.0094	0.0086
11:00 PM - 12:00 AM	0.0084	0.0083	0.0099	0.0097	0.0094	0.0089	0.0087
12:00 AM - 01:00 AM	0.0074	0.0099	0.0086	0.0093	0.0076	0.0089	0.0099
01:00 AM - 02:00 AM	0.0078	0.0098	0.0097	0.0083	0.0099	0.0099	0.0017
02:00 AM - 03:00 AM	0.0053	0.0098	0.0098	0.0092	0.0088	0.0084	0.0043
03:00 AM - 04:00 AM	0.0099	0.0095	0.0098	0.0095	0.0095	0.0057	0.0035
04:00 AM - 05:00 AM	0.0073	0.0068	0.0076	0.0088	0.0094	0.0057	0.0030
05:00 AM - 06:00 AM	0.0087	0.0051	0.0091	0.0087	0.0086	0.0024	0.0042
06:00 AM - 07:00 AM	0.0078	0.0071	0.0096	0.0024	0.0074	0.0045	0.0074
07:00 AM - 08:00 AM	0.0097	0.0086	0.0087	0.0097	0.0078	0.0097	0.0054
08:00 AM - 09:00 AM	0.0099	0.0096	0.0096	0.0085	0.0064	0.0097	0.0032
09:00 AM - 10:00 AM	0.0077	0.0093	0.0055	0.0071	0.0094	0.0052	0.0094
10:00 AM - 11:00 AM	0.0084	0.0056	0.0049	0.0094	0.0088	0.0079	0.0066
11:00 AM - 12:00 PM	0.0096	0.0027	0.0038	0.0099	0.0099	0.0081	0.0083
12:00 PM - 01:00 PM	0.0073	0.0065	0.0070	0.0094	0.0098	0.0081	0.0098
01:00 PM - 02:00 PM	0.0085	0.0044	0.0073	0.0097	0.0098	0.0083	0.0080
02:00 PM - 03:00 PM	0.0072	0.0037	0.0076	0.0092	0.0086	0.0054	0.0094
Average	0.0083	0.0076	0.0077	0.0090	0.0084	0.0083	0.0066
1hr - Maximum	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099	0.0099
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170
Standard	: Notification of the National Environment Board No. 33, 2009 (B.E. 2552).						
Reference Method	: US EPAMethod Part 50 App. F (Chemiluminescence)						

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Approved by

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118754  
Date Received : Nov 01, 2024  
Date Reported : Nov 07, 2024  
Report Number: 3158194-1

Page 1 of 1

Sample Description	Air Quality						
Location	บ้านตรอกสัตว์ขี้ (GPS 47P 747552, 1413909)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Oct 21, 2024 - Oct 28, 2024						
Measurement by	Chatchai Sukpia						
Time	24118754-15 Oct 21, 2024	24118754-16 Oct 22, 2024	24118754-17 Oct 23, 2024	24118754-18 Oct 24, 2024	24118754-19 Oct 25, 2024	24118754-20 Oct 26, 2024	24118754-21 Oct 27, 2024
01:00 PM - 02:00 PM	0.0131	0.0100	0.0037	0.0021	0.0066	0.0040	0.0040
02:00 PM - 03:00 PM	0.0122	0.0095	0.0033	0.0020	0.0051	0.0037	0.0028
03:00 PM - 04:00 PM	0.0185	0.0107	0.0046	0.0017	0.0057	0.0050	0.0035
04:00 PM - 05:00 PM	0.0123	0.0091	0.0023	0.0063	0.0058	0.0042	0.0039
05:00 PM - 06:00 PM	0.0142	0.0158	0.0043	0.0072	0.0111	0.0056	0.0040
06:00 PM - 07:00 PM	0.0168	0.0159	0.0115	0.0127	0.0121	0.0071	0.0060
07:00 PM - 08:00 PM	0.0219	0.0147	0.0199	0.0138	0.0136	0.0055	0.0063
08:00 PM - 09:00 PM	0.0179	0.0202	0.0185	0.0131	0.0157	0.0084	0.0145
09:00 PM - 10:00 PM	0.0149	0.0159	0.0131	0.0199	0.0128	0.0088	0.0115
10:00 PM - 11:00 PM	0.0141	0.0158	0.0130	0.0176	0.0157	0.0115	0.0126
11:00 PM - 12:00 AM	0.0135	0.0124	0.0109	0.0139	0.0174	0.0112	0.0111
12:00 AM - 01:00 AM	0.0119	0.0128	0.0103	0.0099	0.0139	0.0122	0.0115
01:00 AM - 02:00 AM	0.0110	0.0113	0.0079	0.0092	0.0108	0.0129	0.0086
02:00 AM - 03:00 AM	0.0097	0.0097	0.0067	0.0070	0.0095	0.0087	0.0058
03:00 AM - 04:00 AM	0.0099	0.0086	0.0062	0.0076	0.0088	0.0075	0.0029
04:00 AM - 05:00 AM	0.0096	0.0084	0.0051	0.0069	0.0087	0.0056	0.0046
05:00 AM - 06:00 AM	0.0097	0.0057	0.0040	0.0058	0.0070	0.0062	0.0035
06:00 AM - 07:00 AM	0.0092	0.0055	0.0055	0.0058	0.0072	0.0060	0.0042
07:00 AM - 08:00 AM	0.0094	0.0081	0.0090	0.0080	0.0084	0.0054	0.0040
08:00 AM - 09:00 AM	0.0090	0.0085	0.0100	0.0097	0.0081	0.0071	0.0042
09:00 AM - 10:00 AM	0.0107	0.0071	0.0078	0.0112	0.0084	0.0095	0.0056
10:00 AM - 11:00 AM	0.0135	0.0074	0.0036	0.0096	0.0084	0.0102	0.0075
11:00 AM - 12:00 PM	0.0108	0.0062	0.0030	0.0090	0.0069	0.0073	0.0087
12:00 PM - 01:00 PM	0.0097	0.0046	0.0034	0.0060	0.0054	0.0051	0.0070
Average	0.0126	0.0106	0.0078	0.0090	0.0097	0.0074	0.0066
1hr - Maximum	0.0219	0.0202	0.0199	0.0199	0.0174	0.0129	0.0145
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170
Standard	: Notification of the National Environment Board No. 33, 2009 (B.E. 2552).						
Reference Method	: US EPAMethod Part 50 App. F (Chemiluminescence)						

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Approved by

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Orawan Rakyong  
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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2



TESTING  
No.0042

**Lot ID: 24118764**  
Date Received : Oct 29, 2024  
Date Reported : Nov 04, 2024  
Report Number: 3139650-1

Page 1 of 1

Sample Description		Air Quality			
Location		วัดสวนหลวง (GPS 47P 744062, 1420454)			
Date Analysis Commenced		Oct 31, 2024			
Condition of Sample		Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag			
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24118764-1	Oct 21 - Oct 22, 2024	0.056	0.026	758	32
24118764-2	Oct 22 - Oct 23, 2024	0.030	0.016	758	30
24118764-3	Oct 23 - Oct 24, 2024	0.027	0.016	758	32
24118764-4	Oct 24 - Oct 25, 2024	0.110	0.041	758	32
24118764-5	Oct 25 - Oct 26, 2024	0.071	0.043	758	32
24118764-6	Oct 26 - Oct 27, 2024	0.053	0.021	758	32
24118764-7	Oct 27 - Oct 28, 2024	0.047	0.019	758	32
Guideline		0.33	0.12	-	-

### Reference Method

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

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

**Sampled By :** Chatchai Sukpia

### Remark :

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

Approved by

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2



TESTING  
No.0042

**Lot ID: 24118764**  
Date Received : Oct 29, 2024  
Date Reported : Nov 04, 2024  
Report Number: 3139650-2

Page 1 of 1

Sample Description		Air Quality			
Location		รพ.สต.บ้านคลองน้ำเย็น (GSP 47P 747473, 1419148)			
Date Analysis Commenced		Oct 31, 2024			
Condition of Sample		Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag			
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24118764-8	Oct 21 - Oct 22, 2024	0.024	0.016	758	32
24118764-9	Oct 22 - Oct 23, 2024	0.032	0.018	758	30
24118764-10	Oct 23 - Oct 24, 2024	0.029	0.018	758	32
24118764-11	Oct 24 - Oct 25, 2024	0.043	0.030	758	32
24118764-12	Oct 25 - Oct 26, 2024	0.054	0.036	758	32
24118764-13	Oct 26 - Oct 27, 2024	0.041	0.025	758	32
24118764-14	Oct 27 - Oct 28, 2024	0.037	0.024	758	32
Guideline		0.33	0.12	-	-

### Reference Method

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

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

**Sampled By :** Chatchai Sukpia

### Remark :

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

Approved by

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118764  
Date Received : Oct 29, 2024  
Date Reported : Nov 04, 2024  
Report Number: 3139650-3

Page 1 of 1

Sample Description Air Quality  
Location บ้านคลองคุดมัน (GPS 47P 747552, 1413909)  
Date Analysis Commenced Oct 31, 2024  
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24118764-15	Oct 21 - Oct 22, 2024	0.035	0.022	758	32
24118764-16	Oct 22 - Oct 23, 2024	0.044	0.021	758	30
24118764-17	Oct 23 - Oct 24, 2024	0.051	0.025	758	32
24118764-18	Oct 24 - Oct 25, 2024	0.065	0.037	758	32
24118764-19	Oct 25 - Oct 26, 2024	0.073	0.040	758	32
24118764-20	Oct 26 - Oct 27, 2024	0.060	0.026	758	32
24118764-21	Oct 27 - Oct 28, 2024	0.043	0.033	758	32
Guideline		0.33	0.12	-	-

### Reference Method

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

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

Sampled By : Chatchai Sukpla

### Remark :

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

Approved by

Thanita K.

Thanita Kulsuriwong  
Scientist (4)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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14289-41 / EMAIL

S:\Reports\_Air Ambient\7Days rpt ( 1:16PM)



## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118717  
Date Received : Oct 29, 2024  
Date Reported : Nov 05, 2024  
Report Number : 3139544-2C15

Page 1 of 1

Sample Description Air Quality  
Location บ้านนาสวนแสง (GPS 47P 0742172, 1417901)  
Date Analysis Commenced Oct 31, 2024  
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24118717-8	Oct 21 - Oct 22, 2024	0.053	0.025	758	32
24118717-9	Oct 22 - Oct 23, 2024	0.049	0.022	758	30
24118717-10	Oct 23 - Oct 24, 2024	0.058	0.028	758	32
24118717-11	Oct 24 - Oct 25, 2024	0.081	0.040	758	32
24118717-12	Oct 25 - Oct 26, 2024	0.098	0.040	758	32
24118717-13	Oct 26 - Oct 27, 2024	0.069	0.029	758	32
24118717-14	Oct 27 - Oct 28, 2024	0.051	0.022	758	32
Guideline		0.33	0.12	-	-

### Reference Method

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

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

Sampled By : Chatchai Sukpla

Approved by

Thanita K.

Thanita Kulsuriwong  
Scientist (4)

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118768  
Date Received : Oct 31, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3139657-1

Page 1 of 2

Sample Number : 24118768-1 to 7  
Parameter : Wind Speed / Wind Direction  
Location : วัดสวนหลวง (GPS 47P 0744062, 1420454)  
Sampling Date : Oct 21 - Oct 28, 2024  
Sampling by : Chatchai Sukpia

Time	Oct 21 - Oct 22, 2024		Oct 22 - Oct 23, 2024		Oct 23 - Oct 24, 2024		Oct 24 - Oct 25, 2024		Oct 25 - Oct 26, 2024		Oct 26 - Oct 27, 2024		Oct 27 - Oct 28, 2024	
	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)
11:00 AM - 12:00 PM	1.0	15.0	NNE	2.0	69.0	ENE	0.4	126.0	SE	1.9	87.0	E	1.3	165.0
12:00 PM - 01:00 PM	0.8	211.0	SSW	1.7	270.0	W	0.3	251.0	WSW	0.0	-	-	1.5	339.0
01:00 PM - 02:00 PM	0.5	274.0	W	1.1	16.0	NNE	1.4	269.0	W	0.8	103.0	ESE	0.6	75.0
02:00 PM - 03:00 PM	0.2	-	-	0.3	303.0	WNW	1.3	243.0	WSW	0.7	37.0	NE	0.8	3.0
03:00 PM - 04:00 PM	0.8	24.0	NNE	0.8	118.0	ESE	0.0	-	-	0.6	12.0	NNE	1.3	11.0
04:00 PM - 05:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.4	316.0	NW	0.1	-
05:00 PM - 06:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.9	0.0	N	0.6	343.0
06:00 PM - 07:00 PM	0.3	53.0	NE	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-
07:00 PM - 08:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-
08:00 PM - 09:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.6	275.0
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.2	-
10:00 PM - 11:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.1	236.0
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.4	104.0
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-
01:00 AM - 02:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.1	-
02:00 AM - 03:00 AM	0.0	-	-	1.1	0.0	N	0.0	-	-	0.0	-	-	1.3	108.0
03:00 AM - 04:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-
04:00 AM - 05:00 AM	0.0	-	-	0.0	-	-	1.1	56.0	NE	0.0	-	-	0.0	-
05:00 AM - 06:00 AM	0.3	71.0	ENE	0.4	18.0	NNE	0.0	-	-	0.0	-	-	2.7	111.0
06:00 AM - 07:00 AM	0.6	20.0	NNE	0.4	46.0	NE	0.6	105.0	ESE	0.3	20.0	NNE	1.3	119.0
07:00 AM - 08:00 AM	0.8	0.0	N	0.7	30.0	NNE	4.0	82.0	E	1.3	2.0	N	1.7	4.0
08:00 AM - 09:00 AM	0.8	100.0	E	1.2	88.0	E	3.2	143.0	SE	0.8	348.0	NNW	0.8	249.0
09:00 AM - 10:00 AM	1.2	355.0	N	0.2	-	-	0.3	100.0	E	1.2	359.0	N	0.5	284.0
10:00 AM - 11:00 AM	1.7	75.0	ENE	0.2	-	-	0.3	333.0	NNW	2.0	23.0	NNE	2.7	3.0

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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

Approved by

Sarayuth Jitranont  
Assistant General Manager

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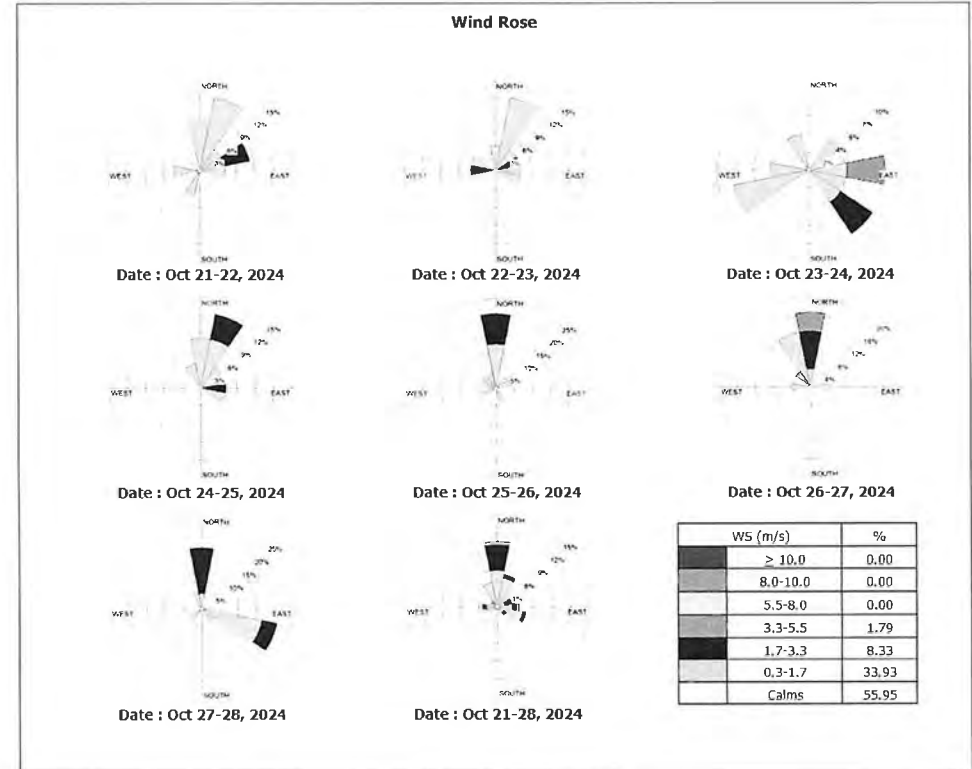
## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118768  
Date Received : Oct 31, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3139657-1

Page 2 of 2



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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118768  
Date Received :Oct 31, 2024  
Date Reported :Nov 08, 2024  
Report Number :3139657-1

Sample Number : 24118768-8 to 14  
Parameter : Wind Speed / Wind Direction  
Location : รพ.สต.บ้านคลองน้ำเย็น (GPS 47P 0747473, 1419148)  
Sampling Date : Oct 21 - Oct 28, 2024  
Sampling by : Chatchai Sukpia

Page 1 of 2

Time	Oct 21 - Oct 22, 2024			Oct 22 - Oct 23, 2024			Oct 23 - Oct 24, 2024			Oct 24 - Oct 25, 2024			Oct 25 - Oct 26, 2024			Oct 26 - Oct 27, 2024			Oct 27 - Oct 28, 2024		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)	
12:00 PM - 01:00 PM	1.2	202.0	SSW	1.2	264.0	W	0.6	246.0	WSW	0.3	196.0	SSW	1.2	352.0	N	1.4	348.0	NNW	1.2	0.6	N
01:00 PM - 02:00 PM	0.8	264.0	W	0.9	12.0	NNE	1.6	282.0	WNW	1.4	126.0	SE	0.6	84.0	E	0.8	62.0	ENE	0.8	0.8	N
02:00 PM - 03:00 PM	0.6	325.0	NW	0.6	320.0	NW	0.8	222.0	SW	0.8	48.0	NE	0.3	13.0	NNE	0.6	360.0	N	1.2	360.0	N
03:00 PM - 04:00 PM	1.2	58.0	ENE	1.2	220.0	SW	0.0	-	-	0.3	22.0	NNE	1.3	21.0	NNE	0.3	312.0	NW	0.0	-	-
04:00 PM - 05:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.6	28.0	NNE	0.4	326.0	NW	0.3	332.0	NNW	0.0	-	-
05:00 PM - 06:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.3	282.0	WNW	1.4	8.0	N	0.6	352.0	N	0.0	-	-
06:00 PM - 07:00 PM	0.3	63.0	ENE	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
07:00 PM - 08:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.6	360.0	N
08:00 PM - 09:00 PM	0.0	-	-	0.0	-	-	0.6	360.0	N	0.0	-	-	0.0	-	-	1.2	184.0	S	1.2	258.0	WSW
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.2	303.0	WNW	1.4	242.0	WSW
10:00 PM - 11:00 PM	0.0	-	-	0.3	72.0	ENE	0.0	-	-	0.0	-	-	0.0	-	-	6.0	298.0	WNW	0.6	254.0	WSW
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.3	16.0	NNE	0.0	-	-	0.3	300.0	WNW	1.2	124.0	SE
12:00 AM - 01:00 AM	0.0	-	-	0.2	-	-	0.6	124.0	SE	0.0	-	-	0.0	-	-	0.3	82.0	E	0.3	16.0	NNE
01:00 AM - 02:00 AM	0.0	-	-	1.0	46.0	NE	0.0	-	-	0.0	-	-	0.0	-	-	0.4	26.0	NNE	1.2	360.0	N
02:00 AM - 03:00 AM	0.0	-	-	1.6	16.0	NNE	0.0	-	-	0.0	-	-	0.3	64.0	ENE	0.0	-	-	1.6	98.0	E
03:00 AM - 04:00 AM	0.0	-	-	0.2	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
04:00 AM - 05:00 AM	0.0	-	-	0.4	321.0	NW	1.6	68.0	ENE	0.8	62.0	ENE	0.0	-	-	0.0	-	-	0.0	-	-
05:00 AM - 06:00 AM	1.4	96.0	E	0.4	24.0	NNE	0.0	-	-	0.3	334.0	NNW	0.6	19.0	NNE	0.0	-	-	1.8	123.0	ESE
06:00 AM - 07:00 AM	0.3	16.0	NNE	0.6	58.0	ENE	1.2	136.0	SE	1.2	28.0	NNE	1.6	62.0	ENE	0.0	-	-	1.2	98.0	E
07:00 AM - 08:00 AM	0.8	12.0	NNE	0.3	21.0	NNE	2.1	68.0	ENE	1.6	8.0	N	1.2	16.0	NNE	2.4	8.0	N	0.6	98.0	E
08:00 AM - 09:00 AM	0.6	120.0	ESE	1.1	96.0	E	1.6	152.0	SSE	0.6	356.0	N	1.4	252.0	WSW	2.6	16.0	NNE	0.3	64.0	ENE
09:00 AM - 10:00 AM	1.4	348.0	NNW	0.6	188.0	S	0.3	126.0	SE	0.6	348.0	NNW	0.8	274.0	W	2.4	324.0	NW	0.6	132.0	SE
10:00 AM - 11:00 AM	1.3	84.0	E	0.6	156.0	SSE	0.6	346.0	NNW	1.2	32.0	NNE	1.6	12.0	NNE	1.1	340.0	NNW	1.2	118.0	ESE
11:00 AM - 12:00 PM	1.2	76.0	ENE	0.8	136.0	SE	2.2	96.0	E	1.6	146.0	SE	2.6	16.0	NNE	2.7	360.0	N	0.8	222.0	SW

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jitranont  
Assistant General Manager

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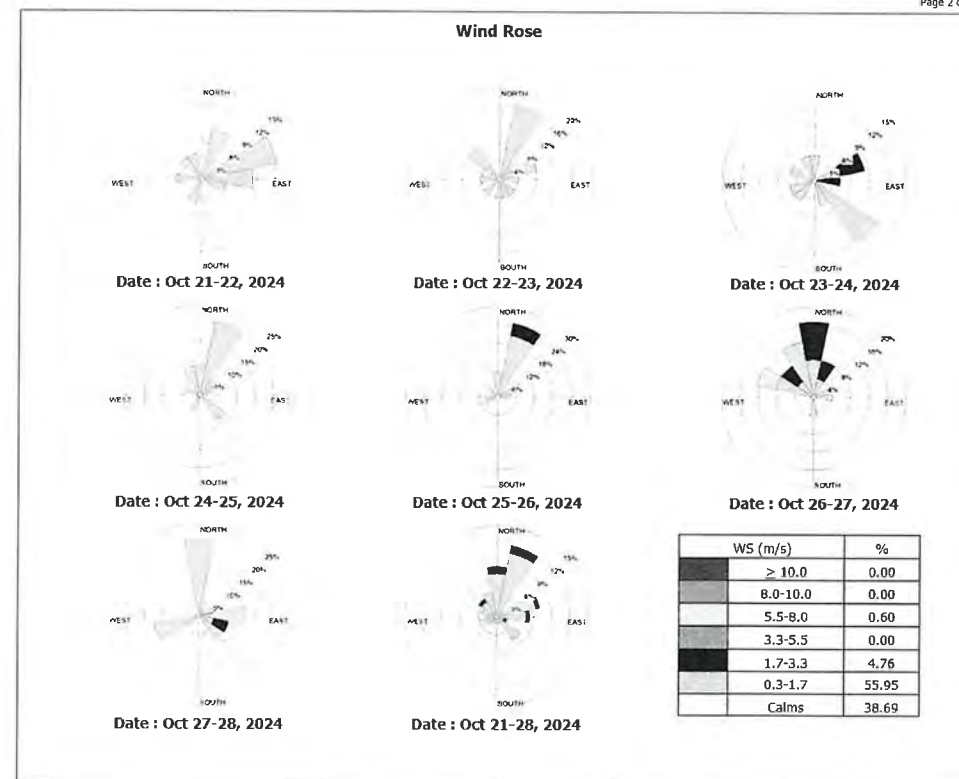
## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118768  
Date Received :Oct 31, 2024  
Date Reported :Nov 08, 2024  
Report Number :3139657-1

Page 2 of 2



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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118714  
Date Received :Oct 31, 2024  
Date Reported :Nov 08, 2024  
Report Number :3139540-1 C15

P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Page 1 of 2

Sample Number : 24118714-8 to 14  
Parameter : Wind Speed / Wind Direction  
Location : ชุมชนบ้านสวนนก (GPS 47P 0742172, 1417901)  
Sampling Date : Oct 21 - Oct 28, 2024  
Sampling by : Chatchai Sukpia

Time	Oct 21 - Oct 22, 2024		Oct 22 - Oct 23, 2024		Oct 23 - Oct 24, 2024		Oct 24 - Oct 25, 2024		Oct 25 - Oct 26, 2024		Oct 26 - Oct 27, 2024		Oct 27 - Oct 28, 2024	
	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)	WS (m/s)	WD (deg)
03:00 PM - 04:00 PM	0.3	190.0	S	0.3	229.0	SW	5.2	94.0	E	3.5	188.0	S	0.6	207.0
04:00 PM - 05:00 PM	0.6	260.0	W	0.3	9.0	N	0.2	-	-	1.0	169.0	S	0.2	-
05:00 PM - 06:00 PM	1.2	46.0	NE	0.3	39.0	NE	0.2	-	-	0.6	89.0	E	0.2	-
06:00 PM - 07:00 PM	0.4	56.0	NE	0.0	-	-	0.0	-	-	0.3	260.0	W	0.6	286.0
07:00 PM - 08:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.9	189.0	S	0.3	196.0
08:00 PM - 09:00 PM	0.0	-	-	0.4	359.0	N	0.0	-	-	0.0	-	-	0.6	183.0
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.5	190.0
10:00 PM - 11:00 PM	0.0	-	-	0.5	13.0	NNE	0.0	-	-	0.4	359.0	N	0.0	-
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.8	26.0
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	0.3	6.0	N	0.0	-	-	0.0	-
01:00 AM - 02:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.1	-
02:00 AM - 03:00 AM	0.4	16.0	NNE	0.5	23.0	NNE	0.0	-	-	0.4	13.0	NNE	0.4	327.0
03:00 AM - 04:00 AM	0.0	-	-	1.8	5.0	N	0.1	-	-	0.0	-	-	0.3	286.0
04:00 AM - 05:00 AM	0.0	-	-	0.2	-	-	0.0	-	-	0.0	-	-	0.2	-
05:00 AM - 06:00 AM	0.4	319.0	NW	0.9	357.0	N	0.2	-	-	0.0	-	-	0.0	-
06:00 AM - 07:00 AM	0.0	-	-	0.7	359.0	N	0.5	24.0	NNE	0.0	-	-	0.0	-
07:00 AM - 08:00 AM	0.7	34.0	NE	0.4	348.0	NNW	0.5	20.0	NNE	0.0	-	-	0.3	309.0
08:00 AM - 09:00 AM	0.5	303.0	WNW	0.3	45.0	NE	1.1	359.0	N	0.0	-	-	0.4	330.0
09:00 AM - 10:00 AM	0.8	46.0	NE	1.3	359.0	N	2.0	359.0	N	0.6	21.0	NNE	0.6	271.0
10:00 AM - 11:00 AM	0.4	327.0	NNW	0.2	-	-	2.2	6.0	N	1.0	359.0	N	1.0	187.0
11:00 AM - 12:00 PM	1.0	75.0	ENE	2.3	17.0	NNE	3.3	49.0	NE	1.2	345.0	NNW	1.6	266.0
12:00 PM - 01:00 PM	0.8	207.0	SSW	1.3	171.0	S	1.3	279.0	W	0.3	24.0	NNE	0.8	233.0
01:00 PM - 02:00 PM	2.5	71.0	ENE	0.7	184.0	S	0.9	39.0	NE	0.3	245.0	WSW	0.8	199.0
02:00 PM - 03:00 PM	0.6	191.0	S	0.5	210.0	SSW	1.1	51.0	NE	0.8	56.0	NE	0.9	270.0

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jitranont  
Assistant General Manager

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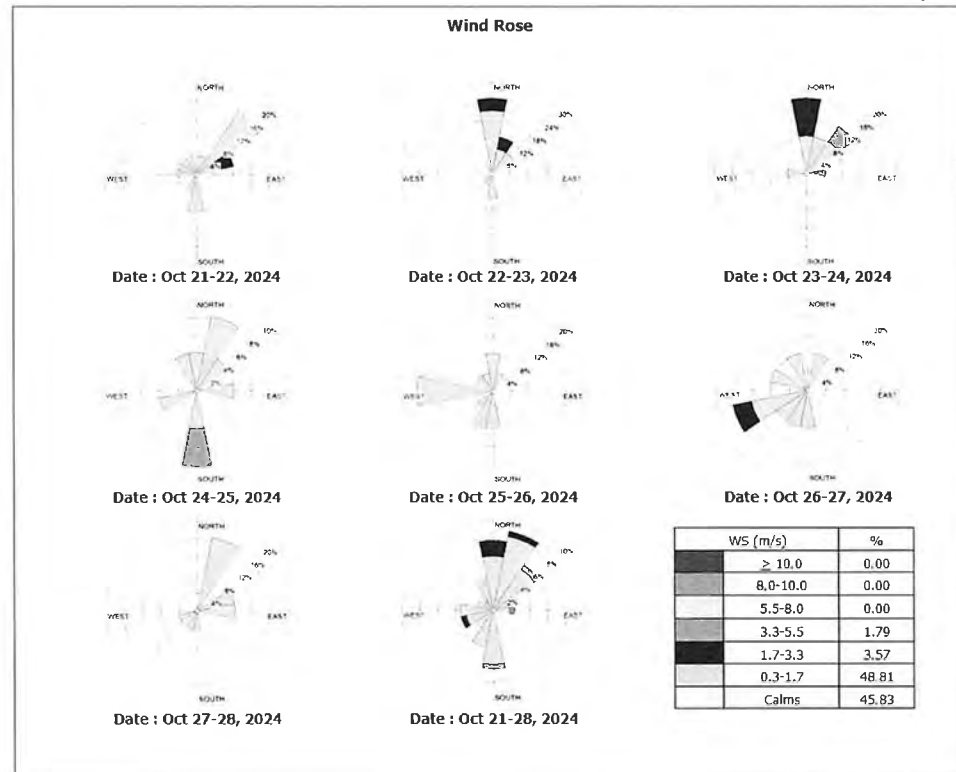
## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118714  
Date Received :Oct 31, 2024  
Date Reported :Nov 08, 2024  
Report Number :3139540-1 C15

P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Page 2 of 2



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Approved by

Sarayuth Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118768  
Date Received :Oct 31, 2024  
Date Reported :Nov 08, 2024  
Report Number :3139657-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Page 1 of 2

Sample Number : 24118768-15 to 21  
Parameter : Wind Speed / Wind Direction  
Location : บ้านคลองลิ้นปี่ (GPS 47P 0747552, 1413909)  
Sampling Date : Oct 21 - Oct 28, 2024  
Sampling by : Chatchai Sukpia

Time	Oct 21 - Oct 22, 2024			Oct 22 - Oct 23, 2024			Oct 23 - Oct 24, 2024			Oct 24 - Oct 25, 2024			Oct 25 - Oct 26, 2024			Oct 26 - Oct 27, 2024			Oct 27 - Oct 28, 2024		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)	
01:00 PM - 02:00 PM	0.8	273.0	W	2.3	174.0	S	2.1	233.0	SW	0.0	-	-	0.4	345.0	NNW	1.5	25.0	NNE	1.1	241.0	WSW
02:00 PM - 03:00 PM	0.5	252.0	WSW	0.4	325.0	NW	0.7	82.0	E	1.7	344.0	NNW	1.2	3.0	N	1.0	310.0	NW	0.8	7.0	N
03:00 PM - 04:00 PM	0.2	-	-	0.6	29.0	NNE	1.1	286.0	WNW	0.0	-	-	1.7	10.0	N	0.0	-	-	1.5	332.0	NNW
04:00 PM - 05:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.5	17.0	NNE	0.6	265.0	W	0.0	-	-
05:00 PM - 06:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.6	333.0	NNW	0.0	-	-
06:00 PM - 07:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.3	320.0	NW	0.0	-	-
07:00 PM - 08:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
08:00 PM - 09:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.7	236.0	SW	0.0	-	-
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.2	313.0	NW	0.0	-	-
10:00 PM - 11:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
01:00 AM - 02:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	2.4	351.0	N
02:00 AM - 03:00 AM	0.0	-	-	0.9	12.0	NNE	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
03:00 AM - 04:00 AM	0.0	-	-	0.9	0.0	N	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
04:00 AM - 05:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
05:00 AM - 06:00 AM	0.0	-	-	0.2	-	-	0.4	40.0	NE	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
06:00 AM - 07:00 AM	0.0	-	-	0.0	-	-	0.8	88.0	E	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-
07:00 AM - 08:00 AM	0.7	0.0	N	0.6	80.0	E	2.8	63.0	ENE	0.5	19.0	NNE	0.0	-	-	0.0	-	-	1.0	82.0	E
08:00 AM - 09:00 AM	0.0	-	-	1.4	84.0	E	4.2	64.0	ENE	0.0	-	-	0.8	12.0	NNE	1.4	338.0	NNW	0.0	-	-
09:00 AM - 10:00 AM	0.0	-	-	1.4	47.0	NE	1.4	71.0	ENE	0.0	-	-	0.9	13.0	NNE	1.7	37.0	NE	1.2	68.0	ENE
10:00 AM - 11:00 AM	1.1	78.0	ENE	0.5	65.0	ENE	1.4	7.0	N	0.0	-	-	1.3	299.0	WNW	3.2	312.0	NW	0.6	74.0	ENE
11:00 AM - 12:00 PM	0.5	29.0	NNE	0.0	-	-	0.0	-	-	0.5	308.0	NW	1.7	327.0	NNW	1.4	33.0	NNE	1.2	36.0	NE
12:00 PM - 01:00 PM	0.3	31.0	NNE	0.0	-	-	0.0	-	-	0.6	320.0	NW	0.0	-	-	0.5	36.0	NE	0.8	80.0	E

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

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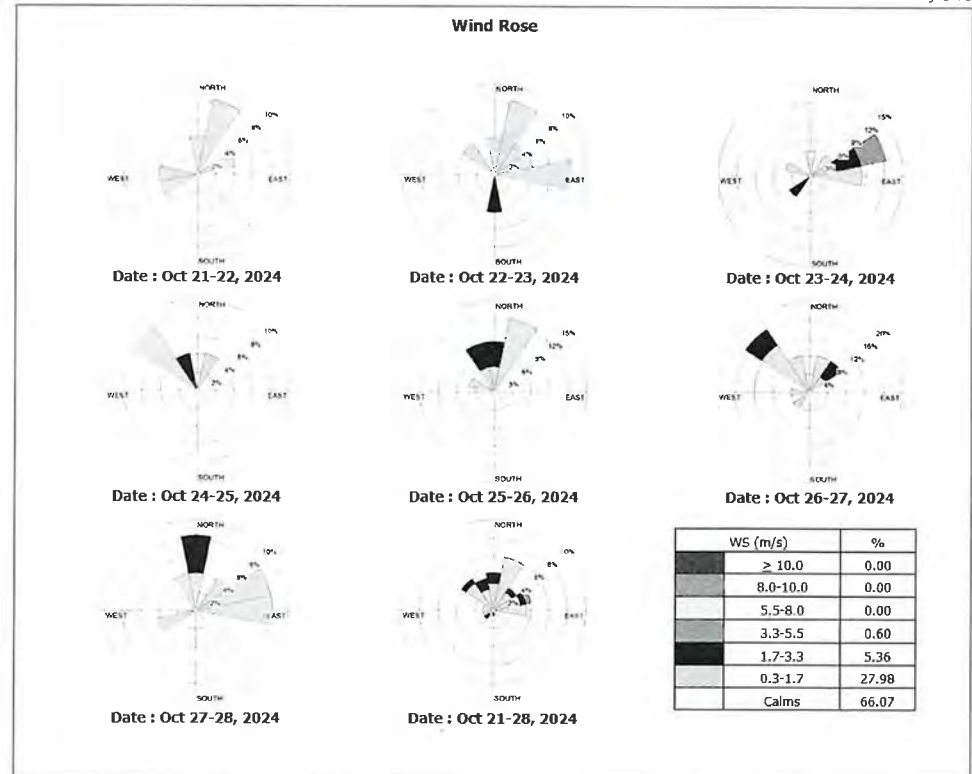
## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118768  
Date Received :Oct 31, 2024  
Date Reported :Nov 08, 2024  
Report Number :3139657-1

Page 2 of 2



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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118790  
Date Received : Oct 25, 2024  
Date Reported : Oct 30, 2024  
Report Number : 3139703-1

Page 1 of 1

Sample Number	24118790-1
Sample Description	Emission from Stationary Source
Location	HRSG 11 (GPS 47P 0744574, 1419329)
Measurement Date	Oct 24, 2024

Stack Description								
Ambient Temperature	35.1	°C	Diameter	3.35	m	Oxygen	14.25	%
Ambient Pressure	753.3	mmHg	Shape	Circle		Carbon dioxide	3.80	%
Type of Process	Combustion		Stack Temperature	109	°C	Gas Velocity	14.74	m/s
Type of Fuel	Natural Gas		Moisture	8.89	%	Flow Rate	329666	Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O <sub>2</sub>	at 7% O <sub>2</sub>	at Actual O <sub>2</sub>	at 7% O <sub>2</sub>
1	02:00 PM - 02:20 PM	14.21	3.82	9.50	19.76	0.08	0.16
2	02:21 PM - 02:41 PM	14.27	3.79	9.99	20.95	0.09	0.19
3	02:42 PM - 03:02 PM	14.26	3.79	10.13	21.19	0.10	0.21
Average (ppm)		14.25	3.80	9.87	20.63	0.09	0.19
Guideline <sup>1</sup> (ppm)				-	60	-	6
Guideline <sup>2</sup> (ppm)				-	120	-	20
Result (mg/Nm <sup>3</sup> )				18.58	38.81	0.23	0.49
Guideline <sup>1</sup> (mg/Nm <sup>3</sup> )				-	112.88	-	15.72
Guideline <sup>2</sup> (mg/Nm <sup>3</sup> )				-	225.77	-	52.41
Emission Rate at Actual O <sub>2</sub> (g/s)				1.7012		0.0213	
Guideline <sup>1</sup> (g/s)				7.4		1.0	
Method				US EPA Method 7E		US EPA Method 6C	

Sampled By : Saksit Phaisanphit  
Guideline : <sup>1</sup>Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.  
<sup>2</sup>Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042

Lot ID: 24118801  
Date Received : Oct 24, 2024  
Date Reported : Oct 31, 2024  
Report Number : 3139726-1

Page 1 of 2

Sample Number	24118801-1
Sampled Date	Oct 24, 2024
Sample Description	Emission from Stationary Source
Location	HRSG11
Date Analysis Commenced	Oct 25, 2024
Condition of Sample	Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description								
Ambient Pressure	753	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	35.1	°C	Shape	Circle		Carbon Dioxide	3.8	%
Type of Process	Combustion		Stack Temperature	109	°C	Gas Velocity	14.8	m/s
Type of Fuel	Natural Gas		Moisture	8.87	%	Flow Rate (Actual O2)	330117	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O <sub>2</sub>	Result at 14.3 % O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	02:00 PM - 02:54 PM	mg/m3	-	0.5	<0.5	<0.5	28	60	United States Environmental Protection Agency, EPA Method 5	Rayong

Guideline :  
Guideline (1) Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ร-204-ก-0006

Approved by

Sarayuth Jittrananot  
Assistant General Manager  
ทะเบียนเลขที่ ร-204-ก-0003

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Technical Management

Thanita K.  
Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ ร-323-ก-0029

Approved by

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ ร-323-ก-0001

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## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 24118801**  
Date Received : Oct 24, 2024  
Date Reported : Oct 31, 2024  
Report Number: 3139726-1

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Sample Number** 24118801-1  
**Sampled Date** Oct 24, 2024  
**Sample Description** Emission from Stationary Source  
**Location** HRSG11  
**Date Analysis Commenced** Oct 25, 2024  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one plastic bottle

### Stack Description

Ambient Pressure	753	mmHg	Diameter	3.35	m	Oxygen	14.3	%
Ambient Temperature	35.1	°C	Shape	Circle		Carbon Dioxide	3.8	%
Type of Process	Combustion		Stack Temperature	109	°C	Gas Velocity	14.8	m/s
Type of Fuel	Natural Gas		Moisture	8.87	%	Flow Rate (Actual O2)	330117	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
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### Air Testing

Total Suspended Particulate *	02:00 PM - 02:54 PM	g/s	-	-	<0.046	1.7	-	Calculated	Rayong
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### Guideline :

Guideline (1) Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

**Sampling By :** Natthapon Jhengwareewong ทะเบียนเลขที่ ๖-323-๖-0013

### Remark :

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

Technical Management

*Thanita K.*  
Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ ๖-323-๖-0029

Approved by

*D. Choonharat*  
Dej Choonharat  
Senior Manager  
ทะเบียนเลขที่ ๖-323-๖-0001

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24118799**  
Date Received : Oct 25, 2024  
Date Reported : Oct 30, 2024  
Report Number : 3139710-1

Page 1 of 1

**Sample Number** 24118799-1  
**Sample Description** Emission from Stationary Source  
**Location** HRSG 12 (GPS 47P 0744591, 1419339)  
**Measurement Date** Oct 24, 2024

### Stack Description

Ambient Temperature	35.1	°C	Diameter	3.35	m	Oxygen	14.46	%
Ambient Pressure	753.3	mmHg	Shape	Circle		Carbon dioxide	3.89	%
Type of Process	Combustion		Stack Temperature	108	°C	Gas Velocity	14.10	m/s
Type of Fuel	Natural Gas		Moisture	8.53	%	Flow Rate	317450	Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O <sub>2</sub>	at 7% O <sub>2</sub>	at Actual O <sub>2</sub>	at 7% O <sub>2</sub>
1	02:05 PM - 02:25 PM	14.44	3.90	17.61	37.90	0.05	0.10
2	02:26 PM - 02:46 PM	14.49	3.88	18.32	39.71	0.05	0.10
3	02:47 PM - 03:07 PM	14.46	3.89	18.16	39.23	0.05	0.10
Average (ppm)		14.46	3.89	18.03	38.95	0.05	0.10
Guideline <sup>1/</sup> (ppm)				-	60	-	6
Guideline <sup>2/</sup> (ppm)				-	120	-	20
Result (mg/Nm <sup>3</sup> )				33.92	73.27	0.12	0.26
Guideline <sup>1/</sup> (mg/Nm <sup>3</sup> )				-	112.88	-	15.72
Guideline <sup>2/</sup> (mg/Nm <sup>3</sup> )				-	225.77	-	52.41
Emission Rate at Actual O <sub>2</sub> (g/s)				2.9912		0.0107	
Guideline <sup>1/</sup> (g/s)				7.4		1.0	
Method				US EPA Method 7E		US EPA Method 6C	

**Sampled By :** Sathaporn Thakarw

**Guideline :** <sup>1/</sup>Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.  
<sup>2/</sup>Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Technical Management

*Wichan Choonharat*  
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ๖-204-๖-0006

Approved by

*Sarayuth Jitranont*  
Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ๖-204-๖-0003

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24118812**  
Date Received : Oct 25, 2024  
Date Reported : Nov 01, 2024  
Report Number: 3139738-1

Page 1 of 2

**Sample Number** 24118812-1  
**Sampled Date** Oct 24, 2024  
**Sample Description** Emission form Stationary Source  
**Location** HRSG12  
**Date Analysis Commenced** Oct 28, 2024  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description									
Ambient Pressure	753	mmHg	Diameter	3.35	m	Oxygen	14.5	%	
Ambient Temperature	35.1	°C	Shape	Circle		Carbon Dioxide	3.9	%	
Type of Process	Combustion		Stack Temperature	108	°C	Gas Velocity	14.1	m/s	
Type of Fuel	Natural Gas		Moisture	9.42	%	Flow Rate (Actual O2)	315205	Nm3/hr	

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O <sub>2</sub>	Result at 14.5 % O <sub>2</sub>	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>										
Total Suspended Particulate	02:05 PM - 03:05 PM	mg/m3	-	0.5	<0.5	<0.5	28	60	United States Environmental Protection Agency, EPA Method 5	Rayong

**Guideline :**  
Guideline (1) Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Technical Management

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ 7-323-ก-0029

Approved by

*D. Changchon*

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ 7-323-ก-0001

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24118812**  
Date Received : Oct 25, 2024  
Date Reported : Nov 01, 2024  
Report Number: 3139738-1

Page 2 of 2

**Sample Number** 24118812-1  
**Sampled Date** Oct 24, 2024  
**Sample Description** Emission form Stationary Source  
**Location** HRSG12  
**Date Analysis Commenced** Oct 28, 2024  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one plastic bottle

Stack Description									
Ambient Pressure	753	mmHg	Diameter	3.35	m	Oxygen	14.5	%	
Ambient Temperature	35.1	°C	Shape	Circle		Carbon Dioxide	3.9	%	
Type of Process	Combustion		Stack Temperature	108	°C	Gas Velocity	14.1	m/s	
Type of Fuel	Natural Gas		Moisture	9.42	%	Flow Rate (Actual O2)	315205	Nm3/hr	

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	02:05 PM - 03:05 PM	g/s	-	-	<0.044	1.7	-	Calculated	Rayong

**Guideline :**  
Guideline (1) Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.  
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

**Sampling By :** Natthapon Jiengwareewong ทะเบียนเลขที่ 7-323-ก-0013

Remark :

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

Technical Management

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ 7-323-ก-0029

Approved by

*D. Changchon*

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ 7-323-ก-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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S:\Reports\_Air Stack\_O2\_2GL.rpt (11.51AM)

---

ระดับเสียงโดยทั่วไป (Leq24)



## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159965-1

Page 1 of 1

Sample Number 24118776-1  
Parameter Noise (Leq 24 hrs.)  
Location N1 : พื้นที่อาศัยใกล้เชิงพื้นที่โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 21 - Oct 22, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	52.4	75.7	38.5
04:00 PM - 05:00 PM	52.9	74.4	39.1
05:00 PM - 06:00 PM	53.8	76.8	39.9
06:00 PM - 07:00 PM	52.3	76.6	42.9
07:00 PM - 08:00 PM	51.9	73.3	42.1
08:00 PM - 09:00 PM	52.7	74.7	42.7
09:00 PM - 10:00 PM	57.4	80.2	48.1
10:00 PM - 11:00 PM	55.0	77.1	43.9
11:00 PM - 12:00 AM	54.5	80.0	45.1
12:00 AM - 01:00 AM	55.9	83.7	45.2
01:00 AM - 02:00 AM	51.4	76.4	43.2
02:00 AM - 03:00 AM	47.4	68.4	41.5
03:00 AM - 04:00 AM	48.9	73.7	44.2
04:00 AM - 05:00 AM	48.9	74.0	42.2
05:00 AM - 06:00 AM	48.1	73.5	41.4
06:00 AM - 07:00 AM	48.2	78.1	40.8
07:00 AM - 08:00 AM	44.5	68.2	40.7
08:00 AM - 09:00 AM	53.9	76.5	41.0
09:00 AM - 10:00 AM	46.3	68.8	41.4
10:00 AM - 11:00 AM	57.7	84.8	41.7
11:00 AM - 12:00 PM	57.4	76.6	47.1
12:00 PM - 01:00 PM	59.0	84.2	48.9
01:00 PM - 02:00 PM	52.8	71.2	39.5
02:00 PM - 03:00 PM	51.5	72.1	38.7

Leq Average 24 hrs. (dB(A))

53.8

Lmax (dB(A))

84.8

L90 (dB(A))

41.7

Ldn (dB(A))

59.0

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supt S  
Supot Salamteh  
Section Head

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S\Reports\_Air Noise rpt (11 07AM)



## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159966-1

Page 1 of 1

Sample Number 24118776-2  
Parameter Noise (Leq 24 hrs.)  
Location N1 : พื้นที่อาศัยใกล้เชิงพื้นที่โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 22 - Oct 23, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	51.7	75.8	39.1
04:00 PM - 05:00 PM	52.7	73.0	39.7
05:00 PM - 06:00 PM	54.4	86.9	43.0
06:00 PM - 07:00 PM	53.4	75.9	46.5
07:00 PM - 08:00 PM	55.0	74.6	49.7
08:00 PM - 09:00 PM	55.6	79.8	44.6
09:00 PM - 10:00 PM	59.8	89.4	46.5
10:00 PM - 11:00 PM	57.0	80.9	45.0
11:00 PM - 12:00 AM	54.1	71.1	46.7
12:00 AM - 01:00 AM	58.5	78.9	46.6
01:00 AM - 02:00 AM	50.5	72.6	43.7
02:00 AM - 03:00 AM	49.9	75.3	41.8
03:00 AM - 04:00 AM	46.6	65.7	41.9
04:00 AM - 05:00 AM	46.4	68.9	41.9
05:00 AM - 06:00 AM	46.9	67.5	42.1
06:00 AM - 07:00 AM	44.3	73.9	40.8
07:00 AM - 08:00 AM	52.1	84.4	45.8
08:00 AM - 09:00 AM	48.3	74.3	42.8
09:00 AM - 10:00 AM	45.7	66.4	42.7
10:00 AM - 11:00 AM	56.2	83.0	41.6
11:00 AM - 12:00 PM	57.0	76.0	46.9
12:00 PM - 01:00 PM	58.7	78.5	48.7
01:00 PM - 02:00 PM	53.6	88.5	40.1
02:00 PM - 03:00 PM	54.2	77.2	40.3

Leq Average 24 hrs. (dB(A))

54.5

Lmax (dB(A))

89.4

L90 (dB(A))

42.8

Ldn (dB(A))

59.9

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supt S  
Supot Salamteh  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159967-1

Page 1 of 1

Sample Number 24118776-3  
Parameter Noise (Leq 24 hrs.)  
Location N1 : ที่พักอาศัยใกล้เคียงพื้นที่โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 23 - Oct 24, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	53.5	80.7	39.8
04:00 PM - 05:00 PM	52.3	73.0	39.6
05:00 PM - 06:00 PM	53.4	77.0	40.1
06:00 PM - 07:00 PM	51.5	72.1	41.0
07:00 PM - 08:00 PM	53.3	74.7	42.9
08:00 PM - 09:00 PM	53.3	74.5	44.6
09:00 PM - 10:00 PM	56.6	78.7	43.5
10:00 PM - 11:00 PM	56.1	81.8	43.2
11:00 PM - 12:00 AM	54.8	77.2	45.2
12:00 AM - 01:00 AM	56.0	80.1	47.0
01:00 AM - 02:00 AM	50.0	68.4	44.3
02:00 AM - 03:00 AM	49.8	72.5	44.1
03:00 AM - 04:00 AM	46.9	65.6	41.6
04:00 AM - 05:00 AM	48.9	73.6	41.3
05:00 AM - 06:00 AM	46.4	67.3	42.2
06:00 AM - 07:00 AM	44.5	71.2	39.9
07:00 AM - 08:00 AM	46.1	70.5	40.8
08:00 AM - 09:00 AM	44.3	68.9	41.9
09:00 AM - 10:00 AM	47.8	71.3	41.8
10:00 AM - 11:00 AM	51.8	73.7	41.6
11:00 AM - 12:00 PM	58.3	78.2	50.7
12:00 PM - 01:00 PM	58.4	80.0	48.8
01:00 PM - 02:00 PM	53.2	78.1	41.7
02:00 PM - 03:00 PM	53.3	75.4	42.5

Leq Average 24 hrs. (dB(A))

53.4

Lmax (dB(A))

81.8

L90 (dB(A))

41.9

Ldn (dB(A))

58.9

Standard (dB(A))

115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159968-1

Page 1 of 1

Sample Number 24118776-4  
Parameter Noise (Leq 24 hrs.)  
Location N1 : ที่พักอาศัยใกล้เคียงพื้นที่โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 24 - Oct 25, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	52.7	75.0	41.1
04:00 PM - 05:00 PM	52.4	73.6	39.9
05:00 PM - 06:00 PM	51.9	75.4	37.5
06:00 PM - 07:00 PM	51.7	73.7	37.6
07:00 PM - 08:00 PM	52.3	71.8	40.5
08:00 PM - 09:00 PM	54.0	80.0	43.6
09:00 PM - 10:00 PM	55.7	74.7	44.0
10:00 PM - 11:00 PM	58.5	83.7	45.1
11:00 PM - 12:00 AM	54.5	75.2	46.8
12:00 AM - 01:00 AM	55.8	77.0	46.6
01:00 AM - 02:00 AM	51.1	73.6	44.3
02:00 AM - 03:00 AM	50.3	71.4	44.8
03:00 AM - 04:00 AM	46.4	69.2	43.6
04:00 AM - 05:00 AM	46.5	63.1	43.5
05:00 AM - 06:00 AM	47.9	72.4	43.4
06:00 AM - 07:00 AM	44.8	61.2	43.0
07:00 AM - 08:00 AM	45.7	66.7	41.8
08:00 AM - 09:00 AM	44.6	62.3	42.4
09:00 AM - 10:00 AM	47.7	75.5	43.9
10:00 AM - 11:00 AM	52.6	74.7	43.0
11:00 AM - 12:00 PM	57.6	74.1	50.7
12:00 PM - 01:00 PM	58.2	78.4	48.3
01:00 PM - 02:00 PM	51.8	70.4	39.2
02:00 PM - 03:00 PM	50.7	73.5	36.6

Leq Average 24 hrs. (dB(A))

53.2

Lmax (dB(A))

83.7

L90 (dB(A))

43.4

Ldn (dB(A))

59.5

Standard (dB(A))

115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

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S:\Reports\_Air Noise rpt (11 07AM)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2



TESTING  
No.0042

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159969-1

Page 1 of 1

Sample Number 24118776-5  
Parameter Noise (Leq 24 hrs.)  
Location N1 : ฟังก์ชันใกล้เคียงพื้นที่โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 25 - Oct 26, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	52.8	75.6	41.9
04:00 PM - 05:00 PM	54.8	74.7	44.0
05:00 PM - 06:00 PM	52.0	79.7	43.5
06:00 PM - 07:00 PM	50.6	68.0	45.7
07:00 PM - 08:00 PM	54.1	73.9	46.5
08:00 PM - 09:00 PM	51.4	77.5	44.7
09:00 PM - 10:00 PM	50.8	75.7	45.8
10:00 PM - 11:00 PM	50.3	70.8	44.9
11:00 PM - 12:00 AM	52.7	71.4	46.5
12:00 AM - 01:00 AM	54.3	76.0	47.0
01:00 AM - 02:00 AM	54.8	81.1	45.6
02:00 AM - 03:00 AM	52.9	77.2	46.9
03:00 AM - 04:00 AM	54.0	76.6	47.5
04:00 AM - 05:00 AM	52.4	77.6	45.5
05:00 AM - 06:00 AM	49.0	76.3	44.9
06:00 AM - 07:00 AM	48.9	72.5	44.1
07:00 AM - 08:00 AM	47.9	72.7	42.9
08:00 AM - 09:00 AM	44.8	63.2	42.8
09:00 AM - 10:00 AM	45.5	67.9	43.1
10:00 AM - 11:00 AM	47.4	72.2	42.3
11:00 AM - 12:00 PM	44.9	60.9	43.1
12:00 PM - 01:00 PM	48.4	68.8	43.9
01:00 PM - 02:00 PM	55.7	85.0	46.5
02:00 PM - 03:00 PM	54.4	76.0	47.5

Leq Average 24 hrs. (dB(A)) 52.1

Lmax (dB(A)) 85.0

L90 (dB(A)) 44.9

Ldn (dB(A)) 58.9

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S  
Supot Salamteh  
Section Head

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S:\Reports\_Air Noise rpt (11:07AM)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2



TESTING  
No.0042

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159970-1

Page 1 of 1

Sample Number 24118776-6  
Parameter Noise (Leq 24 hrs.)  
Location N1 : ฟังก์ชันใกล้เคียงพื้นที่โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 26 - Oct 27, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	57.7	79.8	48.5
04:00 PM - 05:00 PM	52.1	72.3	44.9
05:00 PM - 06:00 PM	50.5	78.8	44.3
06:00 PM - 07:00 PM	49.9	71.4	43.4
07:00 PM - 08:00 PM	53.3	69.9	46.0
08:00 PM - 09:00 PM	51.2	74.6	44.4
09:00 PM - 10:00 PM	49.9	86.6	44.1
10:00 PM - 11:00 PM	51.6	82.2	44.3
11:00 PM - 12:00 AM	54.8	79.4	48.2
12:00 AM - 01:00 AM	54.0	78.8	45.6
01:00 AM - 02:00 AM	55.2	80.8	46.6
02:00 AM - 03:00 AM	54.6	81.2	46.2
03:00 AM - 04:00 AM	52.0	76.2	46.8
04:00 AM - 05:00 AM	48.9	73.1	45.1
05:00 AM - 06:00 AM	47.6	67.4	44.7
06:00 AM - 07:00 AM	53.4	83.0	44.4
07:00 AM - 08:00 AM	47.3	67.1	43.8
08:00 AM - 09:00 AM	46.3	61.6	44.8
09:00 AM - 10:00 AM	46.7	68.0	44.2
10:00 AM - 11:00 AM	46.0	69.7	43.9
11:00 AM - 12:00 PM	45.0	69.9	42.0
12:00 PM - 01:00 PM	45.5	65.2	40.7
01:00 PM - 02:00 PM	51.7	73.8	45.6
02:00 PM - 03:00 PM	55.0	74.7	47.0

Leq Average 24 hrs. (dB(A)) 52.2

Lmax (dB(A)) 86.6

L90 (dB(A)) 44.7

Ldn (dB(A)) 59.3

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S  
Supot Salamteh  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118776  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159971-1

Page 1 of 1

Sample Number 24118776-7  
Parameter Noise (Leq 24 hrs.)  
Location N1 : ที่พักอาศัยใกล้เสียงพื้นใต้โครงการ (GPS 47P 744360, 1420358)  
Measurement Date Oct 27 - Oct 28, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623395

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	50.6	72.3	44.5
04:00 PM - 05:00 PM	49.7	74.0	44.9
05:00 PM - 06:00 PM	50.4	84.6	43.9
06:00 PM - 07:00 PM	50.7	74.8	44.4
07:00 PM - 08:00 PM	50.9	72.7	44.5
08:00 PM - 09:00 PM	52.2	76.6	43.3
09:00 PM - 10:00 PM	51.2	75.3	43.8
10:00 PM - 11:00 PM	49.6	72.2	42.5
11:00 PM - 12:00 AM	55.3	84.3	42.8
12:00 AM - 01:00 AM	53.7	75.8	44.9
01:00 AM - 02:00 AM	52.6	75.4	44.4
02:00 AM - 03:00 AM	54.3	78.4	44.7
03:00 AM - 04:00 AM	50.5	73.6	45.2
04:00 AM - 05:00 AM	50.1	73.3	45.4
05:00 AM - 06:00 AM	50.6	77.4	45.4
06:00 AM - 07:00 AM	48.2	72.3	44.1
07:00 AM - 08:00 AM	45.4	67.3	43.4
08:00 AM - 09:00 AM	43.6	63.5	42.2
09:00 AM - 10:00 AM	43.0	61.7	40.8
10:00 AM - 11:00 AM	43.4	59.2	41.2
11:00 AM - 12:00 PM	45.7	65.2	42.2
12:00 PM - 01:00 PM	45.5	66.0	42.3
01:00 PM - 02:00 PM	49.1	66.8	43.6
02:00 PM - 03:00 PM	52.1	75.1	44.8

Leq Average 24 hrs. (dB(A)) 50.6  
Lmax (dB(A)) 84.6  
L90 (dB(A)) 43.9  
Ldn (dB(A)) 58.4  
Standard (dB(A)) 70  
Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supt S  
Supot Salamteah  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118776  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159972-1

Page 1 of 1

Sample Number 24118776-8  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณเริ่มรับโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 21 - Oct 22, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	60.5	75.3	59.3
04:00 PM - 05:00 PM	61.1	75.6	59.5
05:00 PM - 06:00 PM	60.5	81.4	59.2
06:00 PM - 07:00 PM	59.7	78.8	58.8
07:00 PM - 08:00 PM	59.5	72.9	58.7
08:00 PM - 09:00 PM	59.7	76.5	58.5
09:00 PM - 10:00 PM	59.5	82.5	58.6
10:00 PM - 11:00 PM	59.6	76.2	58.9
11:00 PM - 12:00 AM	59.6	68.7	58.6
12:00 AM - 01:00 AM	57.0	70.9	56.4
01:00 AM - 02:00 AM	57.3	63.3	56.9
02:00 AM - 03:00 AM	56.9	67.9	56.5
03:00 AM - 04:00 AM	57.3	59.9	56.9
04:00 AM - 05:00 AM	57.2	59.9	56.8
05:00 AM - 06:00 AM	57.2	66.9	56.7
06:00 AM - 07:00 AM	58.0	77.1	56.8
07:00 AM - 08:00 AM	60.4	79.0	57.2
08:00 AM - 09:00 AM	62.2	82.7	58.8
09:00 AM - 10:00 AM	60.9	82.0	59.8
10:00 AM - 11:00 AM	60.1	80.8	58.1
11:00 AM - 12:00 PM	59.6	76.6	58.0
12:00 PM - 01:00 PM	59.0	77.6	57.5
01:00 PM - 02:00 PM	60.3	85.7	58.1
02:00 PM - 03:00 PM	60.8	74.6	59.5

Leq Average 24 hrs. (dB(A)) 59.6  
Lmax (dB(A)) 85.7  
L90 (dB(A)) 58.1  
Ldn (dB(A)) 64.8  
Standard (dB(A)) 70  
Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

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Supot Salamteah  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159973-1

Page 1 of 1

Sample Number 24118776-9  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณรั้วโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 22 - Oct 23, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	61.4	79.7	60.3
04:00 PM - 05:00 PM	60.2	80.9	58.8
05:00 PM - 06:00 PM	60.0	83.0	58.6
06:00 PM - 07:00 PM	59.3	73.0	58.5
07:00 PM - 08:00 PM	60.1	74.2	59.0
08:00 PM - 09:00 PM	59.9	78.0	58.7
09:00 PM - 10:00 PM	59.1	73.9	58.5
10:00 PM - 11:00 PM	59.3	73.3	58.8
11:00 PM - 12:00 AM	59.3	69.8	58.8
12:00 AM - 01:00 AM	58.8	65.9	58.3
01:00 AM - 02:00 AM	58.7	61.3	58.3
02:00 AM - 03:00 AM	58.6	64.9	58.1
03:00 AM - 04:00 AM	59.5	86.0	58.2
04:00 AM - 05:00 AM	58.7	73.0	58.2
05:00 AM - 06:00 AM	58.8	65.8	58.2
06:00 AM - 07:00 AM	59.1	73.1	58.1
07:00 AM - 08:00 AM	62.1	79.8	58.8
08:00 AM - 09:00 AM	60.8	82.6	58.2
09:00 AM - 10:00 AM	60.3	76.9	59.0
10:00 AM - 11:00 AM	62.1	80.5	58.2
11:00 AM - 12:00 PM	59.7	81.4	58.0
12:00 PM - 01:00 PM	58.2	77.5	57.1
01:00 PM - 02:00 PM	60.6	81.5	57.9
02:00 PM - 03:00 PM	60.0	78.7	58.1

Leq Average 24 hrs. (dB(A))

59.9

Lmax (dB(A))

86.0

L90 (dB(A))

58.3

Ldn (dB(A))

65.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supt S  
Supot Salamteh  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118776

Date Received : Nov 04, 2024

Date Reported : Nov 08, 2024

Report Number: 3159974-1

Page 1 of 1

Sample Number 24118776-10  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณรั้วโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 23 - Oct 24, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	59.1	73.9	58.2
04:00 PM - 05:00 PM	59.8	80.0	58.9
05:00 PM - 06:00 PM	60.0	80.9	58.9
06:00 PM - 07:00 PM	59.7	71.7	58.9
07:00 PM - 08:00 PM	60.5	83.3	59.0
08:00 PM - 09:00 PM	59.8	73.6	58.8
09:00 PM - 10:00 PM	59.0	62.9	58.5
10:00 PM - 11:00 PM	59.8	85.6	58.7
11:00 PM - 12:00 AM	59.4	71.0	58.5
12:00 AM - 01:00 AM	57.2	70.8	56.6
01:00 AM - 02:00 AM	56.8	62.8	56.4
02:00 AM - 03:00 AM	56.7	60.2	56.3
03:00 AM - 04:00 AM	56.8	66.0	56.4
04:00 AM - 05:00 AM	57.1	64.3	56.6
05:00 AM - 06:00 AM	57.0	62.6	56.5
06:00 AM - 07:00 AM	57.4	77.0	56.4
07:00 AM - 08:00 AM	61.4	83.5	57.1
08:00 AM - 09:00 AM	62.5	82.4	58.3
09:00 AM - 10:00 AM	62.9	80.8	59.9
10:00 AM - 11:00 AM	62.8	80.7	59.2
11:00 AM - 12:00 PM	60.3	84.8	57.7
12:00 PM - 01:00 PM	59.1	76.2	57.6
01:00 PM - 02:00 PM	60.0	82.0	58.1
02:00 PM - 03:00 PM	59.7	80.9	58.0

Leq Average 24 hrs. (dB(A))

59.8

Lmax (dB(A))

85.6

L90 (dB(A))

58.1

Ldn (dB(A))

64.7

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

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Supot Salamteh  
Section Head

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## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118776  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159975-1

Page 1 of 1

Sample Number 24118776-11  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณเริ่มรั้วโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 24 - Oct 25, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	60.9	83.2	58.4
04:00 PM - 05:00 PM	59.8	76.1	58.2
05:00 PM - 06:00 PM	59.3	78.6	57.9
06:00 PM - 07:00 PM	60.9	84.5	58.2
07:00 PM - 08:00 PM	60.4	83.6	58.7
08:00 PM - 09:00 PM	60.0	77.2	58.8
09:00 PM - 10:00 PM	59.2	64.5	58.8
10:00 PM - 11:00 PM	59.2	70.7	58.6
11:00 PM - 12:00 AM	59.5	70.3	58.9
12:00 AM - 01:00 AM	59.0	70.3	58.5
01:00 AM - 02:00 AM	58.6	61.8	58.2
02:00 AM - 03:00 AM	58.7	60.4	58.3
03:00 AM - 04:00 AM	58.7	68.5	58.3
04:00 AM - 05:00 AM	58.8	65.3	58.3
05:00 AM - 06:00 AM	59.0	63.2	58.5
06:00 AM - 07:00 AM	59.5	73.5	58.7
07:00 AM - 08:00 AM	62.2	84.0	59.3
08:00 AM - 09:00 AM	61.3	84.2	58.7
09:00 AM - 10:00 AM	60.8	77.9	59.4
10:00 AM - 11:00 AM	61.2	83.0	58.8
11:00 AM - 12:00 PM	60.8	79.6	58.2
12:00 PM - 01:00 PM	58.9	75.4	57.7
01:00 PM - 02:00 PM	60.4	80.8	58.4
02:00 PM - 03:00 PM	59.6	80.6	58.4

Leq Average 24 hrs. (dB(A)) 60.0  
Lmax (dB(A)) 84.5  
L90 (dB(A)) 58.4  
Ldn (dB(A)) 65.7  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supot Salamteh  
Section Head

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S:\Reports\Air Noise rpt (11.09AM)



## Analysis / Test Report



TESTING  
No.0042

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118776  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159976-1

Page 1 of 1

Sample Number 24118776-12  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณเริ่มรั้วโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 25 - Oct 26, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	59.6	73.6	58.5
04:00 PM - 05:00 PM	59.5	73.3	58.5
05:00 PM - 06:00 PM	60.2	78.7	58.9
06:00 PM - 07:00 PM	59.9	68.6	59.1
07:00 PM - 08:00 PM	60.9	84.4	59.2
08:00 PM - 09:00 PM	60.0	71.0	59.3
09:00 PM - 10:00 PM	59.3	63.4	58.8
10:00 PM - 11:00 PM	59.3	73.1	58.8
11:00 PM - 12:00 AM	59.9	68.4	59.0
12:00 AM - 01:00 AM	57.5	65.6	56.9
01:00 AM - 02:00 AM	57.6	64.3	57.2
02:00 AM - 03:00 AM	57.5	63.4	57.1
03:00 AM - 04:00 AM	57.2	66.1	56.9
04:00 AM - 05:00 AM	57.8	65.5	57.4
05:00 AM - 06:00 AM	57.9	64.8	57.4
06:00 AM - 07:00 AM	57.9	69.6	57.2
07:00 AM - 08:00 AM	60.9	87.3	57.2
08:00 AM - 09:00 AM	61.6	87.1	57.6
09:00 AM - 10:00 AM	62.0	79.5	60.7
10:00 AM - 11:00 AM	59.9	76.7	58.6
11:00 AM - 12:00 PM	59.2	72.2	58.3
12:00 PM - 01:00 PM	60.7	85.0	58.6
01:00 PM - 02:00 PM	60.1	74.6	59.0
02:00 PM - 03:00 PM	60.2	83.2	58.8

Leq Average 24 hrs. (dB(A)) 59.6  
Lmax (dB(A)) 87.3  
L90 (dB(A)) 58.5  
Ldn (dB(A)) 65.0  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

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

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supot Salamteh  
Section Head

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S:\Reports\Air Noise rpt (11.09AM)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042

Lot ID: 24118776  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159977-1

Page 1 of 1

Sample Number 24118776-13  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณรั้วโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 26 - Oct 27, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	60.0	78.5	59.1
04:00 PM - 05:00 PM	60.2	76.1	59.1
05:00 PM - 06:00 PM	60.6	79.0	59.1
06:00 PM - 07:00 PM	60.2	70.8	59.5
07:00 PM - 08:00 PM	60.7	76.5	59.7
08:00 PM - 09:00 PM	60.3	72.1	59.5
09:00 PM - 10:00 PM	59.9	68.2	59.3
10:00 PM - 11:00 PM	59.9	62.2	59.3
11:00 PM - 12:00 AM	59.8	62.2	59.2
12:00 AM - 01:00 AM	59.3	63.7	58.7
01:00 AM - 02:00 AM	59.3	79.3	58.7
02:00 AM - 03:00 AM	59.3	63.7	58.9
03:00 AM - 04:00 AM	59.1	76.3	58.6
04:00 AM - 05:00 AM	59.2	61.2	58.8
05:00 AM - 06:00 AM	59.1	65.3	58.7
06:00 AM - 07:00 AM	59.4	76.2	58.7
07:00 AM - 08:00 AM	60.1	84.9	58.4
08:00 AM - 09:00 AM	58.6	70.5	57.8
09:00 AM - 10:00 AM	59.0	72.9	58.1
10:00 AM - 11:00 AM	61.7	69.7	60.0
11:00 AM - 12:00 PM	59.1	71.1	58.0
12:00 PM - 01:00 PM	58.5	71.3	57.6
01:00 PM - 02:00 PM	58.6	66.3	57.7
02:00 PM - 03:00 PM	58.7	68.6	57.9

Leq Average 24 hrs. (dB(A)) 59.7  
Lmax (dB(A)) 84.9  
L90 (dB(A)) 58.7  
Ldn (dB(A))  
Standard (dB(A)) 70 115  
Reference Method : ISO1996-1 and 1996-2  
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ  
โรงงาน พ.ศ. 2548  
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supot Salamteh  
Supot Salamteh  
Section Head

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S:\Reports\Air Noise rpt (11 09AM)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042

Lot ID: 24118776  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159978-1

Page 1 of 1

Sample Number 24118776-14  
Parameter Noise (Leq 24 hrs.)  
Location N2 : พื้นที่โครงการ (บริเวณรั้วโครงการด้านทิศตะวันตก) (GPS 47P 744656, 1419366)  
Measurement Date Oct 27 - Oct 28, 2024  
Measurement by Chatchai Sukpia  
Sound Level meter Serial No. 623396

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 04:00 PM	58.6	78.2	57.8
04:00 PM - 05:00 PM	59.4	76.6	58.2
05:00 PM - 06:00 PM	59.1	72.9	58.2
06:00 PM - 07:00 PM	58.6	69.0	58.1
07:00 PM - 08:00 PM	58.8	69.5	58.2
08:00 PM - 09:00 PM	59.4	66.1	58.9
09:00 PM - 10:00 PM	59.4	63.0	58.9
10:00 PM - 11:00 PM	59.3	65.4	58.8
11:00 PM - 12:00 AM	59.0	69.0	58.4
12:00 AM - 01:00 AM	58.4	62.2	57.9
01:00 AM - 02:00 AM	60.2	81.3	58.4
02:00 AM - 03:00 AM	59.7	86.6	58.2
03:00 AM - 04:00 AM	59.3	77.9	58.4
04:00 AM - 05:00 AM	59.0	75.3	58.5
05:00 AM - 06:00 AM	58.5	62.7	58.0
06:00 AM - 07:00 AM	58.5	74.3	57.7
07:00 AM - 08:00 AM	61.5	82.1	58.4
08:00 AM - 09:00 AM	60.7	79.5	58.6
09:00 AM - 10:00 AM	61.5	78.7	60.0
10:00 AM - 11:00 AM	59.7	81.9	58.6
11:00 AM - 12:00 PM	59.5	78.7	57.7
12:00 PM - 01:00 PM	58.7	71.5	57.7
01:00 PM - 02:00 PM	60.6	82.4	58.2
02:00 PM - 03:00 PM	59.7	72.0	58.6

Leq Average 24 hrs. (dB(A)) 59.6  
Lmax (dB(A)) 86.6  
L90 (dB(A)) 58.2  
Ldn (dB(A))  
Standard (dB(A)) 70 115  
Reference Method : ISO1996-1 and 1996-2  
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ  
โรงงาน พ.ศ. 2548  
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

Supot Salamteh  
Supot Salamteh  
Section Head

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S:\Reports\Air Noise rpt (11 09AM)





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159480-1

Page 2 of 3

Sample Number : 24118785-1  
Parameter : Noise Level (Leq 5 min)  
Location : N1 : วิทยาลัยโกลบอลอิมเมจวิทยา (GPS 47P 0744360, 1420358)  
Measurement Date : Oct 21 - Oct 22, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623395

Oct 21, 2024			Oct 21, 2024			Oct 21, 2024			Oct 21, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
03:00 PM - 03:05 PM	54.3	35.2	05:40 PM - 05:45 PM	50.9	37.0	08:20 PM - 08:25 PM	52.4	41.2	11:00 PM - 11:05 PM	50.8	39.9
03:05 PM - 03:10 PM	53.2	34.1	05:45 PM - 05:50 PM	50.8	37.5	08:25 PM - 08:30 PM	54.7	44.1	11:05 PM - 11:10 PM	58.5	45.9
03:10 PM - 03:15 PM	49.7	36.4	05:50 PM - 05:55 PM	56.2	38.6	08:30 PM - 08:35 PM	52.4	45.4	11:10 PM - 11:15 PM	51.2	42.6
03:15 PM - 03:20 PM	49.9	37.1	05:55 PM - 06:00 PM	48.7	38.5	08:35 PM - 08:40 PM	53.2	45.3	11:15 PM - 11:20 PM	52.6	44.0
03:20 PM - 03:25 PM	45.3	37.0	06:00 PM - 06:05 PM	52.9	42.1	08:40 PM - 08:45 PM	52.4	43.9	11:20 PM - 11:25 PM	52.5	44.7
03:25 PM - 03:30 PM	49.9	36.4	06:05 PM - 06:10 PM	51.7	42.7	08:45 PM - 08:50 PM	52.7	42.6	11:25 PM - 11:30 PM	54.2	45.1
03:30 PM - 03:35 PM	46.4	39.0	06:10 PM - 06:15 PM	49.2	42.5	08:50 PM - 08:55 PM	54.0	41.3	11:30 PM - 11:35 PM	55.9	46.1
03:35 PM - 03:40 PM	52.5	39.7	06:15 PM - 06:20 PM	53.5	43.1	08:55 PM - 09:00 PM	55.0	41.1	11:35 PM - 11:40 PM	52.3	45.5
03:40 PM - 03:45 PM	57.2	38.9	06:20 PM - 06:25 PM	51.2	43.3	09:00 PM - 09:05 PM	56.8	42.9	11:40 PM - 11:45 PM	50.7	44.1
03:45 PM - 03:50 PM	53.6	38.9	06:25 PM - 06:30 PM	55.6	43.3	09:05 PM - 09:10 PM	56.8	44.9	11:45 PM - 11:50 PM	55.9	45.3
03:50 PM - 03:55 PM	49.6	38.2	06:30 PM - 06:35 PM	50.2	42.5	09:10 PM - 09:15 PM	54.9	45.3	11:50 PM - 11:55 PM	54.7	44.3
03:55 PM - 04:00 PM	50.6	39.3	06:35 PM - 06:40 PM	48.5	43.2	09:15 PM - 09:20 PM	57.0	49.5	11:55 PM - 12:00 AM	56.8	46.4
04:00 PM - 04:05 PM	55.7	39.4	06:40 PM - 06:45 PM	51.5	43.2	09:20 PM - 09:25 PM	55.5	47.2	12:00 AM - 12:05 AM	56.0	46.7
04:05 PM - 04:10 PM	51.9	42.4	06:45 PM - 06:50 PM	51.1	42.7	09:25 PM - 09:30 PM	55.6	46.7	12:05 AM - 12:10 AM	54.7	46.0
04:10 PM - 04:15 PM	52.5	39.5	06:50 PM - 06:55 PM	54.6	43.2	09:30 PM - 09:35 PM	57.2	50.2	12:10 AM - 12:15 AM	51.6	43.8
04:15 PM - 04:20 PM	55.7	39.7	06:55 PM - 07:00 PM	51.0	42.5	09:35 PM - 09:40 PM	51.8	54.6	12:15 AM - 12:20 AM	54.6	44.4
04:20 PM - 04:25 PM	53.4	39.1	07:00 PM - 07:05 PM	51.8	43.2	09:40 PM - 09:45 PM	55.6	45.1	12:20 AM - 12:25 AM	51.8	44.0
04:25 PM - 04:30 PM	51.7	38.4	07:05 PM - 07:10 PM	46.1	42.5	09:45 PM - 09:50 PM	60.9	42.6	12:25 AM - 12:30 AM	51.1	44.1
04:30 PM - 04:35 PM	51.3	39.4	07:10 PM - 07:15 PM	54.5	43.2	09:50 PM - 09:55 PM	51.3	41.1	12:30 AM - 12:35 AM	63.6	45.9
04:35 PM - 04:40 PM	53.2	39.0	07:15 PM - 07:20 PM	46.6	42.4	09:55 PM - 10:00 PM	55.5	42.7	12:35 AM - 12:40 AM	56.0	47.3
04:40 PM - 04:45 PM	49.9	37.2	07:20 PM - 07:25 PM	54.6	43.3	10:00 PM - 10:05 PM	54.8	45.1	12:40 AM - 12:45 AM	54.7	45.9
04:45 PM - 04:50 PM	54.0	36.3	07:25 PM - 07:30 PM	51.0	42.3	10:05 PM - 10:10 PM	51.1	43.8	12:45 AM - 12:50 AM	49.9	45.0
04:50 PM - 04:55 PM	49.5	37.3	07:30 PM - 07:35 PM	47.9	41.0	10:10 PM - 10:15 PM	53.0	42.8	12:50 AM - 12:55 AM	48.2	43.7
04:55 PM - 05:00 PM	51.1	37.8	07:35 PM - 07:40 PM	51.4	42.0	10:15 PM - 10:20 PM	52.4	43.6	12:55 AM - 01:00 AM	52.2	44.1
05:00 PM - 05:05 PM	53.4	40.5	07:40 PM - 07:45 PM	54.3	41.9	10:20 PM - 10:25 PM	52.3	41.6	01:00 AM - 01:05 AM	49.6	44.4
05:05 PM - 05:10 PM	48.8	37.8	07:45 PM - 07:50 PM	52.1	41.4	10:25 PM - 10:30 PM	57.1	43.2	01:05 AM - 01:10 AM	50.1	43.8
05:10 PM - 05:15 PM	50.2	38.7	07:50 PM - 07:55 PM	51.8	41.2	10:30 PM - 10:35 PM	55.5	45.9	01:10 AM - 01:15 AM	55.1	44.2
05:15 PM - 05:20 PM	51.1	40.6	07:55 PM - 08:00 PM	49.5	40.0	10:35 PM - 10:40 PM	56.6	44.9	01:15 AM - 01:20 AM	51.3	43.8
05:20 PM - 05:25 PM	53.7	43.5	08:00 PM - 08:05 PM	49.0	39.6	10:40 PM - 10:45 PM	54.4	42.9	01:20 AM - 01:25 AM	52.1	42.0
05:25 PM - 05:30 PM	50.8	41.8	08:05 PM - 08:10 PM	50.3	41.1	10:45 PM - 10:50 PM	51.9	44.0	01:25 AM - 01:30 AM	53.5	43.2
05:30 PM - 05:35 PM	60.7	41.3	08:10 PM - 08:15 PM	52.6	40.5	10:50 PM - 10:55 PM	57.2	44.2	01:30 AM - 01:35 AM	49.9	43.3
05:35 PM - 05:40 PM	49.8	38.1	08:15 PM - 08:20 PM	48.9	40.6	10:55 PM - 11:00 PM	49.0	43.0	01:35 AM - 01:40 AM	52.9	43.5

Approved by

Sarayuht Jitranont  
Assistant Manager



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159480-1

Page 2 of 3

Sample Number : 24118785-1  
Parameter : Noise Level (Leq 5 min)  
Location : N1 : วิทยาลัยโกลบอลอิมเมจวิทยา (GPS 47P 0744360, 1420358)  
Measurement Date : Oct 21 - Oct 22, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623395

Oct 21, 2022 - 2024			Oct 22, 2024			Oct 22, 2024			Oct 22, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
11:00 PM - 11:05 PM	50.8	39.9	01:40 AM - 01:45 AM	50.1	43.7	04:20 AM - 04:25 AM	54.1	47.3	11:00 PM - 11:05 PM	50.8	39.9
11:05 PM - 11:10 PM	58.5	45.9	01:45 AM - 01:50 AM	48.4	42.7	04:25 AM - 04:30 AM	48.7	42.4	11:05 PM - 11:10 PM	51.2	42.6
11:10 PM - 11:15 PM	51.2	42.6	01:50 AM - 01:55 AM	49.0	41.7	04:30 AM - 04:35 AM	51.8	42.5	11:10 PM - 11:15 PM	52.6	44.0
11:15 PM - 11:20 PM	52.6	44.0	01:55 AM - 02:00 AM	48.1	40.4	04:35 AM - 04:40 AM	47.4	40.0	11:15 PM - 11:20 PM	52.5	44.7
11:20 PM - 11:25 PM	52.5	44.7	02:00 AM - 02:05 AM	48.4	40.7	04:40 AM - 04:45 AM	47.1	40.5	11:20 PM - 11:25 PM	54.2	45.1
11:25 PM - 11:30 PM	54.2	45.1	02:05 AM - 02:10 AM	47.8	42.5	04:45 AM - 04:50 AM	48.3	40.3	11:25 PM - 11:30 PM	55.9	46.1
11:30 PM - 11:35 PM	55.9	46.1	02:10 AM - 02:15 AM	50.5	43.9	04:50 AM - 04:55 AM	49.9	41.3	11:30 PM - 11:35 PM	52.3	45.5
11:35 PM - 11:40 PM	52.3	45.5	02:15 AM - 02:20 AM	46.7	42.5	04:55 AM - 05:00 AM	53.2	39.1	11:35 PM - 11:40 PM	50.7	44.1
11:40 PM - 11:45 PM	50.7	44.1	02:20 AM - 02:25 AM	46.2	42.2	05:00 AM - 05:05 AM	52.8	41.9	11:40 PM - 11:45 PM	55.9	45.3
11:45 PM - 11:50 PM	55.9	45.3	02:25 AM - 02:30 AM	48.3	41.9	05:05 AM - 05:10 AM	47.7	40.1	11:45 PM - 11:50 PM	54.7	44.3
11:50 PM - 11:55 PM	54.7	44.3	02:30 AM - 02:35 AM	48.2	42.5	05:10 AM - 05:15 AM	46.5	38.3	11:50 PM - 11:55 PM	56.8	46.4
11:55 PM - 12:00 AM	56.8	46.4	02:35 AM - 02:40 AM	46.3	41.8	05:15 AM - 05:20 AM	47.6	39.0	11:55 PM - 12:00 AM	56.0	46.7
12:00 AM - 12:05 AM	56.0	46.7	02:40 AM - 02:45 AM	46.0	40.5	05:20 AM - 05:25 AM	48.6	40.4	12:00 AM - 12:05 AM	54.7	46.0
12:05 AM - 12:10 AM	54.7	46.0	02:45 AM - 02:50 AM	42.1	40.5	05:25 AM - 05:30 AM	51.6	40.6	12:05 AM - 12:10 AM	51.6	43.8
12:10 AM - 12:15 AM	51.6	43.8	02:50 AM - 02:55 AM	47.7	40.1	05:30 AM - 05:35 AM	42.1	39.7	12:10 AM - 12:15 AM	54.6	44.4
12:15 AM - 12:20 AM	54.6	44.4	02:55 AM - 03:00 AM	43.5	40.4	05:35 AM - 05:40 AM	45.8	41.0	12:15 AM - 12:20 AM	51.8	44.0
12:20 AM - 12:25 AM	51.8	44.0	03:00 AM - 03:05 AM	46.7	41.4	05:40 AM - 05:45 AM	47.0	41.7	12:20 AM - 12:25 AM	63.6	45.9
12:25 AM - 12:30 AM	63.6	45.9	03:05 AM - 03:10 AM	52.6	41.9	05:45 AM - 05:50 AM	43.0	42.1	12:25 AM - 12:30 AM	56.0	47.3
12:30 AM - 12:35 AM	56.0	47.3	03:10 AM - 03:15 AM	48.7	42.6	05:50 AM - 05:55 AM	45.2	43.0	12:30 AM - 12:35 AM	54.7	45.9
12:35 AM - 12:40 AM	54.7	45.9	03:15 AM - 03:20 AM	45.8	44.0	05:55 AM - 06:00 AM	47.8	44.7	12:35 AM - 12:40 AM	49.9	45.0
12:40 AM - 12:45 AM	49.9	45.0	03:20 AM - 03:25 AM	47.9	44.8	06:00 AM - 06:05 AM	45.3	43.2	12:40 AM - 12:45 AM	48.2	43.7
12:45 AM - 12:50 AM	48.2	43.7	03:25 AM - 03:30 AM	49.0	44.6	06:05 AM - 06:10 AM	47.1	42.6	12:45 AM - 12:50 AM	52.2	44.1
12:50 AM - 12:55 AM	52.2	44.1	03:30 AM - 03:35 AM	45.5	40.7	06:10 AM - 06:15 AM	42.6	42.0	12:50 AM - 12:55 AM	49.6	44.4
12:55 AM - 01:00 AM	49.6	44.4	03:35 AM - 03:40 AM	47.1	42.9	06:15 AM - 06:20 AM	50.8	39.2	12:55 AM - 01:00 AM	50.1	43.8
01:00 AM - 01:05 AM	50.1	43.8	03:40 AM - 03:45 AM	46.1	44.9	06:20 AM - 06:25 AM	48.7	42.7	01:00 AM - 01:05 AM	55.1	44.2
01:05 AM - 01:10 AM	55.1	44.2	03:45 AM - 03:50 AM	47.7	42.9	06:25 AM - 06:30 AM	45.3	43.2	01:05 AM - 01:10 AM	51.3	43.8
01:10 AM - 01:15 AM	51.3	43.8	03:50 AM - 03:55 AM	44.6	42.3	06:30 AM - 06:35 AM	42.1	39.7	01:10 AM - 01:15 AM	52.1	42.0
01:15 AM - 01:20 AM	52.1	42.0	03:55 AM - 04:00 AM	44.9	43.8	06:35 AM - 06:40 AM	43.1	39.7	01:15 AM - 01:20 AM	53.5	43.2
01:20 AM - 01:25 AM	53.5	43.2	04:00 AM - 04:05 AM	44.7	43.1	06:40 AM - 06:45 AM	43.0	40.4	01:20 AM - 01:25 AM	49.9	43.3
01:25 AM - 01:30 AM	49.9	43.3	04:05 AM - 04:10 AM	48.8	43.1	06:45 AM - 06:50 AM	56.1	40.7	01:25 AM - 01:30 AM	52.9	43.5
01:30 AM - 01:35 AM	52.9	43.5	04:10 AM - 04:15 AM	48.8	43.1	06:50 AM - 06:55 AM	56.1	40.7	01:30 AM - 01:35 AM	52.9	43.5
01:35 AM - 01:40 AM	52.9	43.5	04:15 AM - 04:20 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	01:35 AM - 01:40 AM	52.9	43.5
01:40 AM - 01:45 AM	52.9	43.5	04:20 AM - 04:25 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	01:40 AM - 01:45 AM	52.9	43.5
01:45 AM - 01:50 AM	52.9	43.5	04:25 AM - 04:30 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	01:45 AM - 01:50 AM	52.9	43.5
01:50 AM - 01:55 AM	52.9	43.5	04:30 AM - 04:35 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	01:50 AM - 01:55 AM	52.9	43.5
01:55 AM - 02:00 AM	52.9	43.5	04:35 AM - 04:40 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	01:55 AM - 02:00 AM	52.9	43.5
02:00 AM - 02:05 AM	52.9	43.5	04:40 AM - 04:45 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:00 AM - 02:05 AM	52.9	43.5
02:05 AM - 02:10 AM	52.9	43.5	04:45 AM - 04:50 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:05 AM - 02:10 AM	52.9	43.5
02:10 AM - 02:15 AM	52.9	43.5	04:50 AM - 04:55 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:10 AM - 02:15 AM	52.9	43.5
02:15 AM - 02:20 AM	52.9	43.5	04:55 AM - 05:00 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:15 AM - 02:20 AM	52.9	43.5
02:20 AM - 02:25 AM	52.9	43.5	05:00 AM - 05:05 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:20 AM - 02:25 AM	52.9	43.5
02:25 AM - 02:30 AM	52.9	43.5	05:05 AM - 05:10 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:25 AM - 02:30 AM	52.9	43.5
02:30 AM - 02:35 AM	52.9	43.5	05:10 AM - 05:15 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:30 AM - 02:35 AM	52.9	43.5
02:35 AM - 02:40 AM	52.9	43.5	05:15 AM - 05:20 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:35 AM - 02:40 AM	52.9	43.5
02:40 AM - 02:45 AM	52.9	43.5	05:20 AM - 05:25 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:40 AM - 02:45 AM	52.9	43.5
02:45 AM - 02:50 AM	52.9	43.5	05:25 AM - 05:30 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:45 AM - 02:50 AM	52.9	43.5
02:50 AM - 02:55 AM	52.9	43.5	05:30 AM - 05:35 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:50 AM - 02:55 AM	52.9	43.5
02:55 AM - 03:00 AM	52.9	43.5	05:35 AM - 05:40 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	02:55 AM - 03:00 AM	52.9	43.5
03:00 AM - 03:05 AM	52.9	43.5	05:40 AM - 05:45 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:00 AM - 03:05 AM	52.9	43.5
03:05 AM - 03:10 AM	52.9	43.5	05:45 AM - 05:50 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:05 AM - 03:10 AM	52.9	43.5
03:10 AM - 03:15 AM	52.9	43.5	05:50 AM - 05:55 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:10 AM - 03:15 AM	52.9	43.5
03:15 AM - 03:20 AM	52.9	43.5	05:55 AM - 06:00 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:15 AM - 03:20 AM	52.9	43.5
03:20 AM - 03:25 AM	52.9	43.5	06:00 AM - 06:05 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:20 AM - 03:25 AM	52.9	43.5
03:25 AM - 03:30 AM	52.9	43.5	06:05 AM - 06:10 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:25 AM - 03:30 AM	52.9	43.5
03:30 AM - 03:35 AM	52.9	43.5	06:10 AM - 06:15 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:30 AM - 03:35 AM	52.9	43.5
03:35 AM - 03:40 AM	52.9	43.5	06:15 AM - 06:20 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:35 AM - 03:40 AM	52.9	43.5
03:40 AM - 03:45 AM	52.9	43.5	06:20 AM - 06:25 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:40 AM - 03:45 AM	52.9	43.5
03:45 AM - 03:50 AM	52.9	43.5	06:25 AM - 06:30 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:45 AM - 03:50 AM	52.9	43.5
03:50 AM - 03:55 AM	52.9	43.5	06:30 AM - 06:35 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:50 AM - 03:55 AM	52.9	43.5
03:55 AM - 04:00 AM	52.9	43.5	06:35 AM - 06:40 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	03:55 AM - 04:00 AM	52.9	43.5
04:00 AM - 04:05 AM	52.9	43.5	06:40 AM - 06:45 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	04:00 AM - 04:05 AM	52.9	43.5
04:05 AM - 04:10 AM	52.9	43.5	06:45 AM - 06:50 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	04:05 AM - 04:10 AM	52.9	43.5
04:10 AM - 04:15 AM	52.9	43.5	06:50 AM - 06:55 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	04:10 AM - 04:15 AM	52.9	43.5
04:15 AM - 04:20 AM	52.9	43.5	06:55 AM - 07:00 AM	48.8	43.1	06:55 AM - 07:00 AM	56.1	40.7	04:15 AM - 04:20 AM	52.9	43.5
04:20 AM - 04:25 AM	52.9	43.5							04:20 AM - 04:25 AM	52.9	43.5
04:25 AM - 04:30 AM	52.9	43.5							04:25 AM - 04:30 AM	52.9	43.5
04:30 AM - 04:35 AM	52.9	43.5							04:30 AM - 04:35 AM	52.9	43.5
04:35 AM - 04:40 AM	52.9	43.5							04:35 AM - 04:40 AM	52.9	43.5
04:40 AM - 04:45 AM	52.9	43.5							04:40 AM - 04:45 AM	52.9	43.5
04:45 AM - 04:50 AM	52.9	43.5							04:45 AM - 04:50 AM	52.9	43.5
04:50 AM - 04:55 AM	52.9	43.5							04:50 AM - 04:55 AM	52.9	43.5
04:55 AM - 05:00 AM	52.9	43.5							04:55 AM - 05:00 AM	52.9	43.5
05:00 AM - 05:05 AM	52.9	43.5							05:00 AM - 05:05 AM	52.9	43.5
05:05 AM - 05:10 AM	52.9	43.5							05:05 AM - 05:10 AM	52.9	43.5
05:10 AM - 05:15 AM	52.9	43.5							05:10 AM - 05:15 AM	52.9	43.5
05:15 AM - 05:20 AM	52.9	43.5							05:15 AM - 05:20 AM	52.9	43.5
05:20 AM - 05:25 AM	52.9	43.5							05:20 AM - 05:25 AM	52.9	43.5
05:25 AM - 05:30 AM	52.9	43.5							05:25 AM - 05:30 AM	52.9	43.5
05:30 AM - 05:35 AM	52.9	43.5							05:30 AM - 05:35 AM	52.9	43.5
05:35 AM - 05:40 AM	52.9	43.5							05:35 AM - 05:40 AM	52.9	43.5
05:40 AM - 05:45 AM	52.9	43.5							05:40 AM - 05:45 AM	52.9	43.5
05:45 AM - 05:50 AM	52.9	43.5							05:45 AM - 05:50 AM	52.9	43.5
05:50 AM - 05:55 AM	52.9	43.5							05:50 AM - 05:55 AM	52.9	43.5
05:55 AM - 06:00 AM	52.9	43.5							05:55 AM - 06:00 AM	52.9	43.5
06:00 AM - 06:05 AM	52.9	43.5							06:00 AM - 06:05 AM	52.9	43.5
06:05 AM - 06:10 AM	52.9	43.5							06:05 AM - 06:10 AM	52.9	43.5
06:10 AM - 06:15 AM	52.9	43.5							06:10 AM - 06:15 AM	52.9	43.5
06:15 AM - 06:20 AM	52.9	43.5							06:15 AM - 06:20 AM	52.9	43.5
06:2											



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159481-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Sample Number : 24118785-2  
Parameter : Noise Level (Leq 5 min)  
Location : N1 : วิทยาลัยโกลบอลอิมเมจวิทยา (GPS 47P 0744360, 1420358)  
Measurement Date : Oct 22 - Oct 23, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623395

Oct 22 - Oct 23, 2024				Oct 23, 2024			
Time		Leq	L90	Time		Leq	L90
		#B(A)	#B(A)			#B(A)	#B(A)
11:00 PM - 11:05 PM		51.3	45.8	01:40 AM - 01:45 AM		51.3	42.2
11:05 PM - 11:10 PM		55.8	45.9	01:45 AM - 01:50 AM		47.0	42.6
11:10 PM - 11:15 PM		55.1	46.1	01:50 AM - 01:55 AM		49.3	43.5
11:15 PM - 11:20 PM		54.1	46.6	01:55 AM - 02:00 AM		49.3	43.2
11:20 PM - 11:25 PM		50.7	46.1	02:00 AM - 02:05 AM		50.9	43.4
11:25 PM - 11:30 PM		51.0	46.5	02:05 AM - 02:10 AM		48.8	43.2
11:30 PM - 11:35 PM		51.5	46.3	02:10 AM - 02:15 AM		48.1	42.8
11:35 PM - 11:40 PM		55.6	45.9	02:15 AM - 02:20 AM		48.8	42.3
11:40 PM - 11:45 PM		52.9	47.1	02:20 AM - 02:25 AM		50.3	41.6
11:45 PM - 11:50 PM		56.8	46.7	02:25 AM - 02:30 AM		49.5	40.8
11:50 PM - 11:55 PM		54.5	47.3	02:30 AM - 02:35 AM		51.4	42.0
11:55 PM - 12:00 AM		55.0	46.3	02:35 AM - 02:40 AM		54.9	40.3
12:00 AM - 12:05 AM		56.7	48.3	02:40 AM - 02:45 AM		47.8	41.0
12:05 AM - 12:10 AM		59.9	47.8	02:45 AM - 02:50 AM		48.3	40.9
12:10 AM - 12:15 AM		54.5	46.1	02:50 AM - 02:55 AM		44.0	40.5
12:15 AM - 12:20 AM		61.3	44.5	02:55 AM - 03:00 AM		45.4	40.7
12:20 AM - 12:25 AM		55.9	45.4	03:00 AM - 03:05 AM		47.2	41.6
12:25 AM - 12:30 AM		53.0	43.9	03:05 AM - 03:10 AM		46.7	42.0
12:30 AM - 12:35 AM		61.7	45.5	03:10 AM - 03:15 AM		47.2	42.1
12:35 AM - 12:40 AM		59.8	51.1	03:15 AM - 03:20 AM		47.8	41.8
12:40 AM - 12:45 AM		61.0	46.9	03:20 AM - 03:25 AM		47.6	41.5
12:45 AM - 12:50 AM		52.2	44.3	03:25 AM - 03:30 AM		44.5	42.0
12:50 AM - 12:55 AM		52.8	44.8	03:30 AM - 03:35 AM		48.2	42.5
12:55 AM - 01:00 AM		59.3	44.5	03:35 AM - 03:40 AM		47.9	42.7
01:00 AM - 01:05 AM		51.3	44.5	03:40 AM - 03:45 AM		42.9	41.5
01:05 AM - 01:10 AM		46.0	44.0	03:45 AM - 03:50 AM		48.5	41.7
01:10 AM - 01:15 AM		48.4	44.0	03:50 AM - 03:55 AM		43.1	41.0
01:15 AM - 01:20 AM		50.8	44.0	03:55 AM - 04:00 AM		46.1	41.6
01:20 AM - 01:25 AM		50.0	43.7	04:00 AM - 04:05 AM		46.6	41.4
01:25 AM - 01:30 AM		46.7	43.6	04:05 AM - 04:10 AM		44.5	41.3
01:30 AM - 01:35 AM		53.0	43.7	04:10 AM - 04:15 AM		41.7	40.7
01:35 AM - 01:40 AM		55.4	42.5	04:15 AM - 04:20 AM		45.4	41.2

This is a result of an analysis of the data provided for the purpose of the project. It is not intended to be used for any other purpose without the written consent of the company. The company is not responsible for any errors or omissions in this report.

Approved by

Saranyth Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Sample Number : 24118785-2  
Parameter : Noise Level (Leq 5 min)  
Location : N1 : วิทยาลัยโกลบอลอิมเมจวิทยา (GPS 47P 0744360, 1420358)  
Measurement Date : Oct 22 - Oct 23, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623395

Oct 23, 2024				Oct 23, 2024			
Time		Leq	L90	Time		Leq	L90
		#B(A)	#B(A)			#B(A)	#B(A)
07:00 AM - 07:05 AM		41.7	38.9	09:45 AM - 09:50 AM		40.0	40.8
07:05 AM - 07:10 AM		42.3	40.8	09:50 AM - 09:55 AM		43.9	40.6
07:10 AM - 07:15 AM		41.3	40.7	09:55 AM - 10:00 AM		44.4	40.9
07:15 AM - 07:20 AM		43.6	40.6	10:00 AM - 10:05 AM		45.0	40.9
07:20 AM - 07:25 AM		43.8	40.8	10:05 AM - 10:10 AM		53.6	42.2
07:25 AM - 07:30 AM		44.4	40.9	10:10 AM - 10:15 AM		54.5	42.4
07:30 AM - 07:35 AM		45.6	40.7	10:15 AM - 10:20 AM		49.8	43.7
07:35 AM - 07:40 AM		50.3	40.7	10:20 AM - 10:25 AM		49.9	43.7
07:40 AM - 07:45 AM		59.0	42.3	10:25 AM - 10:30 AM		51.3	42.8
07:45 AM - 07:50 AM		52.3	44.0	10:30 AM - 10:35 AM		50.8	40.8
07:50 AM - 07:55 AM		57.1	52.4	10:35 AM - 10:40 AM		52.1	40.9
07:55 AM - 08:00 AM		52.9	51.6	10:40 AM - 10:45 AM		56.5	39.9
08:00 AM - 08:05 AM		50.6	47.8	10:45 AM - 10:50 AM		52.7	40.9
08:05 AM - 08:10 AM		54.5	43.7	10:50 AM - 10:55 AM		50.4	40.0
08:10 AM - 08:15 AM		49.7	43.2	10:55 AM - 11:00 AM		64.8	40.0
08:15 AM - 08:20 AM		47.7	42.1	11:00 AM - 11:05 AM		51.4	39.8
08:20 AM - 08:25 AM		47.3	41.5	11:05 AM - 11:10 AM		52.1	41.3
08:25 AM - 08:30 AM		42.7	41.0	11:10 AM - 11:15 AM		51.5	41.5
08:30 AM - 08:35 AM		42.1	40.2	11:15 AM - 11:20 AM		52.0	40.9
08:35 AM - 08:40 AM		41.5	40.7	11:20 AM - 11:25 AM		52.5	43.2
08:40 AM - 08:45 AM		42.3	40.8	11:25 AM - 11:30 AM		54.8	45.7
08:45 AM - 08:50 AM		43.8	41.3	11:30 AM - 11:35 AM		58.5	46.6
08:50 AM - 08:55 AM		47.7	42.0	11:35 AM - 11:40 AM		60.7	48.9
08:55 AM - 09:00 AM		47.1	42.2	11:40 AM - 11:45 AM		58.8	49.1
09:00 AM - 09:05 AM		46.2	45.0	11:45 AM - 11:50 AM		57.8	46.8
09:05 AM - 09:10 AM		46.9	45.3	11:50 AM - 11:55 AM		57.6	47.1
09:10 AM - 09:15 AM		46.1	42.9	11:55 AM - 12:00 PM		58.2	50.8
09:15 AM - 09:20 AM		43.2	41.9	12:00 PM - 12:05 PM		56.9	48.2
09:20 AM - 09:25 AM		43.4	41.9	12:05 PM - 12:10 PM		62.1	50.5
09:25 AM - 09:30 AM		43.7	43.1	12:10 PM - 12:15 PM		59.8	53.7
09:30 AM - 09:35 AM		46.9	42.9	12:15 PM - 12:20 PM		62.7	53.4
09:35 AM - 09:40 AM		48.6	42.5	12:20 PM - 12:25 PM		61.3	50.9

This is a result of an analysis of the data provided for the purpose of the project. It is not intended to be used for any other purpose without the written consent of the company. The company is not responsible for any errors or omissions in this report.

Approved by

Saranyth Jitranont  
Assistant General Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Sample Number : 24118785-3  
Parameter : Noise Level (Leq 5 min)  
Location : N1 : วิทยาลัยโกลบอลอิมเมจวิทยา (GPS 47P 0744360, 1420358)  
Measurement Date : Oct 23 - Oct 24, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623395

Oct 23, 2024				Oct 23, 2024			
Time		Leq	L90	Time		Leq	L90
		#B(A)	#B(A)			#B(A)	#B(A)
03:00 PM - 03:05 PM		54.2	38.6	05:40 PM - 05:45 PM		47.6	39.5
03:05 PM - 03:10 PM		52.2	39.1	05:45 PM - 05:50 PM		58.3	38.2
03:10 PM - 03:15 PM		55.4	41.1	05:50 PM - 05:55 PM		51.7	38.8
03:15 PM - 03:20 PM		53.2	36.9	05:55 PM - 06:00 PM		54.2	39.7
03:20 PM - 03:25 PM		48.7	39.8	06:00 PM - 06:05 PM		48.8	39.0
03:25 PM - 03:30 PM		47.0	39.2	06:05 PM - 06:10 PM		49.4	38.1
03:30 PM - 03:35 PM		50.6	39.5	06:10 PM - 06:15 PM		52.8	37.8
03:35 PM - 03:40 PM		50.5	39.1	06:15 PM - 06:20 PM		49.7	39.5
03:40 PM - 03:45 PM		49.2	39.7	06:20 PM - 06:25 PM		48.9	40.4
03:45 PM - 03:50 PM		59.5	42.1	06:25 PM - 06:30 PM		53.7	41.6
03:50 PM - 03:55 PM		54.4	39.2	06:30 PM - 06:35 PM		49.9	42.6
03:55 PM - 04:00 PM		51.1	38.4	06:35 PM - 06:40 PM		49.4	42.5
04:00 PM - 04:05 PM		48.9	38.5	06:40 PM - 06:45 PM		49.8	41.7
04:05 PM - 04:10 PM		54.7	39.1	06:45 PM - 06:50 PM		54.4	42.4
04:10 PM - 04:15 PM		51.0	40.0	06:50 PM - 06:55 PM		49.9	41.4
04:15 PM - 04:20 PM		50.8	41.2	06:55 PM - 07:00 PM		54.7	41.6
04:20 PM - 04:25 PM		51.9	41.2	07:00 PM - 07:05 PM		52.4	41.5
04:25 PM - 04:30 PM		55.0	39.8	07:05 PM - 07:10 PM		48.3	42.7
04:30 PM - 04:35 PM		52.6	39.3	07:10 PM - 07:15 PM		51.4	42.3
04:35 PM - 04:40 PM		53.1	37.9	07:15 PM - 07:20 PM		54.2	41.3
04:40 PM - 04:45 PM		54.1	41.7	07:20 PM - 07:25 PM		52.8	41.6
04:45 PM - 04:50 PM		49.5	38.1	07:25 PM - 07:30 PM		48.8	42.4
04:50 PM - 04:55 PM		48.5	38.2	07:30 PM - 07:35 PM		50.9	41.7
04:55 PM - 05:00 PM		51.4	37.9	07:35 PM - 07:40 PM		49.8	42.7
05:00 PM - 05:05 PM		52.3	40.1	07:40 PM - 07:45 PM		55.0	42.8
05:05 PM - 05:10 PM		49.3	39.4	07:45 PM - 07:50 PM		57.6	44.2
05:10 PM - 05:15 PM		50.3	39.9	07:50 PM - 07:55 PM		54.6	44.6
05:15 PM - 05:20 PM		52.6	41.2	07:55 PM - 08:00 PM		53.6	44.7
05:20 PM - 05:25 PM		52.8	41.8	08:00 PM - 08:05 PM		51.4	45.6
05:25 PM - 05:30 PM		48.8	39.2	08:05 PM - 08:10 PM		53.3	45.8
05:30 PM - 05:35 PM		51.7	42.7	08:10 PM - 08:15 PM		52.8	45.4
05:35 PM - 05:40 PM		54.9	40.9	08:15 PM - 08:20 PM		55.1	45.4





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118785

Date Received :Nov 04, 2024

Date Reported :Nov 08, 2024

Report Number : 3159482-1

Page 3 of 3

Sample Number 24118785-3

Parameter Noise Level (Leq 5 min)

Location N1 : วัดห้วยป่าไผ่ในตำบลบ้านใหม่ (GPS 47P 0744360, 1420358)

Measurement Date Oct 23 - Oct 24, 2024

Measurement by Chatchai Sukpla

Sound Level meter Serial No. 623395

Oct 24, 2024			Oct 24, 2024			Oct 24, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
07:00 AM - 07:05 AM	46.8	39.9	09:40 AM - 09:45 AM	46.1	41.9	12:20 PM - 12:25 PM	57.1	45.1
07:05 AM - 07:10 AM	42.4	38.7	09:45 AM - 09:50 AM	45.0	38.5	12:25 PM - 12:30 PM	55.7	44.3
07:10 AM - 07:15 AM	46.6	39.0	09:50 AM - 09:55 AM	46.9	41.5	12:30 PM - 12:35 PM	57.6	44.2
07:15 AM - 07:20 AM	38.9	38.2	09:55 AM - 10:00 AM	50.9	42.1	12:35 PM - 12:40 PM	54.2	43.2
07:20 AM - 07:25 AM	42.4	38.2	10:00 AM - 10:05 AM	46.1	41.3	12:40 PM - 12:45 PM	56.2	43.4
07:25 AM - 07:30 AM	40.4	38.2	10:05 AM - 10:10 AM	55.2	42.6	12:45 PM - 12:50 PM	56.1	41.9
07:30 AM - 07:35 AM	42.4	38.1	10:10 AM - 10:15 AM	49.0	40.9	12:50 PM - 12:55 PM	52.5	40.9
07:35 AM - 07:40 AM	42.5	39.9	10:15 AM - 10:20 AM	48.0	40.9	12:55 PM - 01:00 PM	55.8	43.9
07:40 AM - 07:45 AM	46.7	43.5	10:20 AM - 10:25 AM	48.5	40.5	01:00 PM - 01:05 PM	51.5	41.4
07:45 AM - 07:50 AM	43.8	43.4	10:25 AM - 10:30 AM	49.8	40.4	01:05 PM - 01:10 PM	46.7	39.8
07:50 AM - 07:55 AM	45.0	43.3	10:30 AM - 10:35 AM	54.8	43.2	01:10 PM - 01:15 PM	50.9	41.3
07:55 AM - 08:00 AM	52.9	43.1	10:35 AM - 10:40 AM	52.8	41.6	01:15 PM - 01:20 PM	52.8	40.1
08:00 AM - 08:05 AM	41.7	39.5	10:40 AM - 10:45 AM	51.4	41.4	01:20 PM - 01:25 PM	49.4	42.7
08:05 AM - 08:10 AM	40.3	39.5	10:45 AM - 10:50 AM	51.6	41.5	01:25 PM - 01:30 PM	50.9	42.9
08:10 AM - 08:15 AM	46.7	41.9	10:50 AM - 10:55 AM	51.8	42.5	01:30 PM - 01:35 PM	54.2	40.4
08:15 AM - 08:20 AM	42.9	42.2	10:55 AM - 11:00 AM	52.5	42.2	01:35 PM - 01:40 PM	58.1	44.7
08:20 AM - 08:25 AM	44.7	42.3	11:00 AM - 11:05 AM	52.4	42.5	01:40 PM - 01:45 PM	52.0	41.6
08:25 AM - 08:30 AM	46.2	42.3	11:05 AM - 11:10 AM	54.4	43.2	01:45 PM - 01:50 PM	55.1	42.3
08:30 AM - 08:35 AM	45.5	42.4	11:10 AM - 11:15 AM	56.2	46.0	01:50 PM - 01:55 PM	52.5	39.9
08:35 AM - 08:40 AM	44.2	42.5	11:15 AM - 11:20 AM	55.2	44.2	01:55 PM - 02:00 PM	52.6	40.6
08:40 AM - 08:45 AM	42.7	42.3	11:20 AM - 11:25 AM	55.9	45.3	02:00 PM - 02:05 PM	59.5	44.1
08:45 AM - 08:50 AM	44.6	42.0	11:25 AM - 11:30 AM	57.3	51.6	02:05 PM - 02:10 PM	49.6	41.7
08:50 AM - 08:55 AM	43.4	42.6	11:30 AM - 11:35 AM	57.4	54.0	02:10 PM - 02:15 PM	54.8	47.0
08:55 AM - 09:00 AM	43.2	42.3	11:35 AM - 11:40 AM	60.7	52.6	02:15 PM - 02:20 PM	52.9	41.1
09:00 AM - 09:05 AM	45.4	42.2	11:40 AM - 11:45 AM	59.4	52.8	02:20 PM - 02:25 PM	50.7	42.0
09:05 AM - 09:10 AM	48.4	42.1	11:45 AM - 11:50 AM	60.7	52.9	02:25 PM - 02:30 PM	51.8	41.8
09:10 AM - 09:15 AM	49.0	42.2	11:50 AM - 11:55 AM	58.2	53.1	02:30 PM - 02:35 PM	54.1	41.5
09:15 AM - 09:20 AM	43.4	41.9	11:55 AM - 12:00 PM	61.7	53.7	02:35 PM - 02:40 PM	51.7	40.7
09:20 AM - 09:25 AM	45.4	42.3	12:00 PM - 12:05 PM	59.4	53.8	02:40 PM - 02:45 PM	51.5	42.7
09:25 AM - 09:30 AM	52.7	42.3	12:05 PM - 12:10 PM	62.7	52.7	02:45 PM - 02:50 PM	46.5	39.8
09:30 AM - 09:35 AM	44.8	42.0	12:10 PM - 12:15 PM	62.0	53.1	02:50 PM - 02:55 PM	51.3	40.7
09:35 AM - 09:40 AM	46.8	42.0	12:15 PM - 12:20 PM	59.2	50.4	02:55 PM - 03:00 PM	48.8	41.4

Approved by

Sarayuth Jitranont  
Assistant General Manager

## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118785

Date Received :Nov 04, 2024

Date Reported :Nov 08, 2024

Report Number : 3159483-1

Page 3 of 3

Sample Number 24118785-4

Parameter Noise Level (Leq 5 min)

Location N1 : วัดห้วยป่าไผ่ในตำบลบ้านใหม่ (GPS 47P 0744360, 1420358)

Measurement Date Oct 24 - Oct 25, 2024

Measurement by Chatchai Sukpla

Sound Level meter Serial No. 623395

Oct 24, 2024			Oct 24, 2024			Oct 24, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
03:00 PM - 03:05 PM	48.0	39.6	05:40 PM - 05:45 PM	48.4	35.6	08:20 PM - 08:25 PM	49.3	43.5
03:05 PM - 03:10 PM	51.8	42.1	05:45 PM - 05:50 PM	46.3	36.4	08:25 PM - 08:30 PM	54.8	44.7
03:10 PM - 03:15 PM	54.8	42.1	05:50 PM - 05:55 PM	54.4	34.8	08:30 PM - 08:35 PM	53.7	46.2
03:15 PM - 03:20 PM	52.0	41.5	05:55 PM - 06:00 PM	49.5	39.0	08:35 PM - 08:40 PM	54.9	46.7
03:20 PM - 03:25 PM	51.8	37.8	06:00 PM - 06:05 PM	52.7	36.8	08:40 PM - 08:45 PM	53.9	46.3
03:25 PM - 03:30 PM	49.1	39.9	06:05 PM - 06:10 PM	42.7	34.9	08:45 PM - 08:50 PM	50.4	42.2
03:30 PM - 03:35 PM	46.4	41.7	06:10 PM - 06:15 PM	47.5	36.0	08:50 PM - 08:55 PM	49.5	40.7
03:35 PM - 03:40 PM	54.7	44.9	06:15 PM - 06:20 PM	48.0	37.1	08:55 PM - 09:00 PM	60.2	40.8
03:40 PM - 03:45 PM	52.5	41.5	06:20 PM - 06:25 PM	51.2	39.0	09:00 PM - 09:05 PM	53.7	40.5
03:45 PM - 03:50 PM	49.3	37.8	06:25 PM - 06:30 PM	54.9	36.9	09:05 PM - 09:10 PM	54.9	43.3
03:50 PM - 03:55 PM	47.7	40.1	06:30 PM - 06:35 PM	53.1	37.8	09:10 PM - 09:15 PM	54.0	41.9
03:55 PM - 04:00 PM	52.4	38.4	06:35 PM - 06:40 PM	52.2	39.1	09:15 PM - 09:20 PM	53.7	44.4
04:00 PM - 04:05 PM	51.1	41.0	06:40 PM - 06:45 PM	50.8	37.0	09:20 PM - 09:25 PM	54.5	43.1
04:05 PM - 04:10 PM	51.0	38.2	06:45 PM - 06:50 PM	54.9	36.5	09:25 PM - 09:30 PM	52.3	43.8
04:10 PM - 04:15 PM	44.9	36.9	06:50 PM - 06:55 PM	49.3	39.2	09:30 PM - 09:35 PM	57.0	46.4
04:15 PM - 04:20 PM	51.8	39.9	06:55 PM - 07:00 PM	50.5	38.2	09:35 PM - 09:40 PM	55.6	46.4
04:20 PM - 04:25 PM	52.2	37.4	07:00 PM - 07:05 PM	49.4	40.5	09:40 PM - 09:45 PM	56.7	44.2
04:25 PM - 04:30 PM	53.2	39.6	07:05 PM - 07:10 PM	47.7	37.9	09:45 PM - 09:50 PM	56.3	43.3
04:30 PM - 04:35 PM	54.3	42.6	07:10 PM - 07:15 PM	49.0	39.3	09:50 PM - 09:55 PM	57.5	44.5
04:35 PM - 04:40 PM	46.7	41.4	07:15 PM - 07:20 PM	54.6	39.0	09:55 PM - 10:00 PM	57.5	42.8
04:40 PM - 04:45 PM	49.7	37.9	07:20 PM - 07:25 PM	58.6	41.8	10:00 PM - 10:05 PM	55.8	44.4
04:45 PM - 04:50 PM	56.5	42.3	07:25 PM - 07:30 PM	51.0	40.5	10:05 PM - 10:10 PM	59.2	44.3
04:50 PM - 04:55 PM	50.9	39.0	07:30 PM - 07:35 PM	52.1	39.7	10:10 PM - 10:15 PM	62.6	44.3
04:55 PM - 05:00 PM	47.6	37.6	07:35 PM - 07:40 PM	51.8	41.7	10:15 PM - 10:20 PM	62.5	43.6
05:00 PM - 05:05 PM	51.2	39.5	07:40 PM - 07:45 PM	53.3	42.1	10:20 PM - 10:25 PM	51.7	44.1
05:05 PM - 05:10 PM	55.9	38.1	07:45 PM - 07:50 PM	54.4	40.2	10:25 PM - 10:30 PM	54.6	45.1
05:10 PM - 05:15 PM	52.7	36.8	07:50 PM - 07:55 PM	53.4	39.1	10:30 PM - 10:35 PM	53.5	45.9
05:15 PM - 05:20 PM	53.2	37.7	07:55 PM - 08:00 PM	52.2	41.8	10:35 PM - 10:40 PM	60.6	45.9
05:20 PM - 05:25 PM	51.4	35.5	08:00 PM - 08:05 PM	52.5	41.5	10:40 PM - 10:45 PM	59.1	46.3
05:25 PM - 05:30 PM	53.0	39.5	08:05 PM - 08:10 PM	50.6	41.4	10:45 PM - 10:50 PM	54.1	45.3
05:30 PM - 05:35 PM	47.7	36.9	08:10 PM - 08:15 PM	52.8	41.8	10:50 PM - 10:55 PM	58.4	45.6
05:35 PM - 05:40 PM	46.9	36.0	08:15 PM - 08:20 PM	50.9	39.7	10:55 PM - 11:00 PM	52.6	45.4

Approved by

Sarayuth Jitranont  
Assistant General Manager

## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24118785

Date Received :Nov 04, 2024

Date Reported :Nov 08, 2024

Report Number : 3159483-1

Page 2 of 3

Sample Number 24118785-4

Parameter Noise Level (Leq 5 min)

Location N1 : วัดห้วยป่าไผ่ในตำบลบ้านใหม่ (GPS 47P 0744360, 1420358)

Measurement Date Oct 24 - Oct 25, 2024

Measurement by Chatchai Sukpla

Sound Level meter Serial No. 623395

Oct 24 - Oct 25, 2024			Oct 25, 2024			Oct 25, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
11:00 PM - 11:05 PM	51.4	45.3	01:40 AM - 01:45 AM	51.0	44.5	04:20 AM - 04:25 AM	47.6	44.1
11:05 PM - 11:10 PM	56.4	47.0	01:45 AM - 01:50 AM	54.5	45.9	04:25 AM - 04:30 AM	44.6	43.6
11:10 PM - 11:15 PM	53.4	46.3	01:50 AM - 01:55 AM	49.3	45.0	04:30 AM - 04:35 AM	49.1	43.9
11:15 PM - 11:20 PM	53.8	46.4	01:55 AM - 02:00 AM	50.5	45.8	04:35 AM - 04:40 AM	47.7	44.0
11:20 PM - 11:25 PM	52.1	45.9	02:00 AM - 02:05 AM	52.0	45.7	04:40 AM - 04:45 AM	45.7	43.7
11:25 PM - 11:30 PM	56.1	46.7	02:05 AM - 02:10 AM	51.3	45.9	04:45 AM - 04:50 AM	45.5	43.4
11:30 PM - 11:35 PM	55.9	47.5	02:10 AM - 02:15 AM	53.0	44.1	04:50 AM - 04:55 AM	45.4	43.9
11:35 PM - 11:40 PM	57.3	48.6	02:15 AM - 02:20 AM	48.8	45.7	04:55 AM - 05:00 AM	45.0	43.4
11:40 PM - 11:45 PM	52.7	46.9	02:20 AM - 02:25 AM	49.3	44.7	05:00 AM - 05:05 AM	45.1	42.8
11:45 PM - 11:50 PM	54.5	47.2	02:25 AM - 02:30 AM	50.1	44.9	05:05 AM - 05:10 AM	46.8	43.9
11:50 PM - 11:55 PM	53.1	46.7	02:30 AM - 02:35 AM	52.2	43.5	05:10 AM - 05:15 AM	51.9	43.6
11:55 PM - 12:00 AM	52.0	46.5	02:35 AM - 02:40 AM	49.0	43.7	05:15 AM - 05:20 AM	47.4	41.3
12:00 AM - 12:05 AM	59.4	48.9	02:40 AM - 02:45 AM	49.1	44.1	05:20 AM - 05:25 AM	46.6	41.2
12:05 AM - 12:10 AM	53.1	47.6	02:45 AM - 02:50 AM	46.9	43.5	05:25 AM - 05:30 AM	53.7	44.4
12:10 AM - 12:15 AM	55.9	48.4	02:50 AM - 02:55 AM	46.7	45.9	05:30 AM - 05:35 AM	44.6	44.9
12:15 AM - 12:20 AM	52.7	47.2	02:55 AM - 03:00 AM	49.0	45.4	05:35 AM - 05:40 AM	49.9	44.1
12:20 AM - 12:25 AM	54.6	46.5	03:00 AM - 03:05 AM	47.7	44.7	05:40 AM - 05:45 AM	45.5	43.9
12:25 AM - 12:30 AM	55.3	47.0	03:05 AM - 03:10 AM	46.1	42.9	05:45 AM - 05:50 AM	47.5	43.4
12:30 AM - 12:35 AM	57.9	48.3	03:10 AM - 03:15 AM	46.4	42.9	05:50 AM - 05:55 AM	48.9	43.8
12:35 AM - 12:40 AM	58.0	48.0	03:15 AM - 03:20 AM	46.6	44.2	05:55 AM - 06:00 AM	48.2	41.2
12:40 AM - 12:45 AM	53.2	46.4	03:20 AM - 03:25 AM	46.6	44.3	06:00 AM - 06:05 AM	47.6	40.9
12:45 AM - 12:50 AM	50.8	43.1	03:25 AM - 03:30 AM	46.1	44.0	06:05 AM - 06:10 AM	47.2	43.7
12:50 AM - 12:55 AM	43.1	42.3	03:30 AM - 03:35 AM	46.4	43.8	06:10 AM - 06:15 AM	47.0	42.1
12:55 AM - 01:00 AM	47.9	43.3	03:35 AM - 03:40 AM	46.9	43.5	06:15 AM - 06:20 AM	44.3	43.7
01:00 AM - 01:05 AM	49.8	43.4	03:40 AM - 03:45 AM	46.6	43.6	06:20 AM - 06:25 AM	44.1	43.7
01:05 AM - 01:10 AM	49.9	42.8	03:45 AM - 03:50 AM	46.9	43.5	06:25 AM - 06:30 AM	44.4	43.5
01:10 AM - 01:15 AM	50.1	42.3	03:50 AM - 03:55 AM	45.2	43.8	06:30 AM - 06:35 AM	46.3	43.2
01:15 AM - 01:20 AM	44.5	42.9	03:55 AM - 04:00 AM	44.9	40.2	06:35 AM - 06:40 AM	43.8	43.3
01:20 AM - 01:25 AM	46.0	41.4	04:00 AM - 04:05 AM	45.4	40.7	06:40 AM - 06:45 AM	46.5	43.4
01:25 AM - 01:30 AM	46.6	44.3	04:05 AM - 04:10 AM	44.9	41.8	06:45 AM - 06:50 AM	46.5	43.3
01:30 AM - 01:35 AM	51.3	45.3	04:10 AM - 04:15 AM	47.5	44.5	06:50 AM - 06:55 AM	42.0	42.5
01:35 AM - 01:40 AM	50.1	45.0	04:15 AM - 04:20 AM	46.3	44.2	06:55 AM - 07:00 AM	44.8	40.5





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159484-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number		24118785-5	
Parameter		Noise Level (Leq 5 min)	
Location		N1 : วัดทางเข้าโครงการในเขตพื้นที่โครงการ (GPS 47P 0744360, 1420358)	
Measurement Date		Oct 25 - Oct 26, 2024	
Measurement by		Chatchai Sukpa	
Sound Level meter		Serial No. 623395	
Oct 25, 2024		Oct 25, 2024	
Time	Leq dB(A)	Time	Leq dB(A)
03:00 PM - 03:05 PM	38.7	05:40 PM - 05:45 PM	49.4
03:05 PM - 03:10 PM	48.4	05:45 PM - 05:50 PM	50.8
03:10 PM - 03:15 PM	53.8	05:50 PM - 05:55 PM	49.0
03:15 PM - 03:20 PM	46.3	05:55 PM - 06:00 PM	48.6
03:20 PM - 03:25 PM	56.0	06:00 PM - 06:05 PM	48.5
03:25 PM - 03:30 PM	54.8	06:05 PM - 06:10 PM	49.0
03:30 PM - 03:35 PM	45.4	06:10 PM - 06:15 PM	49.3
03:35 PM - 03:40 PM	46.4	06:15 PM - 06:20 PM	49.9
03:40 PM - 03:45 PM	56.9	06:20 PM - 06:25 PM	49.5
03:45 PM - 03:50 PM	53.1	06:25 PM - 06:30 PM	49.5
03:50 PM - 03:55 PM	52.7	06:30 PM - 06:35 PM	50.5
03:55 PM - 04:00 PM	51.6	06:35 PM - 06:40 PM	50.1
04:00 PM - 04:05 PM	54.6	06:40 PM - 06:45 PM	46.6
04:05 PM - 04:10 PM	54.2	06:45 PM - 06:50 PM	53.2
04:10 PM - 04:15 PM	57.9	06:50 PM - 06:55 PM	52.3
04:15 PM - 04:20 PM	54.1	06:55 PM - 07:00 PM	52.8
04:20 PM - 04:25 PM	56.9	07:00 PM - 07:05 PM	54.6
04:25 PM - 04:30 PM	54.6	07:05 PM - 07:10 PM	50.6
04:30 PM - 04:35 PM	52.9	07:10 PM - 07:15 PM	58.2
04:35 PM - 04:40 PM	52.5	07:15 PM - 07:20 PM	56.4
04:40 PM - 04:45 PM	54.4	07:20 PM - 07:25 PM	55.5
04:45 PM - 04:50 PM	51.1	07:25 PM - 07:30 PM	55.7
04:50 PM - 04:55 PM	52.9	07:30 PM - 07:35 PM	54.0
04:55 PM - 05:00 PM	56.6	07:35 PM - 07:40 PM	48.2
05:00 PM - 05:05 PM	54.3	07:40 PM - 07:45 PM	54.7
05:05 PM - 05:10 PM	58.7	07:45 PM - 07:50 PM	47.0
05:10 PM - 05:15 PM	53.2	07:50 PM - 07:55 PM	47.2
05:15 PM - 05:20 PM	41.1	07:55 PM - 08:00 PM	50.3
05:20 PM - 05:25 PM	45.7	08:00 PM - 08:05 PM	53.4
05:25 PM - 05:30 PM	42.2	08:05 PM - 08:10 PM	57.4
05:30 PM - 05:35 PM	46.3	08:10 PM - 08:15 PM	48.6
05:35 PM - 05:40 PM	53.0	08:15 PM - 08:20 PM	50.8

Approved by

Sarayu Jitranont  
Assistant General Manager

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www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159484-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number		24118785-5	
Parameter		Noise Level (Leq 5 min)	
Location		N1 : วัดทางเข้าโครงการในเขตพื้นที่โครงการ (GPS 47P 0744360, 1420358)	
Measurement Date		Oct 25 - Oct 26, 2024	
Measurement by		Chatchai Sukpa	
Sound Level meter		Serial No. 623395	
Oct 26, 2024		Oct 26, 2024	
Time	Leq dB(A)	Time	Leq dB(A)
07:00 AM - 07:05 AM	43.2	09:40 AM - 09:45 AM	43.9
07:05 AM - 07:10 AM	45.7	09:45 AM - 09:50 AM	44.3
07:10 AM - 07:15 AM	44.3	09:50 AM - 09:55 AM	47.9
07:15 AM - 07:20 AM	52.0	09:55 AM - 10:00 AM	49.1
07:20 AM - 07:25 AM	51.5	10:00 AM - 10:05 AM	43.8
07:25 AM - 07:30 AM	47.7	10:05 AM - 10:10 AM	55.2
07:30 AM - 07:35 AM	47.7	10:10 AM - 10:15 AM	43.7
07:35 AM - 07:40 AM	43.5	10:15 AM - 10:20 AM	45.6
07:40 AM - 07:45 AM	43.9	10:20 AM - 10:25 AM	49.1
07:45 AM - 07:50 AM	44.0	10:25 AM - 10:30 AM	44.1
07:50 AM - 07:55 AM	43.8	10:30 AM - 10:35 AM	41.4
07:55 AM - 08:00 AM	47.7	10:35 AM - 10:40 AM	41.9
08:00 AM - 08:05 AM	47.5	10:40 AM - 10:45 AM	42.4
08:05 AM - 08:10 AM	43.4	10:45 AM - 10:50 AM	43.0
08:10 AM - 08:15 AM	44.0	10:50 AM - 10:55 AM	45.1
08:15 AM - 08:20 AM	45.0	10:55 AM - 11:00 AM	44.6
08:20 AM - 08:25 AM	45.3	11:00 AM - 11:05 AM	44.5
08:25 AM - 08:30 AM	44.8	11:05 AM - 11:10 AM	45.3
08:30 AM - 08:35 AM	42.2	11:10 AM - 11:15 AM	46.5
08:35 AM - 08:40 AM	44.2	11:15 AM - 11:20 AM	43.7
08:40 AM - 08:45 AM	44.3	11:20 AM - 11:25 AM	44.4
08:45 AM - 08:50 AM	44.8	11:25 AM - 11:30 AM	45.4
08:50 AM - 08:55 AM	44.6	11:30 AM - 11:35 AM	44.8
08:55 AM - 09:00 AM	44.6	11:35 AM - 11:40 AM	45.0
09:00 AM - 09:05 AM	45.3	11:40 AM - 11:45 AM	45.1
09:05 AM - 09:10 AM	43.7	11:45 AM - 11:50 AM	45.7
09:10 AM - 09:15 AM	43.8	11:50 AM - 11:55 AM	45.4
09:15 AM - 09:20 AM	43.5	11:55 AM - 12:00 PM	45.6
09:20 AM - 09:25 AM	46.8	12:00 PM - 12:05 PM	49.6
09:25 AM - 09:30 AM	44.6	12:05 PM - 12:10 PM	44.7
09:30 AM - 09:35 AM	44.1	12:10 PM - 12:15 PM	45.6
09:35 AM - 09:40 AM	43.9	12:15 PM - 12:20 PM	46.7

Approved by

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Assistant General Manager

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RIGHT SOLUTIONS RIGHT PARTNER



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159484-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number		24118785-6	
Parameter		Noise Level (Leq 5 min)	
Location		N1 : วัดทางเข้าโครงการในเขตพื้นที่โครงการ (GPS 47P 0744360, 1420358)	
Measurement Date		Oct 25 - Oct 26, 2024	
Measurement by		Chatchai Sukpa	
Sound Level meter		Serial No. 623395	
Oct 25 - Oct 26, 2024		Oct 26, 2024	
Time	Leq dB(A)	Time	Leq dB(A)
11:00 PM - 11:05 PM	51.0	01:40 AM - 01:45 AM	51.9
11:05 PM - 11:10 PM	48.7	01:45 AM - 01:50 AM	52.6
11:10 PM - 11:15 PM	50.8	01:50 AM - 01:55 AM	49.9
11:15 PM - 11:20 PM	49.9	01:55 AM - 02:00 AM	50.5
11:20 PM - 11:25 PM	50.8	02:00 AM - 02:05 AM	49.7
11:25 PM - 11:30 PM	52.0	02:05 AM - 02:10 AM	50.9
11:30 PM - 11:35 PM	49.6	02:10 AM - 02:15 AM	50.6
11:35 PM - 11:40 PM	50.6	02:15 AM - 02:20 AM	50.2
11:40 PM - 11:45 PM	54.7	02:20 AM - 02:25 AM	57.9
11:45 PM - 11:50 PM	54.2	02:25 AM - 02:30 AM	50.4
11:50 PM - 11:55 PM	55.0	02:30 AM - 02:35 AM	54.9
11:55 PM - 12:00 AM	56.2	02:35 AM - 02:40 AM	49.8
12:00 AM - 12:05 AM	57.1	02:40 AM - 02:45 AM	51.6
12:05 AM - 12:10 AM	54.9	02:45 AM - 02:50 AM	54.3
12:10 AM - 12:15 AM	55.5	02:50 AM - 02:55 AM	52.9
12:15 AM - 12:20 AM	55.4	02:55 AM - 03:00 AM	51.6
12:20 AM - 12:25 AM	51.1	03:00 AM - 03:05 AM	52.1
12:25 AM - 12:30 AM	52.1	03:05 AM - 03:10 AM	51.0
12:30 AM - 12:35 AM	55.3	03:10 AM - 03:15 AM	52.1
12:35 AM - 12:40 AM	51.3	03:15 AM - 03:20 AM	52.7
12:40 AM - 12:45 AM	51.9	03:20 AM - 03:25 AM	58.2
12:45 AM - 12:50 AM	53.4	03:25 AM - 03:30 AM	55.0
12:50 AM - 12:55 AM	54.6	03:30 AM - 03:35 AM	53.1
12:55 AM - 01:00 AM	53.9	03:35 AM - 03:40 AM	53.7
01:00 AM - 01:05 AM	60.4	03:40 AM - 03:45 AM	52.1
01:05 AM - 01:10 AM	51.4	03:45 AM - 03:50 AM	54.5
01:10 AM - 01:15 AM	54.4	03:50 AM - 03:55 AM	51.2
01:15 AM - 01:20 AM	52.9	03:55 AM - 04:00 AM	55.3
01:20 AM - 01:25 AM	54.7	04:00 AM - 04:05 AM	51.0
01:25 AM - 01:30 AM	56.0	04:05 AM - 04:10 AM	47.0
01:30 AM - 01:35 AM	57.8	04:10 AM - 04:15 AM	48.4
01:35 AM - 01:40 AM	58.7	04:15 AM - 04:20 AM	51.1

Approved by

Sarayu Jitranont  
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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159486-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GMLL2

Page 2 of 3

Sample Number				24118785-6			
Parameter				Noise Level (Leq 5 min)			
Location				N1 : พื้นที่ภายในรัศมี 50 เมตร (GPS 47P 0744360, 1420358)			
Measurement Date				Oct 26 - Oct 27, 2024			
Measurement by				Chatchai Sukpla			
Sound Level meter				Serial No. 623395			
Oct 26 - Oct 27, 2024				Oct 27, 2024			
Time				Time			
Leq				Leq			
#dB(A)				#dB(A)			
11:00 PM - 11:05 PM	52.0	48.2	01:40 AM - 01:45 AM	54.7	45.4	04:20 AM - 04:25 AM	47.6
11:05 PM - 11:10 PM	49.6	44.0	01:45 AM - 01:50 AM	54.0	45.3	04:25 AM - 04:30 AM	48.8
11:10 PM - 11:15 PM	49.7	44.4	01:50 AM - 01:55 AM	53.5	46.8	04:30 AM - 04:35 AM	51.5
11:15 PM - 11:20 PM	50.1	45.4	01:55 AM - 02:00 AM	53.9	46.2	04:35 AM - 04:40 AM	47.1
11:20 PM - 11:25 PM	55.9	46.8	02:00 AM - 02:05 AM	59.4	45.2	04:40 AM - 04:45 AM	50.3
11:25 PM - 11:30 PM	50.9	44.4	02:05 AM - 02:10 AM	59.7	45.7	04:45 AM - 04:50 AM	47.7
11:30 PM - 11:35 PM	58.1	44.0	02:10 AM - 02:15 AM	53.9	46.8	04:50 AM - 04:55 AM	46.5
11:35 PM - 11:40 PM	53.1	45.8	02:15 AM - 02:20 AM	52.1	46.8	04:55 AM - 05:00 AM	48.1
11:40 PM - 11:45 PM	56.4	51.2	02:20 AM - 02:25 AM	52.9	46.2	05:00 AM - 05:05 AM	47.3
11:45 PM - 11:50 PM	56.7	50.0	02:25 AM - 02:30 AM	48.2	45.3	05:05 AM - 05:10 AM	50.8
11:50 PM - 11:55 PM	57.1	51.8	02:30 AM - 02:35 AM	50.3	44.6	05:10 AM - 05:15 AM	47.1
11:55 PM - 12:00 AM	56.2	50.7	02:35 AM - 02:40 AM	55.1	45.9	05:15 AM - 05:20 AM	46.5
12:00 AM - 12:05 AM	52.7	45.0	02:40 AM - 02:45 AM	52.0	46.6	05:20 AM - 05:25 AM	46.2
12:05 AM - 12:10 AM	51.5	45.1	02:45 AM - 02:50 AM	49.7	46.3	05:25 AM - 05:30 AM	46.2
12:10 AM - 12:15 AM	58.7	48.8	02:50 AM - 02:55 AM	52.6	47.0	05:30 AM - 05:35 AM	47.1
12:15 AM - 12:20 AM	57.9	45.3	02:55 AM - 03:00 AM	55.5	46.6	05:35 AM - 05:40 AM	49.3
12:20 AM - 12:25 AM	53.2	46.3	03:00 AM - 03:05 AM	54.2	48.9	05:40 AM - 05:45 AM	48.3
12:25 AM - 12:30 AM	58.2	45.2	03:05 AM - 03:10 AM	50.4	46.7	05:45 AM - 05:50 AM	48.3
12:30 AM - 12:35 AM	52.2	46.0	03:10 AM - 03:15 AM	53.1	48.3	05:50 AM - 05:55 AM	46.1
12:35 AM - 12:40 AM	52.2	44.4	03:15 AM - 03:20 AM	53.9	46.7	05:55 AM - 06:00 AM	45.2
12:40 AM - 12:45 AM	49.2	44.7	03:20 AM - 03:25 AM	51.8	47.1	06:00 AM - 06:05 AM	48.5
12:45 AM - 12:50 AM	52.6	46.6	03:25 AM - 03:30 AM	51.7	47.1	06:05 AM - 06:10 AM	62.9
12:50 AM - 12:55 AM	53.9	45.3	03:30 AM - 03:35 AM	53.2	47.7	06:10 AM - 06:15 AM	48.8
12:55 AM - 01:00 AM	51.0	46.3	03:35 AM - 03:40 AM	51.6	45.6	06:15 AM - 06:20 AM	45.3
01:00 AM - 01:05 AM	61.5	46.0	03:40 AM - 03:45 AM	49.9	45.7	06:20 AM - 06:25 AM	46.4
01:05 AM - 01:10 AM	54.6	48.6	03:45 AM - 03:50 AM	51.1	45.2	06:25 AM - 06:30 AM	50.4
01:10 AM - 01:15 AM	55.9	47.7	03:50 AM - 03:55 AM	56.4	44.9	06:30 AM - 06:35 AM	46.6
01:15 AM - 01:20 AM	54.4	47.6	03:55 AM - 04:00 AM	48.8	45.4	06:35 AM - 06:40 AM	49.1
01:20 AM - 01:25 AM	54.5	46.3	04:00 AM - 04:05 AM	48.4	44.8	06:40 AM - 06:45 AM	50.4
01:25 AM - 01:30 AM	49.6	45.2	04:05 AM - 04:10 AM	49.7	44.9	06:45 AM - 06:50 AM	47.4
01:30 AM - 01:35 AM	51.4	46.8	04:10 AM - 04:15 AM	47.5	44.7	06:50 AM - 06:55 AM	44.5
01:35 AM - 01:40 AM	50.5	45.5	04:15 AM - 04:20 AM	48.9	46.3	06:55 AM - 07:00 AM	47.9

Approved by

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159486-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GMLL2

Page 2 of 3

Sample Number				24118785-6			
Parameter				Noise Level (Leq 5 min)			
Location				N1 : พื้นที่ภายในรัศมี 50 เมตร (GPS 47P 0744360, 1420358)			
Measurement Date				Oct 26 - Oct 27, 2024			
Measurement by				Chatchai Sukpla			
Sound Level meter				Serial No. 623395			
Oct 27, 2024				Oct 27, 2024			
Time				Time			
Leq				Leq			
#dB(A)				#dB(A)			
07:00 AM - 07:05 AM	50.7	43.9	05:40 AM - 05:45 AM	45.3	44.3	12:20 PM - 12:25 PM	44.3
07:05 AM - 07:10 AM	48.4	43.5	05:45 AM - 05:50 AM	45.3	44.0	12:25 PM - 12:30 PM	43.2
07:10 AM - 07:15 AM	46.1	44.7	05:50 AM - 05:55 AM	45.3	44.1	12:30 PM - 12:35 PM	48.6
07:15 AM - 07:20 AM	45.5	43.9	05:55 AM - 06:00 AM	45.1	44.1	12:35 PM - 12:40 PM	46.8
07:20 AM - 07:25 AM	45.5	43.3	06:00 AM - 06:05 AM	45.3	43.6	12:40 PM - 12:45 PM	45.0
07:25 AM - 07:30 AM	45.0	43.9	06:05 AM - 06:10 AM	46.2	43.7	12:45 PM - 12:50 PM	45.9
07:30 AM - 07:35 AM	46.5	44.8	06:10 AM - 06:15 AM	46.3	44.3	12:50 PM - 12:55 PM	45.9
07:35 AM - 07:40 AM	45.4	43.2	06:15 AM - 06:20 AM	46.0	43.9	12:55 PM - 01:00 PM	46.6
07:40 AM - 07:45 AM	45.1	43.5	06:20 AM - 06:25 AM	45.9	44.7	01:00 PM - 01:05 PM	46.9
07:45 AM - 07:50 AM	44.9	43.8	06:25 AM - 06:30 AM	45.4	43.7	01:05 PM - 01:10 PM	46.9
07:50 AM - 07:55 AM	48.1	43.8	06:30 AM - 06:35 AM	45.4	44.1	01:10 PM - 01:15 PM	48.1
07:55 AM - 08:00 AM	48.8	43.9	06:35 AM - 06:40 AM	45.1	43.7	01:15 PM - 01:20 PM	46.7
08:00 AM - 08:05 AM	46.5	44.5	06:40 AM - 06:45 AM	44.9	44.0	01:20 PM - 01:25 PM	52.6
08:05 AM - 08:10 AM	47.6	45.6	06:45 AM - 06:50 AM	46.3	44.0	01:25 PM - 01:30 PM	50.3
08:10 AM - 08:15 AM	47.2	44.6	06:50 AM - 06:55 AM	48.6	43.6	01:30 PM - 01:35 PM	52.1
08:15 AM - 08:20 AM	47.5	44.7	06:55 AM - 07:00 AM	44.8	43.8	01:35 PM - 01:40 PM	31.8
08:20 AM - 08:25 AM	45.1	44.3	07:00 AM - 07:05 AM	46.1	44.0	01:40 PM - 01:45 PM	52.3
08:25 AM - 08:30 AM	45.7	44.8	07:05 AM - 07:10 AM	45.7	43.9	01:45 PM - 01:50 PM	52.8
08:30 AM - 08:35 AM	46.0	44.9	07:10 AM - 07:15 AM	45.7	42.7	01:50 PM - 01:55 PM	47.4
08:35 AM - 08:40 AM	45.7	44.8	07:15 AM - 07:20 AM	43.5	42.6	01:55 PM - 02:00 PM	53.7
08:40 AM - 08:45 AM	45.5	44.3	07:20 AM - 07:25 AM	43.8	41.4	02:00 PM - 02:05 PM	54.4
08:45 AM - 08:50 AM	46.1	44.7	07:25 AM - 07:30 AM	48.0	41.7	02:05 PM - 02:10 PM	50.2
08:50 AM - 08:55 AM	45.5	44.2	07:30 AM - 07:35 AM	48.8	41.9	02:10 PM - 02:15 PM	52.1
08:55 AM - 09:00 AM	46.2	45.4	07:35 AM - 07:40 AM	47.2	41.5	02:15 PM - 02:20 PM	49.8
09:00 AM - 09:05 AM	45.6	44.7	07:40 AM - 07:45 AM	42.6	40.6	02:20 PM - 02:25 PM	55.2
09:05 AM - 09:10 AM	45.7	44.8	07:45 AM - 07:50 AM	43.9	40.9	02:25 PM - 02:30 PM	53.8
09:10 AM - 09:15 AM	45.7	44.8	07:50 AM - 07:55 AM	42.7	40.0	02:30 PM - 02:35 PM	57.7
09:15 AM - 09:20 AM	45.3	44.3	07:55 AM - 08:00 AM	46.2	41.1	02:35 PM - 02:40 PM	54.5
09:20 AM - 09:25 AM	50.3	43.4	08:00 PM - 08:05 PM	40.2	38.6	02:40 PM - 02:45 PM	60.2
09:25 AM - 09:30 AM	45.1	44.1	08:05 PM - 08:10 PM	42.2	38.2	02:45 PM - 02:50 PM	54.7
09:30 AM - 09:35 AM	50.1	43.2	08:10 PM - 08:15 PM	46.5	39.1	02:50 PM - 02:55 PM	52.3
09:35 AM - 09:40 AM	45.7	43.9	08:15 PM - 08:20 PM	48.2	39.2	02:55 PM - 03:00 PM	55.3

Approved by

Saranyit Jitranont  
Assistant General Manager

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RIGHT SOLUTIONS THOUGHT PARTNER



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159486-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GMLL2

Page 2 of 3

Sample Number		24118785-7									
Parameter		Noise Level (Leq 5 min)									
Location		N1 : วัดภายในรัศมี 50 เมตร (GPS 47P 0744360, 1420358)									
Measurement Date		Oct 27 - Oct 28, 2024									
Measurement by		Chatchai Sukpla									
Sound Level meter		Serial No. 623395									
Oct 27, 2024		Leq		L90		Oct 27, 2024		Leq		L90	
Time		#dB(A)		#dB(A)		Time		#dB(A)		#dB(A)	
03:00 PM - 03:05 PM	53.0	48.0	05:40 PM - 05:45 PM	47.8	43.3	08:20 PM - 08:25 PM	50.4	43.7			
03:05 PM - 03:10 PM	52.6	44.7	05:45 PM - 05:50 PM	49.2	43.9	08:25 PM - 08:30 PM	51.4	45.1			
03:10 PM - 03:15 PM	52.2	44.9	05:50 PM - 05:55 PM	52.7	45.1	08:30 PM - 08:35 PM	52.8	43.8			
03:15 PM - 03:20 PM	52.1	43.9	05:55 PM - 06:00 PM	53.3	43.8	08:35 PM - 08:40 PM	49.8	42.8			
03:20 PM - 03:25 PM	50.9	43.1	06:00 PM - 06:05 PM	49.8	43.7	08:40 PM - 08:45 PM	51.2	43.1			
03:25 PM - 03:30 PM	49.6	43.2	06:05 PM - 06:10 PM	48.1	43.4	08:45 PM - 08:50 PM	45.2	41.5			
03:30 PM - 03:35 PM	51.6	44.6	06:10 PM - 06:15 PM	51.8	45.1	08:50 PM - 08:55 PM	49.3	42.4			
03:35 PM - 03:40 PM	47.3	44.0	06:15 PM - 06:20 PM	49.7	45.3	08:55 PM - 09:00 PM	47.2	41.9			
03:40 PM - 03:45 PM	46.0	43.4	06:20 PM - 06:25 PM	52.1	46.9	09:00 PM - 09:05 PM	55.2	48.4			
03:45 PM - 03:50 PM	48.6	43.7	06:25 PM - 06:30 PM	48.4	44.0	09:05 PM - 09:10 PM	53.6	45.2			
03:50 PM - 03:55 PM	48.0	44.2	06:30 PM - 06:35 PM	52.4	44.6	09:10 PM - 09:15 PM	55.3	43.1			
03:55 PM - 04:00 PM	46.6	43.4	06:35 PM - 06:40 PM	52.8	44.8	09:15 PM - 09:20 PM	47.5	43.3			
04:00 PM - 04:05 PM	47.7	43.6	06:40 PM - 06:45 PM	49.5	43.2	09:20 PM - 09:25 PM	50.8	42.6			
04:05 PM - 04:10 PM	49.9	43.9	06:45 PM - 06:50 PM	49.7	44.9	09:25 PM - 09:30 PM	47.5	41.9			
04:10 PM - 04:15 PM	48.0	41.8	06:50 PM - 06:55 PM	48.8	43.0	09:30 PM - 09:35 PM	47.5	42.5			
04:15 PM - 04:20 PM	49.7	44.1	06:55 PM - 07:00 PM	47.9	43.4	09:35 PM - 09:40 PM	46.6	42.1			
04:20 PM - 04:25 PM	50.6	45.3	07:00 PM - 07:05 PM	52.3	45.4	09:40 PM - 09:45 PM	51.5	43.0			
04:25 PM - 04:30 PM	46.0	43.2	07:05 PM - 07:10 PM	49.4	43.8	09:45 PM - 09:50 PM	46.2	42.8			
04:30 PM - 04:35 PM	48.3	45.3	07:10 PM - 07:15 PM	50.4	45.4	09:50 PM - 09:55 PM	47.0	42.1			
04:35 PM - 04:40 PM	45.1	45.1	07:15 PM - 07:20 PM	48.6	44.8	09:55 PM - 10:00 PM	49.9	42.9			
04:40 PM - 04:45 PM	51.9	45.2	07:20 PM - 07:25 PM	49.0	43.9	10:00 PM - 10:05 PM	51.9	44.3			
04:45 PM - 04:50 PM	50.5	46.1	07:25 PM - 07:30 PM	52.3	43.5	10:05 PM - 10:10 PM	48.4	42.5			
04:50 PM - 04:55 PM	50.2	46.0	07:30 PM - 07:35 PM	51.7	43.7	10:10 PM - 10:15 PM	48.5	42.8			
04:55 PM - 05:00 PM	48.8	44.9	07:35 PM - 07:40 PM	52.5	42.8	10:15 PM - 10:20 PM	48.1	41.4			
05:00 PM - 05:05 PM	49.9	45.0	07:40 PM - 07:45 PM	49.9	43.8	10:20 PM - 10:25 PM	47.5	40.7			
05:05 PM - 05:10 PM	52.0	43.8	07:45 PM - 07:50 PM	50.9	44.3	10:25 PM - 10:30 PM	46.0	41.6			
05:10 PM - 05:15 PM	47.1	43.6	07:50 PM - 07:55 PM	51.3	42.3	10:30 PM - 10:35 PM	47.1	40.1			
05:15 PM - 05:20 PM	48.4	43.4	07:55 PM - 08:00 PM	50.0	42.9	10:35 PM - 10:40 PM	49.6	41.8			
05:20 PM - 05:25 PM	48.3	43.6	08:00 PM - 08:05 PM	56.6	43.7	10:40 PM - 10:45 PM	51.2	41.9			
05:25 PM - 05:30 PM	49.0	43.7	08:05 PM - 08:10 PM	55.5	44.0	10:45 PM - 10:50 PM	50.0	42.5			
05:30 PM - 05:35 PM	52.2	43.3	08:10 PM - 08:15 PM	50.9	42.9	10:50 PM - 10:55 PM	51.8	43.3			
05:35 PM - 05:40 PM	47.1	43.8	08:15 PM - 08:20 PM	51.5	43.8	10:55 PM - 11:00 PM	50.7	43.1			





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159486-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number : 24118785-7  
Parameter : Noise Level (Leq 5 min)  
Location : N1 : พื้นที่โครงการ (ใกล้ทางรถไฟสายตะวันออก) (GPS 47P 0744360, 1420358)  
Measurement Date : Oct 27 - Oct 28, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623395

Page 3 of 3

Oct 28, 2024			Oct 28, 2024			Oct 28, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
07:00 AM - 07:05 AM	43.3	42.8	09:40 AM - 09:45 AM	44.9	40.4	12:20 PM - 12:25 PM	44.2	41.8
07:05 AM - 07:10 AM	47.2	44.3	09:45 AM - 09:50 AM	42.9	41.3	12:25 PM - 12:30 PM	44.9	41.9
07:10 AM - 07:15 AM	44.6	43.7	09:50 AM - 09:55 AM	43.3	42.0	12:30 PM - 12:35 PM	43.9	41.0
07:15 AM - 07:20 AM	44.8	43.5	09:55 AM - 10:00 AM	43.1	41.5	12:35 PM - 12:40 PM	44.1	42.1
07:20 AM - 07:25 AM	44.9	43.2	10:00 AM - 10:05 AM	43.1	40.9	12:40 PM - 12:45 PM	49.0	42.7
07:25 AM - 07:30 AM	46.1	43.9	10:05 AM - 10:10 AM	42.9	40.9	12:45 PM - 12:50 PM	45.0	42.3
07:30 AM - 07:35 AM	47.7	43.8	10:10 AM - 10:15 AM	42.9	40.6	12:50 PM - 12:55 PM	45.3	42.9
07:35 AM - 07:40 AM	44.2	42.8	10:15 AM - 10:20 AM	43.2	40.9	12:55 PM - 01:00 PM	46.0	43.2
07:40 AM - 07:45 AM	44.1	42.6	10:20 AM - 10:25 AM	43.3	41.1	01:00 PM - 01:05 PM	46.7	43.6
07:45 AM - 07:50 AM	42.3	42.4	10:25 AM - 10:30 AM	44.0	41.3	01:05 PM - 01:10 PM	46.6	44.0
07:50 AM - 07:55 AM	44.7	43.0	10:30 AM - 10:35 AM	42.6	41.0	01:10 PM - 01:15 PM	48.5	43.8
07:55 AM - 08:00 AM	45.5	43.0	10:35 AM - 10:40 AM	43.0	40.1	01:15 PM - 01:20 PM	47.8	43.3
08:00 AM - 08:05 AM	43.8	42.8	10:40 AM - 10:45 AM	42.5	40.3	01:20 PM - 01:25 PM	48.1	43.9
08:05 AM - 08:10 AM	43.3	42.1	10:45 AM - 10:50 AM	43.1	41.6	01:25 PM - 01:30 PM	49.8	44.6
08:10 AM - 08:15 AM	45.5	42.9	10:50 AM - 10:55 AM	45.0	42.3	01:30 PM - 01:35 PM	50.4	43.2
08:15 AM - 08:20 AM	43.3	42.1	10:55 AM - 11:00 AM	44.6	42.8	01:35 PM - 01:40 PM	51.2	43.5
08:20 AM - 08:25 AM	42.7	41.8	11:00 AM - 11:05 AM	43.7	42.4	01:40 PM - 01:45 PM	48.2	42.8
08:25 AM - 08:30 AM	42.9	41.8	11:05 AM - 11:10 AM	44.0	41.8	01:45 PM - 01:50 PM	48.9	43.0
08:30 AM - 08:35 AM	43.7	41.8	11:10 AM - 11:15 AM	46.6	41.6	01:50 PM - 01:55 PM	47.9	43.3
08:35 AM - 08:40 AM	44.3	42.9	11:15 AM - 11:20 AM	43.5	41.4	01:55 PM - 02:00 PM	51.9	44.0
08:40 AM - 08:45 AM	43.6	42.3	11:20 AM - 11:25 AM	43.4	41.5	02:00 PM - 02:05 PM	51.0	45.6
08:45 AM - 08:50 AM	43.7	42.5	11:25 AM - 11:30 AM	44.3	42.6	02:05 PM - 02:10 PM	50.3	43.8
08:50 AM - 08:55 AM	42.9	41.9	11:30 AM - 11:35 AM	45.7	42.1	02:10 PM - 02:15 PM	52.1	44.6
08:55 AM - 09:00 AM	42.9	41.8	11:35 AM - 11:40 AM	44.2	42.3	02:15 PM - 02:20 PM	48.3	44.0
09:00 AM - 09:05 AM	41.5	40.4	11:40 AM - 11:45 AM	44.3	42.7	02:20 PM - 02:25 PM	49.7	45.0
09:05 AM - 09:10 AM	42.9	40.6	11:45 AM - 11:50 AM	50.6	43.5	02:25 PM - 02:30 PM	49.8	44.6
09:10 AM - 09:15 AM	42.0	40.6	11:50 AM - 11:55 AM	44.0	41.7	02:30 PM - 02:35 PM	54.5	44.6
09:15 AM - 09:20 AM	45.7	41.6	11:55 AM - 12:00 PM	46.9	42.6	02:35 PM - 02:40 PM	55.8	43.9
09:20 AM - 09:25 AM	41.4	40.3	12:00 PM - 12:05 PM	46.1	42.6	02:40 PM - 02:45 PM	51.7	44.8
09:25 AM - 09:30 AM	41.2	40.0	12:05 PM - 12:10 PM	45.9	42.1	02:45 PM - 02:50 PM	50.9	44.5
09:30 AM - 09:35 AM	40.8	39.6	12:10 PM - 12:15 PM	44.1	42.1	02:50 PM - 02:55 PM	53.9	45.9
09:35 AM - 09:40 AM	43.0	40.9	12:15 PM - 12:20 PM	44.7	41.7	02:55 PM - 03:00 PM	51.3	45.3

Approved by

Sarayu Thirant  
Assistant General Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159487-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number : 24118785-8  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (ใกล้ทางรถไฟสายตะวันออก) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 21 - Oct 22, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623396

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Oct 21 - Oct 22, 2024			Oct 22, 2024			Oct 22, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
11:00 PM - 11:05 PM	59.8	59.2	01:40 AM - 01:45 AM	57.2	56.8	04:20 AM - 04:25 AM	57.3	57.0
11:05 PM - 11:10 PM	59.5	59.0	01:45 AM - 01:50 AM	57.3	56.9	04:25 AM - 04:30 AM	57.3	56.9
11:10 PM - 11:15 PM	59.5	59.0	01:50 AM - 01:55 AM	57.2	56.8	04:30 AM - 04:35 AM	57.0	56.6
11:15 PM - 11:20 PM	59.1	58.6	01:55 AM - 02:00 AM	57.1	56.7	04:35 AM - 04:40 AM	57.1	56.7
11:20 PM - 11:25 PM	59.0	58.5	02:00 AM - 02:05 AM	57.0	56.6	04:40 AM - 04:45 AM	57.3	57.0
11:25 PM - 11:30 PM	58.8	58.4	02:05 AM - 02:10 AM	56.9	56.5	04:45 AM - 04:50 AM	57.0	56.7
11:30 PM - 11:35 PM	59.0	58.5	02:10 AM - 02:15 AM	56.8	56.4	04:50 AM - 04:55 AM	57.0	56.6
11:35 PM - 11:40 PM	59.1	58.5	02:15 AM - 02:20 AM	56.8	56.4	04:55 AM - 05:00 AM	57.2	56.9
11:40 PM - 11:45 PM	59.3	58.6	02:20 AM - 02:25 AM	56.8	56.3	05:00 AM - 05:05 AM	57.2	56.7
11:45 PM - 11:50 PM	58.8	58.4	02:25 AM - 02:30 AM	57.0	56.6	05:05 AM - 05:10 AM	57.1	56.8
11:50 PM - 11:55 PM	60.4	59.1	02:30 AM - 02:35 AM	57.2	56.8	05:10 AM - 05:15 AM	57.3	56.8
11:55 PM - 12:00 AM	62.0	56.9	02:35 AM - 02:40 AM	57.0	56.7	05:15 AM - 05:20 AM	57.3	56.7
12:00 AM - 12:05 AM	58.0	56.4	02:40 AM - 02:45 AM	57.0	56.5	05:20 AM - 05:25 AM	57.2	56.6
12:05 AM - 12:10 AM	56.6	56.2	02:45 AM - 02:50 AM	56.8	56.5	05:25 AM - 05:30 AM	57.0	56.6
12:10 AM - 12:15 AM	58.0	56.5	02:50 AM - 02:55 AM	56.7	56.4	05:30 AM - 05:35 AM	57.0	56.5
12:15 AM - 12:20 AM	56.6	56.1	02:55 AM - 03:00 AM	57.0	56.6	05:35 AM - 05:40 AM	57.1	56.6
12:20 AM - 12:25 AM	56.6	56.2	03:00 AM - 03:05 AM	57.2	56.8	05:40 AM - 05:45 AM	57.0	56.5
12:25 AM - 12:30 AM	56.6	56.2	03:05 AM - 03:10 AM	57.3	56.9	05:45 AM - 05:50 AM	57.2	56.7
12:30 AM - 12:35 AM	56.6	56.2	03:10 AM - 03:15 AM	57.2	56.8	05:50 AM - 05:55 AM	57.7	56.9
12:35 AM - 12:40 AM	56.7	56.3	03:15 AM - 03:20 AM	57.0	56.7	05:55 AM - 06:00 AM	57.4	56.8
12:40 AM - 12:45 AM	57.2	56.3	03:20 AM - 03:25 AM	57.0	56.7	06:00 AM - 06:05 AM	57.2	56.7
12:45 AM - 12:50 AM	56.7	56.3	03:25 AM - 03:30 AM	57.1	56.7	06:05 AM - 06:10 AM	57.2	56.7
12:50 AM - 12:55 AM	56.8	56.4	03:30 AM - 03:35 AM	57.1	56.6	06:10 AM - 06:15 AM	57.3	56.8
12:55 AM - 01:00 AM	57.3	56.8	03:35 AM - 03:40 AM	57.6	57.2	06:15 AM - 06:20 AM	58.0	56.9
01:00 AM - 01:05 AM	57.2	56.7	03:40 AM - 03:45 AM	57.5	57.2	06:20 AM - 06:25 AM	59.5	57.0
01:05 AM - 01:10 AM	56.9	56.5	03:45 AM - 03:50 AM	57.7	57.3	06:25 AM - 06:30 AM	57.5	56.9
01:10 AM - 01:15 AM	57.0	56.5	03:50 AM - 03:55 AM	57.6	57.0	06:30 AM - 06:35 AM	57.6	57.0
01:15 AM - 01:20 AM	57.4	57.0	03:55 AM - 04:00 AM	57.2	56.8	06:35 AM - 06:40 AM	57.3	56.8
01:20 AM - 01:25 AM	57.7	57.3	04:00 AM - 04:05 AM	57.4	57.1	06:40 AM - 06:45 AM	57.3	56.4
01:25 AM - 01:30 AM	57.4	57.1	04:05 AM - 04:10 AM	57.1	56.8	06:45 AM - 06:50 AM	58.0	56.3
01:30 AM - 01:35 AM	57.6	57.2	04:10 AM - 04:15 AM	57.4	56.9	06:50 AM - 06:55 AM	58.2	57.0
01:35 AM - 01:40 AM	57.5	57.0	04:15 AM - 04:20 AM	57.1	56.7	06:55 AM - 07:00 AM	58.6	56.8

Approved by

Sarayu Thirant  
Assistant General Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number : 24118785-6  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (ใกล้ทางรถไฟสายตะวันออก) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 21 - Oct 22, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623396

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Oct 21, 2024			Oct 21, 2024			Oct 21, 2024		
Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)	Time	Leq dB(A)	L90 dB(A)
02:00 PM - 02:05 PM	59.6		05:40 PM - 05:45 PM	59.7	58.9	09:20 PM - 09:25 PM	60.6	58.7
02:05 PM - 02:10 PM	60.1	59.1	05:45 PM - 05:50 PM	59.7	58.8	09:25 PM - 09:30 PM	59.9	59.0
02:10 PM - 02:15 PM	60.0	59.1	05:50 PM - 05:55 PM	60.3	59.9	09:30 PM - 09:35 PM	59.4	58.6
02:15 PM - 02:20 PM	61.8	60.1	05:55 PM - 06:00 PM	62.6	59.9	09:35 PM - 09:40 PM	60.2	58.6
02:20 PM - 02:25 PM	59.5	59.0	06:00 PM - 06:05 PM	59.5	58.9	09:40 PM - 09:45 PM	59.4	58.6
02:25 PM - 02:30 PM	59.6	58.7	06:05 PM - 06:10 PM	61.3	59.3	09:45 PM - 09:50 PM	59.0	58.5
02:30 PM - 02:35 PM	59.6	59.0	06:10 PM - 06:15 PM	60.2	59.0	09:50 PM - 09:55 PM	59.0	58.5
02:35 PM - 02:40 PM	59.6	59.1	06:15 PM - 06:20 PM	59.3	58.7	09:55 PM - 10:00 PM	59.0	58.4
02:40 PM - 02:45 PM	61.9	59.6	06:20 PM - 06:25 PM	60.9	59.0	10:00 PM - 10:05 PM	59.4	58.8
02:45 PM - 02:50 PM	62.2	59.4	06:25 PM - 06:30 PM	59.5	58.9	10:05 PM - 10:10 PM	59.1	58.6
02:50 PM - 02:55 PM	60.8	59.5	06:30 PM - 06:35 PM	59.2	58.7	10:10 PM - 10:15 PM	59.0	58.6
02:55 PM - 03:00 PM	60.2	59.4	06:35 PM - 06:40 PM	58.9	58.5	10:15 PM - 10:20 PM	59.1	58.6
03:00 PM - 03:05 PM	61.0	59.6	06:40 PM - 06:45 PM	59.1	58.6	10:20 PM - 10:25 PM	59.0	58.5
03:05 PM - 03:10 PM	60.4	59.3	06:45 PM - 06:50 PM	59.1	58.5	10:25 PM - 10:30 PM	58.9	58.3
03:10 PM - 03:15 PM	62.2	59.9	06:50 PM - 06:55 PM	59.0	58.5	10:30 PM - 10:35 PM	58.9	58.4
03:15 PM - 03:20 PM	61.7	59.8	06:55 PM - 07:00 PM	59.3	58.6	10:35 PM - 10:40 PM	59.0	58.5
03:20 PM - 03:25 PM	60.7	59.8	07:00 PM - 07:05 PM	59.2	58.6	10:40 PM - 10:45 PM	59.2	58.9
03:25 PM - 03:30 PM	61.8	59.7	07:05 PM - 07:10 PM	59.4	58.8	10:45 PM - 10:50 PM	62.4	58.5
03:30 PM - 03:35 PM	61.2	59.4	07:10 PM - 07:15 PM	59.5	59.0	10:50 PM - 10:55 PM	59.5	58.9
03:35 PM - 03:40 PM	60.9	59.5	07:15 PM - 07:20 PM	59.2	58.6	10:55 PM - 11:00 PM	59.3	58.8
03:40 PM - 03:45 PM	60.2	59.4	07:20 PM - 07:25 PM	59.5				
03:45 PM - 03:50 PM	60.0	59.1	07:25 PM - 07:30 PM	59.3	58.5	10:55 PM - 11:00 PM	59.0	58.5
03:50 PM - 03:55 PM	61.2	59.3	07:30 PM - 07:35 PM	59.3	58.6	11:00 PM - 11:05 PM	59.4	58.9
03:55 PM - 04:00 PM	60.9	59.5	07:35 PM - 07:40 PM	59.3	58.6	11:05 PM - 11:10 PM	59.4	58.9
04:00 PM - 04:05 PM	60.4	59.2	07:40 PM - 07:45 PM	59.7	58.0	11:10 PM - 11:15 PM	59.2	58.8
04:05 PM - 04:10 PM	60.2	59.4	07:45 PM - 07:50 PM	60.0	58.6	11:15 PM - 11:20 PM	61.1	58.9
04:10 PM - 04:15 PM	60.0	59.4	07:50 PM - 07:55 PM	59.9	58.9	11:20 PM - 11:25 PM	59.4	58.8
04:15 PM - 04:20 PM	60.4	59.5	07:55 PM - 08:00 PM	59.7	58.6	11:25 PM - 11:30 PM	59.6	59.0
04:20 PM - 04:25 PM	60.8	59.5	08:00 PM - 08:05 PM	59.6	58.6	11:30 PM - 11:35 PM	59.2	58.7
04:25 PM - 04:30 PM	61.1	59.5	08:05 PM - 08:10 PM	60.3	58.2	11:35 PM - 11:40 PM	59.3	58.8
04:30 PM - 04:35 PM	61.3	59.5	08:10 PM - 08:15 PM	60.3	58.2	11:40 PM - 11:45 PM	59.6	59.0
04:35 PM - 04:40 PM	60.1	59.0	08:15 PM - 08:20 PM	60.0	58.3	11:45 PM - 11:50 PM	59.8	59.0
04:40 PM - 04:45 PM	59.8	59.0	08:20 PM - 08:25 PM	59.7	58.3	11:50 PM - 11:55 PM	59.6	58.9
04:45 PM - 04:50 PM	60.1	59.0	08:25 PM - 08:30 PM	59.7	58.3	11:55 PM - 12:00 PM	59.8	59.2





Lot ID: 24118785  
Date Received :Nov 04, 2024  
Date Reported :Nov 08, 2024  
Report Number : 3159486-1

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Page 1 of 3

Approved by \_\_\_\_\_  
Sarayuth Jittranont  
Assistant General Manager

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Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159488-1

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Page 3 of 3

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Sarayuth Jittranont  
Assistant General Manager

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Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159488-1

Page 2 of 3

Page 2 of 3

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Sarayuth Jittranont  
Assistant General Manager

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Lot ID: 24110785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159489-1

Page 1 of 3

Page 1 of 3

Approved by \_\_\_\_\_  
Sarayuth Jittranont  
Assistant General Manager

[www.alsglobal.com](http://www.alsglobal.com)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159490-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number : 24118785-10  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : ศูนย์โครงการ (บ้านเขาน้อย/โครงการบ้านเขาน้อย) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 23 - Oct 24, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623396

Oct 23 - Oct 24, 2024				Oct 24, 2024			
Time	Leq	L90	#B(A)	Time	Leq	L90	#B(A)
11:00 PM - 11:05 PM	58.9	58.6	58.9	01:40 AM - 01:45 AM	56.8	56.4	56.8
11:05 PM - 11:10 PM	58.9	58.5	58.9	01:45 AM - 01:50 AM	56.7	56.3	56.7
11:10 PM - 11:15 PM	58.9	58.5	58.9	01:50 AM - 01:55 AM	56.7	56.2	56.7
11:15 PM - 11:20 PM	59.3	58.6	59.3	01:55 AM - 02:00 AM	57.0	56.5	57.0
11:20 PM - 11:25 PM	59.0	58.5	59.0	02:00 AM - 02:05 AM	56.9	56.5	56.9
11:25 PM - 11:30 PM	58.9	58.5	58.9	02:05 AM - 02:10 AM	56.9	56.5	56.9
11:30 PM - 11:35 PM	59.0	58.6	59.0	02:10 AM - 02:15 AM	56.8	56.4	56.8
11:35 PM - 11:40 PM	58.7	58.3	58.7	02:15 AM - 02:20 AM	56.7	56.3	56.7
11:40 PM - 11:45 PM	58.8	58.3	58.8	02:20 AM - 02:25 AM	56.9	56.4	56.9
11:45 PM - 11:50 PM	59.1	58.6	59.1	02:25 AM - 02:30 AM	56.8	56.4	56.8
11:50 PM - 11:55 PM	61.8	59.7	61.8	02:30 AM - 02:35 AM	56.5	56.0	56.5
11:55 PM - 12:00 AM	60.6	57.1	60.6	02:35 AM - 02:40 AM	56.5	56.0	56.5
12:00 AM - 12:05 AM	57.4	56.9	57.4	02:40 AM - 02:45 AM	56.6	56.1	56.6
12:05 AM - 12:10 AM	57.3	56.9	57.3	02:45 AM - 02:50 AM	56.7	56.2	56.7
12:10 AM - 12:15 AM	57.4	56.9	57.4	02:50 AM - 02:55 AM	56.7	56.3	56.7
12:15 AM - 12:20 AM	58.0	56.6	58.0	02:55 AM - 03:00 AM	56.9	56.5	56.9
12:20 AM - 12:25 AM	57.1	56.5	57.1	03:00 AM - 03:05 AM	56.8	56.4	56.8
12:25 AM - 12:30 AM	57.2	56.7	57.2	03:05 AM - 03:10 AM	57.0	56.5	57.0
12:30 AM - 12:35 AM	57.1	56.7	57.1	03:10 AM - 03:15 AM	56.9	56.4	56.9
12:35 AM - 12:40 AM	56.9	56.3	56.9	03:15 AM - 03:20 AM	56.9	56.5	56.9
12:40 AM - 12:45 AM	56.7	56.3	56.7	03:20 AM - 03:25 AM	56.9	56.5	56.9
12:45 AM - 12:50 AM	57.0	56.4	57.0	03:25 AM - 03:30 AM	56.8	56.4	56.8
12:50 AM - 12:55 AM	56.8	56.3	56.8	03:30 AM - 03:35 AM	56.8	56.4	56.8
12:55 AM - 01:00 AM	56.9	56.5	56.9	03:35 AM - 03:40 AM	56.9	56.4	56.9
01:00 AM - 01:05 AM	56.9	56.5	56.9	03:40 AM - 03:45 AM	56.6	56.2	56.6
01:05 AM - 01:10 AM	56.9	56.4	56.9	03:45 AM - 03:50 AM	56.8	56.4	56.8
01:10 AM - 01:15 AM	56.7	56.3	56.7	03:50 AM - 03:55 AM	56.8	56.4	56.8
01:15 AM - 01:20 AM	56.8	56.4	56.8	03:55 AM - 04:00 AM	56.9	56.4	56.9
01:20 AM - 01:25 AM	56.8	56.4	56.8	04:00 AM - 04:05 AM	57.0	56.5	57.0
01:25 AM - 01:30 AM	56.8	56.4	56.8	04:05 AM - 04:10 AM	57.0	56.5	57.0
01:30 AM - 01:35 AM	56.9	56.5	56.9	04:10 AM - 04:15 AM	57.0	56.5	57.0
01:35 AM - 01:40 AM	56.9	56.5	56.9	04:15 AM - 04:20 AM	57.1	56.6	57.1

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159490-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number : 24118785-11  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : ศูนย์โครงการ (บ้านเขาน้อย/โครงการบ้านเขาน้อย) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 24 - Oct 25, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623396

Oct 24, 2024				Oct 24, 2024				Oct 24, 2024			
Time	Leq	L90	#B(A)	Time	Leq	L90	#B(A)	Time	Leq	L90	#B(A)
03:00 PM - 03:05 PM	61.3	58.5	61.3	05:40 PM - 05:45 PM	58.4	57.7	58.4	08:20 PM - 08:25 PM	60.7	59.0	60.7
03:05 PM - 03:10 PM	61.0	58.6	61.0	05:45 PM - 05:50 PM	58.7	57.9	58.7	08:25 PM - 08:30 PM	60.2	59.1	60.2
03:10 PM - 03:15 PM	62.4	59.3	62.4	05:50 PM - 05:55 PM	58.9	57.9	58.9	08:30 PM - 08:35 PM	59.2	58.6	59.2
03:15 PM - 03:20 PM	63.1	58.4	63.1	05:55 PM - 06:00 PM	58.6	57.9	58.6	08:35 PM - 08:40 PM	61.0	58.9	61.0
03:20 PM - 03:25 PM	59.0	58.3	59.0	06:00 PM - 06:05 PM	59.0	57.8	59.0	08:40 PM - 08:45 PM	60.1	59.1	60.1
03:25 PM - 03:30 PM	59.4	58.5	59.4	06:05 PM - 06:10 PM	59.2	57.8	59.2	08:45 PM - 08:50 PM	59.6	59.1	59.6
03:30 PM - 03:35 PM	56.9	58.4	56.9	06:10 PM - 06:15 PM	58.5	57.8	58.5	08:50 PM - 08:55 PM	59.7	59.1	59.7
03:35 PM - 03:40 PM	59.4	58.4	59.4	06:15 PM - 06:20 PM	59.1	58.1	59.1	08:55 PM - 09:00 PM	59.2	58.7	59.2
03:40 PM - 03:45 PM	59.2	58.2	59.2	06:20 PM - 06:25 PM	59.4	58.2	59.4	09:00 PM - 09:05 PM	59.1	58.7	59.1
03:45 PM - 03:50 PM	58.7	58.0	58.7	06:25 PM - 06:30 PM	60.0	58.6	60.0	09:05 PM - 09:10 PM	59.1	58.8	59.1
03:50 PM - 03:55 PM	58.6	57.9	58.6	06:30 PM - 06:35 PM	61.4	58.6	61.4	09:10 PM - 09:15 PM	59.1	58.7	59.1
03:55 PM - 04:00 PM	61.4	59.1	61.4	06:35 PM - 06:40 PM	64.5	58.5	64.5	09:15 PM - 09:20 PM	59.2	58.7	59.2
04:00 PM - 04:05 PM	59.0	57.5	59.0	06:40 PM - 06:45 PM	64.9	58.7	64.9	09:20 PM - 09:25 PM	59.3	58.7	59.3
04:05 PM - 04:10 PM	59.6	57.4	59.6	06:45 PM - 06:50 PM	58.5	58.0	58.5	09:25 PM - 09:30 PM	59.3	58.8	59.3
04:10 PM - 04:15 PM	60.3	58.0	60.3	06:50 PM - 06:55 PM	58.9	58.2	58.9	09:30 PM - 09:35 PM	59.5	59.0	59.5
04:15 PM - 04:20 PM	61.5	58.0	61.5	06:55 PM - 07:00 PM	59.2	58.4	59.2	09:35 PM - 09:40 PM	59.0	58.6	59.0
04:20 PM - 04:25 PM	58.8	58.1	58.8	07:00 PM - 07:05 PM	60.0	58.6	60.0	09:40 PM - 09:45 PM	59.4	58.9	59.4
04:25 PM - 04:30 PM	59.5	58.6	59.5	07:05 PM - 07:10 PM	59.8	58.6	59.8	09:45 PM - 09:50 PM	59.3	58.9	59.3
04:30 PM - 04:35 PM	60.5	58.9	60.5	07:10 PM - 07:15 PM	59.2	58.5	59.2	09:50 PM - 09:55 PM	59.2	58.7	59.2
04:35 PM - 04:40 PM	59.7	58.8	59.7	07:15 PM - 07:20 PM	59.0	58.5	59.0	09:55 PM - 10:00 PM	59.8	58.5	59.8
04:40 PM - 04:45 PM	59.4	58.7	59.4	07:20 PM - 07:25 PM	60.2	58.7	60.2	10:00 PM - 10:05 PM	59.0	58.6	59.0
04:45 PM - 04:50 PM	59.0	58.2	59.0	07:25 PM - 07:30 PM	59.6	58.5	59.6	10:05 PM - 10:10 PM	59.1	58.5	59.1
04:50 PM - 04:55 PM	59.5	58.3	59.5	07:30 PM - 07:35 PM	59.5	58.6	59.5	10:10 PM - 10:15 PM	59.5	59.0	59.5
04:55 PM - 05:00 PM	59.6	58.1	59.6	07:35 PM - 07:40 PM	59.6	58.5	59.6	10:15 PM - 10:20 PM	59.5	59.0	59.5
05:00 PM - 05:05 PM	58.9	58.1	58.9	07:40 PM - 07:45 PM	60.6	59.5	60.6	10:20 PM - 10:25 PM	59.7	58.8	59.7
05:05 PM - 05:10 PM	58.8	58.1	58.8	07:45 PM - 07:50 PM	59.5	58.8	59.5	10:25 PM - 10:30 PM	59.4	58.6	59.4
05:10 PM - 05:15 PM	58.9	57.9	58.9	07:50 PM - 07:55 PM	61.4	59.3	61.4	10:30 PM - 10:35 PM	59.1	58.7	59.1
05:15 PM - 05:20 PM	58.6	57.6	58.6	07:55 PM - 08:00 PM	60.5	58.9	60.5	10:35 PM - 10:40 PM	59.1	58.4	59.1
05:20 PM - 05:25 PM	62.3	58.4	62.3	08:00 PM - 08:05 PM	60.6	58.6	60.6	10:40 PM - 10:45 PM	59.8	58.2	59.8
05:25 PM - 05:30 PM	59.1	57.8	59.1	08:05 PM - 08:10 PM	59.4	58.4	59.4	10:45 PM - 10:50 PM	58.9	58.4	58.9
05:30 PM - 05:35 PM	60.2	57.8	60.2	08:10 PM - 08:15 PM	59.6	58.6	59.6	10:50 PM - 10:55 PM	58.9	58.4	58.9
05:35 PM - 05:40 PM	58.5	57.8	58.5	08:15 PM - 08:20 PM	60.2	58.9	60.2	10:55 PM - 11:00 PM	59.1	58.6	59.1

Approved by

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number : 24118785-10  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : ศูนย์โครงการ (บ้านเขาน้อย/โครงการบ้านเขาน้อย) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 23 - Oct 24, 2024  
Measurement by : Chatchai Sukpla  
Sound Level meter : Serial No. 623396

Oct 24, 2024				Oct 24, 2024				Oct 24, 2024			
Time	Leq	L90	#B(A)	Time	Leq	L90	#B(A)	Time	Leq	L90	#B(A)
07:00 AM - 07:05 AM	58.9	58.6		09:40 AM - 09:45 AM	59.5	57.7		12:20 PM - 12:25 PM	58.3	57.4	
07:05 AM - 07:10 AM	58.9	58.7		09:45 AM - 09:50 AM	58.3	57.5		12:25 PM - 12:30 PM	58.1	57.4	
07:10 AM - 07:15 AM	60.0	57.1		09:50 AM - 09:55 AM	59.9	57.7		12:30 PM - 12:35 PM	57.7	56.9	
07:15 AM - 07:20 AM	61.4	56.8		09:55 AM - 10:00 AM	60.3	57.7		12:35 PM - 12:40 PM	58.8	57.3	
07:20 AM - 07:25 AM	59.6	56.5		10:00 AM - 10:05 AM	62.8	59.8		12:40 PM - 12:45 PM	59.9	56.2	
07:25 AM - 07:30 AM	59.7	56.9		10:05 AM - 10:10 AM	61.9	58.4		12:45 PM - 12:50 PM	58.5	57.7	
07:30 AM - 07:35 AM	64.2	57.0		10:10 AM - 10:15 AM	63.6	58.8		12:50 PM - 12:55 PM	59.6	58.1	
07:35 AM - 07:40 AM	60.2	57.0		10:15 AM - 10:20 AM	61.6	58.2		12:55 PM - 01:00 PM	63.3	58.7	
07:40 AM - 07:45 AM	60.5	57.3		10:20 AM - 10:25 AM	59.5	58.0		01:00 PM - 01:05 PM	60.2	58.0	
07:45 AM - 07:50 AM	61.0	56.7		10:25 AM - 10:30 AM	59.1	58.2		01:05 PM - 01:10 PM	60.4	58.0	
07:50 AM - 07:55 AM	63.6	57.5		10:30 AM - 10:35 AM	60.7	58.7		01:10 PM - 01:15 PM	61.2	58.1	
07:55 AM - 08:00 AM	63.6	58.1		10:35 AM - 10:40 AM	62.2	60.6		01:15 PM - 01:20 PM	60.6	58.2	
08:00 AM - 08:05 AM	60.9	58.1		10:40 AM - 10:45 AM	62.2	60.4		01:20 PM - 01:25 PM	58.6	57.8	
08:05 AM - 08:10 AM	61.1	57.1		10:45 AM - 10:50 AM	66.8	59.7		01:25 PM - 01:30 PM	58.9	58.2	
08:10 AM - 08:15 AM	60.6	56.7		10:50 AM - 10:55 AM	65.2	59.8		01:30 PM - 01:35 PM	58.2	57.4	
08:15 AM - 08:20 AM	57.3	55.9		10:55 AM - 11:00 AM	60.0	58.6		01:35 PM - 01:40 PM	58.0	57.1	
08:20 AM - 08:25 AM	59.1	56.5		11:00 AM - 11:05 AM	62.5	58.1		01:40 PM - 01:45 PM	59.4	58.2	
08:25 AM - 08:30 AM	58.1	55.9		11:05 AM - 11:10 AM	58.8	57.6		01:45 PM - 01:50 PM	62.6	58.7	
08:30 AM - 08:35 AM	64.2	57.6		11:10 AM - 11:15 AM	58.6	57.8		01:50 PM - 01:55 PM	60.4	58.3	
08:35 AM - 08:40 AM	61.4	59.8		11:15 AM - 11:20 AM	58.1	58.1		01:55 PM - 02:00 PM	59.7	57.7	
08:40 AM - 08:45 AM	65.9	57.0		11:20 AM - 11:25 AM	58.3	57.6		02:00 PM - 02:05 PM	61.6	59.8	
08:45 AM - 08:50 AM	64.3	56.4		11:25 AM - 11:30 AM	58.8	58.0		02:05 PM - 02:10 PM	61.1	58.0	
08:50 AM - 08:55 AM	58.9	57.0		11:30 AM - 11:35 AM	64.5	57.7		02:10 PM - 02:15 PM	58.1	57.7	
08:55 AM - 09:00 AM	65.0	62.0		11:35 AM - 11:40 AM	62.9	58.0		02:15 PM - 02:20 PM	59.2	57.7	
09:00 AM - 09:05 AM	65.6	62.0		11:40 AM - 11:45 AM	63.3	57.4		02:20 PM - 02:25 PM	58.5	57.8	
09:05 AM - 09:10 AM	64.7	62.0		11:45 AM - 11:50 AM	57.9	57.1		02:25 PM - 02:30 PM	58.6	57.4	
09:10 AM - 09:15 AM	65.0	62.0		11:50 AM - 11:55 AM	58.8	57.5		02:30 PM - 02:35 PM	61.0	57.7	
09:15 AM - 09:20 AM	63.0	62.0		11:55 AM - 12:00 PM	58.2	57.4		02:35 PM - 02:40 PM	61.4	57.7	
09:20 AM - 09:25 AM	61.5	60.6		12:00 PM - 12:05 PM	57.8	57.0		02:40 PM - 02:45 PM	59.7	57.8	
09:25 AM - 09:30 AM	63.6	60.9		12:05 PM - 12:10 PM	57.8	57.2		02:45 PM - 02:50 PM	58.7	58.1	
09:30 AM - 09:35 AM	56.9	59.3		12:10 PM - 12:15 PM	58.1	57.5		02:50 PM - 02:55 PM	59.2	58.4	
09:35 AM - 09:40 AM	66.5	57.3		12:15 PM - 12:20 PM	57.9	57.1		02:55 PM - 03:00 PM	59.1	56.5	





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159491-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

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Sample Number : 24118785-11  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (พื้นที่บริเวณโครงการท่าอากาศยาน) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 25 - Oct 26, 2024  
Measurement by : Chatchai Sukpia  
Sound Level meter : Serial No. 623396

Oct 25, 2024		Oct 25, 2024		Oct 25, 2024		Oct 25, 2024	
Time	Leq dB(A)	Time	Leq dB(A)	Time	Leq dB(A)	Time	Leq dB(A)
07:00 AM - 07:05 AM	60.6	09:40 AM - 09:45 AM	59.8	12:20 PM - 12:25 PM	58.2	57.4	
07:05 AM - 07:10 AM	60.6	09:45 AM - 09:50 AM	59.7	12:25 PM - 12:30 PM	57.7	57.3	
07:10 AM - 07:15 AM	60.8	09:50 AM - 09:55 AM	61.6	12:30 PM - 12:35 PM	59.5	57.3	
07:15 AM - 07:20 AM	60.7	09:55 AM - 10:00 AM	60.7	12:35 PM - 12:40 PM	58.3	57.4	
07:20 AM - 07:25 AM	61.5	10:00 AM - 10:05 AM	60.4	12:40 PM - 12:45 PM	58.7	58.3	
07:25 AM - 07:30 AM	62.6	10:05 AM - 10:10 AM	60.1	12:45 PM - 12:50 PM	59.0	58.2	
07:30 AM - 07:35 AM	63.0	10:10 AM - 10:15 AM	58.9	12:50 PM - 12:55 PM	60.9	58.6	
07:35 AM - 07:40 AM	62.2	10:15 AM - 10:20 AM	59.9	12:55 PM - 01:00 PM	60.0	58.1	
07:40 AM - 07:45 AM	61.4	10:20 AM - 10:25 AM	58.8	01:00 PM - 01:05 PM	58.5	57.7	
07:45 AM - 07:50 AM	65.4	10:25 AM - 10:30 AM	63.3	01:05 PM - 01:10 PM	58.5	57.7	
07:50 AM - 07:55 AM	61.9	10:30 AM - 10:35 AM	62.3	01:10 PM - 01:15 PM	58.5	57.9	
07:55 AM - 08:00 AM	61.9	10:35 AM - 10:40 AM	62.8	01:15 PM - 01:20 PM	59.0	58.0	
08:00 AM - 08:05 AM	63.2	10:40 AM - 10:45 AM	62.1	01:20 PM - 01:25 PM	62.7	59.0	
08:05 AM - 08:10 AM	64.1	10:45 AM - 10:50 AM	61.6	01:25 PM - 01:30 PM	59.1	58.2	
08:10 AM - 08:15 AM	61.5	10:50 AM - 10:55 AM	61.7	01:30 PM - 01:35 PM	62.2	59.1	
08:15 AM - 08:20 AM	59.7	10:55 AM - 11:00 AM	60.5	01:35 PM - 01:40 PM	62.4	59.1	
08:20 AM - 08:25 AM	59.9	11:00 AM - 11:05 AM	59.9	01:40 PM - 01:45 PM	60.2	59.0	
08:25 AM - 08:30 AM	59.0	11:05 AM - 11:10 AM	61.9	01:45 PM - 01:50 PM	59.4	58.6	
08:30 AM - 08:35 AM	59.5	11:10 AM - 11:15 AM	66.7	01:50 PM - 01:55 PM	61.2	58.1	
08:35 AM - 08:40 AM	60.3	11:15 AM - 11:20 AM	60.0	01:55 PM - 02:00 PM	59.5	58.3	
08:40 AM - 08:45 AM	62.7	11:20 AM - 11:25 AM	58.6	02:00 PM - 02:05 PM	58.8	58.2	
08:45 AM - 08:50 AM	60.3	11:25 AM - 11:30 AM	58.5	02:05 PM - 02:10 PM	58.6	58.1	
08:50 AM - 08:55 AM	60.5	11:30 AM - 11:35 AM	58.4	02:10 PM - 02:15 PM	59.1	58.1	
08:55 AM - 09:00 AM	61.2	11:35 AM - 11:40 AM	59.5	02:15 PM - 02:20 PM	58.9	58.1	
09:00 AM - 09:05 AM	62.1	11:40 AM - 11:45 AM	59.7	02:20 PM - 02:25 PM	59.5	58.2	
09:05 AM - 09:10 AM	61.4	11:45 AM - 11:50 AM	58.6	02:25 PM - 02:30 PM	58.6	58.0	
09:10 AM - 09:15 AM	61.0	11:50 AM - 11:55 AM	58.5	02:30 PM - 02:35 PM	58.9	58.4	
09:15 AM - 09:20 AM	60.8	11:55 AM - 12:00 PM	58.4	02:35 PM - 02:40 PM	59.0	58.2	
09:20 AM - 09:25 AM	61.1	12:00 PM - 12:05 PM	58.3	02:40 PM - 02:45 PM	61.3	58.6	
09:25 AM - 09:30 AM	61.5	12:05 PM - 12:10 PM	58.0	02:45 PM - 02:50 PM	61.1	59.3	
09:30 AM - 09:35 AM	60.1	12:10 PM - 12:15 PM	58.2	02:50 PM - 02:55 PM	61.0	58.9	
09:35 AM - 09:40 AM	59.0	12:15 PM - 12:20 PM	58.7	02:55 PM - 03:00 PM	59.6	58.4	

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159491-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Page 1 of 3

Sample Number : 24118785-12  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (พื้นที่บริเวณโครงการท่าอากาศยาน) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 25 - Oct 26, 2024  
Measurement by : Chatchai Sukpia  
Sound Level meter : Serial No. 623396

Oct 25, 2024		Oct 25, 2024		Oct 25, 2024		Oct 25, 2024	
Time	Leq dB(A)	Time	Leq dB(A)	Time	Leq dB(A)	Time	Leq dB(A)
03:00 PM - 03:05 PM	58.7	05:40 PM - 05:45 PM	60.0	08:20 PM - 08:25 PM	60.6	59.6	
03:05 PM - 03:10 PM	60.0	05:45 PM - 05:50 PM	59.4	08:25 PM - 08:30 PM	60.0	59.4	
03:10 PM - 03:15 PM	59.5	05:50 PM - 05:55 PM	59.2	08:30 PM - 08:35 PM	59.7	59.3	
03:15 PM - 03:20 PM	59.1	05:55 PM - 06:00 PM	59.3	08:35 PM - 08:40 PM	59.9	59.4	
03:20 PM - 03:25 PM	61.3	06:00 PM - 06:05 PM	59.8	08:40 PM - 08:45 PM	59.7	59.2	
03:25 PM - 03:30 PM	60.3	06:05 PM - 06:10 PM	59.8	08:45 PM - 08:50 PM	59.6	59.1	
03:30 PM - 03:35 PM	58.9	06:10 PM - 06:15 PM	59.4	08:50 PM - 08:55 PM	60.1	59.2	
03:35 PM - 03:40 PM	58.9	06:15 PM - 06:20 PM	59.6	08:55 PM - 09:00 PM	59.6	59.2	
03:40 PM - 03:45 PM	59.0	06:20 PM - 06:25 PM	60.5	09:00 PM - 09:05 PM	59.4	58.9	
03:45 PM - 03:50 PM	59.4	06:25 PM - 06:30 PM	59.9	09:05 PM - 09:10 PM	59.3	58.7	
03:50 PM - 03:55 PM	59.8	06:30 PM - 06:35 PM	60.1	09:10 PM - 09:15 PM	59.4	59.0	
03:55 PM - 04:00 PM	59.6	06:35 PM - 06:40 PM	60.1	09:15 PM - 09:20 PM	59.3	58.8	
04:00 PM - 04:05 PM	59.3	06:40 PM - 06:45 PM	59.9	09:20 PM - 09:25 PM	59.3	58.9	
04:05 PM - 04:10 PM	59.6	06:45 PM - 06:50 PM	59.8	09:25 PM - 09:30 PM	59.5	58.9	
04:10 PM - 04:15 PM	59.4	06:50 PM - 06:55 PM	59.7	09:30 PM - 09:35 PM	59.3	58.8	
04:15 PM - 04:20 PM	59.4	06:55 PM - 07:00 PM	60.0	09:35 PM - 09:40 PM	59.5	58.9	
04:20 PM - 04:25 PM	59.1	07:00 PM - 07:05 PM	59.7	09:40 PM - 09:45 PM	59.2	58.7	
04:25 PM - 04:30 PM	59.1	07:05 PM - 07:10 PM	60.0	09:45 PM - 09:50 PM	59.2	58.7	
04:30 PM - 04:35 PM	58.9	07:10 PM - 07:15 PM	59.9	09:50 PM - 09:55 PM	59.3	58.8	
04:35 PM - 04:40 PM	58.7	07:15 PM - 07:20 PM	59.8	09:55 PM - 10:00 PM	59.2	58.7	
04:40 PM - 04:45 PM	58.2	07:20 PM - 07:25 PM	60.0	10:00 PM - 10:05 PM	59.5	58.9	
04:45 PM - 04:50 PM	59.5	07:25 PM - 07:30 PM	60.5	10:05 PM - 10:10 PM	60.1	59.0	
04:50 PM - 04:55 PM	59.9	07:30 PM - 07:35 PM	61.5	10:10 PM - 10:15 PM	59.2	58.7	
04:55 PM - 05:00 PM	60.6	07:35 PM - 07:40 PM	61.2	10:15 PM - 10:20 PM	59.3	58.8	
05:00 PM - 05:05 PM	60.5	07:40 PM - 07:45 PM	60.2	10:20 PM - 10:25 PM	59.4	58.8	
05:05 PM - 05:10 PM	59.6	07:45 PM - 07:50 PM	60.0	10:25 PM - 10:30 PM	59.5	58.9	
05:10 PM - 05:15 PM	59.3	07:50 PM - 07:55 PM	61.1	10:30 PM - 10:35 PM	59.1	58.6	
05:15 PM - 05:20 PM	59.4	07:55 PM - 08:00 PM	61.6	10:35 PM - 10:40 PM	59.1	58.7	
05:20 PM - 05:25 PM	62.5	08:00 PM - 08:05 PM	60.0	10:40 PM - 10:45 PM	59.2	58.7	
05:25 PM - 05:30 PM	61.7	08:05 PM - 08:10 PM	60.2	10:45 PM - 10:50 PM	59.0	58.6	
05:30 PM - 05:35 PM	60.1	08:10 PM - 08:15 PM	60.2	10:50 PM - 10:55 PM	59.3	58.9	
05:35 PM - 05:40 PM	59.9	08:15 PM - 08:20 PM	59.9	10:55 PM - 11:00 PM	59.2	58.8	

Approved by

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159491-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Page 2 of 3

Sample Number : 24118785-12  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (พื้นที่บริเวณโครงการท่าอากาศยาน) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 25 - Oct 26, 2024  
Measurement by : Chatchai Sukpia  
Sound Level meter : Serial No. 623396

Oct 25 - Oct 26, 2024		Oct 26, 2024		Oct 26, 2024		Oct 26, 2024	
Time	Leq dB(A)	Time	Leq dB(A)	Time	Leq dB(A)	Time	Leq dB(A)
11:00 PM - 11:05 PM	59.2	01:40 AM - 01:45 AM	58.0	04:20 AM - 04:25 AM	57.9	57.6	
11:05 PM - 11:10 PM	59.3	01:45 AM - 01:50 AM	57.9	04:25 AM - 04:30 AM	58.0	57.7	
11:10 PM - 11:15 PM	59.4	01:50 AM - 01:55 AM	58.0	04:30 AM - 04:35 AM	57.9	57.5	
11:15 PM - 11:20 PM	59.3	01:55 AM - 02:00 AM	57.7	04:35 AM - 04:40 AM	57.7	57.2	
11:20 PM - 11:25 PM	59.5	02:00 AM - 02:05 AM	58.0	04:40 AM - 04:45 AM	57.8	57.4	
11:25 PM - 11:30 PM	59.6	02:05 AM - 02:10 AM	57.6	04:45 AM - 04:50 AM	57.5	57.1	
11:30 PM - 11:35 PM	59.5	02:10 AM - 02:15 AM	57.7	04:50 AM - 04:55 AM	57.8	57.4	
11:35 PM - 11:40 PM	59.4	02:15 AM - 02:20 AM	57.7	04:55 AM - 05:00 AM	57.9	57.1	
11:40 PM - 11:45 PM	59.3	02:20 AM - 02:25 AM	57.7	05:00 AM - 05:05 AM	57.8	57.4	
11:45 PM - 11:50 PM	58.4	02:25 AM - 02:30 AM	57.8	05:05 AM - 05:10 AM	57.9	57.5	
11:50 PM - 11:55 PM	62.0	02:30 AM - 02:35 AM	57.6	05:10 AM - 05:15 AM	57.6	57.2	
11:55 PM - 12:00 AM	61.1	02:35 AM - 02:40 AM	57.4	05:15 AM - 05:20 AM	57.9	57.4	
12:00 AM - 12:05 AM	58.4	02:40 AM - 02:45 AM	57.0	05:20 AM - 05:25 AM	58.5	57.6	
12:05 AM - 12:10 AM	57.8	02:45 AM - 02:50 AM	57.2	05:25 AM - 05:30 AM	57.8	57.4	
12:10 AM - 12:15 AM	57.8	02:50 AM - 02:55 AM	56.9	05:30 AM - 05:35 AM	58.2	57.3	
12:15 AM - 12:20 AM	57.5	02:55 AM - 03:00 AM	57.0	05:35 AM - 05:40 AM	58.1	57.4	
12:20 AM - 12:25 AM	57.5	03:00 AM - 03:05 AM	57.3	05:40 AM - 05:45 AM	58.0	57.4	
12:25 AM - 12:30 AM	57.4	03:05 AM - 03:10 AM	56.9	05:45 AM - 05:50 AM	57.7	57.3	
12:30 AM - 12:35 AM	57.1	03:10 AM - 03:15 AM	57.4	05:50 AM - 05:55 AM	58.0	57.3	
12:35 AM - 12:40 AM	57.2	03:15 AM - 03:20 AM	57.1	05:55 AM - 06:00 AM	57.6	57.0	
12:40 AM - 12:45 AM	57.5	03:20 AM - 03:25 AM	57.2	06:00 AM - 06:05 AM	57.4	56.9	
12:45 AM - 12:50 AM	56.7	03:25 AM - 03:30 AM	57.1	06:05 AM - 06:10 AM	57.6	57.1	
12:50 AM - 12:55 AM	57.3	03:30 AM - 03:35 AM	57.1	06:10 AM - 06:15 AM	57.7	57.2	
12:55 AM - 01:00 AM	57.2	03:35 AM - 03:40 AM	57.2	06:15 AM - 06:20 AM	57.8	57.2	
01:00 AM - 01:05 AM	57.4	03:40 AM - 03:45 AM	57.2	06:20 AM - 06:25 AM	58.2	57.2	
01:05 AM - 01:10 AM	57.2	03:45 AM - 03:50 AM	57.2	06:25 AM - 06:30 AM	57.8	57.2	
01:10 AM - 01:15 AM	57.0	03:50 AM - 03:55 AM	57.2	06:30 AM - 06:35 AM	57.8	57.3	
01:15 AM - 01:20 AM	57.2	03:55 AM - 04:00 AM	57.4	06:35 AM - 06:40 AM	58.3	57.6	
01:20 AM - 01:25 AM	57.4	04:00 AM - 04:05 AM	57.6	06:40 AM - 06:45 AM	57.7	57.0	
01:25 AM - 01:30 AM	57.4	04:05 AM - 04:10 AM	57.6	06:45 AM - 06:50 AM	57.8	57.1	
01:30 AM - 01:35 AM	57.5	04:10 AM - 04:15 AM	57.9	06:50 AM - 06:55 AM	58.1	57.2	
01:35 AM - 01:40 AM	58.0	04:15 AM - 04:20 AM	57.9	06:55 AM - 07:00 AM	58.9	57.6	





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159492-1

Sample Number 24118785-13				Parameter Noise Level (Leq 5 min)				Location N2 : พื้นที่โครงการ (บ้านขาคี/โครงการบ้านขาคี) (GPS 47P 0744656, 1419366)				Measurement Date Oct 26 - Oct 27, 2024				Measurement by Chatchai Sukpla				Sound Level meter Serial No. 623396			
Oct 26, 2024		Leq		L90		Oct 26, 2024		Leq		L90		Oct 26, 2024		Leq		L90		Oct 26, 2024		Leq		L90	
Time		dB(A)		dB(A)		Time		dB(A)		dB(A)		Time		dB(A)		dB(A)		Time		dB(A)		dB(A)	
02:00 PM - 02:05 PM		60.5		58.8		03:40 PM - 03:45 PM		59.5		58.9		06:20 PM - 06:25 PM		60.4		59.7		08:25 PM - 08:30 PM		60.7		59.9	
02:05 PM - 02:10 PM		60.4		59.1		03:45 PM - 03:50 PM		59.6		58.9		06:25 PM - 06:30 PM		60.1		59.6		08:30 PM - 08:35 PM		60.1		59.8	
02:10 PM - 02:15 PM		59.9		59.2		03:50 PM - 03:55 PM		59.9		59.0		06:30 PM - 06:35 PM		60.1		59.7		08:35 PM - 08:40 PM		60.1		59.6	
02:15 PM - 02:20 PM		59.6		58.9		03:55 PM - 04:00 PM		60.1		59.3		06:35 PM - 06:40 PM		60.0		59.3		08:40 PM - 08:45 PM		60.2		59.2	
02:20 PM - 02:25 PM		60.3		59.1		04:00 PM - 04:05 PM		60.0		59.3		06:40 PM - 06:45 PM		60.1		59.4		08:45 PM - 08:50 PM		59.6		58.9	
02:25 PM - 02:30 PM		59.5		58.9		04:05 PM - 04:10 PM		60.2		59.4		06:45 PM - 06:50 PM		60.1		59.4		08:50 PM - 08:55 PM		59.7		59.1	
02:30 PM - 02:35 PM		59.6		58.9		04:10 PM - 04:15 PM		60.1		59.0		06:50 PM - 06:55 PM		60.1		59.4		08:55 PM - 09:00 PM		59.8		59.2	
02:35 PM - 02:40 PM		60.1		59.0		04:15 PM - 04:20 PM		60.1		59.0		06:55 PM - 07:00 PM		60.3		59.6		09:00 PM - 09:05 PM		59.8		59.2	
02:40 PM - 02:45 PM		59.9		59.0		04:20 PM - 04:25 PM		60.2		59.1		07:00 PM - 07:05 PM		60.7		59.7		09:05 PM - 09:10 PM		59.7		59.2	
02:45 PM - 02:50 PM		60.2		59.3		04:25 PM - 04:30 PM		59.8		59.0		07:05 PM - 07:10 PM		60.3		59.7		09:10 PM - 09:15 PM		59.8		59.3	
02:50 PM - 02:55 PM		59.9		59.2		04:30 PM - 04:35 PM		59.6		58.9		07:10 PM - 07:15 PM		60.3		59.7		09:15 PM - 09:20 PM		59.7		59.3	
02:55 PM - 03:00 PM		59.8		59.2		04:35 PM - 04:40 PM		60.1		59.3		07:15 PM - 07:20 PM		60.6		59.4		09:20 PM - 09:25 PM		60.1		59.5	
03:00 PM - 03:05 PM		60.3		59.5		04:40 PM - 04:45 PM		60.2		59.2		07:20 PM - 07:25 PM		61.0		60.1		09:25 PM - 09:30 PM		60.0		59.4	
03:05 PM - 03:10 PM		60.1		59.0		04:45 PM - 04:50 PM		60.1		59.3		07:25 PM - 07:30 PM		60.5		59.6		09:30 PM - 09:35 PM		59.9		59.3	
03:10 PM - 03:15 PM		60.2		59.1		04:50 PM - 04:55 PM		60.1		59.1		07:30 PM - 07:35 PM		60.0		59.4		09:35 PM - 09:40 PM		60.3		59.4	
03:15 PM - 03:20 PM		59.8		59.0		04:55 PM - 05:00 PM		60.1		59.0		07:35 PM - 07:40 PM		60.0		59.4		09:40 PM - 09:45 PM		60.1		59.5	
03:20 PM - 03:25 PM		59.6		58.9		05:00 PM - 05:05 PM		60.1		59.0		07:40 PM - 07:45 PM		60.3		59.7		09:45 PM - 09:50 PM		60.1		59.5	
03:25 PM - 03:30 PM		59.5		58.9		05:05 PM - 05:10 PM		60.1		59.0		07:45 PM - 07:50 PM		60.4		59.6		09:50 PM - 09:55 PM		59.8		59.2	
03:30 PM - 03:35 PM		59.9		59.2		05:10 PM - 05:15 PM		60.1		59.0		07:50 PM - 07:55 PM		60.7		59.7		09:55 PM - 10:00 PM		59.8		59.3	
03:35 PM - 03:40 PM		60.3		59.1		05:15 PM - 05:20 PM		60.1		59.0		07:55 PM - 08:00 PM		60.4		59.6		10:00 PM - 10:05 PM		59.9		59.3	
03:40 PM - 03:45 PM		59.8		59.0		05:20 PM - 05:25 PM		60.1		59.0		08:00 PM - 08:05 PM		60.9		59.9		10:05 PM - 10:10 PM		59.8		59.3	
03:45 PM - 03:50 PM		60.2		59.3		05:25 PM - 05:30 PM		60.8		60.0		08:05 PM - 08:10 PM		61.0		59.9		10:10 PM - 10:15 PM		59.7		59.1	
03:50 PM - 03:55 PM		61.2		59.0		05:30 PM - 05:35 PM		60.8		60.0		08:10 PM - 08:15 PM		60.6		59.7		10:15 PM - 10:20 PM		60.0		59.4	
03:55 PM - 04:00 PM		59.6		58.8		05:35 PM - 05:40 PM		60.2		59.5		08:15 PM - 08:20 PM		60.2		59.5		10:20 PM - 10:25 PM		60.0		59.3	

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RIGHT SOLUTIONS RIGHT PARTNER



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number		24118785-13		Parameter		Noise Level (Leq 5 min)		Location		N2 : พื้นที่โครงการ (บ้านขาคี/โครงการบ้านขาคี) (GPS 47P 0744656, 1419366)		Measurement Date		Oct 26 - Oct 27, 2024		Measurement by		Chatchai Sukpla		Sound Level meter		Serial No. 623396	
Oct 27, 2024		Leq		L90		Oct 27, 2024		Leq		L90		Oct 27, 2024		Leq		L90		Oct 27, 2024		Leq		L90	
Time		#dB(A)		#dB(A)		Time		#dB(A)		#dB(A)		Time		#dB(A)		#dB(A)		Time		#dB(A)		#dB(A)	
07:00 AM - 07:05 AM		59.1		58.3		09:40 AM - 09:45 AM		58.2		57.6		12:20 PM - 12:25 PM		58.3		57.6		08:20 PM - 08:25 PM		59.5		59.0	
07:05 AM - 07:10 AM		59.8		58.2		09:45 AM - 09:50 AM		58.1		57.7		12:25 PM - 12:30 PM		58.8		57.5		08:25 PM - 08:30 PM		59.2		58.9	
07:10 AM - 07:15 AM		59.1		58.6		09:55 AM - 10:00 AM		58.8		58.2		12:35 PM - 12:40 PM		58.2		58.6		08:35 PM - 08:40 PM		59.7		59.2	
07:20 AM - 07:25 AM		64.9		59.8		10:00 AM - 10:05 AM		59.6		56.6		12:40 PM - 12:45 PM		58.0		57.3		08:45 PM - 08:50 PM		59.8		59.3	
07:25 AM - 07:30 AM		59.8		58.5		10:05 AM - 10:10 AM		60.6		59.5		12:45 PM - 12:50 PM		58.2		57.3		08:55 PM - 09:00 PM		59.8		59.3	
07:30 AM - 07:35 AM		59.9		58.4		10:10 AM - 10:15 AM		60.6		59.1		12:50 PM - 12:55 PM		58.3		57.5		09:05 PM - 09:10 PM		59.8		59.3	
07:35 AM - 07:40 AM		59.2		58.4		10:15 AM - 10:20 AM		59.8		58.0		12:55 PM - 01:00 PM		57.7		57.0		09:15 PM - 09:20 PM		59.8		59.3	
07:40 AM - 07:45 AM		59.4		58.3		10:20 AM - 10:25 AM		59.2		58.5		01:00 PM - 01:05 PM		57.7		57.0		09:25 PM - 09:30 PM		59.8		59.3	
07:45 AM - 07:50 AM		59.8		58.2		10:25 AM - 10:30 AM		59.4		58.3		01:05 PM - 01:10 PM		58.0		57.4		09:35 PM - 09:40 PM		59.8		59.3	
07:50 AM - 07:55 AM		59.6		58.6		10:30 AM - 10:35 AM		59.5		58.2		01:10 PM - 01:15 PM		58.0		57.4		09:45 PM - 09:50 PM		59.8		59.3	
07:55 AM - 08:00 AM		59.8		58.2		10:35 AM - 10:40 AM		62.9		61.9		01:15 PM - 01:20 PM		58.1		57.5		09:55 PM - 10:00 PM		59.8		59.3	
08:00 AM - 08:05 AM		58.6		57.9		10:40 AM - 10:45 AM		61.8		61.5		01:20 PM - 01:25 PM		58.1		57.8		10:05 PM - 10:10 PM		59.8		59.3	
08:05 AM - 08:10 AM		58.6		57.9		10:45 AM - 10:50 AM		64.5		62.2		01:25 PM - 01:30 PM		58.9		57.8		10:15 PM - 10:20 PM		59.8		59.3	
08:10 AM - 08:15 AM		58.5		57.8		10:50 AM - 10:55 AM		62.5		61.4		01:30 PM - 01:35 PM		59.1		58.2		10:25 PM - 10:30 PM		59.8		59.3	
08:15 AM - 08:20 AM		58.6		57.9		10:55 AM - 11:00 AM		62.4		60.3		01:35 PM - 01:40 PM		59.1		58.1		10:35 PM - 10:40 PM		59.8		59.3	
08:20 AM - 08:25 AM		59.3		58.2		11:00 AM - 11:05 AM		59.3		58.5		01:40 PM - 01:45 PM		58.8		58.1		10:45 PM - 10:50 PM		59.8		59.3	
08:25 AM - 08:30 AM		59.6		57.8		11:05 AM - 11:10 AM		59.0		58.4		01:45 PM - 01:50 PM		58.8		57.9		10:55 PM - 11:00 PM		59.8		59.3	
08:30 AM - 08:35 AM		58.5		57.8		11:10 AM - 11:15 AM		59.2		58.1		01:50 PM - 01:55 PM		58.3		57.8		11:05 PM - 11:10 PM		59.8		59.3	
08:35 AM - 08:40 AM		58.5		57.8		11:15 AM - 11:20 AM		61.9		59.0		01:55 PM - 02:00 PM		58.8		57.8		11:15 PM - 11:20 PM		59.8		59.3	
08:40 AM - 08:45 AM		58.4		57.8		11:20 AM - 11:25 AM		59.0		57.8		02:00 PM - 02:05 PM		58.7		58.0		11:25 PM - 11:30 PM		59.8		59.3	
08:45 AM - 08:50 AM		58.2		57.7		11:25 AM - 11:30 AM		58.6		58.0		02:05 PM - 02:10 PM		58.2		57.6		11:35 PM - 11:40 PM		59.8		59.3	
08:50 AM - 08:55 AM		58.6		57.6		11:30 AM - 11:35 AM		58.5		57.8		02:10 PM - 02:15 PM		58.5		57.8		11:45 PM - 11:50 PM		59.8		59.3	
08:55 AM - 09:00 AM		58.3		57.8		11:35 AM - 11:40 AM		59.0		57.3		02:15 PM - 02:20 PM		58.6		57.9		11:55 PM - 12:00 AM		59.8		59.3	
09:00 AM - 09:05 AM		59.9		58.3		11:40 AM - 11:45 AM		58.3		57.5		02:20 PM - 02:25 PM		59.0		58.1		12:05 PM - 12:10 PM		59.8		59.3	
09:05 AM - 09:10 AM		58.3		58.3		11:45 AM - 11:50 AM		58.2		57.6		02:25 PM - 02:30 PM		58.9		57.8		12:15 PM - 12:20 PM		59.8		59.3	
09:10 AM - 09:15 AM		59.8		58.8		11:50 AM - 11:55 AM		58.4		57.6		02:30 PM - 02:35 PM		58.9		58.1		12:25 PM - 12:30 PM		59.8		59.3	
09:15 AM - 09:20 AM		60.5		57.8		11:55 AM - 12:00 PM		59.1		58.1		02:35 PM - 02:40 PM		59.2		58.1		12:35 PM - 12:40 PM		59.8		59.3	
09:20 AM - 09:25 AM		59.0		58.1		12:00 PM - 12:05 PM		59.8		58.1		02:40 PM - 02:45 PM		59.8		58.1		12:45 PM - 12:50 PM		59.8		59.3	
09:25 AM - 09:30 AM		59.0		58.3		12:05 PM - 12:10 PM		59.1		58.2		02:45 PM - 02:50 PM		59.8		58.1		12:55 PM - 01:00 PM		59.8		59.3	
09:30 AM - 09:35 AM		58.0		58.2		12:10 PM - 12:15 PM		59.0		57.6		02:50 PM - 02:55 PM		59.8		57.9		01:05 PM - 01:10 PM		59.8		59.3	
09:35 AM - 09:40 AM		59.3		58.5		12:15 PM - 12:20 PM		58.4		57.8		02:55 PM - 03:00 PM		58.5		57.7		01:15 PM - 01:20 PM		59.8		59.3	



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

Lot ID: 24118785  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number : 3159493-1

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Page 2 of 3

Sample Number : 24118785-14  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (บริเวณพื้นที่โครงการด้านทิศเหนือ) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 27 - Oct 28, 2024  
Measurement by : Chatchai Sulpha  
Sound Level meter : Serial No. 623396

Oct 27 - Oct 28, 2024			Oct 28, 2024			Oct 28, 2024		
Time			Time			Time		
Leq	L90		Leq	L90		Leq	L90	
#8(A)	#8(A)		#8(A)	#8(A)		#8(A)	#8(A)	
11:00 PM - 11:05 PM	59.0	58.3	01:40 AM - 01:45 AM	59.1	58.6	04:20 AM - 04:25 AM	59.3	58.4
11:05 PM - 11:10 PM	58.9	58.3	01:45 AM - 01:50 AM	58.9	58.3	04:25 AM - 04:30 AM	59.0	58.5
11:10 PM - 11:15 PM	59.0	58.4	01:50 AM - 01:55 AM	58.9	58.3	04:30 AM - 04:35 AM	59.0	58.4
11:15 PM - 11:20 PM	59.1	58.5	01:55 AM - 02:00 AM	58.8	58.3	04:35 AM - 04:40 AM	59.3	58.8
11:20 PM - 11:25 PM	58.9	58.3	02:00 AM - 02:05 AM	58.8	58.3	04:40 AM - 04:45 AM	59.1	58.7
11:25 PM - 11:30 PM	58.9	58.3	02:05 AM - 02:10 AM	58.6	58.1	04:45 AM - 04:50 AM	58.9	58.5
11:30 PM - 11:35 PM	59.1	58.6	02:10 AM - 02:15 AM	58.4	58.0	04:50 AM - 04:55 AM	59.1	58.6
11:35 PM - 11:40 PM	58.9	58.3	02:15 AM - 02:20 AM	58.6	58.2	04:55 AM - 05:00 AM	58.8	58.6
11:40 PM - 11:45 PM	59.1	58.5	02:20 AM - 02:25 AM	58.4	58.0	05:00 AM - 05:05 AM	58.7	58.3
11:45 PM - 11:50 PM	58.8	58.2	02:25 AM - 02:30 AM	58.5	58.0	05:05 AM - 05:10 AM	58.7	58.3
11:50 PM - 11:55 PM	59.0	58.3	02:30 AM - 02:35 AM	58.6	58.1	05:10 AM - 05:15 AM	58.4	58.0
11:55 PM - 12:00 AM	58.8	58.3	02:35 AM - 02:40 AM	58.2	57.7	05:15 AM - 05:20 AM	58.5	58.0
12:00 AM - 12:05 AM	58.5	57.9	02:40 AM - 02:45 AM	58.5	58.1	05:20 AM - 05:25 AM	58.1	57.6
12:05 AM - 12:10 AM	58.6	58.0	02:45 AM - 02:50 AM	58.6	58.1	05:25 AM - 05:30 AM	58.2	57.8
12:10 AM - 12:15 AM	58.6	58.1	02:50 AM - 02:55 AM	59.2	58.1	05:30 AM - 05:35 AM	58.2	57.7
12:15 AM - 12:20 AM	58.6	58.1	02:55 AM - 03:00 AM	60.0	59.6	05:35 AM - 05:40 AM	58.5	57.9
12:20 AM - 12:25 AM	58.6	58.0	03:00 AM - 03:05 AM	61.5	58.2	05:40 AM - 05:45 AM	58.7	58.2
12:25 AM - 12:30 AM	58.3	57.9	03:05 AM - 03:10 AM	59.1	58.3	05:45 AM - 05:50 AM	58.5	58.1
12:30 AM - 12:35 AM	57.9	57.5	03:10 AM - 03:15 AM	59.2	58.3	05:50 AM - 05:55 AM	58.5	58.1
12:35 AM - 12:40 AM	58.0	57.6	03:15 AM - 03:20 AM	58.9	58.3	05:55 AM - 06:00 AM	58.5	58.1
12:40 AM - 12:45 AM	58.5	58.0	03:20 AM - 03:25 AM	58.8	58.2	06:00 AM - 06:05 AM	58.6	58.2
12:45 AM - 12:50 AM	58.4	57.9	03:25 AM - 03:30 AM	58.8	58.3	06:05 AM - 06:10 AM	58.6	58.1
12:50 AM - 12:55 AM	58.6	58.0	03:30 AM - 03:35 AM	58.6	58.0	06:10 AM - 06:15 AM	58.2	57.8
12:55 AM - 01:00 AM	58.6	58.1	03:35 AM - 03:40 AM	58.3	57.8	06:15 AM - 06:20 AM	58.4	57.8
01:00 AM - 01:05 AM	58.3	57.8	03:40 AM - 03:45 AM	59.5	58.3	06:20 AM - 06:25 AM	58.1	57.6
01:05 AM - 01:10 AM	59.0	57.7	03:45 AM - 03:50 AM	59.7	58.8	06:25 AM - 06:30 AM	58.0	57.4
01:10 AM - 01:15 AM	62.9	59.3	03:50 AM - 03:55 AM	59.3	58.8	06:30 AM - 06:35 AM	57.6	57.1
01:15 AM - 01:20 AM	64.1	59.0	03:55 AM - 04:00 AM	59.3	58.8	06:35 AM - 06:40 AM	57.9	57.4
01:20 AM - 01:25 AM	60.0	58.1	04:00 AM - 04:05 AM	59.2	58.6	06:40 AM - 06:45 AM	58.8	57.5
01:25 AM - 01:30 AM	59.0	58.4	04:05 AM - 04:10 AM	58.8	58.1	06:45 AM - 06:50 AM	58.4	57.8
01:30 AM - 01:35 AM	59.4	58.8	04:10 AM - 04:15 AM	58.6	58.2	06:50 AM - 06:55 AM	58.7	57.9
01:35 AM - 01:40 AM	59.3	58.7	04:15 AM - 04:20 AM	58.8	58.2	06:55 AM - 07:00 AM	60.4	58.2

Approved by

Sarayu Jitranont  
Assistant General Manager



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Page 3 of 3

Sample Number : 24118785-14  
Parameter : Noise Level (Leq 5 min)  
Location : N2 : พื้นที่โครงการ (บริเวณพื้นที่โครงการด้านทิศเหนือ) (GPS 47P 0744656, 1419366)  
Measurement Date : Oct 27 - Oct 28, 2024  
Measurement by : Chatchai Sulpha  
Sound Level meter : Serial No. 623396

Oct 28, 2024			Oct 28, 2024			Oct 28, 2024		
Time			Time			Time		
Leq	L90		Leq	L90		Leq	L90	
#8(A)	#8(A)		#8(A)	#8(A)		#8(A)	#8(A)	
07:00 AM - 07:05 AM	59.3	58.1	09:40 AM - 09:45 AM	59.8	58.7	12:20 PM - 12:25 PM	58.6	57.4
07:05 AM - 07:10 AM	59.9	58.1	09:45 AM - 09:50 AM	59.3	58.6	12:25 PM - 12:30 PM	57.7	57.1
07:10 AM - 07:15 AM	60.1	58.0	09:50 AM - 09:55 AM	59.8	58.7	12:30 PM - 12:35 PM	57.9	57.3
07:15 AM - 07:20 AM	60.0	58.1	09:55 AM - 10:00 AM	60.6	59.2	12:35 PM - 12:40 PM	58.7	57.9
07:20 AM - 07:25 AM	59.9	57.8	10:00 AM - 10:05 AM	59.9	58.9	12:40 PM - 12:45 PM	60.4	59.3
07:25 AM - 07:30 AM	61.8	58.6	10:05 AM - 10:10 AM	59.5	58.8	12:45 PM - 12:50 PM	60.4	58.9
07:30 AM - 07:35 AM	62.9	58.9	10:10 AM - 10:15 AM	59.5	58.9	12:50 PM - 12:55 PM	59.1	58.0
07:35 AM - 07:40 AM	62.2	59.0	10:15 AM - 10:20 AM	60.3	58.9	12:55 PM - 01:00 PM	58.6	57.9
07:40 AM - 07:45 AM	61.8	58.2	10:20 AM - 10:25 AM	59.2	58.5	01:00 PM - 01:05 PM	58.5	57.9
07:45 AM - 07:50 AM	61.6	58.3	10:25 AM - 10:30 AM	58.9	58.3	01:05 PM - 01:10 PM	59.6	58.0
07:50 AM - 07:55 AM	60.9	58.8	10:30 AM - 10:35 AM	59.5	58.3	01:10 PM - 01:15 PM	60.4	58.2
07:55 AM - 08:00 AM	64.6	58.7	10:35 AM - 10:40 AM	60.0	58.5	01:15 PM - 01:20 PM	60.7	58.5
08:00 AM - 08:05 AM	62.5	59.3	10:40 AM - 10:45 AM	59.4	58.6	01:20 PM - 01:25 PM	61.9	58.3
08:05 AM - 08:10 AM	61.9	58.6	10:45 AM - 10:50 AM	62.0	59.0	01:25 PM - 01:30 PM	59.1	57.9
08:10 AM - 08:15 AM	63.1	58.4	10:50 AM - 10:55 AM	59.1	58.4	01:30 PM - 01:35 PM	59.1	57.4
08:15 AM - 08:20 AM	61.4	58.2	10:55 AM - 11:00 AM	59.6	58.5	01:35 PM - 01:40 PM	60.0	58.0
08:20 AM - 08:25 AM	60.6	58.3	11:00 AM - 11:05 AM	59.9	58.3	01:40 PM - 01:45 PM	62.3	58.9
08:25 AM - 08:30 AM	58.4	57.8	11:05 AM - 11:10 AM	59.8	58.0	01:45 PM - 01:50 PM	62.7	58.3
08:30 AM - 08:35 AM	58.5	58.0	11:10 AM - 11:15 AM	61.9	59.1	01:50 PM - 01:55 PM	59.8	58.3
08:35 AM - 08:40 AM	59.4	58.0	11:15 AM - 11:20 AM	59.6	58.0	01:55 PM - 02:00 PM	61.1	58.4
08:40 AM - 08:45 AM	58.8	58.1	11:20 AM - 11:25 AM	58.7	57.8	02:00 PM - 02:05 PM	59.1	58.4
08:45 AM - 08:50 AM	59.4	58.4	11:25 AM - 11:30 AM	58.2	57.6	02:05 PM - 02:10 PM	59.2	58.5
08:50 AM - 08:55 AM	60.7	59.5	11:30 AM - 11:35 AM	58.4	57.6	02:10 PM - 02:15 PM	59.4	58.5
08:55 AM - 09:00 AM	60.7	60.1	11:35 AM - 11:40 AM	60.9	57.9	02:15 PM - 02:20 PM	59.4	58.6
09:00 AM - 09:05 AM	61.9	61.0	11:40 AM - 11:45 AM	58.2	57.5	02:20 PM - 02:25 PM	59.4	58.7
09:05 AM - 09:10 AM	62.0	60.2	11:45 AM - 11:50 AM	58.7	57.3	02:25 PM - 02:30 PM	61.1	59.1
09:10 AM - 09:15 AM	61.0	60.2	11:50 AM - 11:55 AM	58.4	57.4	02:30 PM - 02:35 PM	64.0	58.8
09:15 AM - 09:20 AM	61.4	60.5	11:55 AM - 12:00 PM	58.1	57.1	02:35 PM - 02:40 PM	59.3	58.4
09:20 AM - 09:25 AM	62.9	61.7	12:00 PM - 12:05 PM	58.2	57.1	02:40 PM - 02:45 PM	59.0	58.1
09:25 AM - 09:30 AM	64.1	61.2	12:05 PM - 12:10 PM	57.9	57.1	02:45 PM - 02:50 PM	58.4	57.8
09:30 AM - 09:35 AM	62.6	59.7	12:10 PM - 12:15 PM	57.6	56.8	02:50 PM - 02:55 PM	60.4	59.3
09:35 AM - 09:40 AM	60.3	59.4	12:15 PM - 12:20 PM	58.4	57.1	02:55 PM - 03:00 PM	60.4	58.9

Approved by

Sarayu Jitranont  
Assistant General Manager

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ระดับเสียง เฉลี่ย 8 ชั่วโมง (ต่อเนื่อง 72 ชั่วโมง)





## Analysis / Test Report

Client: Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159990-1

Page 3 of 3

Sample Number 24118816-1  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาท่าอากาศยาน : บริเวณ Gas Turbine Accessories System 1  
Measurement Date Oct 22, 2024  
Measurement by Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	73.9	82.3	76.3
09:00 AM - 10:00 AM	77.2	80.6	76.5
10:00 AM - 11:00 AM	76.7	79.2	76.1
11:00 AM - 12:00 PM	76.8	79.1	76.2
12:00 PM - 01:00 PM	76.4	79.4	75.5
01:00 PM - 02:00 PM	77.1	80.3	75.8
02:00 PM - 03:00 PM	77.8	80.1	76.8
03:00 PM - 04:00 PM	77.8	78.9	77.4
Leq Average 8 hrs. (dB(A))	76.8		
Lmax (dB(A))		82.3	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานกระทรวงสาธารณสุข เรื่อง มาตรฐานการควบคุมการปล่อยเสียง ในการประกอบกิจการโรงงานเกี่ยวกับมาตรฐานค่าระดับเสียงในชุมชน พ.ศ. ๒๕๖๓			

Technical Management

Chontichak  
Chonticha Subongkroh  
Scientist (3)

Approved by

Supot Salameth  
Section Head

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S:\Reports\Air Noise pr\11 320410



## Analysis / Test Report

Client: Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159990-1

Page 3 of 3

Sample Number 24118816-2  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาท่าอากาศยาน : บริเวณ Gas Turbine Accessories System 1  
Measurement Date Oct 22, 2024  
Measurement by Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	77.8	80.1	77.8
05:00 PM - 06:00 PM	77.8	79.9	77.2
06:00 PM - 07:00 PM	77.9	80.4	77.2
07:00 PM - 08:00 PM	77.7	79.4	77.2
08:00 PM - 09:00 PM	77.9	79.2	77.4
09:00 PM - 10:00 PM	78.1	79.6	77.6
10:00 PM - 11:00 PM	77.9	79.7	77.6
11:00 PM - 12:00 AM	77.9	79.4	77.4
Leq Average 8 hrs. (dB(A))	77.9		
Lmax (dB(A))		80.4	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานกระทรวงสาธารณสุข เรื่อง มาตรฐานการควบคุมการปล่อยเสียง ในการประกอบกิจการโรงงานเกี่ยวกับมาตรฐานค่าระดับเสียงในชุมชน พ.ศ. ๒๕๖๓			

Technical Management

Chontichak  
Chonticha Subongkroh  
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## Analysis / Test Report

Client: Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159990-1

Page 1 of 1

Sample Number 24118816-3  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาท่าอากาศยาน : บริเวณ Gas Turbine Accessories System 1  
Measurement Date Oct 23, 2024  
Measurement by Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	77.2	78.6	76.9
01:00 AM - 02:00 AM	77.2	77.9	77.0
02:00 AM - 03:00 AM	77.3	80.1	77.0
03:00 AM - 04:00 AM	77.4	80.8	77.0
04:00 AM - 05:00 AM	77.4	78.9	77.0
05:00 AM - 06:00 AM	77.6	78.8	77.1
06:00 AM - 07:00 AM	77.2	78.6	76.8
07:00 AM - 08:00 AM	77.4	79.0	77.0
Leq Average 8 hrs. (dB(A))	77.3		
Lmax (dB(A))		80.8	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานกระทรวงสาธารณสุข เรื่อง มาตรฐานการควบคุมการปล่อยเสียง ในการประกอบกิจการโรงงานเกี่ยวกับมาตรฐานค่าระดับเสียงในชุมชน พ.ศ. ๒๕๖๓			

Technical Management

Chontichak  
Chonticha Subongkroh  
Scientist (3)

Approved by

Supot Salameth  
Section Head

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S:\Reports\Air Noise pr\11 320410



## Analysis / Test Report

Client: Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159990-1

Page 1 of 1

Sample Number 24118816-4  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาท่าอากาศยาน : บริเวณ Gas Turbine Accessories System 1  
Measurement Date Oct 23, 2024  
Measurement by Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	77.3	79.7	76.6
09:00 AM - 10:00 AM	77.6	79.7	76.8
10:00 AM - 11:00 AM	76.8	79.1	76.1
11:00 AM - 12:00 PM	76.7	78.9	75.9
12:00 PM - 01:00 PM	76.6	78.8	75.6
01:00 PM - 02:00 PM	76.5	78.5	75.5
02:00 PM - 03:00 PM	76.6	79.3	76.1
03:00 PM - 04:00 PM	76.8	79.7	76.1
Leq Average 8 hrs. (dB(A))	76.9		
Lmax (dB(A))		79.7	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานกระทรวงสาธารณสุข เรื่อง มาตรฐานการควบคุมการปล่อยเสียง ในการประกอบกิจการโรงงานเกี่ยวกับมาตรฐานค่าระดับเสียงในชุมชน พ.ศ. ๒๕๖๓			

Technical Management

Chontichak  
Chonticha Subongkroh  
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Approved by

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Section Head

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159994-1

Page 1 of 1

Sample Number	24118816-5
Parameter	Noise (Leq 8 hrs)
Location	บริเวณถนนสายหลักใกล้ท่าเรือ : บริเวณ Gas Turbine Accessories System 1
Measurement Date	Oct 23, 2024
Measurement by	Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	77.4	79.6	76.8
05:00 PM - 06:00 PM	77.4	79.3	76.9
06:00 PM - 07:00 PM	77.3	78.8	76.8
07:00 PM - 08:00 PM	77.1	78.8	76.6
08:00 PM - 09:00 PM	77.3	78.9	76.7
09:00 PM - 10:00 PM	77.4	79.3	76.9
10:00 PM - 11:00 PM	77.0	78.5	76.6
11:00 PM - 12:00 AM	76.4	80.5	71.9
Leq Average 8 hrs (dB(A))	77.2		
Lmax (dB(A))		80.5	
Standard (dB(A))	90	140	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: มาตรฐานการวัดและประเมินผลเสียงจากการทำงานของเครื่องจักรกล ในการประเมินผลกระทบจากเสียงที่เกิดจากการทำงานของเครื่องจักรกล		



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159995-1

Page 1 of 1

Sample Number	24118816-6
Parameter	Noise (Leq 8 hrs)
Location	บริเวณถนนสายหลักใกล้ท่าเรือ : บริเวณ Gas Turbine Accessories System 1
Measurement Date	Oct 24, 2024
Measurement by	Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	71.6	74.0	70.9
01:00 AM - 02:00 AM	71.7	73.1	71.0
02:00 AM - 03:00 AM	71.4	73.5	70.7
03:00 AM - 04:00 AM	71.4	73.8	70.7
04:00 AM - 05:00 AM	71.6	73.8	71.0
05:00 AM - 06:00 AM	71.2	73.2	70.8
06:00 AM - 07:00 AM	71.4	73.2	70.9
07:00 AM - 08:00 AM	71.3	74.1	70.7
Leq Average 8 hrs (dB(A))	71.5		
Lmax (dB(A))		74.1	
Standard (dB(A))	90	140	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: มาตรฐานการวัดและประเมินผลเสียงจากการทำงานของเครื่องจักรกล ในการประเมินผลกระทบจากเสียงที่เกิดจากการทำงานของเครื่องจักรกล		

Technical Management

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S Report\_Air Noise pt (11 30440)

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S Report\_Air Noise pt (11 30440)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159996-1

Page 1 of 1

Sample Number	24118816-7
Parameter	Noise (Leq 8 hrs)
Location	บริเวณถนนสายหลักใกล้ท่าเรือ : บริเวณ Gas Turbine Accessories System 1
Measurement Date	Oct 24, 2024
Measurement by	Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	73.7	82.0	70.2
09:00 AM - 10:00 AM	77.2	79.9	76.4
10:00 AM - 11:00 AM	76.6	80.2	76.1
11:00 AM - 12:00 PM	76.2	78.0	75.7
12:00 PM - 01:00 PM	76.1	79.1	75.3
01:00 PM - 02:00 PM	76.4	78.1	75.6
02:00 PM - 03:00 PM	76.9	78.7	76.2
03:00 PM - 04:00 PM	77.1	78.7	76.5
Leq Average 8 hrs (dB(A))	76.4		
Lmax (dB(A))		82.0	
Standard (dB(A))	90	140	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: มาตรฐานการวัดและประเมินผลเสียงจากการทำงานของเครื่องจักรกล ในการประเมินผลกระทบจากเสียงที่เกิดจากการทำงานของเครื่องจักรกล		



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3159997-1

Page 1 of 1

Sample Number	24118816-8
Parameter	Noise (Leq 8 hrs)
Location	บริเวณถนนสายหลักใกล้ท่าเรือ : บริเวณ Gas Turbine Accessories System 1
Measurement Date	Oct 24, 2024
Measurement by	Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	77.0	79.6	76.4
05:00 PM - 06:00 PM	77.0	79.0	76.4
06:00 PM - 07:00 PM	77.2	79.3	76.4
07:00 PM - 08:00 PM	77.4	79.4	76.7
08:00 PM - 09:00 PM	77.4	79.5	77.0
09:00 PM - 10:00 PM	77.3	78.9	76.9
10:00 PM - 11:00 PM	77.4	79.1	77.0
11:00 PM - 12:00 AM	77.6	79.5	77.0
Leq Average 8 hrs (dB(A))	77.3		
Lmax (dB(A))		79.6	
Standard (dB(A))	90	140	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: มาตรฐานการวัดและประเมินผลเสียงจากการทำงานของเครื่องจักรกล ในการประเมินผลกระทบจากเสียงที่เกิดจากการทำงานของเครื่องจักรกล		

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Sample Number	24118816-9			
Parameter	Noise (Leq 8 hrs )			
Location	บริเวณรอบนอกอาคารผลิตไฟฟ้า : บริเวณ Gas Turbine Accessories System 1			
Measurement Date	Oct 25, 2024			
Measurement by	Chatchai Sukpia			
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))	
12:00 AM - 01:00 AM	77.1	78.9	76.6	
01:00 AM - 02:00 AM	77.1	78.2	76.7	
02:00 AM - 03:00 AM	77.2	78.4	76.9	
03:00 AM - 04:00 AM	77.3	78.5	77.0	
04:00 AM - 05:00 AM	77.3	78.1	77.0	
05:00 AM - 06:00 AM	77.4	78.9	77.9	
06:00 AM - 07:00 AM	77.3	78.6	77.9	
07:00 AM - 08:00 AM	77.1	78.6	76.4	
Leq Average 8 hrs (dB(A))	77.2	78.9		
Lmax (dB(A))				
Standard (dB(A))	90	140		
Reference Method	ISO1996-1 and 1996-2			
Standard	ประกาศกระทรวงสาธารณสุข เรื่อง มาตรฐานการควบคุมการปล่อยเสียง ในการประกอบกิจการโรงงานเกี่ยวกับความเข้มเสียงเฉลี่ยในเวลากลางวัน ๓ ๒ ๕๖๕			

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Page 1 of 1

Sample Number	24118816-18		
Parameter	Noise (Leq 8 hrs )		
Location	บริเวณศูนย์บริการลูกค้า : บริการ Gas Turbine Accessories System 2		
Measurement Date	Oct 22, 2024		
Measurement by	Chatchai Sukpla		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	80.0	81.5	79.4
09:00 AM - 10:00 AM	80.0	82.1	79.5
10:00 AM - 11:00 AM	79.6	80.6	79.3
11:00 AM - 12:00 PM	79.7	80.5	79.4
12:00 PM - 01:00 PM	79.4	80.5	79.0
01:00 PM - 02:00 PM	79.7	80.7	79.1
02:00 PM - 03:00 PM	80.6	82.0	80.1
03:00 PM - 04:00 PM	81.0	82.2	80.6
Leq Average 8 hrs (dB(A))	80.0		
Lmax (dB(A))		82.2	
Standard (dB(A))	90	140	
Reference Method	ISO1996-1 and 1996-2		
Standard	ประกาศกระทรวงอุตสาหกรรม เรื่อง วิธีการตรวจวัดของเสียงและคลื่น ในการประกอบกิจการโรงงานเกี่ยวกับมาตรฐานและเครื่องมือการตรวจหา พ.ศ.๒๕๖๔		

### Technical Management

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Page 1 of 1

Sample Number	24118816-11		
Parameter	Noise (Leq 8 hrs)		
Location	บริเวณรอบๆอาคารไฟฟ้า : บริเวณ Gas Turbine Accessories System 2		
Measurement Date	Oct 22, 2024		
Measurement by	Chatchai Sukpia		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	81.4	82.6	81.0
05:00 PM - 06:00 PM	81.4	82.5	80.9
06:00 PM - 07:00 PM	81.3	82.5	80.9
07:00 PM - 08:00 PM	81.4	82.3	81.1
08:00 PM - 09:00 PM	81.6	82.6	81.2
09:00 PM - 10:00 PM	81.7	82.6	81.4
10:00 PM - 11:00 PM	81.7	82.7	81.4
11:00 PM - 12:00 AM	81.0	82.7	77.5
Leq Average 8 hrs. (dB(A))	81.4	82.7	
Lmax (dB(A))			
Standard (dB(A))	90	140	
Reference Method :	ISO1996-1 and 1996-2		
Standard :	ประเภทมาตรฐานตามประเทศไทย : มาตรฐานการควบคุมความดังเสียง ในการประกอบกิจการโรงงานเกี่ยวกับค่าความดังเสียงตาม พ.ร.บ.สงวน		

### Technical Management

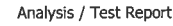
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Page 1 of 1

Sample Number	24118816-12
Parameter	Noise (Leq 8 hrs )
Location	บริเวณกรมการช่างผลิตไฟฟ้า : บริเวณ Gas Turbine Accessories System 2
Measurement Date	Oct 23, 2024
Measurement by	Chatchai Sukpla

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	76.0	80.2	74.8
01:00 AM - 02:00 AM	74.9	75.6	74.7
02:00 AM - 03:00 AM	75.1	76.3	74.9
03:00 AM - 04:00 AM	74.6	77.7	74.6
04:00 AM - 05:00 AM	75.1	77.1	74.8
05:00 AM - 06:00 AM	76.8	80.4	74.9
06:00 AM - 07:00 AM	74.7	76.0	74.5
07:00 AM - 08:00 AM	75.7	78.3	74.8
Leq Average 8 hrs. (dB(A))	75.4		
Lmax (dB(A))		80.4	
Standard (dB(A))	90	140	

Reference Method : ISO1996-1 and 1996-2

Standard      ปกติค่าการรบกวนจากธรรมชาติ (ซึ่ง มาจากการปนเปื้อนของความเป็นมลพิษ)  
ในการประกอบกิจการโรงงานตามที่กรมสิ่งแวดล้อมในประเทศไทย มา ค.ศ ๑๙๘๖

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160002-1

Page 1 of 1

Sample Number	24118816-13		
Parameter	Noise (Leq 8 hrs.)		
Location	พื้นที่รอบๆระบบท่อไอดี : บริเวณ Gas Turbine Accessories System 2		
Measurement Date	Oct 23, 2024		
Measurement by	Chatchai Sukpia		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	76.9	82.4	74.6
09:00 AM - 10:00 AM	81.3	83.7	80.6
10:00 AM - 11:00 AM	80.5	81.7	80.1
11:00 AM - 12:00 PM	79.9	81.3	79.6
12:00 PM - 01:00 PM	79.5	80.5	79.2
01:00 PM - 02:00 PM	79.7	81.1	79.2
02:00 PM - 03:00 PM	79.9	80.9	79.7
03:00 PM - 04:00 PM	80.0	80.9	79.7
Leq Average 8 hrs. (dB(A))	79.9		
Lmax (dB(A))		83.7	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160003-1

Page 1 of 1

Sample Number	24118816-14		
Parameter	Noise (Leq 8 hrs.)		
Location	พื้นที่รอบๆระบบท่อไอดี : บริเวณ Gas Turbine Accessories System 2		
Measurement Date	Oct 23, 2024		
Measurement by	Chatchai Sukpia		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	80.1	81.1	79.9
05:00 PM - 06:00 PM	80.1	81.0	79.9
06:00 PM - 07:00 PM	80.3	81.3	80.1
07:00 PM - 08:00 PM	80.7	82.0	80.3
08:00 PM - 09:00 PM	80.9	82.1	80.4
09:00 PM - 10:00 PM	81.0	82.2	80.6
10:00 PM - 11:00 PM	81.1	82.0	80.7
11:00 PM - 12:00 AM	81.1	82.7	80.8
Leq Average 8 hrs. (dB(A))	80.7		
Lmax (dB(A))		82.7	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			

Technical Management

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160004-1

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Sample Number	24118816-15		
Parameter	Noise (Leq 8 hrs.)		
Location	พื้นที่รอบๆระบบท่อไอดี : บริเวณ Gas Turbine Accessories System 2		
Measurement Date	Oct 24, 2024		
Measurement by	Chatchai Sukpia		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	80.4	82.3	79.7
01:00 AM - 02:00 AM	80.5	81.3	80.1
02:00 AM - 03:00 AM	80.3	81.5	79.8
03:00 AM - 04:00 AM	80.4	81.4	80.0
04:00 AM - 05:00 AM	80.7	81.9	80.2
05:00 AM - 06:00 AM	80.1	82.0	80.1
06:00 AM - 07:00 AM	81.0	82.6	80.3
07:00 AM - 08:00 AM	80.8	82.1	80.5
Leq Average 8 hrs. (dB(A))	80.6		
Lmax (dB(A))		82.6	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160005-1

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Sample Number	24118816-16		
Parameter	Noise (Leq 8 hrs.)		
Location	พื้นที่รอบๆระบบท่อไอดี : บริเวณ Gas Turbine Accessories System 2		
Measurement Date	Oct 24, 2024		
Measurement by	Chatchai Sukpia		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	80.4	82.0	79.7
09:00 AM - 10:00 AM	80.2	82.4	79.6
10:00 AM - 11:00 AM	79.6	80.6	79.4
11:00 AM - 12:00 PM	79.4	80.3	79.2
12:00 PM - 01:00 PM	79.3	80.5	78.9
01:00 PM - 02:00 PM	79.3	80.5	78.9
02:00 PM - 03:00 PM	79.5	81.9	79.3
03:00 PM - 04:00 PM	79.5	80.6	79.3
Leq Average 8 hrs. (dB(A))	79.7		
Lmax (dB(A))		82.4	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			
Standard : ป้ายกำกับระดับความดังเสียง : บริเวณรอบๆระบบท่อไอดี			

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## Analysis / Test Report

Client: Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160006-1

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Sample Number 24118816-17  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาไฟฟ้า : บริเวณ Gas Turbine Accessories System 2  
Measurement Date Oct 24, 2024  
Measurement by Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	79.7	80.6	79.4
05:00 PM - 06:00 PM	79.8	80.6	79.5
06:00 PM - 07:00 PM	79.8	80.4	79.6
07:00 PM - 08:00 PM	79.7	80.5	79.5
08:00 PM - 09:00 PM	79.9	80.6	79.6
09:00 PM - 10:00 PM	79.9	80.6	79.7
10:00 PM - 11:00 PM	80.7	82.1	80.2
11:00 PM - 12:00 AM	80.2	81.9	77.4
Leq Average 8 hrs. (dB(A))	80.0		
Lmax (dB(A))		82.1	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน ตามมาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน พ.ศ. ๒๕๖๓			

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## Analysis / Test Report

Client: Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160007-1

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Sample Number 24118816-18  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาไฟฟ้า : บริเวณ Gas Turbine Accessories System 2  
Measurement Date Oct 25, 2024  
Measurement by Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	75.7	79.0	74.7
01:00 AM - 02:00 AM	74.5	75.6	74.3
02:00 AM - 03:00 AM	74.4	75.3	74.2
03:00 AM - 04:00 AM	74.3	75.3	74.0
04:00 AM - 05:00 AM	74.3	75.0	74.1
05:00 AM - 06:00 AM	75.3	76.7	74.3
06:00 AM - 07:00 AM	75.5	79.5	74.2
07:00 AM - 08:00 AM	74.1	76.1	73.9
Leq Average 8 hrs. (dB(A))	74.8		
Lmax (dB(A))		79.5	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน ตามมาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน พ.ศ. ๒๕๖๓			

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## Analysis / Test Report

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399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160009-1

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Sample Number 24118816-19  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาไฟฟ้า : บริเวณ Steam Turbine Generator  
Measurement Date Oct 22, 2024  
Measurement by Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	75.7	78.8	74.2
09:00 AM - 10:00 AM	76.7	78.6	76.3
10:00 AM - 11:00 AM	76.4	78.1	76.3
11:00 AM - 12:00 PM	76.4	79.1	76.2
12:00 PM - 01:00 PM	76.2	78.0	75.9
01:00 PM - 02:00 PM	76.4	77.2	76.0
02:00 PM - 03:00 PM	77.0	77.6	76.8
03:00 PM - 04:00 PM	77.1	77.7	76.9
Leq Average 8 hrs. (dB(A))	76.5		
Lmax (dB(A))		79.1	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน ตามมาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน พ.ศ. ๒๕๖๓			

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P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160009-1

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Sample Number 24118816-20  
Parameter Noise (Leq 8 hrs.)  
Location บริเวณถนนสายพัฒนาไฟฟ้า : บริเวณ Steam Turbine Generator  
Measurement Date Oct 22, 2024  
Measurement by Chatchai Sukpa

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	77.0	77.7	76.8
05:00 PM - 06:00 PM	77.0	77.6	76.8
06:00 PM - 07:00 PM	76.9	77.6	76.8
07:00 PM - 08:00 PM	77.0	77.6	76.8
08:00 PM - 09:00 PM	76.9	77.7	76.8
09:00 PM - 10:00 PM	76.9	77.5	76.8
10:00 PM - 11:00 PM	76.9	77.5	76.7
11:00 PM - 12:00 AM	76.8	78.6	76.3
Leq Average 8 hrs. (dB(A))	76.9		
Lmax (dB(A))		78.6	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : มาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน ตามมาตรฐานการวัดและประเมินผลเสียงรบกวน (เสียง) จากเครื่องจักรกลการไฟฟ้าพลังความร้อน พ.ศ. ๒๕๖๓			

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160010-1

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Sample Number : 24118816-21  
Parameter : Noise (Leq 8 hrs)  
Location : บริเวณถนนสายมิตรภาพ : บริเวณ Steam Turbine Generator  
Measurement Date : Oct 23, 2024  
Measurement by : Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	75.1	78.3	74.6
01:00 AM - 02:00 AM	74.7	76.3	74.5
02:00 AM - 03:00 AM	74.8	76.0	74.6
03:00 AM - 04:00 AM	74.7	77.4	74.5
04:00 AM - 05:00 AM	74.8	76.8	74.5
05:00 AM - 06:00 AM	75.8	78.4	74.6
06:00 AM - 07:00 AM	74.5	77.8	74.4
07:00 AM - 08:00 AM	75.3	77.0	74.7
Leq Average 8 hrs. (dB(A))	75.0		
Lmax (dB(A))		78.4	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง วิธีการวัดและมาตรฐานการปล่อยเสียง ในการประกอบกิจการโรงงาน/ศูนย์ผลการวัดและมาตรฐานการปล่อยเสียง พ.ศ. ๒๕๖๔			



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160011-1

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Sample Number : 24118816-22  
Parameter : Noise (Leq 8 hrs)  
Location : บริเวณถนนสายมิตรภาพ : บริเวณ Steam Turbine Generator  
Measurement Date : Oct 23, 2024  
Measurement by : Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	76.2	80.1	74.5
09:00 AM - 10:00 AM	77.7	80.8	76.6
10:00 AM - 11:00 AM	76.6	78.6	76.5
11:00 AM - 12:00 PM	76.5	78.9	76.3
12:00 PM - 01:00 PM	76.2	77.1	75.8
01:00 PM - 02:00 PM	76.2	77.5	75.8
02:00 PM - 03:00 PM	76.5	77.1	76.3
03:00 PM - 04:00 PM	76.6	77.5	76.4
Leq Average 8 hrs. (dB(A))	76.6		
Lmax (dB(A))		80.8	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง วิธีการวัดและมาตรฐานการปล่อยเสียง ในการประกอบกิจการโรงงาน/ศูนย์ผลการวัดและมาตรฐานการปล่อยเสียง พ.ศ. ๒๕๖๔			

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160012-1

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Sample Number : 24118816-23  
Parameter : Noise (Leq 8 hrs)  
Location : บริเวณถนนสายมิตรภาพ : บริเวณ Steam Turbine Generator  
Measurement Date : Oct 23, 2024  
Measurement by : Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 PM - 05:00 PM	76.8	77.5	76.6
05:00 PM - 06:00 PM	76.8	77.5	76.6
06:00 PM - 07:00 PM	76.9	77.4	76.7
07:00 PM - 08:00 PM	76.9	77.6	76.7
08:00 PM - 09:00 PM	77.0	77.7	76.7
09:00 PM - 10:00 PM	76.9	77.6	76.7
10:00 PM - 11:00 PM	76.9	77.5	76.6
11:00 PM - 12:00 AM	76.9	79.7	76.5
Leq Average 8 hrs. (dB(A))	76.9		
Lmax (dB(A))		79.7	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง วิธีการวัดและมาตรฐานการปล่อยเสียง ในการประกอบกิจการโรงงาน/ศูนย์ผลการวัดและมาตรฐานการปล่อยเสียง พ.ศ. ๒๕๖๔			



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24118816  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160013-1

Page 1 of 1

Sample Number : 24118816-24  
Parameter : Noise (Leq 8 hrs)  
Location : บริเวณถนนสายมิตรภาพ : บริเวณ Steam Turbine Generator  
Measurement Date : Oct 24, 2024  
Measurement by : Chatchai Sukpia

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 AM - 01:00 AM	75.1	77.4	74.6
01:00 AM - 02:00 AM	74.8	75.5	74.6
02:00 AM - 03:00 AM	74.7	75.3	74.6
03:00 AM - 04:00 AM	74.8	75.3	74.6
04:00 AM - 05:00 AM	75.3	76.7	74.8
05:00 AM - 06:00 AM	74.8	75.5	74.6
06:00 AM - 07:00 AM	75.4	77.6	74.7
07:00 AM - 08:00 AM	74.7	77.6	74.5
Leq Average 8 hrs. (dB(A))	75.0		
Lmax (dB(A))		77.6	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง วิธีการวัดและมาตรฐานการปล่อยเสียง ในการประกอบกิจการโรงงาน/ศูนย์ผลการวัดและมาตรฐานการปล่อยเสียง พ.ศ. ๒๕๖๔			

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**Lot ID: 24118816**  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160014-1

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Sample Number	24110816-25			
Parameter	Noise (Leq 8 hrs.)			
Location	บริเวณถนนกมลสวัสดิ์ใกล้ : บริเวณ Steam Turbine Generator			
Measurement Date	Oct 24, 2024			
Measurement by	Chatchai Sukpia			

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:00 AM - 09:00 AM	75.7	79.0	74.6
09:00 AM - 10:00 AM	76.4	78.7	76.0
10:00 AM - 11:00 AM	76.1	76.7	76.0
11:00 AM - 12:00 PM	76.0	76.7	75.9
12:00 PM - 01:00 PM	75.6	76.5	75.3
01:00 PM - 02:00 PM	75.7	78.1	75.3
02:00 PM - 03:00 PM	75.8	76.4	75.6
03:00 PM - 04:00 PM	75.9	76.5	75.7
Leq Average 8 hrs. (dB(A))	75.9		
Lmax (dB(A))		78.0	
Standard (dB(A))	90	140	

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงสาธารณสุข เรื่อง มาตรฐานการของสภาพแวดล้อม  
ในการประกอบกิจการโรงงานเกี่ยวกับมาตรฐานระดับเสียงที่ควรห้าม ณ พ.ศ.๒๕๖๒

### Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

*Supt S.*  
Supt Salamteh  
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1-800-4-A-EMERSON

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNL2

**Lot ID: 24118816**  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160015-1

Page 1 of 1

Sample Number	2418816-26			
Parameter	Noise (Leq 8 hrs )			
Location	บริเวณรอบๆอาคารไฟฟ้าฯ : บริเวณ Steam Turbine Generator			
Measurement Date	Oct 24, 2024			
Measurement by	Chatchai Sukpla			
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))	
04:00 PM - 05:00 PM	76.0	76.7	75.9	
05:00 PM - 06:00 PM	76.1	76.8	76.0	
06:00 PM - 07:00 PM	76.3	76.9	76.2	
07:00 PM - 08:00 PM	76.3	76.9	76.2	
08:00 PM - 09:00 PM	76.4	77.0	76.3	
09:00 PM - 10:00 PM	76.4	77.1	76.3	
10:00 PM - 11:00 PM	76.4	77.1	76.3	
11:00 PM - 12:00 AM	76.4	78.2	76.0	
Leq Average 8 hrs. (dB(A))	76.3			
Lmax (dB(A))		78.2		
Standard (dB(A))	90	140		
Reference Method : ISO1996-1 and 1996-2				
Standard :	ประเทศไทยกำหนดมาตรฐาน (เป็น ขีดจำกัด) ของค่าการปล่อยเสียง			
	ในภาคประกอบ/กิจการโรงงานเกี่ยวกับสถานประกอบการที่มีลักษณะ ดังต่อไปนี้			

### Technical Management

Chonticha  
Chonticha Subongkoch  
Scientist (3)

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*Supot S.*  
Supot Samanteh  
Section Head

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

**Lot ID: 24118816**  
Date Received : Nov 04, 2024  
Date Reported : Nov 08, 2024  
Report Number: 3160016-1

Page 1 of 1

Sample Number	2411816-27			
Parameter	Noise (Leq 8 hrs.)			
Location	บริเวณรอบอาคารไฟฟ้า : บริเวณ Steam Turbine Generator			
Measurement Date	Oct 25, 2024			
Measurement by	Chatchai Sukpia			
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))	
12:00 AM - 01:00 AM	74.7	77.2	74.2	
01:00 AM - 02:00 AM	74.1	75.2	74.0	
02:00 AM - 03:00 AM	74.1	74.6	73.8	
03:00 AM - 04:00 AM	74.0	74.6	73.9	
04:00 AM - 05:00 AM	74.0	74.7	73.9	
05:00 AM - 06:00 AM	74.8	77.4	74.0	
06:00 AM - 07:00 AM	74.6	77.4	73.8	
07:00 AM - 08:00 AM	73.9	74.4	73.8	
Leq Average 8 hrs (dB(A))	74.3			
Lmax (dB(A))		77.4		
Standard (dB(A))	90	140		
Reference Method	: ISO1996-1 and 1996-2			
Standards	ประเทศไทยมาตรฐานการวัดและประเมินค่าการรบกวนทางเสียง ในการประกอบกิจการโรงงานและกิจการอุตสาหกรรมในอาคารพาณิชย์ พ.ศ. ๒๕๖๓			

### Technical Management

Chontichak  
Chonbcha Subongkoch  
Scientist (3)

Approved by \_\_\_\_\_

Supot Salamteh  
Section Head

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042  
Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-1

Page 1 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤400	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)  
โทรศัพท์ ๖-323-๙-9449

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรศัพท์ ๖-323-๙-9442

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042  
Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-1

Page 2 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfide *	mg/L	-	0.5	<0.5	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	31.9	≤45	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	600	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.6	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant (Expansion and Remaining Area after July 2011)

Sampling By : Paramet Sattayakun โทรศัพท์ ๖-323-๙-9476 , Samart Khumphee โทรศัพท์ ๖-204-๙-0084

Remark :

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

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)  
โทรศัพท์ ๖-323-๙-9449

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรศัพท์ ๖-323-๙-9442

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-2

Page 1 of 5

Sample Number	2466466-1					
Sampled Date	Jul 08, 2024 2:31 PM					
Sample Description	Wastewater					
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)					
Date Analysis Commenced	Jul 09, 2024					
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.26	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.004	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.11	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

*Sawitree N.*

Sawitree Noisangiam  
Manager

ทะเบียนเลขที่ ร-204-ก-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ร-204-ก-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-2

Page 2 of 5

Sample Number	2466466-1					
Sampled Date	Jul 08, 2024 2:31 PM					
Sample Description	Wastewater					
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)					
Date Analysis Commenced	Jul 09, 2024					
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Nickel	mg/L	0.0003	0.0005	0.002	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	0.0006	≤0.02	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	≤0.75	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.14	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Pesticides - Organochlorine Group</b>							
2,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

*Sawitree N.*

Sawitree Noisangiam  
Manager

ทะเบียนเลขที่ ร-204-ก-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ร-204-ก-0004

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## Analysis / Test Report



TESTING  
No.0009

Lot ID: 2466466

Date Received : Jul 08, 2024

Date Reported : Jul 26, 2024

Report Number : 3066338-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Page 3 of 5

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
4,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
4,4-DDE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
4,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Aldrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
alpha-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
beta-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Chlordane *	ug/L	0.02	0.04	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

*Savitree N.*

Savitree Noisangiam  
Manager  
ทะเบียนเลขที่ ว-204-ก-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ก-0004

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## Analysis / Test Report



TESTING  
No.0009

Lot ID: 2466466

Date Received : Jul 08, 2024

Date Reported : Jul 26, 2024

Report Number : 3066338-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Page 4 of 5

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
delta-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Dieldrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endosulfan I *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endosulfan II *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Heptachlor *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Heptachlor-Epoxyde *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

*Savitree N.*

Savitree Noisangiam  
Manager  
ทะเบียนเลขที่ ว-204-ก-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ก-0004

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14289-41/ EMAIL



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009  
Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-2

Page 5 of 5

Sample Number	2466466-1
Sampled Date	Jul 08, 2024 2:31 PM
Sample Description	Wastewater
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
Lindane (gamma-BHC) *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Methoxychlor *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-ว-9476 , Samart Khumplhee ทะเบียนเลขที่ ว-204-ว-0084

#### Remark :

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

Technical Management

Sawitree N.

Sawitree Noisangiam  
Manager

ทะเบียนเลขที่ ว-204-ว-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek  
Assistant General Manager

ทะเบียนเลขที่ ว-204-ว-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009  
Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-3

Page 1 of 2

Sample Number	2466466-1
Sampled Date	Jul 08, 2024 2:31 PM
Sample Description	Wastewater
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Iron	mg/L	0.003	0.005	0.18	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Pesticides - Organochlorine Group</b>							
alpha-Chlordane *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
gamma-Chlordane *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Hexachlorobenzene *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Mirex *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
<b>Water Testing</b>							
Anionic Surfactant as MBAS *	mg/L	0.015	0.05	0.05	≤30	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5540 B, C	Bangkok

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Approved by

Sawitree N.

Sawitree Noisangiam  
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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009  
**Lot ID: 2466466**  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-3

Page 2 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	171	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (D)	Rayong
Fluoride as F *	mg/L	0.06	0.2	0.6	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (D)	Rayong

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)  
Sampling By : Paramet Sattayakun , Samart Khumphlee

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



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

**Lot ID: 2466466**  
Date Received : Jul 08, 2024  
Date Reported : Jul 31, 2024  
Report Number : 3066338-4

Page 1 of 1

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Jul 11, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Gross alpha activity	Bq/L	0.018	0.063	Not Detected	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 7110 B	Bangkok
Gross beta activity	Bq/L	0.012	0.063	0.808 ± 0.047	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 7110 B	Bangkok

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)  
Note : Gross alpha activity and Gross beta activity analysis has been subcontracted to outsource lab.

Sampling By : Paramet Sattayakun , Samart Khumphlee  
Remark :  
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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Approved by

*Savitree N.*  
Savitree Noisangiam  
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Approved by

*Siriluk P.*  
Siriluk Bunnak  
Section Head

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-1

Sample Number 2466471-1  
Sampled Date Jul 08, 2024 2:14 PM  
Sample Description Wastewater  
Location บ่อกักน้ำพลัดเนิน (CT blowdown pond)  
Date Analysis Commenced Jul 08, 2024  
Condition of Sample Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	59	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	20	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	18	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ 7-323-ก-9446

Approved by

D. Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ 7-323-ก-9442

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-1

Sample Number 2466471-1  
Sampled Date Jul 08, 2024 2:14 PM  
Sample Description Wastewater  
Location บ่อกักน้ำพลัดเนิน (CT blowdown pond)  
Date Analysis Commenced Jul 08, 2024  
Condition of Sample Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	33.4	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2280	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.5	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ 7-323-ก-9476 , Samart Khumplee ทะเบียนเลขที่ 7-204-ก-0084

Remark :

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

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ 7-323-ก-9446

Approved by

D. Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ 7-323-ก-9442

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009  
Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-2

Page 1 of 5

Sample Number	2466471-1					
Sampled Date	Jul 08, 2024 2:14 PM					
Sample Description	Wastewater					
Location	บ่อกักน้ำพลั่วเก็บ (CT blowdown pond)					
Date Analysis Commenced	Jul 09, 2024					
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.02	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.94	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.01	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

*Sawitree N.*

Sawitree Noisangiam  
Manager  
ทะเบียนเลขที่ ร-204-ก-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ร-204-ก-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009  
Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-2

Page 2 of 5

Sample Number	2466471-1					
Sampled Date	Jul 08, 2024 2:14 PM					
Sample Description	Wastewater					
Location	บ่อกักน้ำพลั่วเก็บ (CT blowdown pond)					
Date Analysis Commenced	Jul 09, 2024					
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Nickel	mg/L	0.0003	0.0005	0.006	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	0.002	≤0.02	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	≤0.75	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.39	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Pesticides - Organochlorine Group</b>							
2,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

*Sawitree N.*

Sawitree Noisangiam  
Manager  
ทะเบียนเลขที่ ร-204-ก-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ร-204-ก-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009

Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-2

Page 3 of 5

Sample Number	2466471-1						
Sampled Date	Jul 08, 2024 2:14 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำพลอเนน (CT blowdown pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
4,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
4,4-DDE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
4,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Aldrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
alpha-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
beta-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Chlordane *	ug/L	0.02	0.04	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

*Savitree N.*

Savitree Noisangiam  
Manager

ทะเบียนเลขที่ ว-204-ว-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager

ทะเบียนเลขที่ ว-204-ว-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009

Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-2

Page 4 of 5

Sample Number	2466471-1						
Sampled Date	Jul 08, 2024 2:14 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำพลอเนน (CT blowdown pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
delta-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Dieldrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endosulfan I *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endosulfan II *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Heptachlor *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Heptachlor-Epoxyde *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

*Savitree N.*

Savitree Noisangiam  
Manager

ทะเบียนเลขที่ ว-204-ว-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager

ทะเบียนเลขที่ ว-204-ว-0004

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## Analysis / Test Report

TESTING  
No.0009

Lot ID: 2466471

Date Received : Jul 08, 2024

Date Reported : Jul 16, 2024

Report Number : 3021527-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Sample Number	2466471-1
Sampled Date	Jul 08, 2024 2:14 PM
Sample Description	Wastewater
Location	บ่อกักน้ำหลอเลน (CT blowdown pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
Lindane (gamma-BHC) *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Methoxychlor *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

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

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ 7-323-4-9476, Samart Khumplee ทะเบียนเลขที่ 7-204-4-0084

### Remark :

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

Page 5 of 5



## Analysis / Test Report

Lot ID: 2466471

Date Received : Jul 08, 2024

Date Reported : Jul 16, 2024

Report Number : 3021527-3

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Sample Number	2466471-1
Sampled Date	Jul 08, 2024 2:14 PM
Sample Description	Wastewater
Location	บ่อกักน้ำหลอเลน (CT blowdown pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	mmol/L	0.002	0.004	5.82	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mmol/L	0.002	0.004	2.26	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR		-	-	3.81	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mmol/L	0.002	0.004	10.8	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Pesticides - Organochlorine Group</b>							
alpha-Chlordane	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
gamma-Chlordane	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Hexachlorobenzene	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Mirex	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

### Water Testing

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Approved by

Sawitree N.  
Sawitree Noisangiam  
Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-3

Page 2 of 2

Sample Number	2466471-1						
Sampled Date	Jul 08, 2024 2:14 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำไหลเวียน (CT blowdown pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Chlorite	mg/L	0.05	0.1	1.11	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	7.1	≥4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Odour	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong

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

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

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*Sawitree N.*  
Sawitree Noisangiam  
Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 2480533  
Date Received : Aug 08, 2024  
Date Reported : Aug 16, 2024  
Report Number : 3055083-1

Page 1 of 1

Sample Number	2480533-1						
Sampled Date	Aug 08, 2024 2:10 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Aug 08, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.0	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	784	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

**Guideline :** Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)

**Sampling By :** Paramet Sattayakun ทะเบียนเลขที่ ว-323-ก-9476

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

Technical Management

*Photchana S.*  
Photchana Seeda  
Scientist (4)  
ทะเบียนเลขที่ ว-323-ก-9446

Approved by

*D. Changchon*  
Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ ว-323-ก-9442

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## Analysis / Test Report

TESTING  
No.0042

Lot ID: 2480537

Date Received : Aug 08, 2024

Date Reported : Aug 16, 2024

Report Number : 3055086-1

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number 2480537-1  
Sampled Date Aug 08, 2024 2:00 PM  
Sample Description Wastewater  
Location บ่อกักน้ำพลูเด็น (CT blowdown pond)  
Date Analysis Commenced Aug 08, 2024  
Condition of Sample Contained in two BOD bottles and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
pH at 25 degree C		-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong
Temperature *	Degree C	-	-	33.6	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2240	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	16	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Guideline (1) : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
Guideline (2) : Effluent standard for Pulp & Paper factories set by Notification of The Ministry of Industry dated November 05, B.E.2561 (2018).  
Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ร-323-จ-9476 , Samart Khumphlee ทะเบียนเลขที่ ร-204-จ-0084

### Remark :

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

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ร-323-จ-9446

Approved by

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ร-323-จ-9442

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## Analysis / Test Report

Lot ID: 2480537

Date Received : Aug 08, 2024

Date Reported : Aug 16, 2024

Report Number : 3055086-2

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Sample Number 2480537-1  
Sampled Date Aug 08, 2024 2:00 PM  
Sample Description Wastewater  
Location บ่อกักน้ำพลูเด็น (CT blowdown pond)  
Date Analysis Commenced Aug 09, 2024  
Condition of Sample Contained in two BOD bottles and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	mmol/L	0.002	0.004	5.92	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mmol/L	0.002	0.004	1.50	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR		-	0.10	4.40	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mmol/L	0.002	0.004	12.0	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Chlorite	mg/L	0.05	0.1	0.99	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	6.9	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

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

Sampling By : Paramet Sattayakun , Samart Khumphlee

### Remark :

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

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101364  
Date Received : Sep 05, 2024  
Date Reported : Sep 12, 2024  
Report Number : 3098624-1

Page 1 of 1

Sample Number	24101364-1						
Sampled Date	Sep 05, 2024 1:50 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Sep 05, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.6	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	224	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)

Sampling By : Surawit Narapong ทะเบียนเลขที่ ร-323-จ-0011

### Remark :

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

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ร-323-จ-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ร-323-จ-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101365  
Date Received : Sep 05, 2024  
Date Reported : Sep 13, 2024  
Report Number : 3098625-1

Page 1 of 1

Page 1 of 1

Sample Number	24101365-1						
Sampled Date	Sep 05, 2024 2:00 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำพลัดเนิน (CT blowdown pond)						
Date Analysis Commenced	Sep 05, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
pH at 25 degree C		-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Residual Free Chlorine *	mg/L	-	0.1	0.2	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong
Temperature *	Degree C	-	-	32.7	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1490	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Sampling By : Surawit Narapong ทะเบียนเลขที่ ร-323-จ-0011 , Samart Khumphlee ทะเบียนเลขที่ ร-204-จ-0084

### Remark :

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Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ร-323-จ-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ร-323-จ-0001

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## Analysis / Test Report



Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0009  
**Lot ID: 24101365**  
Date Received : Sep 05, 2024  
Date Reported : Sep 13, 2024  
Report Number : 3098625-2

Page 1 of 1

Sample Number	24101365-1						
Sampled Date	Sep 05, 2024 2:00 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำพลอยเงิน (CT blowdown pond)						
Date Analysis Commenced	Sep 06, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium *	mmol/L	0.002	0.004	4.37	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium *	mmol/L	0.002	0.004	1.30	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	4.00	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium *	mmol/L	0.002	0.004	9.52	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Chlorite *	mg/L	0.05	0.1	3.25	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	7.2	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

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

**Sampling By :** Surawit Narapong , Samart Khumphlee

**Remark :**

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

*Sawitree N.*

Sawitree Nolsangiam  
Manager

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## Analysis / Test Report



Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042  
**Lot ID: 24109298**  
Date Received : Oct 08, 2024  
Date Reported : Oct 15, 2024  
Report Number : 3117660-1

Page 1 of 1

Sample Number	24109298-1						
Sampled Date	Oct 08, 2024 2:05 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Oct 08, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C	-	-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	31.0	≤45	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	140	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline :** Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)

**Sampling By :** Surawit Narapong ทะเบียนเลขที่ ๖-323-๖-0011

**Remark :**

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

*Photchana S.*

Photchana Seeda  
Scientist (4)  
ทะเบียนเลขที่ ๖-323-๖-0028

Approved by

*D. Chongchon*

Dej Chongchon  
Senior Manager  
ทะเบียนเลขที่ ๖-323-๖-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24109300  
Date Received : Oct 08, 2024  
Date Reported : Oct 17, 2024  
Report Number : 3117661-1

Page 1 of 1

Sample Number	24109300-1						
Sampled Date	Oct 08, 2024 1:54 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำพลัดเบิน (CT blowdown pond)						
Date Analysis Commenced	Oct 08, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
pH at 25 degree C		-	-	8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-CI (F)	Rayong
Temperature *	Degree C	-	-	33.0	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1440	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	28	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

**Sampling By :** Surawit Narapong ทะเบียนเลขที่ 7-323-7-0011 , Samart Khumphlee ทะเบียนเลขที่ 7-204-7-0084

### Remark :

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Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ 7-323-7-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ 7-323-7-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0009  
Lot ID: 24109300  
Date Received : Oct 08, 2024  
Date Reported : Oct 17, 2024  
Report Number : 3117661-2

Page 1 of 1

Sample Number	24109300-1						
Sampled Date	Oct 08, 2024 1:54 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำพลัดเบิน (CT blowdown pond)						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA / USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium *	mmol/L	0.002	0.004	3.82	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium *	mmol/L	0.002	0.004	1.25	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *		-	-	3.66	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium *	mmol/L	0.002	0.004	8.23	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Chlorite *	mg/L	0.05	0.1	0.16	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	7.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong

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

**Sampling By :** Surawit Narapong , Samart Khumphlee

### Remark :

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24121216  
Date Received : Nov 08, 2024  
Date Reported : Nov 15, 2024  
Report Number : 3144988-1

Page 1 of 1

Sample Number	24121216-1
Sampled Date	Nov 08, 2024 2:45 PM
Sample Description	Wastewater
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)
Date Analysis Commenced	Nov 08, 2024
Condition of Sample	Contained in one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.6	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.7	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	208	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ร-323-ก-0051

#### Remark :

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Technical Management

Photchanas.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ร-323-ก-0028

Approved by

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ร-323-ก-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24121218  
Date Received : Nov 08, 2024  
Date Reported : Nov 16, 2024  
Report Number : 3144991-1

Page 1 of 1

Sample Number	24121218-1
Sampled Date	Nov 08, 2024 2:30 PM
Sample Description	Wastewater
Location	บ่อกักน้ำหล่น (CT blowdown pond)
Date Analysis Commenced	Nov 08, 2024
Condition of Sample	Contained in two BOD bottles and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
pH at 25 degree C		-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Temperature *	Degree C	-	-	32.3	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	600	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ร-323-ก-0051 , Samart Khumplhee ทะเบียนเลขที่ ร-204-ก-0084

#### Remark :

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

Technical Management

Photchanas.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ร-323-ก-0028

Approved by

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ร-323-ก-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24121218  
Date Received : Nov 08, 2024  
Date Reported : Nov 16, 2024  
Report Number : 3144991-2

Page 1 of 1

Sample Number	24121218-1						
Sampled Date	Nov 08, 2024 2:30 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำไหลบ่า (CT blowdown pond)						
Date Analysis Commenced	Nov 09, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	mmol/L	0.002	0.004	1.75	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mmol/L	0.002	0.004	0.35	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR	-	-	0.10	2.50	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mmol/L	0.002	0.004	3.62	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Chlorite	mg/L	0.05	0.1	Not Detected	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	7.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong

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

**Sampling By :** Paramet Sattayakun , Samart Khumplhee

Remark :

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Approved by

Photchana S.

Photchana Seeda  
Scientist (4)

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042  
Lot ID: 24132713  
Date Received : Dec 03, 2024  
Date Reported : Dec 11, 2024  
Report Number : 3173422-1

Page 1 of 1

Sample Number	24132713-1						
Sampled Date	Dec 03, 2024 2:13 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งรวม (Waste water holding pond)						
Date Analysis Commenced	Dec 03, 2024						
Condition of Sample	Contained in one amber glass bottle and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.2	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.6	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	154	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline :** Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant.(Expansion and Remaining Area after July 2011)

**Sampling By :** Surawit Narapong ทะเบียนเลขที่ ร-323-จ-0011

Remark :

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Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ร-323-จ-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ร-323-จ-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24132722  
Date Received : Dec 03, 2024  
Date Reported : Dec 12, 2024  
Report Number : 3173430-1

Page 1 of 1

Sample Number	24132722-1						
Sampled Date	Dec 03, 2024 1:58 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำผกผัน (CT blowdown pond)						
Date Analysis Commenced	Dec 03, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA/USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
pH at 25 degree C		-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Temperature *	Degree C	-	-	28.5	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2360	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Surawit Narapong ทะเบียนเลขที่ ร-323-ร-0011 , Samart Khumphlee ทะเบียนเลขที่ ร-204-ร-0084

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Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)  
ทะเบียนเลขที่ ร-323-ร-0028

Approved by

Dej Changchon

Senior Manager  
ทะเบียนเลขที่ ร-323-ร-0001

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## Analysis / Test Report

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399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132722  
Date Received : Dec 03, 2024  
Date Reported : Dec 12, 2024  
Report Number : 3173430-2

Page 1 of 1

Sample Number	24132722-1						
Sampled Date	Dec 03, 2024 1:58 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำผกผัน (CT blowdown pond)						
Date Analysis Commenced	Dec 04, 2024						
Condition of Sample	Contained in two BOD bottles and four plastic bottles. Sample containers comply to pretreatment - preservation standards (APHA/USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	mmol/L	0.002	0.004	5.43	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mmol/L	0.002	0.004	1.60	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR		-	0.10	5.13	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mmol/L	0.002	0.004	13.6	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Chlorite	mg/L	0.05	0.1	0.40	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	6.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong

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

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113533-1

Page 1 of 3

Sample Number	24101366-1						
Sampled Date	Sep 05, 2024 3:15 PM						
Sample Description	Surface water						
Location	สถานีที่ 1 คลองนาบกรรอก เหนือจุดระบายน้ำทิ้งของเขตประกอบการฯ 1 กม.						
Date Analysis Commenced	Sep 05, 2024						
Condition of Sample	Contained in two BOD bottles and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium *	mmol/L	0.002	0.004	0.16	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium *	mmol/L	0.002	0.004	0.09	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	1.88	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium *	mmol/L	0.002	0.004	0.93	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.37	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH3 (F)	Rayong
BOD *	mg/L	-	2	<2.0	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O C	Rayong
Chlorite *	mg/L	0.05	0.1	Not Detected	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Chlorophyll a *	mg/m3	-	1	<1	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 10200 H	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	6.0	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113533-1

Page 2 of 3

Sample Number	24101366-1						
Sampled Date	Sep 05, 2024 3:15 PM						
Sample Description	Surface water						
Location	สถานีที่ 1 คลองนาบกรรอก เหนือจุดระบายน้ำทิ้งของเขตประกอบการฯ 1 กม.						
Date Analysis Commenced	Sep 05, 2024						
Condition of Sample	Contained in two BOD bottles and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Nitrate as N *	mg/L	0.015	0.05	0.33	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Oil & Grease *	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C	-	-	-	6.9	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phosphate as P *	mg/L	0.002	0.005	0.070	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-P (E)	Rayong
Temperature *	Degree C	-	-	30.0	n'	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	112	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N *	mg/L	-	1.0	<1.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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Senior Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113533-1

Page 3 of 3

Sampling By : Surawit Narapong , Samart Khumphlee

### Remark :

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113534-1

Page 1 of 3

Sample Number 24101366-2  
Sample Date Sep 05, 2024 2:55 PM  
Sample Description Surface water  
Location สถานี 2 คลองนาบกรรอก จดทะเบียนน้ำทิ้งของเขตประกอบการ  
Date Analysis Commenced Sep 05, 2024  
Condition of Sample Contained in two BOD bottles and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium *	mmol/L	0.002	0.004	0.68	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium *	mmol/L	0.002	0.004	0.11	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *		-	0.10	1.77	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium *	mmol/L	0.002	0.004	1.57	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.41	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH3 (F)	Rayong
BOD *	mg/L	-	2	<2.0	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O C	Rayong
Chlorite *	mg/L	0.05	0.1	0.10	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Chlorophyll a *	mg/m3	-	1	1.60	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 10200 H	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	5.5	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong

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## Analysis / Test Report



Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113534-1

Page 2 of 3

Sample Number 24101366-2  
Sampled Date Sep 05, 2024 2:55 PM  
Sample Description Surface water  
Location สถานี 2 คลองนากระรอก จุติระนาบนำทิ้งของเขตประกอบการฯ  
Date Analysis Commenced Sep 05, 2024  
Condition of Sample Contained in two BOD bottles and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Nitrate as N *	mg/L	0.015	0.05	2.77	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Oil & Grease *	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	6.6	5.0-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phosphate as P *	mg/L	0.002	0.005	0.570	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-P (E)	Rayong
Temperature *	Degree C	-	-	30.2	n'	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	238	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N *	mg/L	-	1.0	1.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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Approved by

*Dej Changchon*

Dej Changchon  
Senior Manager

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## Analysis / Test Report



Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113534-1

Page 3 of 3

Sampling By : Surawit Narapong , Samart Khumphlee

Remark :

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

Approved by

*Dej Changchon*

Dej Changchon  
Senior Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113535-1

Page 1 of 3

Sample Number	24101366-3						
Sampled Date	Sep 05, 2024 2:35 PM						
Sample Description	Surface water						
Location	สถานีที่ 3 คลองนาบกรรอก ทำนบจุลระนายน้ำทั้งของเขตประกอบการฯ 1.5 กม.						
Date Analysis Commenced	Sep 05, 2024						
Condition of Sample	Contained in two BOD bottles and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium *	mmol/L	0.002	0.004	0.53	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium *	mmol/L	0.002	0.004	0.10	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	1.60	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium *	mmol/L	0.002	0.004	1.27	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
<b>Water Testing</b>							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.23	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH3 (F)	Rayong
BOD *	mg/L	-	2	2.1	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O C	Rayong
Chlorite *	mg/L	0.05	0.1	<0.10	No Standard	In-house method : STM 04-061 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Chlorophyll a *	mg/m3	-	1	1.07	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 10200 H	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	6.8	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong

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Senior Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2



TESTING  
No.0042  
Lot ID: 24101366  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113535-1

Page 2 of 3

Sample Number	24101366-3						
Sampled Date	Sep 05, 2024 2:35 PM						
Sample Description	Surface water						
Location	สถานีที่ 3 คลองนาบกรรอก ทำนบจุลระนายน้ำทั้งของเขตประกอบการฯ 1.5 กม.						
Date Analysis Commenced	Sep 05, 2024						
Condition of Sample	Contained in two BOD bottles and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Nitrate as N *	mg/L	0.015	0.05	2.62	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Oil & Grease *	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C	-	-	-	6.8	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phosphate as P *	mg/L	0.002	0.005	0.390	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-P (E)	Rayong
Temperature *	Degree C	-	-	31.2	n <sup>1</sup>	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	188	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N *	mg/L	-	1.0	<1.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	15	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

TESTING  
No.0042  
**Lot ID: 24101366**  
Date Received : Sep 05, 2024  
Date Reported : Sep 25, 2024  
Report Number : 3113535-1

Page 3 of 3

**Sampling By :** Surawit Narapong , Samart Khumphlee

**Remark :**

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

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24101369  
Date Received : Sep 24, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3126341-1

Page 1 of 1

Sample Number	24101369-1
Sampled Date	Sep 24, 2024 10:40 AM
Sample Description	Groundwater
Location	บ่อสังเกตการณ์ 1
Date Analysis Commenced	Sep 24, 2024
Condition of Sample	Contained in one amber glass bottle, two BOD bottles and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	4.8	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรดหรือด่างไปเกินเพียมหรือค่าที่เฝ้าระวังจากดเินตัวอย่างบ่อน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเินตัวอย่างบ่อน้ำที่ไม่เป็นบ่อสังเกตการณ์หรือการเฝ้าระวังน้ำใต้ดินในที่ โดยค่าที่เฝ้าระวังเปลี่ยนแปลงจะส่งไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์เฝ้าระวังสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่เฝ้าระวังคือ 6.5-9.2

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ๖-323-๖-0051

Remark :

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

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ๖-323-๖-0028

Approved by

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ๖-323-๖-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24101369  
Date Received : Sep 24, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3126341-2

Page 1 of 1

Sample Number	24101369-1
Sampled Date	Sep 24, 2024 10:40 AM
Sample Description	Groundwater
Location	บ่อสังเกตการณ์ 1
Date Analysis Commenced	Sep 24, 2024
Condition of Sample	Contained in one amber glass bottle, two BOD bottles and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Dissolved Oxygen	mg/L	-	0.1	3.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Oil & Grease	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
Temperature	Degree C	-	-	29.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	114	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Paramet Sattayakun

Remark :

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

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24101369  
Date Received : Sep 24, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3126342-1

Page 1 of 1

Sample Number	24101369-2
Sampled Date	Sep 24, 2024 2:30 PM
Sample Description	Groundwater
Location	บ่อบึงเกษตรการ 2
Date Analysis Commenced	Sep 24, 2024
Condition of Sample	Contained in one amber glass bottle, two BOD bottles and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	4.9	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

**Guideline :** Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

(I): ในกรณีที่มีการปนเปื้อนของกรรหรือต่างให้เปรียบเทียบผลวิเคราะห์ค่าที่ตรวจจากจุดเก็บตัวอย่างบ่อบึงน้ำที่ใช้ในการติดตามตรวจสอบการปนเปื้อนกับผลวิเคราะห์จากจุดเก็บตัวอย่างบ่อบึงน้ำที่ไม่เป็นบ่อบึงซึ่งมีทิศทางการไหลของน้ำใต้ดินในพื้นที่ โดยค่าวิเคราะห์ที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อนุกรมการค่าเกณฑ์ของโมเดลสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่ในบ่อบึงคือ 6.5-9.2

**Sampling By :** Paramet Sattayakun ทะเบียนเลขที่ ๖-323-๖-0051

Remark :

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

Technical Management

**Photchana S.**

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ๖-323-๖-0028

Approved by

**D. Changchon**

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ๖-323-๖-0001

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24101369  
Date Received : Sep 24, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3126342-2

Page 1 of 1

Sample Number	24101369-2
Sampled Date	Sep 24, 2024 2:30 PM
Sample Description	Groundwater
Location	บ่อบึงเกษตรการ 2
Date Analysis Commenced	Sep 24, 2024
Condition of Sample	Contained in one amber glass bottle, two BOD bottles and two plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
Dissolved Oxygen	mg/L	-	0.1	3.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Oil & Grease	mg/L	-	3	<3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
Temperature	Degree C	-	-	30.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	72	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline :** Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

**Sampling By :** Paramet Sattayakun

Remark :

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

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24101346

Date Received : Sep 12, 2024

Date Reported : Sep 16, 2024

Report Number: 3112503-1

Page 1 of 1

Sample Number	24101346-1
Parameter	Noise (Leq 8 hrs.)
Location	บริเวณ Cooling Tower
Measurement Date	Sep 11, 2024
Measurement by	Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:15 AM - 10:15 AM	78.2	79.8	78.1
10:15 AM - 11:15 AM	78.1	78.5	78.0
11:15 AM - 12:15 PM	78.1	78.5	78.0
12:15 PM - 01:15 PM	78.3	82.2	78.1
01:15 PM - 02:15 PM	78.4	79.6	78.3
02:15 PM - 03:15 PM	78.5	78.8	78.4
03:15 PM - 04:15 PM	78.4	78.7	78.3
04:15 PM - 05:15 PM	78.4	78.7	78.3

Leq Average 8 hrs. (dB(A)) 78.3  
 Lmax (dB(A)) 82.2  
 Standard (dB(A)) 90  
 Reference Method : ISO1996-1 and 1996-2  
 Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24101346

Date Received : Sep 12, 2024

Date Reported : Sep 16, 2024

Report Number: 3112504-1

Page 1 of 1

Sample Number	24101346-2
Parameter	Noise (Leq 8 hrs.)
Location	บริเวณ Boiler Feed Pump
Measurement Date	Sep 11, 2024
Measurement by	Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:08 AM - 10:08 AM	83.9	85.1	83.7
10:08 AM - 11:08 AM	83.9	84.7	83.7
11:08 AM - 12:08 PM	83.7	84.4	83.4
12:08 PM - 01:08 PM	83.3	84.8	83.0
01:08 PM - 02:08 PM	84.1	84.9	83.9
02:08 PM - 03:08 PM	84.1	84.7	83.9
03:08 PM - 04:08 PM	84.1	84.9	84.0
04:08 PM - 05:08 PM	84.1	85.6	83.9

Leq Average 8 hrs. (dB(A)) 83.9  
 Lmax (dB(A)) 85.6  
 Standard (dB(A)) 90  
 Reference Method : ISO1996-1 and 1996-2  
 Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
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 Scientist (3)

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24101346**  
**Date Received :** Sep 12, 2024  
**Date Reported :** Sep 16, 2024  
**Report Number:** 3112505-1

Page 1 of 1

<b>Sample Number</b>	24101346-3		
<b>Parameter</b>	Noise (Leq 8 hrs.)		
<b>Location</b>	บริเวณ Gas Turbine Accessories System 1		
<b>Measurement Date</b>	Sep 11, 2024		
<b>Measurement by</b>	Norranon Tathongkham		
	Time	Leq (dB(A))	Lmax (dB(A))
	09:05 AM - 10:05 AM	80.0	81.6
	10:05 AM - 11:05 AM	79.7	80.4
	11:05 AM - 12:05 PM	79.6	80.3
	12:05 PM - 01:05 PM	79.8	82.2
	01:05 PM - 02:05 PM	80.5	81.8
	02:05 PM - 03:05 PM	80.7	81.9
	03:05 PM - 04:05 PM	80.4	81.8
	04:05 PM - 05:05 PM	80.2	81.6
	Leq Average 8 hrs. (dB(A))	80.1	
	Lmax (dB(A))		82.2
	Standard (dB(A))	90	140
	Reference Method : ISO1996-1 and 1996-2		
	Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖		



## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24101346**  
**Date Received :** Sep 12, 2024  
**Date Reported :** Sep 16, 2024  
**Report Number:** 3112506-1

Page 1 of 1

<b>Sample Number</b>	24101346-4		
<b>Parameter</b>	Noise (Leq 8 hrs.)		
<b>Location</b>	บริเวณ Gas Turbine Accessories System 2		
<b>Measurement Date</b>	Sep 11, 2024		
<b>Measurement by</b>	Norranon Tathongkham		
	Time	Leq (dB(A))	Lmax (dB(A))
	09:07 AM - 10:07 AM	78.2	79.9
	10:07 AM - 11:07 AM	78.3	79.6
	11:07 AM - 12:07 PM	78.1	79.3
	12:07 PM - 01:07 PM	77.8	81.5
	01:07 PM - 02:07 PM	78.3	80.1
	02:07 PM - 03:07 PM	78.0	79.3
	03:07 PM - 04:07 PM	78.3	79.9
	04:07 PM - 05:07 PM	78.1	80.2
	Leq Average 8 hrs. (dB(A))	78.1	
	Lmax (dB(A))		81.5
	Standard (dB(A))	90	140
	Reference Method : ISO1996-1 and 1996-2		
	Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖		

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399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24101346**  
Date Received : Sep 12, 2024  
Date Reported : Sep 16, 2024  
Report Number: 3112507-1

Page 1 of 1

<b>Sample Number</b>	24101346-5		
<b>Parameter</b>	Noise (Leq 8 hrs.)		
<b>Location</b>	บริเวณ Steam Turbine Generator		
<b>Measurement Date</b>	Sep 11, 2024		
<b>Measurement by</b>	Norranon Tathongkham		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:10 AM - 10:10 AM	77.1	77.9	76.9
10:10 AM - 11:10 AM	77.1	77.8	76.9
11:10 AM - 12:10 PM	76.9	77.6	76.7
12:10 PM - 01:10 PM	76.8	82.4	76.5
01:10 PM - 02:10 PM	77.3	78.1	77.1
02:10 PM - 03:10 PM	77.2	77.8	77.1
03:10 PM - 04:10 PM	77.2	77.9	77.0
04:10 PM - 05:10 PM	77.2	78.1	77.0
Leq Average 8 hrs. (dB(A))	77.1		
Lmax (dB(A))		82.4	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			



## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24101346**  
Date Received : Sep 12, 2024  
Date Reported : Sep 16, 2024  
Report Number: 3112508-1

Page 1 of 1

<b>Sample Number</b>	24101346-6		
<b>Parameter</b>	Noise (Leq 8 hrs.)		
<b>Location</b>	บริเวณ Steam Turbine Lube Oil Skid		
<b>Measurement Date</b>	Sep 11, 2024		
<b>Measurement by</b>	Norranon Tathongkham		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:13 AM - 10:13 AM	79.5	80.3	79.3
10:13 AM - 11:13 AM	79.5	80.1	79.3
11:13 AM - 12:13 PM	79.5	80.3	79.4
12:13 PM - 01:13 PM	79.5	81.0	79.3
01:13 PM - 02:13 PM	79.4	80.6	79.2
02:13 PM - 03:13 PM	79.4	80.2	79.2
03:13 PM - 04:13 PM	79.2	79.9	78.9
04:13 PM - 05:13 PM	78.8	80.3	78.5
Leq Average 8 hrs. (dB(A))	79.4		
Lmax (dB(A))		81.0	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24132570**  
**Date Received :** Dec 17, 2024  
**Date Reported :** Dec 20, 2024  
**Report Number:** 3198315-1

Page 1 of 1

<b>Sample Number</b>	24132570-1		
<b>Parameter</b>	Noise (Leq 8 hrs.)		
<b>Location</b>	บริเวณ Cooling Tower		
<b>Measurement Date</b>	Dec 16, 2024		
<b>Measurement by</b>	Norranon Tathongkham		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:08 AM - 10:08 AM	75.2	81.3	75.0
10:08 AM - 11:08 AM	75.2	75.8	75.1
11:08 AM - 12:08 PM	76.2	80.1	75.1
12:08 PM - 01:08 PM	76.4	81.7	76.2
01:08 PM - 02:08 PM	76.4	83.2	76.2
02:08 PM - 03:08 PM	76.5	78.3	76.3
03:08 PM - 04:08 PM	76.5	79.8	76.3
04:08 PM - 05:08 PM	76.4	77.4	76.3
Leq Average 8 hrs. (dB(A))	76.1		
Lmax (dB(A))		83.2	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๖๖			



## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24132570**  
**Date Received :** Dec 17, 2024  
**Date Reported :** Dec 20, 2024  
**Report Number:** 3198316-1

Page 1 of 1

<b>Sample Number</b>	24132570-2		
<b>Parameter</b>	Noise (Leq 8 hrs.)		
<b>Location</b>	บริเวณ Boiler Feed Pump		
<b>Measurement Date</b>	Dec 16, 2024		
<b>Measurement by</b>	Norranon Tathongkham		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:02 AM - 11:02 AM	80.8	82.0	80.2
11:02 AM - 12:02 PM	80.1	80.9	79.9
12:02 PM - 01:02 PM	81.9	88.3	78.1
01:02 PM - 02:02 PM	81.2	83.4	80.9
02:02 PM - 03:02 PM	81.1	81.8	80.9
03:02 PM - 04:02 PM	81.2	82.0	81.0
04:02 PM - 05:02 PM	81.2	81.9	81.0
05:02 PM - 06:02 PM	81.2	81.9	81.0
Leq Average 8 hrs. (dB(A))	81.1		
Lmax (dB(A))		88.3	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๖๖			

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132570  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3198317-1

Page 1 of 1

Sample Number 24132570-3  
Parameter Noise (Leq 8 hrs.)  
Location มังกร Gas Turbine Accessories System 1  
Measurement Date Dec 16, 2024  
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:04 AM - 11:04 AM	73.7	75.8	73.2
11:04 AM - 12:04 PM	73.5	75.8	73.0
12:04 PM - 01:04 PM	74.9	77.0	74.3
01:04 PM - 02:04 PM	75.6	77.0	74.7
02:04 PM - 03:04 PM	75.8	77.1	75.1
03:04 PM - 04:04 PM	75.7	77.0	75.2
04:04 PM - 05:04 PM	75.3	76.8	74.9
05:04 PM - 06:04 PM	75.2	76.7	74.8

Leq Average 8 hrs. (dB(A)) 75.0  
Lmax (dB(A)) 77.1  
Standard (dB(A)) 90  
Reference Method : ISO1996-1 and 1996-2  
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132570  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3198318-1

Page 1 of 1

Sample Number 24132570-4  
Parameter Noise (Leq 8 hrs.)  
Location มังกร Gas Turbine Accessories System 2  
Measurement Date Dec 16, 2024  
Measurement by Norranon Tathongkham

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:38 AM - 10:38 AM	77.0	79.1	76.5
10:38 AM - 11:38 AM	76.8	79.1	76.3
11:38 AM - 12:38 PM	78.2	80.3	77.6
12:38 PM - 01:38 PM	78.9	80.3	78.0
01:38 PM - 02:38 PM	79.1	80.4	78.4
02:38 PM - 03:38 PM	79.0	80.3	78.5
03:38 PM - 04:38 PM	78.6	80.1	78.2
04:38 PM - 05:38 PM	78.5	80.0	78.1

Leq Average 8 hrs. (dB(A)) 78.3  
Lmax (dB(A)) 80.4  
Standard (dB(A)) 90  
Reference Method : ISO1996-1 and 1996-2  
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
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S:\Reports\_Air Noise rpt ( 9 41AM)



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132570  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3198319-1

Page 1 of 1

Sample Number	24132570-5		
Parameter	Noise (Leq 8 hrs.)		
Location	บริเวณ Steam Turbine Generator		
Measurement Date	Dec 16, 2024		
Measurement by	Norranon Tathongkham		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:51 AM - 10:51 AM	75.6	76.7	75.3
10:51 AM - 11:51 AM	75.7	76.5	75.5
11:51 AM - 12:51 PM	78.4	84.8	75.5
12:51 PM - 01:51 PM	78.5	82.4	77.7
01:51 PM - 02:51 PM	76.2	77.3	75.9
02:51 PM - 03:51 PM	76.3	77.1	76.1
03:51 PM - 04:51 PM	79.0	85.4	76.1
04:51 PM - 05:51 PM	79.1	83.0	78.3
Leq Average 8 hrs. (dB(A))	77.6		
Lmax (dB(A))		85.4	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132570  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3198320-1

Page 1 of 1

Sample Number	24132570-6		
Parameter	Noise (Leq 8 hrs.)		
Location	บริเวณ Steam Turbine Lube Oil Skid		
Measurement Date	Dec 16, 2024		
Measurement by	Norranon Tathongkham		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:49 AM - 10:49 AM	74.8	76.3	74.6
10:49 AM - 11:49 AM	74.9	76.4	74.7
11:49 AM - 12:49 PM	75.4	77.0	74.9
12:49 PM - 01:49 PM	75.5	80.2	74.7
01:49 PM - 02:49 PM	75.1	77.0	74.7
02:49 PM - 03:49 PM	75.0	77.3	74.6
03:49 PM - 04:49 PM	75.1	77.5	74.7
04:49 PM - 05:49 PM	74.9	76.9	74.5
Leq Average 8 hrs. (dB(A))	75.1		
Lmax (dB(A))		80.2	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			

Technical Management

Chontichak  
Chonticha Subongkoch  
Scientist (3)

Approved by

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24100662

Date Received : Sep 12, 2024

Date Reported : Sep 18, 2024

Report Number: 3098607-1

Page 1 of 4

Sample Number 24100662-1  
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)  
Measurement Date Sep 11, 2024  
Measurement by Norranon Tathongkham  
Location ปรังษิตงาน 1 พื้นที่ (ชล-นามสกุล ปรังษิตงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	29.3	27.2	34.8	32.6
Average (WBGT)		29.3			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

### Guideline:

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



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location : GNLL2

Lot ID: 24100662

Date Received : Sep 12, 2024

Date Reported : Sep 18, 2024

Report Number: 3098607-1

Page 2 of 4

Sample Number 24100662-2  
Parameter Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)  
Measurement Date Sep 11, 2024  
Measurement by Norranon Tathongkham  
Location ปรังษิตงาน 1 พื้นที่ (ชล-นามสกุล ปรังษิตงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณท่อส่งไอน้ำ	120	29.6	27.6	35.0	32.9
Average (WBGT)		29.6			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

### Guideline:

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

Technical Management

Supot Salamteh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

Technical Management

Supot Salamteh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24100662**  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 3098607-1

Page 3 of 4

Sample Number	24100662-3				
Parameter	Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)				
Measurement Date	Sep 11, 2024				
Measurement by	Norranon Tathongkham				
Location	อุปกรณ์ใช้งาน 1 พื้นที่ (สถานี-นาฬิกาสถิต อุปกรณ์ใช้งาน : - แอมป์ : -)				
Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
เครื่อง Generator	120	30.0	27.9	35.5	33.6
Average (WBGT)		30.0			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

### Guideline:

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

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24100662**  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 3098607-1

Page 4 of 4

Sample Number	24100662-4				
Parameter	Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)				
Measurement Date	Sep 11, 2024				
Measurement by	Norranon Tathongkham				
Location	อุปกรณ์ใช้งาน 1 พื้นที่ (สถานี-นาฬิกาสถิต อุปกรณ์ใช้งาน : - แอมป์ : -)				
Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
เครื่อง Gas Turbine	120	31.0	28.2	39.7	33.6
Average (WBGT)		31.0			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

### Guideline:

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

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24132571**  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3173132-1

Page 1 of 4

**Sample Number** 24132571-1  
**Parameter** Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)  
**Measurement Date** Dec 16, 2024  
**Measurement by** Noranon Tathongkham  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	27.8	25.2	33.7	33.0
Average (WBGT)		27.8			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

### Guideline:

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

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24132571**  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3173132-1

Page 2 of 4

**Sample Number** 24132571-2  
**Parameter** Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)  
**Measurement Date** Dec 16, 2024  
**Measurement by** Noranon Tathongkham  
**Location** ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณหอกลั่นแย่งไอน้ำ	120	27.5	25.1	33.3	33.1
Average (WBGT)		27.5			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

### Guideline:

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

Technical Management

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Section Head

Approved by

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## Analysis / Test Report

**Client :** Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24132571**  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3173132-1

Page 3 of 4

Sample Number	24132571-3				
Parameter	Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)				
Measurement Date	Dec 16, 2024				
Measurement by	Norranon Tathongkham				
Location	ปลั๊กเครื่อง 1 ฟันที่ (ปลั๊ก-นาฬิกาลูกตุ้มปลั๊กเครื่อง : - แหวน : -)				
Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
เครื่อง Generator	120	25.7	23.2	31.6	31.0
Average (WBGT)		25.7			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

### Guideline:

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

  
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Section Head

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## Analysis / Test Report

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**P/O :** 4210901926  
**Project Name :** Monitoring EIA  
**Project Location :** GNLL2

**Lot ID: 24132571**  
Date Received : Dec 17, 2024  
Date Reported : Dec 20, 2024  
Report Number: 3173132-1

Page 4 of 4

Sample Number	24132571-4				
Parameter	Heat Stress (Sampling Time : 10.00 AM - 12.00 PM)				
Measurement Date	Dec 16, 2024				
Measurement by	Norranon Tathongkham				
Location	ปลั๊กเครื่อง 1 ฟันที่ (ปลั๊ก-นาฬิกาลูกตุ้มปลั๊กเครื่อง : - แหวน : -)				
Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
เครื่อง Gas Turbine	120	23.9	21.6	29.3	29.1
Average (WBGT)		23.9			
Guideline WBGT (°C)		34.0			

**Reference Method :** Wet Bulb Globe Temperature

### Guideline:

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

  
Supot Salamteh  
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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (1)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (1)-1

Page 3 of 4

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Administration Building : Ground Floor : Copy Machine	24100960 (1)-1	11-Sep-24	Day time	1	537	-	300-400	-	Pass
		24100960 (1)-2	11-Sep-24	Night time	1	506	-	300-400	-	Pass
2	Area : Administration Building : Ground Floor : Document Room	24100960 (1)-3	11-Sep-24	Day time	1	556	513	150	300	Pass
		24100960 (1)-4	11-Sep-24	Day time	2	470	-	-	-	-
		24100960 (1)-5	11-Sep-24	Night time	1	523	505	150	300	Pass
		24100960 (1)-6	11-Sep-24	Night time	2	488	-	-	-	-
3	Area : Administration Building : Ground Floor : Electrical Control Room	24100960 (1)-7	11-Sep-24	Day time	1	540	573	100	200	Pass
		24100960 (1)-8	11-Sep-24	Day time	2	606	-	-	-	-
		24100960 (1)-9	11-Sep-24	Night time	1	533	538	100	200	Pass
		24100960 (1)-10	11-Sep-24	Night time	2	542	-	-	-	-
4	Spot : Administration Building : Ground Floor : Environment Health & Safety Manager Room	24100960 (1)-11	11-Sep-24	Day time	1	436	-	400-500	-	Pass
		24100960 (1)-12	11-Sep-24	Night time	1	432	-	400-500	-	Pass
5	Area : Administration Building : Ground Floor : First Aid Room	24100960 (1)-13	11-Sep-24	Day time	1	1,910	1341	150	300	Pass
		24100960 (1)-14	11-Sep-24	Day time	2	772	-	-	-	-
		24100960 (1)-15	11-Sep-24	Night time	1	615	618	150	300	Pass
		24100960 (1)-16	11-Sep-24	Night time	2	620	-	-	-	-
6	Spot : Administration Building : Ground Floor : Human resource & Admin Manager Room	24100960 (1)-17	11-Sep-24	Day time	1	597	-	400-500	-	Pass
		24100960 (1)-18	11-Sep-24	Night time	1	431	-	400-500	-	Pass
7	Area : Administration Building : Ground Floor : Meeting Room 1	24100960 (1)-19	11-Sep-24	Day time	1	743	786	150	300	Pass
		24100960 (1)-20	11-Sep-24	Day time	2	660	-	-	-	-
		24100960 (1)-21	11-Sep-24	Day time	3	574	-	-	-	-
		24100960 (1)-22	11-Sep-24	Day time	4	493	-	-	-	-
		24100960 (1)-23	11-Sep-24	Day time	5	774	-	-	-	-
		24100960 (1)-24	11-Sep-24	Day time	6	1,469	-	-	-	-
		24100960 (1)-25	11-Sep-24	Night time	1	322	341	150	300	Pass
		24100960 (1)-26	11-Sep-24	Night time	2	334	-	-	-	-
		24100960 (1)-27	11-Sep-24	Night time	3	342	-	-	-	-
		24100960 (1)-28	11-Sep-24	Night time	4	337	-	-	-	-
		24100960 (1)-29	11-Sep-24	Night time	5	346	-	-	-	-
		24100960 (1)-30	11-Sep-24	Night time	6	365	-	-	-	-

Technical Management

Supt S  
Supot Salameeh  
Section Head

Approved by

Wichan Chonharat  
Assistant Manager

Results apply to the sample(s) as indicated, unless the sampling was conducted by ALS. No part of this report may be reproduced or stored in a retrieval system without written consent from the laboratory.

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (1)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (1)-1

Page 3 of 4

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
8	Area : Administration Building : Ground Floor : Meeting Room 2	24100960 (1)-31	11-Sep-24	Day time	1	324	545	150	300	Pass
		24100960 (1)-32	11-Sep-24	Day time	2	920	-	-	-	-
		24100960 (1)-33	11-Sep-24	Day time	3	769	-	-	-	-
		24100960 (1)-34	11-Sep-24	Day time	4	319	-	-	-	-
		24100960 (1)-35	11-Sep-24	Day time	5	875	-	-	-	-
		24100960 (1)-36	11-Sep-24	Day time	6	318	-	-	-	-
		24100960 (1)-37	11-Sep-24	Day time	7	523	-	-	-	-
		24100960 (1)-38	11-Sep-24	Day time	8	332	-	-	-	-
9	Area : Administration Building : Ground Floor : Pantry Room	24100960 (1)-39	11-Sep-24	Night time	1	434	483	150	300	Pass
		24100960 (1)-40	11-Sep-24	Night time	2	693	-	-	-	-
		24100960 (1)-41	11-Sep-24	Night time	3	656	-	-	-	-
		24100960 (1)-42	11-Sep-24	Night time	4	466	-	-	-	-
		24100960 (1)-43	11-Sep-24	Night time	5	512	-	-	-	-
		24100960 (1)-44	11-Sep-24	Night time	6	366	-	-	-	-
		24100960 (1)-45	11-Sep-24	Night time	7	423	-	-	-	-
		24100960 (1)-46	11-Sep-24	Night time	8	317	-	-	-	-
9	Area : Administration Building : Ground Floor : Pantry Room	24100960 (1)-47	11-Sep-24	Day time	1	800	810	150	300	Pass
		24100960 (1)-48	11-Sep-24	Day time	2	809	-	-	-	-
		24100960 (1)-49	11-Sep-24	Day time	3	812	-	-	-	-
		24100960 (1)-50	11-Sep-24	Day time	4	820	-	-	-	-
		24100960 (1)-51	11-Sep-24	Night time	1	577	515	150	300	Pass
		24100960 (1)-52	11-Sep-24	Night time	2	452	-	-	-	-
		24100960 (1)-53	11-Sep-24	Night time	3	521	-	-	-	-
		24100960 (1)-54	11-Sep-24	Night time	4	510	-	-	-	-
10	Spot : Administration Building : Ground Floor : Plant manager Room	24100960 (1)-55	11-Sep-24	Day time	1	730	-	400-500	-	Pass
		24100960 (1)-56	11-Sep-24	Night time	1	455	-	400-500	-	Pass

Technical Management

Supt S  
Supot Salameeh  
Section Head

Approved by

Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (1)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (1)-1

Page 3 of 4

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
11	Area : Administration Building : Ground Floor : Reception Area	24100960 (1)-57	11-Sep-24	Day time	1	542	572	50	100	Pass
		24100960 (1)-58	11-Sep-24	Day time	2	478	-	-	-	-
		24100960 (1)-59	11-Sep-24	Day time	3	660	-	-	-	-
		24100960 (1)-60	11-Sep-24	Day time	4	570	-	-	-	-
		24100960 (1)-61	11-Sep-24	Day time	5	594	-	-	-	-
		24100960 (1)-62	11-Sep-24	Day time	6	538	-	-	-	-
		24100960 (1)-63	11-Sep-24	Night time	1	563	548	50	100	Pass
		24100960 (1)-64	11-Sep-24	Night time	2	498	-	-	-	-
		24100960 (1)-65	11-Sep-24	Night time	3	610	-	-	-	-
		24100960 (1)-66	11-Sep-24	Night time	4	526	-	-	-	-
		24100960 (1)-67	11-Sep-24	Night time	5	541	-	-	-	-
		24100960 (1)-68	11-Sep-24	Night time	6	560	-	-	-	-
12	Area : Administration Building : Ground Floor : Server Room	24100960 (1)-69	11-Sep-24	Day time	1	242	254	100	200	Pass
		24100960 (1)-70	11-Sep-24	Day time	2	266	-	-	-	-
		24100960 (1)-71	11-Sep-24	Night time	1	232	236	100	200	Pass
		24100960 (1)-72	11-Sep-24	Night time	2	241	-	-	-	-
13	Area : Administration Building : Ground Floor : Utility Room	24100960 (1)-73	11-Sep-24	Day time	1	622	589	50	100	Pass
		24100960 (1)-74	11-Sep-24	Day time	2	556	-	-	-	-
		24100960 (1)-75	11-Sep-24	Night time	1	569	552	50	100	Pass
		24100960 (1)-76	11-Sep-24	Night time	2	534	-	-	-	-
14	Spot : Administration Building : Ground Floor : T&E Spare 1	24100960 (1)-77	11-Sep-24	Day time	1	466	-	400-500	-	Pass
		24100960 (1)-78	11-Sep-24	Night time	1	460	-	400-500	-	Pass
15	Spot : Administration Building : Ground Floor : T&E Spare 2	24100960 (1)-79	11-Sep-24	Day time	1	544	-	400-500	-	Pass
		24100960 (1)-80	11-Sep-24	Night time	1	410	-	400-500	-	Pass
16	Spot : Administration Building : Ground Floor : T&E Spare 3	24100960 (1)-81	11-Sep-24	Day time	1	421	-	400-500	-	Pass
		24100960 (1)-82	11-Sep-24	Night time	1	416	-	400-500	-	Pass
17	Spot : Administration Building : Ground Floor : T&E Spare 4	24100960 (1)-83	11-Sep-24	Day time	1	634	-	400-500	-	Pass
		24100960 (1)-84	11-Sep-24	Night time	1	582	-	400-500	-	Pass

Technical Management

Supt S  
Supot Salameeh  
Section Head

Approved by

Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (1)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (1)-1

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GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
18	Area : Administration Building : Ground Floor : Warehouse	24100960 (1)-85	11-Sep-24	Day time	1	755	731	50	100	Pass
		24100960 (1)-86	11-Sep-24	Day time	2	730				
		24100960 (1)-87	11-Sep-24	Day time	3	688				
		24100960 (1)-88	11-Sep-24	Night time	1	542	509	50	100	Pass
		24100960 (1)-89	11-Sep-24	Night time	2	455				
		24100960 (1)-90	11-Sep-24	Night time	3	490				
19	Area : Administration Building : Ground Floor : Warehouse	24100960 (1)-91	11-Sep-24	Day time	1	812	776	50	100	Pass
		24100960 (1)-92	11-Sep-24	Day time	2	756				
		24100960 (1)-93	11-Sep-24	Day time	3	760				
		24100960 (1)-94	11-Sep-24	Night time	1	571	601	50	100	Pass
		24100960 (1)-95	11-Sep-24	Night time	2	622				
		24100960 (1)-96	11-Sep-24	Night time	3	610				





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24100960 (2)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (2)-1

Page 1 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Control Building : 1st Floor : MCC Switchgear	24100960 (2)-1	11-Sep-24	Day time	1	556	416	100	200	Pass
		24100960 (2)-2	11-Sep-24	Day time	2	596				
		24100960 (2)-3	11-Sep-24	Day time	3	375				
		24100960 (2)-4	11-Sep-24	Day time	4	521				
		24100960 (2)-5	11-Sep-24	Day time	5	311				
		24100960 (2)-6	11-Sep-24	Day time	6	391				
		24100960 (2)-7	11-Sep-24	Day time	7	506				
		24100960 (2)-8	11-Sep-24	Day time	8	511				
		24100960 (2)-9	11-Sep-24	Day time	9	526				
		24100960 (2)-10	11-Sep-24	Day time	10	519				
		24100960 (2)-11	11-Sep-24	Day time	11	478				
		24100960 (2)-12	11-Sep-24	Day time	12	519				
		24100960 (2)-13	11-Sep-24	Day time	13	245				
		24100960 (2)-14	11-Sep-24	Day time	14	344				
		24100960 (2)-15	11-Sep-24	Day time	15	378				
		24100960 (2)-16	11-Sep-24	Day time	16	382				
		24100960 (2)-17	11-Sep-24	Day time	17	366				
		24100960 (2)-18	11-Sep-24	Day time	18	357				
		24100960 (2)-19	11-Sep-24	Night time	1	541	385	100	200	Pass
		24100960 (2)-20	11-Sep-24	Night time	2	468				
		24100960 (2)-21	11-Sep-24	Night time	3	390				
		24100960 (2)-22	11-Sep-24	Night time	4	464				
		24100960 (2)-23	11-Sep-24	Night time	5	316				
		24100960 (2)-24	11-Sep-24	Night time	6	332				
		24100960 (2)-25	11-Sep-24	Night time	7	336				
		24100960 (2)-26	11-Sep-24	Night time	8	374				
		24100960 (2)-27	11-Sep-24	Night time	9	500				
		24100960 (2)-28	11-Sep-24	Night time	10	505				
		24100960 (2)-29	11-Sep-24	Night time	11	465				
		24100960 (2)-30	11-Sep-24	Night time	12	451				
		24100960 (2)-31	11-Sep-24	Night time	13	232				
		24100960 (2)-32	11-Sep-24	Night time	14	352				
		24100960 (2)-33	11-Sep-24	Night time	15	360				
		24100960 (2)-34	11-Sep-24	Night time	16	377				
		24100960 (2)-35	11-Sep-24	Night time	17	356				
		24100960 (2)-36	11-Sep-24	Night time	18	342				

Measurement by : Norranon Thongkhom

Technical Management

*Supt S*  
Supt Salameh  
Section Head

Approved by

*Nichan Ch*  
Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24100960 (2)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (2)-1

Page 2 of 2

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
Guideline:	Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)									

Technical Management

*Supt S*  
Supt Salameh  
Section Head

Approved by

*Nichan Ch*  
Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

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399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24100960 (3)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (3)-1

Page 1 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Control Building : 2nd Floor : Pantry Room	24100960 (3)-1	11-Sep-24	Day time	1	1,519	1474	150	300	Pass
		24100960 (3)-2	11-Sep-24	Day time	2	1,430				
		24100960 (3)-3	11-Sep-24	Night time	1	1,406				
		24100960 (3)-4	11-Sep-24	Night time	2	1,211				
2	Spot : Control Building : 2nd Floor : DCS Room : วัสดุภัณฑ์	24100960 (3)-5	11-Sep-24	Day time	1	588	+	200-300	+	Pass
		24100960 (3)-6	11-Sep-24	Night time	1	551				
3	Spot : Control Building : 2nd Floor : Utility Room : วัสดุภัณฑ์	24100960 (3)-7	11-Sep-24	Day time	1	647	+	200-300	+	Pass
		24100960 (3)-8	11-Sep-24	Night time	1	569				
4	Spot : Control Building : 2nd Floor : 1st Daytime 1	24100960 (3)-9	11-Sep-24	Day time	1	579	+	400-500	+	Pass
		24100960 (3)-10	11-Sep-24	Night time	1	581				
5	Spot : Control Building : 2nd Floor : 1st Daytime 2	24100960 (3)-11	11-Sep-24	Day time	1	693	+	400-500	+	Pass
		24100960 (3)-12	11-Sep-24	Night time	1	597				
6	Spot : Control Building : 2nd Floor : 1st Operation manager	24100960 (3)-13	11-Sep-24	Day time	1	982	+	400-500	+	Pass
		24100960 (3)-14	11-Sep-24	Night time	1	912				
7	Spot : Control Building : 2nd Floor : 1st วัสดุภัณฑ์ DCS 1	24100960 (3)-15	11-Sep-24	Day time	1	629	+	400-500	+	Pass
		24100960 (3)-16	11-Sep-24	Night time	1	453				
8	Spot : Control Building : 2nd Floor : 1st วัสดุภัณฑ์ DCS 2	24100960 (3)-17	11-Sep-24	Day time	1	842	+	400-500	+	Pass
		24100960 (3)-18	11-Sep-24	Night time	1	764				
9	Spot : Control Building : 2nd Floor : 1st วัสดุภัณฑ์ 1	24100960 (3)-19	11-Sep-24	Day time	1	863	+	400-500	+	Pass
		24100960 (3)-20	11-Sep-24	Night time	1	787				
10	Spot : Control Building : 2nd Floor : 1st วัสดุภัณฑ์ 2	24100960 (3)-21	11-Sep-24	Day time	1	929	+	400-500	+	Pass
		24100960 (3)-22	11-Sep-24	Night time	1	827				

Technical Management

*Supt S*  
Supt Salameh  
Section Head

Approved by

*Nichan Ch*  
Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

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399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24100960 (3)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (3)-1

Page 2 of 2

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
11	Area : Control Building : 2nd Floor : วัสดุภัณฑ์	24100960 (3)-23	11-Sep-24	Day time	1	561	454	50	100	Pass
		24100960 (3)-24	11-Sep-24	Day time	2	411				
		24100960 (3)-25	11-Sep-24	Day time	3	405				
		24100960 (3)-26	11-Sep-24	Day time	4	422				
		24100960 (3)-27	11-Sep-24	Day time	5	468				
		24100960 (3)-28	11-Sep-24	Day time	6	455				
		24100960 (3)-29	11-Sep-24	Night time	1	244				
		24100960 (3)-30	11-Sep-24	Night time	2	230				
		24100960 (3)-31	11-Sep-24	Night time	3	250				
		24100960 (3)-32	11-Sep-24	Night time	4	217				
		24100960 (3)-33	11-Sep-24	Night time	5	223				
		24100960 (3)-34	11-Sep-24	Night time	6	220				

Measurement by : Norranon Thongkhom

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

Technical Management

*Supt S*  
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Section Head

Approved by

*Nichan Ch*  
Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNLL2

Lot ID: 24100960 (4)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (4)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Area : Control Building : Gas metering station : Gas metering Control Room	24100960 (4)-1	11-Sep-24	Day time	1	762	766	100	200	Pass
		24100960 (4)-2	11-Sep-24	Day time	2	770				
		24100960 (4)-3	11-Sep-24	Night time	1	678	696	100	200	Pass
		24100960 (4)-4	11-Sep-24	Night time	2	713				
2	Area : Control Building : Gas metering station : Storage Room	24100960 (4)-5	11-Sep-24	Day time	1	757	779	50	100	Pass
		24100960 (4)-6	11-Sep-24	Day time	2	801				
		24100960 (4)-7	11-Sep-24	Night time	1	732	770	50	100	Pass
		24100960 (4)-8	11-Sep-24	Night time	2	808				

Measurement by : Nonanon Thangkhom

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 390 dated February 21 B.E.2561 (2018)

Technical Management

*Sgt S*  
Supat Salameh  
Section Head

Approved by

*Wichan Chuanharat*  
Wichan Chuanharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNLL2

Lot ID: 24100960 (5)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (5)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Area : Guard House : Gas tank	24100960 (5)-1	11-Sep-24	Day time	1	3,956	3918	-	100	Pass
		24100960 (5)-2	11-Sep-24	Day time	2	3,880				
		24100960 (5)-3	11-Sep-24	Night time	1	486	512	-	100	Pass
		24100960 (5)-4	11-Sep-24	Night time	2	539				

Measurement by : Nonanon Thangkhom

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 390 dated February 21 B.E.2561 (2018)

Technical Management

*Sgt S*  
Supat Salameh  
Section Head

Approved by

*Wichan Chuanharat*  
Wichan Chuanharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNLL2

Lot ID: 24100960 (6)  
Date Received : Sep 12, 2024  
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Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Area : Substation Building : Substation Room	24100960 (6)-1	11-Sep-24	Day time	1	779	725	100	200	Pass
		24100960 (6)-2	11-Sep-24	Day time	2	760				
		24100960 (6)-3	11-Sep-24	Day time	3	738				
		24100960 (6)-4	11-Sep-24	Day time	4	683				
		24100960 (6)-5	11-Sep-24	Day time	5	665				
		24100960 (6)-6	11-Sep-24	Day time	6	712				
		24100960 (6)-7	11-Sep-24	Day time	7	720				
		24100960 (6)-8	11-Sep-24	Night time	1	712	700	100	200	Pass
		24100960 (6)-9	11-Sep-24	Night time	2	720				
		24100960 (6)-10	11-Sep-24	Night time	3	737				
		24100960 (6)-11	11-Sep-24	Night time	4	690				
		24100960 (6)-12	11-Sep-24	Night time	5	656				
		24100960 (6)-13	11-Sep-24	Night time	6	698				
		24100960 (6)-14	11-Sep-24	Night time	7	690				
2	Area : Substation Building : Switchgear Room	24100960 (6)-15	11-Sep-24	Day time	1	517	557	100	200	Pass
		24100960 (6)-16	11-Sep-24	Day time	2	578				
		24100960 (6)-17	11-Sep-24	Day time	3	556				
		24100960 (6)-18	11-Sep-24	Day time	4	557				
		24100960 (6)-19	11-Sep-24	Day time	5	565				
		24100960 (6)-20	11-Sep-24	Night time	1	567	550	100	200	Pass
		24100960 (6)-21	11-Sep-24	Night time	2	565				
		24100960 (6)-22	11-Sep-24	Night time	3	541				
		24100960 (6)-23	11-Sep-24	Night time	4	537				
		24100960 (6)-24	11-Sep-24	Night time	5	542				
3	Area : Substation Building : Terminal Sub	24100960 (6)-25	11-Sep-24	Day time	1	663	668	100	200	Pass
		24100960 (6)-26	11-Sep-24	Day time	2	757				
		24100960 (6)-27	11-Sep-24	Day time	3	660				
		24100960 (6)-28	11-Sep-24	Day time	4	673				
		24100960 (6)-29	11-Sep-24	Night time	1	384	420	100	200	Pass
		24100960 (6)-30	11-Sep-24	Night time	2	457				
		24100960 (6)-31	11-Sep-24	Night time	3	426				
		24100960 (6)-32	11-Sep-24	Night time	4	414				

Measurement by : Nonanon Thangkhom

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 390 dated February 21 B.E.2561 (2018)

Technical Management

*Sgt S*  
Supat Salameh  
Section Head

Approved by

*Wichan Chuanharat*  
Wichan Chuanharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNLL2

Lot ID: 24100960 (7)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (7)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Spot : Water Treatment Control Building Ground Floor : Laboratory Room : 1st floor	24100960 (7)-1	11-Sep-24	Day time	1	820	-	150-300	-	Pass
		24100960 (7)-2	11-Sep-24	Night time	1	610	-	150-300	-	Pass
2	Area : Water Treatment Control Building Ground Floor : WTP Control Room	24100960 (7)-3	11-Sep-24	Day time	1	945	879	100	200	Pass
		24100960 (7)-4	11-Sep-24	Day time	2	876				
		24100960 (7)-5	11-Sep-24	Day time	3	880				
		24100960 (7)-6	11-Sep-24	Day time	4	850				
		24100960 (7)-7	11-Sep-24	Day time	5	842				
		24100960 (7)-8	11-Sep-24	Night time	1	613	582	100	200	Pass
		24100960 (7)-9	11-Sep-24	Night time	2	579				
		24100960 (7)-10	11-Sep-24	Night time	3	566				
		24100960 (7)-11	11-Sep-24	Night time	4	580				
		24100960 (7)-12	11-Sep-24	Night time	5	571				
3	Spot : Water Treatment Control Building Ground Floor : 1st Chemist	24100960 (7)-13	11-Sep-24	Day time	1	650	-	400-500	-	Pass
		24100960 (7)-14	11-Sep-24	Night time	1	569	-	400-500	-	Pass

Measurement by : Nonanon Thangkhom

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 390 dated February 21 B.E.2561 (2018)

Technical Management

*Sgt S*  
Supat Salameh  
Section Head

Approved by

*Wichan Chuanharat*  
Wichan Chuanharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (8)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (8)-1

Page 1 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment		
1	Spot : Workshop Building : 1st Floor : Copy Machine	24100960 (8)-1	11-Sep-24	Day time	1	448	-	300-400	-	Pass
		24100960 (8)-2	11-Sep-24	Night time	1	323	-	300-400	-	Pass
2	Area : Workshop Building : 1st Floor : Document Room	24100960 (8)-3	11-Sep-24	Day time	1	1,249	1142	150	300	Pass
		24100960 (8)-4	11-Sep-24	Day time	2	1,036				
		24100960 (8)-5	11-Sep-24	Night time	1	322	326	150	300	Pass
		24100960 (8)-6	11-Sep-24	Night time	2	330				
3	Area : Workshop Building : 1st Floor : Meeting Room	24100960 (8)-7	11-Sep-24	Day time	1	862	660	150	300	Pass
		24100960 (8)-8	11-Sep-24	Day time	2	640				
		24100960 (8)-9	11-Sep-24	Day time	3	729				
		24100960 (8)-10	11-Sep-24	Day time	4	757				
		24100960 (8)-11	11-Sep-24	Day time	5	291				
		24100960 (8)-12	11-Sep-24	Day time	6	412				
		24100960 (8)-13	11-Sep-24	Day time	7	771				
		24100960 (8)-14	11-Sep-24	Day time	8	820				
		24100960 (8)-15	11-Sep-24	Night time	1	735	646	150	300	Pass
		24100960 (8)-16	11-Sep-24	Night time	2	634				
		24100960 (8)-17	11-Sep-24	Night time	3	721				
		24100960 (8)-18	11-Sep-24	Night time	4	702				
		24100960 (8)-19	11-Sep-24	Night time	5	311				
		24100960 (8)-20	11-Sep-24	Night time	6	578				
		24100960 (8)-21	11-Sep-24	Night time	7	761				
		24100960 (8)-22	11-Sep-24	Night time	8	728				
4	Area : Workshop Building : 1st Floor : Pantry Room	24100960 (8)-23	11-Sep-24	Day time	1	291	326	150	300	Pass
		24100960 (8)-24	11-Sep-24	Day time	2	321				
		24100960 (8)-25	11-Sep-24	Day time	3	315				
		24100960 (8)-26	11-Sep-24	Day time	4	377				
		24100960 (8)-27	11-Sep-24	Night time	1	298	314	150	300	Pass
		24100960 (8)-28	11-Sep-24	Night time	2	319				
5	Spot : Workshop Building : 1st Floor : 1st Electrical Engineer 2	24100960 (8)-31	11-Sep-24	Day time	1	412	-	400-500	-	Pass
		24100960 (8)-32	11-Sep-24	Night time	1	420	-	400-500	-	Pass
6	Spot : Workshop Building : 1st Floor : 1st C&I Engineer 1	24100960 (8)-33	11-Sep-24	Day time	1	604	-	400-500	-	Pass
		24100960 (8)-34	11-Sep-24	Night time	1	518	-	400-500	-	Pass

Technical Management

*Supt S*  
Supt. Salameh  
Section Head

Approved by

*Nichan Chonharat*  
Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (8)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (8)-1

Page 2 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment		
7	Spot : Workshop Building : 1st Floor : 1st C&I Engineer 2	24100960 (8)-35	11-Sep-24	Day time	1	529	-	400-500	-	Pass
		24100960 (8)-36	11-Sep-24	Night time	1	429	-	400-500	-	Pass
8	Spot : Workshop Building : 1st Floor : 1st C&I Leader	24100960 (8)-37	11-Sep-24	Day time	1	569	-	400-500	-	Pass
		24100960 (8)-38	11-Sep-24	Night time	1	529	-	400-500	-	Pass
9	Spot : Workshop Building : 1st Floor : 1st Electrical Engineer 1	24100960 (8)-39	11-Sep-24	Day time	1	403	-	400-500	-	Pass
		24100960 (8)-40	11-Sep-24	Night time	1	435	-	400-500	-	Pass
10	Spot : Workshop Building : 1st Floor : 1st Electrical Leader	24100960 (8)-41	11-Sep-24	Day time	1	546	-	400-500	-	Pass
		24100960 (8)-42	11-Sep-24	Night time	1	469	-	400-500	-	Pass
11	Spot : Workshop Building : 1st Floor : 1st Maintenance Manager	24100960 (8)-43	11-Sep-24	Day time	1	453	-	400-500	-	Pass
		24100960 (8)-44	11-Sep-24	Night time	1	432	-	400-500	-	Pass
12	Spot : Workshop Building : 1st Floor : 1st Mechanical Engineer 1	24100960 (8)-45	11-Sep-24	Day time	1	410	-	400-500	-	Pass
		24100960 (8)-46	11-Sep-24	Night time	1	413	-	400-500	-	Pass
13	Spot : Workshop Building : 1st Floor : 1st Mechanical Engineer 2	24100960 (8)-47	11-Sep-24	Day time	1	408	-	400-500	-	Pass
		24100960 (8)-48	11-Sep-24	Night time	1	403	-	400-500	-	Pass
14	Spot : Workshop Building : 1st Floor : 1st Mechanical Leader	24100960 (8)-49	11-Sep-24	Day time	1	411	-	400-500	-	Pass
		24100960 (8)-50	11-Sep-24	Night time	1	422	-	400-500	-	Pass
15	Spot : Workshop Building : 1st Floor : 1st Spare 1	24100960 (8)-51	11-Sep-24	Day time	1	468	-	400-500	-	Pass
		24100960 (8)-52	11-Sep-24	Night time	1	424	-	400-500	-	Pass
16	Spot : Workshop Building : 1st Floor : 1st Spare 2	24100960 (8)-53	11-Sep-24	Day time	1	481	-	400-500	-	Pass
		24100960 (8)-54	11-Sep-24	Night time	1	436	-	400-500	-	Pass
17	Spot : Workshop Building : 1st Floor : 1st Spare 3	24100960 (8)-55	11-Sep-24	Day time	1	413	-	400-500	-	Pass
		24100960 (8)-56	11-Sep-24	Night time	1	402	-	400-500	-	Pass
18	Area : Workshop Building : 1st Floor : Warehouse	24100960 (8)-57	11-Sep-24	Day time	1	329	291	50	100	Pass
		24100960 (8)-58	11-Sep-24	Day time	2	243				
		24100960 (8)-59	11-Sep-24	Day time	3	251				
		24100960 (8)-60	11-Sep-24	Day time	4	340				
		24100960 (8)-61	11-Sep-24	Night time	1	320	321	50	100	Pass
		24100960 (8)-62	11-Sep-24	Night time	2	307				
		24100960 (8)-63	11-Sep-24	Night time	3	290				
		24100960 (8)-64	11-Sep-24	Night time	4	367				

Technical Management

*Supt S*  
Supt. Salameh  
Section Head

Approved by

*Nichan Chonharat*  
Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (8)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (8)-1

Page 3 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment		
19	Area : Workshop Building : 1st Floor : Warehouse	24100960 (8)-65	11-Sep-24	Day time	1	264	270	50	100	Pass
		24100960 (8)-66	11-Sep-24	Day time	2	277				
		24100960 (8)-67	11-Sep-24	Night time	1	214	223	50	100	Pass
		24100960 (8)-68	11-Sep-24	Night time	2	232				

Measurement by : Norranon Thongkhom

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 350 dated February 21 B.E.2561 (2018)

Technical Management

*Supt S*  
Supt. Salameh  
Section Head

Approved by

*Nichan Chonharat*  
Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24100960 (9)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (9)-1

Page 1 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment		
1	Area : Workshop Building : Ground Floor : Warehouse Shina 1	24100960 (9)-1	11-Sep-24	Day time	1	314	304	50	100	Pass
		24100960 (9)-2	11-Sep-24	Day time	2	163				
		24100960 (9)-3	11-Sep-24	Day time	3	132				
		24100960 (9)-4	11-Sep-24	Day time	4	137				
		24100960 (9)-5	11-Sep-24	Day time	5	210				
		24100960 (9)-6	11-Sep-24	Day time	6	321				
		24100960 (9)-7	11-Sep-24	Day time	7	190				
		24100960 (9)-8	11-Sep-24	Day time	8	188				
		24100960 (9)-9	11-Sep-24	Day time	9	364				
		24100960 (9)-10	11-Sep-24	Day time	10	332				
		24100960 (9)-11	11-Sep-24	Day time	11	339				
		24100960 (9)-12	11-Sep-24	Day time	12	355				
		24100960 (9)-13	11-Sep-24	Day time	13	340				
		24100960 (9)-14	11-Sep-24	Day time	14	362				
		24100960 (9)-15	11-Sep-24	Day time	15	300				
		24100960 (9)-16	11-Sep-24	Day time	16	311				
		24100960 (9)-17	11-Sep-24	Day time	17	327				
		24100960 (9)-18	11-Sep-24	Day time	18	331				
2	Area : Workshop Building : Ground Floor : Control & Instrument workshop	24100960 (9)-19	11-Sep-24	Day time	1	523	510	100	200	Pass
		24100960 (9)-20	11-Sep-24	Day time	2	541				
		24100960 (9)-21	11-Sep-24	Day time	3	498				
		24100960 (9)-22	11-Sep-24	Day time	4	478				
3	Area : Workshop Building : Ground Floor : Electrical Control Room	24100960 (9)-23	11-Sep-24	Day time	1	265	268	100	200	Pass
		24100960 (9)-24	11-Sep-24	Day time	2	270				
		24100960 (9)-25	11-Sep-24	Night time	1	260	258	100	200	Pass
		24100960 (9)-26	11-Sep-24	Night time	2	255				
4	Area : Workshop Building : Ground Floor : LSTA Room	24100960 (9)-27	11-Sep-24	Day time	1	617	622	50	100	Pass
		24100960 (9)-28	11-Sep-24	Day time	2	622				
		24100960 (9)-29	11-Sep-24	Day time	3	646				
		24100960 (9)-30	11-Sep-24	Day time	4	650				
		24100960 (9)-31	11-Sep-24	Day time	5	645				
		24100960 (9)-32	11-Sep-24	Day time	6	632				
		24100960 (9)-33	11-Sep-24	Day time	7	574				
		24100960 (9)-34	11-Sep-24	Day time	8	588				





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24100960 (9)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (9)-1

Page 2 of 3

GNL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
5	Area : Workshop Building : Ground Floor : Server Room	24100960 (9)-35	11-Sep-24	Day time	1	267	277	130	200	Pass
		24100960 (9)-36	11-Sep-24	Day time	2	287				
		24100960 (9)-37	11-Sep-24	Night time	1	272	281	100	200	Pass
		24100960 (9)-38	11-Sep-24	Night time	2	290				
6	Area : Workshop Building : Ground Floor : Temp Control part Room	24100960 (9)-39	11-Sep-24	Day time	1	254	263	100	200	Pass
		24100960 (9)-40	11-Sep-24	Day time	2	269				
		24100960 (9)-41	11-Sep-24	Day time	3	270				
		24100960 (9)-42	11-Sep-24	Day time	4	266				
		24100960 (9)-43	11-Sep-24	Day time	5	265				
		24100960 (9)-44	11-Sep-24	Day time	6	252				
7	Spot : Workshop Building : Ground Floor : Maintenance office	24100960 (9)-45	11-Sep-24	Day time	1	445	-	400-500	-	Pass
8	Area : Workshop Building : Ground Floor : Warehouse	24100960 (9)-46	11-Sep-24	Day time	1	614	425	50	100	Pass
		24100960 (9)-47	11-Sep-24	Day time	2	729				
		24100960 (9)-48	11-Sep-24	Day time	3	264				
		24100960 (9)-49	11-Sep-24	Day time	4	216				
		24100960 (9)-50	11-Sep-24	Day time	5	277				
		24100960 (9)-51	11-Sep-24	Day time	6	845				
		24100960 (9)-52	11-Sep-24	Day time	7	232				
		24100960 (9)-53	11-Sep-24	Day time	8	224				
		24100960 (9)-54	11-Sep-24	Night time	1	602	420	50	100	Pass
		24100960 (9)-55	11-Sep-24	Night time	2	618				
		24100960 (9)-56	11-Sep-24	Night time	3	484				
		24100960 (9)-57	11-Sep-24	Night time	4	220				
10	Area : Workshop Building : Ground Floor : Warehouse	24100960 (9)-58	11-Sep-24	Night time	5	266				
		24100960 (9)-59	11-Sep-24	Night time	6	628				
		24100960 (9)-60	11-Sep-24	Night time	7	242				
		24100960 (9)-61	11-Sep-24	Night time	8	233				
		24100960 (9)-62	11-Sep-24	Day time	1	528	570	50	100	Pass
10	Area : Workshop Building : Ground Floor : Warehouse	24100960 (9)-63	11-Sep-24	Day time	2	612				
		24100960 (9)-64	11-Sep-24	Day time	3	569				
		24100960 (9)-65	11-Sep-24	Night time	1	517	552	50	100	Pass
		24100960 (9)-66	11-Sep-24	Night time	2	590				
		24100960 (9)-67	11-Sep-24	Night time	3	550				

Technical Management

Supot Salameh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24100960 (9)  
Date Received : Sep 12, 2024  
Date Reported : Sep 18, 2024  
Report Number: 24100960 (9)-1

Page 3 of 3

GNL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
11	Area : Workshop Building : Ground Floor : Warehouse	24100960 (9)-68	11-Sep-24	Day time	1	566	555	50	100	Pass
		24100960 (9)-69	11-Sep-24	Day time	2	544				
		24100960 (9)-70	11-Sep-24	Day time	3	556				
		24100960 (9)-71	11-Sep-24	Night time	1	509	527	50	100	Pass
		24100960 (9)-72	11-Sep-24	Night time	2	532				
		24100960 (9)-73	11-Sep-24	Night time	3	540				

Measurement by : Nonnaron Takkungkhom

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 350 dated February 21, B.E.2561 (2018)

Technical Management

Supot Salameh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24132572 (1)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (1)-1

Page 2 of 4

GNL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : Administration Building : Ground Floor : Copy Machine	24132572 (1)-1	16-Dec-24	Day time	1	576	-	300-400	-	Pass
		24132572 (1)-2	16-Dec-24	Night time	1	557	-	300-400	-	Pass
2	Area : Administration Building : Ground Floor : Document Room	24132572 (1)-3	16-Dec-24	Day time	1	465	468	150	300	Pass
		24132572 (1)-4	16-Dec-24	Day time	2	471				
		24132572 (1)-5	16-Dec-24	Night time	1	456	458	150	300	Pass
		24132572 (1)-6	16-Dec-24	Night time	2	461				
3	Area : Administration Building : Ground Floor : Electrical Control Room	24132572 (1)-7	16-Dec-24	Day time	1	331	342	100	200	Pass
		24132572 (1)-8	16-Dec-24	Day time	2	353				
		24132572 (1)-9	16-Dec-24	Night time	1	340	331	100	200	Pass
		24132572 (1)-10	16-Dec-24	Night time	2	322				
4	Spot : Administration Building : Ground Floor : Environment Health & Safety Manager Room	24132572 (1)-11	16-Dec-24	Day time	1	425	-	400-500	-	Pass
		24132572 (1)-12	16-Dec-24	Night time	1	419	-	400-500	-	Pass
5	Area : Administration Building : Ground Floor : First Aid Room	24132572 (1)-13	16-Dec-24	Day time	1	721	699	150	300	Pass
		24132572 (1)-14	16-Dec-24	Day time	2	677				
		24132572 (1)-15	16-Dec-24	Night time	1	576	532	150	300	Pass
6	Area : Administration Building : Ground Floor : Human resource & Admin Manager Room	24132572 (1)-16	16-Dec-24	Night time	2	487				
		24132572 (1)-17	16-Dec-24	Day time	1	528	-	400-500	-	Pass
		24132572 (1)-18	16-Dec-24	Night time	1	440	-	400-500	-	Pass
7	Area : Administration Building : Ground Floor : Meeting Room 1	24132572 (1)-19	16-Dec-24	Day time	1	301	369	150	300	Pass
		24132572 (1)-20	16-Dec-24	Day time	2	344				
		24132572 (1)-21	16-Dec-24	Day time	3	402				
		24132572 (1)-22	16-Dec-24	Day time	4	377				
		24132572 (1)-23	16-Dec-24	Day time	5	382				
		24132572 (1)-24	16-Dec-24	Day time	6	410				
		24132572 (1)-25	16-Dec-24	Night time	1	319	333	150	300	Pass
		24132572 (1)-26	16-Dec-24	Night time	2	322				
		24132572 (1)-27	16-Dec-24	Night time	3	325				
		24132572 (1)-28	16-Dec-24	Night time	4	337				
		24132572 (1)-29	16-Dec-24	Night time	5	342				
		24132572 (1)-30	16-Dec-24	Night time	6	352				

Technical Management

Supot Salameh  
Section Head

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Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNL2

Lot ID: 24132572 (1)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (1)-1

Page 3 of 4

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Guideline Limit Spot/Min	Average	Comment
8	Area : Administration Building : Ground Floor : Meeting Room 2	24132572 (1)-31	16-Dec-24	Day time	1	410	430	150	300	Pass
		24132572 (1)-32	16-Dec-24	Day time	2	432				
		24132572 (1)-33	16-Dec-24	Day time	3	446				
		24132572 (1)-34	16-Dec-24	Day time	4	455				
		24132572 (1)-35	16-Dec-24	Day time	5	401				
		24132572 (1)-36	16-Dec-24	Day time	6	422				
		24132572 (1)-37	16-Dec-24	Day time	7	438				
		24132572 (1)-38	16-Dec-24	Day time	8	433				
		24132572 (1)-39	16-Dec-24	Night time	1	388	379	150	300	Pass
		24132572 (1)-40	16-Dec-24	Night time	2	392				
		24132572 (1)-41	16-Dec-24	Night time	3	378				
		24132572 (1)-42	16-Dec-24	Night time	4	369				
9	Area : Administration Building : Ground Floor : Pantry Room	24132572 (1)-43	16-Dec-24	Night time	5	365				
		24132572 (1)-44	16-Dec-24	Night time	6	377				
		24132572 (1)-45	16-Dec-24	Night time	7	380				
		24132572 (1)-46	16-Dec-24	Night time	8	382				
		24132572 (1)-47	16-Dec-24	Day time	1	1,181	1093	150	300	Pass
		24132572 (1)-48	16-Dec-24	Day time	2	1,093				
10	Spot : Administration Building : Ground Floor : Plant manager Room	24132572 (1)-49	16-Dec-24	Day time	3	1,077				
		24132572 (1)-50	16-Dec-24	Day time	4	1,020				
		24132572 (1)-51	16-Dec-24	Night time	1	455	470	150	300	Pass
		24132572 (1)-52	16-Dec-24	Night time	2	464				
		24132572 (1)-53	16-Dec-24	Night time	3	449				
		24132572 (1)-54	16-Dec-24	Night time	4	512				
10	Spot : Administration Building : Ground Floor : Plant manager Room	24132572 (1)-55	16-Dec-24	Day time	1	564	+	400-500	+	Pass
		24132572 (1)-56	16-Dec-24	Night time	1	485	+	400-500	+	Pass



## Analysis / Test Report

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Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24132572 (1)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (1)-1

Page 3 of 4

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
11	Area : Administration Building : Ground Floor : Reception Area	24132572 (1)-57	16-Dec-24	Day time	1	463	781	50	100	Pass
		24132572 (1)-58	16-Dec-24	Day time	2	543				
		24132572 (1)-59	16-Dec-24	Day time	3	877				
		24132572 (1)-60	16-Dec-24	Day time	4	880				
		24132572 (1)-61	16-Dec-24	Day time	5	955				
		24132572 (1)-62	16-Dec-24	Day time	6	960				
		24132572 (1)-63	16-Dec-24	Night time	1	433	461	50	100	Pass
		24132572 (1)-64	16-Dec-24	Night time	2	488				
		24132572 (1)-65	16-Dec-24	Night time	3	462				
		24132572 (1)-66	16-Dec-24	Night time	4	457				
		24132572 (1)-67	16-Dec-24	Night time	5	466				
		24132572 (1)-68	16-Dec-24	Night time	6	460				
12	Area : Administration Building : Ground Floor : Server Room	24132572 (1)-69	16-Dec-24	Day time	1	321	331	100	200	Pass
		24132572 (1)-70	16-Dec-24	Day time	2	341				
		24132572 (1)-71	16-Dec-24	Night time	1	312	316	100	200	Pass
		24132572 (1)-72	16-Dec-24	Night time	2	319				
13	Area : Administration Building : Ground Floor : Utility Room	24132572 (1)-73	16-Dec-24	Day time	1	507	502	50	100	Pass
		24132572 (1)-74	16-Dec-24	Day time	2	498				
		24132572 (1)-75	16-Dec-24	Night time	1	474	452	50	100	Pass
		24132572 (1)-76	16-Dec-24	Night time	2	429				
14	Spot : Administration Building : Ground Floor : 1st Spare 1	24132572 (1)-77	16-Dec-24	Day time	1	477	-	400-500	-	Pass
		24132572 (1)-78	16-Dec-24	Night time	1	444	-	400-500	-	Pass
15	Spot : Administration Building : Ground Floor : 1st Spare 2	24132572 (1)-79	16-Dec-24	Day time	1	454	-	400-500	-	Pass
		24132572 (1)-80	16-Dec-24	Night time	1	420	-	400-500	-	Pass
16	Spot : Administration Building : Ground Floor : 1st Spare 3	24132572 (1)-81	16-Dec-24	Day time	1	462	-	400-500	-	Pass
		24132572 (1)-82	16-Dec-24	Night time	1	455	-	400-500	-	Pass
17	Spot : Administration Building : Ground Floor : 1st Spare 4	24132572 (1)-83	16-Dec-24	Day time	1	534	-	400-500	-	Pass
		24132572 (1)-84	16-Dec-24	Night time	1	517	-	400-500	-	Pass

Technical Management

*Sgt S*  
Supot Salameh  
Section Head

Approved by

*Wichan Chonharat*  
Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24132572 (2)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (2)-1

Page 3 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
1	Area : Control Building : 1st Floor : MCC Switchgear	24132572 (2)-1	16-Dec-24	Day time	1	670	360	100	200	Pass
		24132572 (2)-2	16-Dec-24	Day time	2	421				
		24132572 (2)-3	16-Dec-24	Day time	3	427				
		24132572 (2)-4	16-Dec-24	Day time	4	402				
		24132572 (2)-5	16-Dec-24	Day time	5	383				
		24132572 (2)-6	16-Dec-24	Day time	6	335				
		24132572 (2)-7	16-Dec-24	Day time	7	397				
		24132572 (2)-8	16-Dec-24	Day time	8	380				
		24132572 (2)-9	16-Dec-24	Day time	9	402				
		24132572 (2)-10	16-Dec-24	Day time	10	411				
		24132572 (2)-11	16-Dec-24	Day time	11	285				
		24132572 (2)-12	16-Dec-24	Day time	12	348				
		24132572 (2)-13	16-Dec-24	Day time	13	243				
		24132572 (2)-14	16-Dec-24	Day time	14	233				
		24132572 (2)-15	16-Dec-24	Day time	15	311				
		24132572 (2)-16	16-Dec-24	Day time	16	378				
		24132572 (2)-17	16-Dec-24	Day time	17	410				
		24132572 (2)-18	16-Dec-24	Day time	18	391				
		24132572 (2)-19	16-Dec-24	Night time	1	514	317	100	200	Pass
		24132572 (2)-20	16-Dec-24	Night time	2	379				
		24132572 (2)-21	16-Dec-24	Night time	3	318				
		24132572 (2)-22	16-Dec-24	Night time	4	323				
		24132572 (2)-23	16-Dec-24	Night time	5	366				
		24132572 (2)-24	16-Dec-24	Night time	6	320				
		24132572 (2)-25	16-Dec-24	Night time	7	370				
		24132572 (2)-26	16-Dec-24	Night time	8	356				
		24132572 (2)-27	16-Dec-24	Night time	9	365				
		24132572 (2)-28	16-Dec-24	Night time	10	372				
		24132572 (2)-29	16-Dec-24	Night time	11	369				
		24132572 (2)-30	16-Dec-24	Night time	12	326				
		24132572 (2)-31	16-Dec-24	Night time	13	233				
		24132572 (2)-32	16-Dec-24	Night time	14	230				
		24132572 (2)-33	16-Dec-24	Night time	15	278				
		24132572 (2)-34	16-Dec-24	Night time	16	292				
		24132572 (2)-35	16-Dec-24	Night time	17	352				
		24132572 (2)-36	16-Dec-24	Night time	18	332				

Measurement by : Norranon Tathongkham

Technical Management

*Sgt S*  
Supot Salameh  
Section Head

Approved by

*Wichan Chonharat*  
Wichan Chonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24132572 (1)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (1)-1

Page 4 of 4

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
18	Area : Administration Building : Ground Floor : Warehouse	24132572 (1)-85	16-Dec-24	Day time	1	453	437	50	100	Pass
		24132572 (1)-86	16-Dec-24	Day time	2	450				
		24132572 (1)-87	16-Dec-24	Day time	3	409				
		24132572 (1)-88	16-Dec-24	Night time	1	452	435	50	100	Pass
		24132572 (1)-89	16-Dec-24	Night time	2	442				
		24132572 (1)-90	16-Dec-24	Night time	3	411				
19	Area : Administration Building : Ground Floor : Warehouse	24132572 (1)-91	16-Dec-24	Day time	1	570	516	50	100	Pass
		24132572 (1)-92	16-Dec-24	Day time	2	499				
		24132572 (1)-93	16-Dec-24	Day time	3	480				
		24132572 (1)-94	16-Dec-24	Night time	1	566	506	50	100	Pass
		24132572 (1)-95	16-Dec-24	Night time	2	482				
		24132572 (1)-96	16-Dec-24	Night time	3	470				

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 390 dated February 21 B.E.2561 (2018)

Technical Management

*Sgt S*  
Supot Salameh  
Section Head

Approved by

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Wichan Chonharat  
Assistant Manager

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399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location: GNLL2

Lot ID: 24132572 (2)  
Date Received : Dec 17, 2024  
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Report Number: 24132572 (2)-1

Page 2 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 390 dated February 21 B.E.2561 (2018)										

Technical Management

*Sgt S*  
Supot Salameh  
Section Head

Approved by

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Wichan Chonharat  
Assistant Manager

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Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (3)  
Date Received : Dec 17, 2024  
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Report Number: 24132572 (3)-1

Page 1 of 2

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Area : Control Building : 2nd Floor : Pantry Room	24132572 (3)-1	16-Dec-24	Day time	1	1,515	1271	150	300	Pass
		24132572 (3)-2	16-Dec-24	Day time	2	1,077				
		24132572 (3)-3	16-Dec-24	Night time	1	940	917	150	300	Pass
		24132572 (3)-4	16-Dec-24	Night time	2	954				
2	Spot : Control Building : 2nd Floor : DCS Room : รหัสเครื่อง	24132572 (3)-5	16-Dec-24	Day time	1	403	+	200-300	+	Pass
		24132572 (3)-6	16-Dec-24	Night time	1	405	+	200-300	+	Pass
3	Spot : Control Building : 2nd Floor : Utility Room : รหัสเครื่อง	24132572 (3)-7	16-Dec-24	Day time	1	640	+	200-300	+	Pass
		24132572 (3)-8	16-Dec-24	Night time	1	604	+	200-300	+	Pass
4	Spot : Control Building : 2nd Floor : 1st Daytime 1	24132572 (3)-9	16-Dec-24	Day time	1	609	+	400-500	+	Pass
		24132572 (3)-10	16-Dec-24	Night time	1	592	+	400-500	+	Pass
5	Spot : Control Building : 2nd Floor : 1st Daytime 2	24132572 (3)-11	16-Dec-24	Day time	1	600	+	400-500	+	Pass
		24132572 (3)-12	16-Dec-24	Night time	1	590	+	400-500	+	Pass
6	Spot : Control Building : 2nd Floor : 1st Operation manager	24132572 (3)-13	16-Dec-24	Day time	1	990	+	400-500	+	Pass
		24132572 (3)-14	16-Dec-24	Night time	1	874	+	400-500	+	Pass
7	Spot : Control Building : 2nd Floor : 1st เครื่อง DCS 1	24132572 (3)-15	16-Dec-24	Day time	1	445	+	400-500	+	Pass
		24132572 (3)-16	16-Dec-24	Night time	1	569	+	400-500	+	Pass
8	Spot : Control Building : 2nd Floor : 1st เครื่อง DCS 2	24132572 (3)-17	16-Dec-24	Day time	1	875	+	400-500	+	Pass
		24132572 (3)-18	16-Dec-24	Night time	1	847	+	400-500	+	Pass
9	Spot : Control Building : 2nd Floor : 1st วนวน 1	24132572 (3)-19	16-Dec-24	Day time	1	898	+	400-500	+	Pass
		24132572 (3)-20	16-Dec-24	Night time	1	880	+	400-500	+	Pass
10	Spot : Control Building : 2nd Floor : 1st วนวน 2	24132572 (3)-21	16-Dec-24	Day time	1	845	+	400-500	+	Pass
		24132572 (3)-22	16-Dec-24	Night time	1	764	+	400-500	+	Pass

Technical Management

Supt S  
Supot Salemtah  
Section Head

Approved by

Wichan Chomhanat  
Assistant Manager

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Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (4)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (4)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Area : Control Building : Gas metering station : Gas metering Control Room	24132572 (4)-1	16-Dec-24	Day time	1	540	552	100	200	Pass
		24132572 (4)-2	16-Dec-24	Day time	2	564				
		24132572 (4)-3	16-Dec-24	Night time	1	513	524	100	200	Pass
		24132572 (4)-4	16-Dec-24	Night time	2	535				
2	Area : Control Building : Gas metering station : Storage Room	24132572 (4)-5	16-Dec-24	Day time	1	651	681	50	100	Pass
		24132572 (4)-6	16-Dec-24	Day time	2	711				
		24132572 (4)-7	16-Dec-24	Night time	1	666	668	50	100	Pass
		24132572 (4)-8	16-Dec-24	Night time	2	709				

Measurement by : Nonanon Thathongkham

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

Technical Management

Supt S  
Supot Salemtah  
Section Head

Approved by

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (3)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (3)-1

Page 2 of 2

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
11	Area : Control Building : 2nd Floor : วนวน	24132572 (3)-23	16-Dec-24	Day time	1	338	404	50	100	Pass
		24132572 (3)-24	16-Dec-24	Day time	2	451				
		24132572 (3)-25	16-Dec-24	Day time	3	366				
		24132572 (3)-26	16-Dec-24	Day time	4	427				
		24132572 (3)-27	16-Dec-24	Day time	5	411				
		24132572 (3)-28	16-Dec-24	Day time	6	409				
		24132572 (3)-29	16-Dec-24	Night time	1	218	232	50	100	Pass
		24132572 (3)-30	16-Dec-24	Night time	2	241				
		24132572 (3)-31	16-Dec-24	Night time	3	203				
		24132572 (3)-32	16-Dec-24	Night time	4	233				
		24132572 (3)-33	16-Dec-24	Night time	5	269				
		24132572 (3)-34	16-Dec-24	Night time	6	225				

Measurement by : Nonanon Thathongkham

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

Technical Management

Supt S  
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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (5)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (5)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average			Comment
1	Area : Guard House : 1st วนวน	24132572 (5)-1	16-Dec-24	Day time	1	3,350	3335	-	100	Pass
		24132572 (5)-2	16-Dec-24	Day time	2	3,320				
		24132572 (5)-3	16-Dec-24	Night time	1	514	545	-	100	Pass
		24132572 (5)-4	16-Dec-24	Night time	2	576				

Measurement by : Nonanon Thathongkham

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

Technical Management

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (6)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (6)-1

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GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
1	Area : Substation Building : Substation Room	24132572 (6)-1	16-Dec-24	Day time	1	1,122	1001	100	200	Pass
		24132572 (6)-2	16-Dec-24	Day time	2	1,132				
		24132572 (6)-3	16-Dec-24	Day time	3	1,234				
		24132572 (6)-4	16-Dec-24	Day time	4	1,075				
		24132572 (6)-5	16-Dec-24	Day time	5	977				
		24132572 (6)-6	16-Dec-24	Day time	6	951				
		24132572 (6)-7	16-Dec-24	Day time	7	715				
		24132572 (6)-8	16-Dec-24	Night time	1	402	556	100	200	Pass
		24132572 (6)-9	16-Dec-24	Night time	2	505				
		24132572 (6)-10	16-Dec-24	Night time	3	624				
		24132572 (6)-11	16-Dec-24	Night time	4	533				
		24132572 (6)-12	16-Dec-24	Night time	5	560				
		24132572 (6)-13	16-Dec-24	Night time	6	662				
		24132572 (6)-14	16-Dec-24	Night time	7	695				
2	Area : Substation Building : Switchgear Room	24132572 (6)-15	16-Dec-24	Day time	1	493	568	100	200	Pass
		24132572 (6)-16	16-Dec-24	Day time	2	518				
		24132572 (6)-17	16-Dec-24	Day time	3	651				
		24132572 (6)-18	16-Dec-24	Day time	4	577				
		24132572 (6)-19	16-Dec-24	Day time	5	691				
		24132572 (6)-20	16-Dec-24	Night time	1	489	525	100	200	Pass
		24132572 (6)-21	16-Dec-24	Night time	2	594				
		24132572 (6)-22	16-Dec-24	Night time	3	630				
		24132572 (6)-23	16-Dec-24	Night time	4	521				
		24132572 (6)-24	16-Dec-24	Night time	5	511				
3	Area : Substation Building : Terminal Sub	24132572 (6)-25	16-Dec-24	Day time	1	507	480	100	200	Pass
		24132572 (6)-26	16-Dec-24	Day time	2	500				
		24132572 (6)-27	16-Dec-24	Day time	3	465				
		24132572 (6)-28	16-Dec-24	Day time	4	443				
		24132572 (6)-29	16-Dec-24	Night time	1	506	462	100	200	Pass
		24132572 (6)-30	16-Dec-24	Night time	2	501				
		24132572 (6)-31	16-Dec-24	Night time	3	428				
		24132572 (6)-32	16-Dec-24	Night time	4	412				

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 350 dated February 21 B.E.2561 (2018)

Technical Management

Supt S  
Supot Salameth  
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Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (7)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (7)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
1	Spot : Water Treatment Control Building Ground Floor : Laboratory Room : 1st Floor	24132572 (7)-1	16-Dec-24	Day time	1	676	-	150-300	-	Pass
		24132572 (7)-2	16-Dec-24	Night time	1	523	-	150-300	-	Pass
2	Area : Water Treatment Control Building Ground Floor : WTP Control Room	24132572 (7)-3	16-Dec-24	Day time	1	714	655	100	200	Pass
		24132572 (7)-4	16-Dec-24	Day time	2	636				
		24132572 (7)-5	16-Dec-24	Day time	3	703				
		24132572 (7)-6	16-Dec-24	Day time	4	644				
		24132572 (7)-7	16-Dec-24	Day time	5	611				
		24132572 (7)-8	16-Dec-24	Night time	1	573	627	100	200	Pass
		24132572 (7)-9	16-Dec-24	Night time	2	588				
		24132572 (7)-10	16-Dec-24	Night time	3	690				
		24132572 (7)-11	16-Dec-24	Night time	4	650				
		24132572 (7)-12	16-Dec-24	Night time	5	633				
3	Spot : Water Treatment Control Building Ground Floor : 1st Chemist	24132572 (7)-13	16-Dec-24	Day time	1	721	-	400-500	-	Pass
		24132572 (7)-14	16-Dec-24	Night time	1	706	-	400-500	-	Pass

Measurement by : Norranon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 350 dated February 21 B.E.2561 (2018)

Technical Management

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Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (8)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (8)-1

Page 1 of 1

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
1	Spot : Workshop Building : 1st Floor : Copy Machine	24132572 (8)-1	16-Dec-24	Day time	1	338	-	300-400	-	Pass
		24132572 (8)-2	16-Dec-24	Night time	1	322	-	300-400	-	Pass
2	Area : Workshop Building : 1st Floor : Document Room	24132572 (8)-3	16-Dec-24	Day time	1	1,982	1916	150	300	Pass
		24132572 (8)-4	16-Dec-24	Day time	2	1,850				
		24132572 (8)-5	16-Dec-24	Night time	1	309	310	150	300	Pass
		24132572 (8)-6	16-Dec-24	Night time	2	312				
3	Area : Workshop Building : 1st Floor : Meeting Room	24132572 (8)-7	16-Dec-24	Day time	1	677	594	150	300	Pass
		24132572 (8)-8	16-Dec-24	Day time	2	660				
		24132572 (8)-9	16-Dec-24	Day time	3	600				
		24132572 (8)-10	16-Dec-24	Day time	4	590				
		24132572 (8)-11	16-Dec-24	Day time	5	565				
		24132572 (8)-12	16-Dec-24	Day time	6	570				
		24132572 (8)-13	16-Dec-24	Day time	7	543				
		24132572 (8)-14	16-Dec-24	Day time	8	550				
		24132572 (8)-15	16-Dec-24	Night time	1	426	372	150	300	Pass
		24132572 (8)-16	16-Dec-24	Night time	2	411				
		24132572 (8)-17	16-Dec-24	Night time	3	397				
		24132572 (8)-18	16-Dec-24	Night time	4	380				
		24132572 (8)-19	16-Dec-24	Night time	5	356				
		24132572 (8)-20	16-Dec-24	Night time	6	343				
		24132572 (8)-21	16-Dec-24	Night time	7	326				
		24132572 (8)-22	16-Dec-24	Night time	8	339				
4	Area : Workshop Building : 1st Floor : Pantry Room	24132572 (8)-23	16-Dec-24	Day time	1	623	516	150	300	Pass
		24132572 (8)-24	16-Dec-24	Day time	2	611				
		24132572 (8)-25	16-Dec-24	Day time	3	410				
		24132572 (8)-26	16-Dec-24	Day time	4	422				
		24132572 (8)-27	16-Dec-24	Night time	1	299	365	150	300	Pass
		24132572 (8)-28	16-Dec-24	Night time	2	331				
5	Spot : Workshop Building : 1st Floor : 1st Electrical Engineer 2	24132572 (8)-29	16-Dec-24	Night time	3	332				
		24132572 (8)-30	16-Dec-24	Night time	4	500				
6	Spot : Workshop Building : 1st Floor : 1st Electrical Engineer 1	24132572 (8)-31	16-Dec-24	Day time	1	417	-	400-500	-	Pass
		24132572 (8)-32	16-Dec-24	Night time	1	411	-	400-500	-	Pass
7	Spot : Workshop Building : 1st Floor : 1st Electrical Engineer 1	24132572 (8)-33	16-Dec-24	Day time	1	498	-	400-500	-	Pass
		24132572 (8)-34	16-Dec-24	Night time	1	411	-	400-500	-	Pass

Technical Management

Supt S  
Supot Salameth  
Section Head

Approved by

Nichan Choonharat  
Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 24132572 (8)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number: 24132572 (8)-1

Page 2 of 3

GNLL2										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux) Spot	Average	Spot/Min	Guideline Limit Average	Comment
7	Spot : Workshop Building : 1st Floor : 1st CAJ Engineer 2	24132572 (8)-35	16-Dec-24	Day time	1	459	-	400-500	-	Pass
		24132572 (8)-36	16-Dec-24	Night time	1	460	-	400-500	-	Pass
8	Spot : Workshop Building : 1st Floor : 1st CAJ Leader	24132572 (8)-37	16-Dec-24	Day time	1	534	-	400-500	-	Pass
		24132572 (8)-38	16-Dec-24	Night time	1	441	-	400-500	-	Pass
9	Spot : Workshop Building : 1st Floor : 1st Electrical Engineer 1	24132572 (8)-39	16-Dec-24	Day time	1	410	-	400-500	-	Pass
		24132572 (8)-40	16-Dec-24	Night time	1	402	-	400-500	-	Pass
10	Spot : Workshop Building : 1st Floor : 1st Electrical Leader	24132572 (8)-41	16-Dec-24	Day time	1	478	-	400-500	-	Pass
		24132572 (8)-42	16-Dec-24	Night time	1	460	-	400-500	-	Pass
11	Spot : Workshop Building : 1st Floor : 1st Maintenance Manager	24132572 (8)-43	16-Dec-24	Day time	1	435	-	400-500	-	Pass
		24132572 (8)-44	16-Dec-24	Night time	1	431	-	400-500	-	Pass
12	Spot : Workshop Building : 1st Floor : 1st Mechanical Engineer 1	24132572 (8)-45	16-Dec-24	Day time	1	423	-	400-500	-	Pass
		24132572 (8)-46	16-Dec-24	Night time	1	408	-	400-500	-	Pass
13	Spot : Workshop Building : 1st Floor : 1st Mechanical Engineer 2	24132572 (8)-47	16-Dec-24	Day time	1	430	-	400-500	-	Pass
		24132572 (8)-48	16-Dec-24	Night time	1	413	-	400-500	-	Pass
14	Spot : Workshop Building : 1st Floor : 1st Mechanical Leader	24132572 (8)-49	16-Dec-24	Day time	1	434	-	400-500	-	Pass
		24132572 (8)-50	16-Dec-24	Night time	1	429	-	400-500	-	Pass
15	Spot : Workshop Building : 1st Floor : 1st Spare 1	24132572 (8)-51	16-Dec-24	Day time	1	482	-	400-500	-	Pass
		24132572 (8)-52	16-Dec-24	Night time	1	457	-	400-500	-	Pass
16	Spot : Workshop Building : 1st Floor : 1st Spare 2	24132572 (8)-53	16-Dec-24	Day time	1	493	-	400-500	-	Pass
		24132572 (8)-54	16-Dec-24	Night time	1	515	-	400-500	-	Pass
17	Spot : Workshop Building : 1st Floor : 1st Spare 3	24132572 (8)-55	16-Dec-24	Day time	1	417	-	400-500	-	Pass
		24132572 (8)-56	16-Dec-24	Night time	1	420	-	400-500	-	Pass



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNL2

Lot ID: 24132572 (8)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number : 24132572 (8)-1

Page 1 of 1

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
18	Area : Workshop Building : 1st Floor : โรงงาน	24132572 (8)-57	16-Dec-24	Day time	1	576	544	50	100	Pass
		24132572 (8)-58	16-Dec-24	Day time	2	543				
		24132572 (8)-59	16-Dec-24	Day time	3	522				
		24132572 (8)-60	16-Dec-24	Day time	4	537				
		24132572 (8)-61	16-Dec-24	Night time	1	543	522	50	100	Pass
		24132572 (8)-62	16-Dec-24	Night time	2	515				
		24132572 (8)-63	16-Dec-24	Night time	3	509				
		24132572 (8)-64	16-Dec-24	Night time	4	521				
19	Area : Workshop Building : 1st Floor : โรงงาน	24132572 (8)-65	16-Dec-24	Day time	1	230	226	50	100	Pass
		24132572 (8)-66	16-Dec-24	Day time	2	221				
		24132572 (8)-67	16-Dec-24	Night time	1	207	206	50	100	Pass
		24132572 (8)-68	16-Dec-24	Night time	2	205				

Measurement by : Nonanon Tathongkham

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 393 dated February 21, B.E.2561 (2018)

Technical Management

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNL2

Lot ID: 24132572 (9)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number : 24132572 (9)-1

Page 1 of 3

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : Workshop Building : Ground Floor : Warehouse	24132572 (9)-1	16-Dec-24	Day time	1	256	379	50	100	Pass
		24132572 (9)-2	16-Dec-24	Day time	2	227				
		24132572 (9)-3	16-Dec-24	Day time	3	237				
		24132572 (9)-4	16-Dec-24	Day time	4	225				
		24132572 (9)-5	16-Dec-24	Day time	5	240				
		24132572 (9)-6	16-Dec-24	Day time	6	233				
		24132572 (9)-7	16-Dec-24	Day time	7	246				
		24132572 (9)-8	16-Dec-24	Day time	8	250				
		24132572 (9)-9	16-Dec-24	Day time	9	945				
		24132572 (9)-10	16-Dec-24	Day time	10	950				
		24132572 (9)-11	16-Dec-24	Day time	11	344				
		24132572 (9)-12	16-Dec-24	Day time	12	356				
		24132572 (9)-13	16-Dec-24	Day time	13	402				
		24132572 (9)-14	16-Dec-24	Day time	14	370				
		24132572 (9)-15	16-Dec-24	Day time	15	367				
		24132572 (9)-16	16-Dec-24	Day time	16	378				
		24132572 (9)-17	16-Dec-24	Day time	17	384				
		24132572 (9)-18	16-Dec-24	Day time	18	353				
2	Area : Workshop Building : Ground Floor : Control & Instrument workshop	24132572 (9)-19	16-Dec-24	Day time	1	556	560	100	200	Pass
		24132572 (9)-20	16-Dec-24	Day time	2	570				
		24132572 (9)-21	16-Dec-24	Day time	3	550				
		24132572 (9)-22	16-Dec-24	Day time	4	563				
3	Area : Workshop Building : Ground Floor : Electrical Control Room	24132572 (9)-23	16-Dec-24	Day time	1	209	210	100	200	Pass
		24132572 (9)-24	16-Dec-24	Day time	2	212				
		24132572 (9)-25	16-Dec-24	Night time	1	270	265	100	200	Pass
		24132572 (9)-26	16-Dec-24	Night time	2	260				
4	Area : Workshop Building : Ground Floor : LTSA Room	24132572 (9)-27	16-Dec-24	Day time	1	561	554	50	100	Pass
		24132572 (9)-28	16-Dec-24	Day time	2	500				
		24132572 (9)-29	16-Dec-24	Day time	3	556				
		24132572 (9)-30	16-Dec-24	Day time	4	585				
		24132572 (9)-31	16-Dec-24	Day time	5	547				
		24132572 (9)-32	16-Dec-24	Day time	6	555				
		24132572 (9)-33	16-Dec-24	Day time	7	561				
		24132572 (9)-34	16-Dec-24	Day time	8	570				

Technical Management

Supt S  
Supat Salameh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring ETA  
Project Location : GNL2

Lot ID: 24132572 (9)  
Date Received : Dec 17, 2024  
Date Reported : Dec 23, 2024  
Report Number : 24132572 (9)-1

Page 2 of 1

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
5	Area : Workshop Building : Ground Floor : Server Room	24132572 (9)-35	16-Dec-24	Day time	1	278	272	100	200	Pass
		24132572 (9)-36	16-Dec-24	Day time	2	266				
		24132572 (9)-37	16-Dec-24	Night time	1	325	328	100	200	Pass
		24132572 (9)-38	16-Dec-24	Night time	2	330				
6	Area : Workshop Building : Ground Floor : Temp Control part Room	24132572 (9)-39	16-Dec-24	Day time	1	336	376	100	200	Pass
		24132572 (9)-40	16-Dec-24	Day time	2	342				
		24132572 (9)-41	16-Dec-24	Day time	3	416				
		24132572 (9)-42	16-Dec-24	Day time	4	422				
		24132572 (9)-43	16-Dec-24	Day time	5	367				
		24132572 (9)-44	16-Dec-24	Day time	6	370				
7	Spot : Workshop Building : Ground Floor : ถังเก็บน้ำฝน	24132572 (9)-45	16-Dec-24	Day time	1	449	-	400-500	-	Pass
9	Area : Workshop Building : Ground Floor : โรงงาน	24132572 (9)-46	16-Dec-24	Day time	1	178	266	50	100	Pass
		24132572 (9)-47	16-Dec-24	Day time	2	244				
		24132572 (9)-48	16-Dec-24	Day time	3	366				
		24132572 (9)-49	16-Dec-24	Day time	4	107				
		24132572 (9)-50	16-Dec-24	Day time	5	112				
		24132572 (9)-51	16-Dec-24	Day time	6	344				
		24132572 (9)-52	16-Dec-24	Day time	7	362				
		24132572 (9)-53	16-Dec-24	Day time	8	413				
		24132572 (9)-54	16-Dec-24	Night time	1	206	192	50	100	Pass
		24132572 (9)-55	16-Dec-24	Night time	2	211				
		24132572 (9)-56	16-Dec-24	Night time	3	225				
		24132572 (9)-57	16-Dec-24	Night time	4	115				
10	Area : Workshop Building : Ground Floor : โรงงาน	24132572 (9)-58	16-Dec-24	Night time	5	105				
		24132572 (9)-59	16-Dec-24	Night time	6	211				
		24132572 (9)-60	16-Dec-24	Night time	7	228				
		24132572 (9)-61	16-Dec-24	Night time	8	239				
		24132572 (9)-62	16-Dec-24	Day time	1	436	459	50	100	Pass
		24132572 (9)-63	16-Dec-24	Day time	2	500				
		24132572 (9)-64	16-Dec-24	Day time	3	442				
		24132572 (9)-65	16-Dec-24	Night time	1	420	409	50	100	Pass
		24132572 (9)-66	16-Dec-24	Night time	2	396				
		24132572 (9)-67	16-Dec-24	Night time	3	432				

Technical Management

Supt S  
Supat Salameh  
Section Head

Approved by

Wichan Choonharat  
Assistant Manager

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## ภาคผนวก ค-2

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ผลการตรวจวัดคุณภาพอากาศจากปล่องระบายอากาศ  
แบบต่อเนื่อง

(Continuous Emission Monitoring System : CEMs)



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG11  
1/1/2024 00:00 - 31/1/2024 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
01/07/2024 00:00	14.911	281426.344	12.763	0.000	9.201	Off Peak Load
01/07/2024 01:00	14.913	286463.594	14.210	0.001	8.090	Off Peak Load
01/07/2024 02:00	14.969	302297.281	6.985	0.000	9.101	Off Peak Load
01/07/2024 03:00	14.905	289620.938	6.047	0.009	8.310	Off Peak Load
01/07/2024 04:00	14.946	286876.500	12.028	0.002	7.361	Off Peak Load
01/07/2024 05:00	14.926	295614.114	13.995	0.000	7.590	Off Peak Load
01/07/2024 06:00	14.891	288043.125	13.679	0.000	8.031	Off Peak Load
01/07/2024 07:00	14.932	284628.438	11.633	0.000	9.473	Off Peak Load
01/07/2024 08:00	14.922	280823.375	8.502	0.000	10.034	Off Peak Load
01/07/2024 09:00	15.024	326058.813	11.849	0.001	8.397	On Peak Load
01/07/2024 10:00	15.084	323010.281	9.629	0.001	7.829	On Peak Load
01/07/2024 11:00	15.129	325715.500	9.279	0.001	7.434	On Peak Load
01/07/2024 12:00	15.061	314533.125	9.769	0.002	6.543	On Peak Load
01/07/2024 13:00	15.305	246452.469	36.334	0.002	6.958	Off Peak Load
01/07/2024 14:00	15.076	319505.938	10.847	0.002	7.426	On Peak Load
01/07/2024 15:00	15.143	325846.188	14.584	0.002	7.099	On Peak Load
01/07/2024 16:00	15.153	322803.156	8.970	0.001	6.702	On Peak Load
01/07/2024 17:00	15.145	323482.438	16.600	0.001	6.373	On Peak Load
01/07/2024 18:00	15.199	333512.906	14.817	0.001	5.999	On Peak Load
01/07/2024 19:00	15.149	331720.281	5.915	0.001	6.604	On Peak Load
01/07/2024 20:00	15.102	325668.938	12.929	0.001	10.302	On Peak Load
01/07/2024 21:00	15.067	327805.811	17.537	0.001	11.070	On Peak Load
01/07/2024 22:00	15.084	326247.250	13.902	0.001	8.958	On Peak Load
01/07/2024 23:00	15.073	329684.813	8.793	0.000	8.939	On Peak Load
02/07/2024 00:00	15.060	363263.031	16.076	0.000	8.456	Off Peak Load GT12 SD Half Block
02/07/2024 01:00	15.083	363678.313	10.673	0.000	8.461	Off Peak Load GT12 SD Half Block
02/07/2024 02:00	15.096	354541.938	10.968	0.000	7.780	Off Peak Load GT12 SD Half Block
02/07/2024 03:00	15.098	355595.188	13.349	0.000	8.372	Off Peak Load GT12 SD Half Block
02/07/2024 04:00	15.097	353806.875	13.414	0.000	12.713	Off Peak Load GT12 SD Half Block
02/07/2024 05:00	15.108	354194.719	10.489	0.000	16.700	Off Peak Load GT12 SD Half Block
02/07/2024 06:00	15.108	356016.906	16.729	0.000	13.800	Off Peak Load GT12 SD Half Block
02/07/2024 07:00	15.112	355897.406	5.435	0.000	12.097	Off Peak Load GT12 SD Half Block
02/07/2024 08:00	15.098	356297.125	18.045	0.000	12.588	Off Peak Load GT12 SD Half Block
02/07/2024 09:00	15.073	329610.281	12.189	0.000	10.640	On Peak Load
02/07/2024 10:00	15.088	322009.531	5.024	0.000	8.399	On Peak Load
02/07/2024 11:00	15.135	311107.875	15.289	0.000	6.273	On Peak Load
02/07/2024 12:00	15.087	306806.938	12.176	0.001	6.073	On Peak Load
02/07/2024 13:00	15.432	288563.953	35.115	0.001	5.935	Off Peak Load
02/07/2024 14:00	15.209	321465.500	18.455	0.001	5.130	On Peak Load
02/07/2024 15:00	15.142	325492.063	9.837	0.001	5.363	On Peak Load
02/07/2024 16:00	15.198	319161.969	18.196	0.001	5.062	On Peak Load
02/07/2024 17:00	15.175	320960.938	13.377	0.001	5.054	On Peak Load
02/07/2024 18:00	15.127	324052.313	17.831	0.002	4.955	On Peak Load
02/07/2024 19:00	15.090	325530.438	6.768	0.002	6.692	On Peak Load
02/07/2024 20:00	15.079	319457.688	7.441	0.002	8.598	On Peak Load
02/07/2024 21:00	15.109	321958.719	20.239	0.002	8.988	On Peak Load
02/07/2024 22:00	15.096	324052.614	13.709	0.001	9.589	On Peak Load
02/07/2024 23:00	15.097	341788.031	15.997	0.001	9.088	On Peak Load
03/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/07/2024 09:00	15.043	320086.500	25.511	1.285	6.619	On Peak Load
03/07/2024 10:00	15.128	311267.563	24.801	0.258	6.482	On Peak Load
03/07/2024 11:00	15.165	322648.344	24.133	0.010	6.643	On Peak Load
03/07/2024 12:00	15.123	317483.344	26.550	0.919	6.913	On Peak Load
03/07/2024 13:00	15.332	243945.531	41.369	0.004	8.642	Off Peak Load
03/07/2024 14:00	15.050	311971.500	19.551	0.009	9.792	On Peak Load
03/07/2024 15:00	15.119	323978.969	14.575	0.000	8.355	On Peak Load
03/07/2024 16:00	15.122	331718.563	6.840	0.000	9.310	On Peak Load
03/07/2024 17:00	15.059	323643.969	17.780	0.001	11.811	On Peak Load
03/07/2024 18:00	15.079	326673.219	12.546	0.001	8.190	On Peak Load
03/07/2024 19:00	15.047	324023.375	16.124	0.001	10.678	On Peak Load
03/07/2024 20:00	15.007	324300.094	11.981	0.002	8.539	On Peak Load
03/07/2024 21:00	15.101	368056.906	16.200	0.002	10.073	On Peak Load
03/07/2024 22:00	15.006	326431.938	12.486	0.002	7.574	On Peak Load
03/07/2024 23:00	15.013	337835.219	13.107	0.002	7.796	On Peak Load
04/07/2024 00:00	15.038	366357.563	25.201	0.005	7.885	Off Peak Load GT12 SD Half Block
04/07/2024 01:00	15.137	357392.781	13.343	0.002	7.530	Off Peak Load GT12 SD Half Block
04/07/2024 02:00	15.118	356677.563	19.233	0.002	7.042	Off Peak Load GT12 SD Half Block
04/07/2024 03:00	15.116	355011.344	12.000	0.001	11.779	Off Peak Load GT12 SD Half Block
04/07/2024 04:00	15.135	353504.250	9.826	0.001	9.506	Off Peak Load GT12 SD Half Block
04/07/2024 05:00	15.118	353508.531	18.495	0.001	9.356	Off Peak Load GT12 SD Half Block
04/07/2024 06:00	15.104	354459.031	23.643	0.001	11.694	Off Peak Load GT12 SD Half Block
04/07/2024 07:00	15.125	352596.844	16.056	0.000	8.492	Off Peak Load GT12 SD Half Block
04/07/2024 08:00	15.100	350922.375	15.134	0.000	7.990	Off Peak Load GT12 SD Half Block
04/07/2024 09:00	15.005	319995.313	17.562	0.000	8.169	On Peak Load
04/07/2024 10:00	15.054	321402.719	7.780	0.000	9.263	On Peak Load
04/07/2024 11:00	15.073	299047.875	14.031	0.000	8.218	On Peak Load
04/07/2024 12:00	15.009	315668.614	15.890	0.000	9.474	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG11  
1/1/2024 00:00 - 31/1/2024 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust1 (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/07/2024 13:00	15.314	239553.375	47.666	0.000	17.200	Off Peak Load
04/07/2024 14:00	14.981	311201.906	20.309	0.000	12.819	On Peak Load
04/07/2024 15:00	15.041	309104.125	14.495	0.000	8.121	On Peak Load
04/07/2024 16:00	15.085	317430.469	7.346	0.003	7.183	On Peak Load
04/07/2024 17:00	15.070	316291.844	19.880	0.002	7.322	On Peak Load
04/07/2024 18:00	15.050	323632.188	17.135	0.002	10.142	On Peak Load
04/07/2024 19:00	15.048	324547.938	16.078	0.002	9.910	On Peak Load
04/07/2024 20:00	15.045	315622.750	16.055	0.001	8.397	On Peak Load
04/07/2024 21:00	15.083	326557.750	18.569	0.001	7.417	On Peak Load
04/07/2024 22:00	15.031	317565.750	14.547	0.000	6.885	On Peak Load
04/07/2024 23:00	15.056	327243.906	8.446	0.000	7.138	On Peak Load
05/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
05/07/2024 09:00	15.062	337790.125	23.909	0.004	7.542	On Peak Load
05/07/2024 10:00	15.134	324201.469	21.588	0.018	7.149	On Peak Load
05/07/2024 11:00	15.185	318462.719	28.148	1.493	7.252	On Peak Load
05/07/2024 12:00	15.098	323487.156	19.211	0.005	7.408	On Peak Load
05/07/2024 13:00	15.316	245183.594	48.851	0.000	9.570	Off Peak Load
05/07/2024 14:00	15.075	332090.563	14.694	0.005	10.433	On Peak Load
05/07/2024 15:00	15.043	333684.563	12.969	0.000	8.983	On Peak Load
05/07/2024 16:00	15.063	337778.219	17.559	0.004	7.659	On Peak Load
05/07/2024 17:00	15.037	324556.906	12.413	0.004	8.974	On Peak Load
05/07/2024 18:00	15.030	323523.313	18.513	0.004	7.892	On Peak Load
05/07/2024 19:00	15.053	323545.625	15.000	0.003	7.839	On Peak Load
05/07/2024 20:00	15.073	335698.500	16.245	0.003	11.385	On Peak Load
05/07/2024 21:00	15.118	333751.219	13.931	0.002	11.025	On Peak Load
05/07/2024 22:00	15.074	329082.906	17.639	0.002	15.072	On Peak Load
05/07/2024 23:00	15.106	341528.094	23.509	0.002	11.385	On Peak Load
06/07/2024 00:00	15.089	369088.063	20.096	0.002	9.926	Off Peak Load GT12 SD Half Block
06/07/2024 01:00	15.118	357214.469	14.380	0.002	10.983	Off Peak Load GT12 SD Half Block
06/07/2024 02:00	15.114	352448.219	15.680	0.001	9.926	Off Peak Load GT12 SD Half Block
06/07/2024 03:00	15.112	352482.500	12.212	0.001	9.587	Off Peak Load GT12 SD Half Block
06/07/2024 04:00	15.097	352898.281	14.542	0.001	9.096	Off Peak Load GT12 SD Half Block
06/07/2024 05:00	15.113	352716.563	16.214	0.001	8.780	Off Peak Load GT12 SD Half Block
06/07/2024 06:00	15.118	352241.719	14.141	0.000	8.206	Off Peak Load GT12 SD Half Block
06/07/2024 07:00	15.119	353771.906	13.816	0.000	9.750	Off Peak Load GT12 SD Half Block
06/07/2024 08:00	15.112	354810.906	18.993	0.000	13.190	Off Peak Load GT12 SD Half Block
06/07/2024 09:00	15.102	328224.156	15.945	0.000	10.659	On Peak Load
06/07/2024 10:00	15.122	331726.125	16.433	0.000	7.471	On Peak Load
06/07/2024 11:00	15.175	326232.319	18.972	0.000	6.215	On Peak Load
06/07/2024 12:00	15.104	331445.125	18.444	0.000	5.740	On Peak Load
06/07/2024 13:00	15.295	250153.141	38.352	0.000	5.676	Off Peak Load
06/07/2024 14:00	15.187	343782.969	16.148	0.000	6.686	On Peak Load
06/07/2024 15:00	15.165	323397.875	17.105	0.000	8.744	On Peak Load
06/07/2024 16:00	15.132	327404.313	15.074	0.000	8.077	On Peak Load
06/07/2024 17:00	15.145	331434.094	15.671	0.001	8.969	On Peak Load
06/07/2024 18:00	15.171	348151.813	12.401	0.000	9.831	On Peak Load
06/07/2024 19:00	15.137	351877.281	12.599	0.002	10.886	On Peak Load
06/07/2024 20:00	15.049	317383.750	9.969	0.003	11.705	On Peak Load
06/07/2024 21:00	15.138	354385.281	17.905	0.004	12.755	On Peak Load
06/07/2024 22:00	15.141	342759.281	17.368	0.003	12.777	On Peak Load
06/07/2024 23:00	15.107	347597.219	21.273	0.003	14.440	On Peak Load
07/07/2024 00:00	15.060	368360.959	16.212	0.002	10.571	Off Peak Load GT12 SD Half Block
07/07/2024 01:00	15.108	356827.656	17.745	0.001	9.717	Off Peak Load GT12 SD Half Block
07/07/2024 02:00	15.094	356401.938	15.042	0.001	9.656	Off Peak Load GT12 SD Half Block
07/07/2024 03:00	15.114	353338.906	19.260	0.000	9.001	Off Peak Load GT12 SD Half Block
07/07/2024 04:00	15.152	358154.506	30.265	Analyzer fail	11.623	Off Peak Load GT12 SD Half Block
07/07/2024 05:00	15.143	354418.313	33.104	Analyzer fail	10.196	Off Peak Load GT12 SD Half Block
07/07/2024 06:00	15.131	356130.156	32.282	Analyzer fail	9.006	Off Peak Load GT12 SD Half Block
07/07/2024 07:00	15.119	356218.414	35.026	Analyzer fail	8.173	Off Peak Load GT12 SD Half Block
07/07/2024 08:00	15.171	355508.625	35.719	Analyzer fail	7.635	Off Peak Load GT12 SD Half Block
07/07/2024 09:00	15.204	359618.813	36.360	Analyzer fail	8.506	Off Peak Load GT12 SD Half Block
07/07/2024 10:00	15.256	358315.719	37.303	Analyzer fail	8.298	Off Peak Load GT12 SD Half Block
07/07/2024 11:00	15.210	358307.500	37.592	Analyzer fail	6.928	Off Peak Load GT12 SD Half Block
07/07/2024 12:00	15.230	356977.569	38.062	Analyzer fail	6.750	Off Peak Load GT12 SD Half Block
07/07/2024 13:00	15.189	357722.511	39.391	Analyzer fail	7.508	Off Peak Load GT12 SD Half Block
07/07/2024 14:00	15.179	356328.906	40.309	Analyzer fail	7.711	Off Peak Load GT12 SD Half Block
07/07/2024 15:00	15.189	359965.000	39.752	Analyzer fail	8.417	Off Peak Load GT12 SD Half Block
07/07/2024 16:00	15.218	358426.375	38.661	Analyzer fail	8.129	Off Peak Load GT12 SD Half Block
07/07/2024 17:00	15.219	359275.719	39.245	Analyzer fail	7.221	Off Peak Load GT12 SD Half Block
07/07/2024 18:00	15.198	360941.219	41.181	Analyzer fail	8.885	Off Peak Load
07/07/2024 19:00	15.176	357578.125	35.657	Analyzer fail	7.909	On Peak Load
07/07/2024 20:00	15.101	327986.136	32.694	Analyzer fail	8.465	On Peak Load
07/07/2024 21:00	15.149	335704.114	33.931	Analyzer fail	7.974	On Peak Load
07/07/2024 22:00	15.134	330718.781	35.061	Analyzer fail	8.032	Off Peak Load
07/07/2024 23:00	14.957	289567.875	30.687	Analyzer fail	7.950	Off Peak Load
08/07/2024 00:00	14.912	285786.531	32.334	Analyzer fail	7.183	Off Peak Load
08/07/2024 01:00	15.008	297997.531	31.397	Analyzer fail	8.072	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNLS  
HRS011  
1/Jul/24 00:00 - 31/Jul/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
08/07/2024 02:00	14.996	284728.813	29.061	Analysier fail	7.382	Off Peak Load
08/07/2024 03:00	14.961	294873.656	31.016	Analysier fail	7.531	Off Peak Load
08/07/2024 04:00	14.990	294819.906	30.774	Analysier fail	10.951	Off Peak Load
08/07/2024 05:00	14.995	288189.344	29.726	Analysier fail	8.063	Off Peak Load
08/07/2024 06:00	14.965	294743.188	31.206	Analysier fail	7.543	Off Peak Load
08/07/2024 07:00	14.981	296510.000	30.134	Analysier fail	8.698	Off Peak Load
08/07/2024 08:00	14.997	297506.938	30.762	Analysier fail	11.396	Off Peak Load
08/07/2024 09:00	15.124	367764.188	36.804	Analysier fail	10.473	Off Peak Load
08/07/2024 10:00	15.125	368972.531	38.665	Analysier fail	8.257	On Peak Load
08/07/2024 11:00	15.127	331702.438	33.472	Analysier fail	7.340	On Peak Load
08/07/2024 12:00	15.080	329406.563	31.364	Analysier fail	6.915	On Peak Load
08/07/2024 13:00	15.329	243689.984	47.895	2.149	6.248	Off Peak Load
08/07/2024 14:00	15.110	327598.344	23.503	0.737	7.033	On Peak Load
08/07/2024 15:00	15.188	330928.719	23.577	0.081	7.718	On Peak Load
08/07/2024 16:00	15.191	339249.688	26.000	1.288	6.634	On Peak Load
08/07/2024 17:00	15.143	339826.313	13.896	0.005	7.687	On Peak Load
08/07/2024 18:00	15.149	333814.094	14.925	0.002	8.718	On Peak Load
08/07/2024 19:00	15.137	347270.656	18.941	0.002	10.510	On Peak Load
08/07/2024 20:00	15.099	343570.781	7.607	0.002	11.092	On Peak Load
08/07/2024 21:00	15.079	345308.438	17.312	0.002	10.926	On Peak Load
08/07/2024 22:00	15.108	338485.125	16.742	0.001	9.190	On Peak Load
08/07/2024 23:00	15.078	337569.719	7.446	0.001	12.492	On Peak Load
09/07/2024 00:00	15.120	256528.141	30.279	0.001	10.080	Off Peak Load
09/07/2024 01:00	15.016	319520.125	4.218	0.001	8.131	Off Peak Load
09/07/2024 02:00	15.031	315285.406	12.358	0.001	8.026	Off Peak Load
09/07/2024 03:00	15.034	322274.906	3.810	0.001	9.079	Off Peak Load
09/07/2024 04:00	14.987	311600.906	10.911	0.001	10.525	Off Peak Load
09/07/2024 05:00	14.915	305793.094	12.782	0.001	10.131	Off Peak Load
09/07/2024 06:00	15.010	311845.344	15.504	0.001	8.693	Off Peak Load
09/07/2024 07:00	14.984	306714.906	10.991	0.002	10.525	Off Peak Load
09/07/2024 08:00	14.975	298839.094	21.389	1.768	9.847	Off Peak Load
09/07/2024 09:00	15.090	334670.750	30.470	0.001	8.257	On Peak Load
09/07/2024 10:00	15.090	330844.719	29.037	0.001	8.729	On Peak Load
09/07/2024 11:00	15.113	331005.781	32.226	0.001	7.273	On Peak Load
09/07/2024 12:00	15.034	318673.281	28.505	0.001	7.527	On Peak Load
09/07/2024 13:00	15.297	247445.063	53.906	0.002	8.196	Off Peak Load
09/07/2024 14:00	15.183	341816.125	31.862	0.001	8.954	On Peak Load
09/07/2024 15:00	15.154	337126.656	27.797	3.501	9.528	On Peak Load
09/07/2024 16:00	15.147	335456.656	26.481	1.665	8.683	On Peak Load
09/07/2024 17:00	15.159	340571.781	26.092	1.015	9.168	On Peak Load
09/07/2024 18:00	15.141	340871.656	24.751	0.069	9.038	On Peak Load
09/07/2024 19:00	15.115	351646.688	18.851	0.004	7.809	On Peak Load
09/07/2024 20:00	15.095	333725.500	11.257	0.006	9.965	On Peak Load
09/07/2024 21:00	15.070	337258.969	11.795	0.005	11.058	On Peak Load
09/07/2024 22:00	15.089	333094.688	16.933	0.003	11.358	On Peak Load
09/07/2024 23:00	15.071	343435.969	13.444	0.002	12.819	On Peak Load
10/07/2024 00:00	15.130	261941.406	38.151	0.001	14.299	On Peak Load
10/07/2024 01:00	14.959	315906.094	4.782	0.000	11.953	Off Peak Load
10/07/2024 02:00	14.982	309155.781	11.338	0.000	6.383	Off Peak Load
10/07/2024 03:00	14.970	304186.563	12.127	0.000	8.012	Off Peak Load
10/07/2024 04:00	15.013	321870.813	9.263	0.000	9.890	Off Peak Load
10/07/2024 05:00	15.031	321870.188	5.153	0.000	9.531	Off Peak Load
10/07/2024 06:00	15.008	323107.531	11.803	0.000	8.909	Off Peak Load
10/07/2024 07:00	14.944	307038.344	3.414	0.000	12.762	Off Peak Load
10/07/2024 08:00	14.996	312462.750	10.678	0.000	11.635	Off Peak Load
10/07/2024 09:00	15.031	367670.125	9.155	0.000	11.239	On Peak Load
10/07/2024 10:00	15.044	335882.406	13.951	0.000	8.658	On Peak Load
10/07/2024 11:00	15.076	347255.781	15.915	0.000	7.872	On Peak Load
10/07/2024 12:00	15.040	338733.063	10.805	0.000	8.339	On Peak Load
10/07/2024 13:00	15.234	246421.328	28.363	0.000	7.710	Off Peak Load
10/07/2024 14:00	15.092	326790.844	9.946	0.000	7.602	On Peak Load
10/07/2024 15:00	15.170	338992.813	12.175	0.000	7.480	On Peak Load
10/07/2024 16:00	15.141	335366.531	13.108	0.000	7.632	On Peak Load
10/07/2024 17:00	15.132	335117.281	11.705	0.000	8.441	On Peak Load
10/07/2024 18:00	15.107	340051.375	14.752	0.000	10.360	On Peak Load
10/07/2024 19:00	15.082	344059.375	11.256	0.000	11.522	On Peak Load
10/07/2024 20:00	15.052	343433.906	9.246	0.000	10.481	On Peak Load
10/07/2024 21:00	15.043	359887.063	7.345	0.000	11.818	On Peak Load
10/07/2024 22:00	15.079	360324.500	7.530	0.000	15.707	On Peak Load
10/07/2024 23:00	15.087	335813.031	12.782	0.000	12.765	On Peak Load
11/07/2024 00:00	15.367	252835.828	44.768	0.000	13.398	Off Peak Load
11/07/2024 01:00	15.059	318712.375	12.450	0.000	13.296	Off Peak Load
11/07/2024 02:00	15.003	312981.313	11.014	0.000	11.881	Off Peak Load
11/07/2024 03:00	14.993	310697.688	4.929	0.000	9.111	Off Peak Load
11/07/2024 04:00	14.985	309883.125	9.552	0.000	9.750	Off Peak Load
11/07/2024 05:00	15.021	313115.531	15.675	0.000	11.974	Off Peak Load
11/07/2024 06:00	14.987	315266.094	12.039	0.000	9.228	Off Peak Load
11/07/2024 07:00	14.938	299021.094	7.962	0.000	11.583	Off Peak Load
11/07/2024 08:00	14.943	298930.750	6.319	0.000	9.217	Off Peak Load
11/07/2024 09:00	15.036	341236.188	14.669	0.000	12.463	On Peak Load
11/07/2024 10:00	15.044	341863.125	8.717	0.000	14.471	On Peak Load
11/07/2024 11:00	15.030	327246.125	11.455	0.000	12.631	On Peak Load
11/07/2024 12:00	15.000	327612.719	8.561	0.000	9.128	On Peak Load
11/07/2024 13:00	15.339	243192.719	38.959	0.000	8.332	Off Peak Load
11/07/2024 14:00	15.134	341897.906	14.323	0.000	8.572	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNLS  
HRS011  
1/Jul/24 00:00 - 31/Jul/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O <sub>2</sub>	FLOW @1 ATM ZSC	HRSG1_NOx@7%O <sub>2</sub>	HRSG1_SO <sub>x</sub> @7%O <sub>2</sub>	HRSG1_Dust (7%O <sub>2</sub> )	
			ppm	ppm	mg/m <sup>3</sup>	
11/07/2024 15:00	15.150	335133.875	11.754	0.000	9.662	On Peak Load
11/07/2024 16:00	15.197	342076.906	17.417	0.001	8.419	On Peak Load
11/07/2024 17:00	15.185	336789.375	13.075	0.001	8.272	On Peak Load
11/07/2024 18:00	15.171	340762.219	14.103	0.002	9.643	On Peak Load
11/07/2024 19:00	15.147	341248.656	14.162	0.002	10.913	On Peak Load
11/07/2024 20:00	15.118	339933.156	18.034	0.002	11.751	On Peak Load
11/07/2024 21:00	15.132	351578.844	8.699	0.003	14.926	On Peak Load
11/07/2024 22:00	15.162	339911.094	15.497	0.003	9.764	On Peak Load
11/07/2024 23:00	15.139	347503.438	7.711	0.003	10.590	On Peak Load
12/07/2024 00:00	15.314	254438.797	47.600	0.003	10.749	Off Peak Load
12/07/2024 01:00	15.094	325849.250	14.024	0.004	11.729	Off Peak Load
12/07/2024 02:00	15.055	325519.219	9.243	0.004	9.961	Off Peak Load
12/07/2024 03:00	15.062	311770.000	16.457	0.003	12.380	Off Peak Load
12/07/2024 04:00	15.051	309543.719	8.415	0.003	10.865	Off Peak Load
12/07/2024 05:00	15.054	303817.688	15.239	0.002	11.478	Off Peak Load
12/07/2024 06:00	14.946	299936.156	5.982	0.002	8.737	Off Peak Load
12/07/2024 07:00	14.999	305068.625	10.664	0.001	9.505	Off Peak Load
12/07/2024 08:00	15.043	285215.906	14.241	0.001	11.367	Off Peak Load
12/07/2024 09:00	15.053	319302.313	12.260	0.000	9.545	On Peak Load
12/07/2024 10:00	15.114	307889.219	15.509	0.000	9.238	On Peak Load
12/07/2024 11:00	15.153	329076.125	14.009	0.000	7.724	On Peak Load
12/07/2024 12:00	15.083	314555.625	12.928	0.000	7.983	On Peak Load
12/07/2024 13:00	15.402	238469.031	44.340	0.000	7.946	Off Peak Load
12/07/2024 14:00	15.136	330089.438	11.322	0.001	8.518	On Peak Load
12/07/2024 15:00	15.047	321071.375	11.872	0.001	9.210	On Peak Load
12/07/2024 16:00	15.133	321525.625	11.524	0.001	7.932	On Peak Load
12/07/2024 17:00	15.109	322611.875	4.562	0.001	8.120	On Peak Load
12/07/2024 18:00	15.106	329500.813	5.241	0.001	9.469	On Peak Load
12/07/2024 19:00	15.142	344289.656	15.029	0.001	10.936	On Peak Load
12/07/2024 20:00	15.139	340554.813	17.839	0.001	10.180	On Peak Load
12/07/2024 21:00	15.200	349550.656	21.162	0.001	10.112	On Peak Load
12/07/2024 22:00	15.205	343534.125	15.206	0.001	9.729	On Peak Load
12/07/2024 23:00	15.163	339935.313	16.981	0.001	10.437	On Peak Load
13/07/2024 00:00	15.244	256553.766	37.305	0.001	9.803	Off Peak Load
13/07/2024 01:00	15.020	319490.781	9.750	0.001	11.195	Off Peak Load
13/07/2024 02:00	15.021	317632.344	10.867	0.001	17.865	Off Peak Load
13/07/2024 03:00	15.025	306279.750	18.111	0.002	15.870	Off Peak Load
13/07/2024 04:00	15.014	311158.156	10.787	0.002	12.063	Off Peak Load
13/07/2024 05:00	15.032	317751.500	9.302	0.002	12.873	Off Peak Load
13/07/2024 06:00	15.004	299101.469	13.829	0.003	12.202	Off Peak Load
13/07/2024 07:00	14.945	292723.063	13.637	0.003	8.480	Off Peak Load
13/07/2024 08:00	15.001	284576.469	2.467	0.004	12.106	Off Peak Load
13/07/2024 09:00	15.134	343101.063	17.708	0.004	10.711	On Peak Load
13/07/2024 10:00	15.183	327098.125	15.222	0.004	8.593	On Peak Load
13/07/2024 11:00	15.206	338469.375	15.464	0.004	9.306	On Peak Load
13/07/2024 12:00	15.132	321476.344	15.516	0.004	7.948	On Peak Load
13/07/2024 13:00	15.363	240530.109	41.871	0.003	6.737	Off Peak Load
13/07/2024 14:00	15.214	319919.556	14.321	0.003	5.981	On Peak Load
13/07/2024 15:00	15.259	325477.656	19.990	0.003	5.883	On Peak Load
13/07/2024 16:00	15.224	329911.531	17.620	0.003	6.072	On Peak Load
13/07/2024 17:00	15.201	344909.938	6.363	0.002	8.011	On Peak Load
13/07/2024 18:00	15.169	339762.594	18.738	0.002	9.480	On Peak Load
13/07/2024 19:00	15.115	333723.656	12.876	0.001	11.988	On Peak Load
13/07/2024 20:00	15.125	335858.644	19.795	0.000	12.046	On Peak Load
13/07/2024 21:00	15.151	349798.750	12.846	0.000	9.946	On Peak Load
13/07/2024 22:00	15.164	349801.313	16.353	0.000	10.947	On Peak Load
13/07/2024 23:00	15.056	371404.375	12.675	0.000	10.648	On Peak Load
14/07/2024 00:00	15.017	305929.844	17.502	0.000	14.456	Off Peak Load
14/07/2024 01:00	15.046	312698.625	16.244	0.000	11.380	Off Peak Load
14/07/2024 02:00	15.067	318439.906	5.462	0.000	10.458	Off Peak Load
14/07/2024 03:00	15.034	297002.875	16.220	0.000	9.314	Off Peak Load
14/07/2024 04:00	15.058	294955.813	10.644	0.000	10.409	Off Peak Load
14/07/2024 05:00	15.065	299020.250	14.412	0.000	13.655	Off Peak Load
14/07/2024 06:00	14.998	293486.875	9.071	0.000	10.333	Off Peak Load
14/07/2024 07:00	15.013	292562.250	12.553	0.000	8.869	Off Peak Load
14/07/2024 08:00	15.044	281115.719	4.641	0.000	10.388	Off Peak Load
14/07/2024 09:00	15.062	281093.000	11.635	0.001	9.527	Off Peak Load
14/07/2024 10:00	15.117	275911.375	15.795	0.001	7.936	Off Peak Load
14/07/2024 11:00	15.077	282583.906	10.258	0.001	8.307	Off Peak Load
14/07/2024 12:00	15.086	277277.875	6.794	0.001	7.451	Off Peak Load
14/07/2024 13:00	15.146	278641.250	21.159	0.001	6.080	Off Peak Load
14/07/2024 14:00	15.124	280728.313	30.583	Analyzer fail	5.860	Off Peak Load
14/07/2024 15:00	15.198	276405.063	28.141	Analyzer fail	5.450	Off Peak Load
14/07/2024 16:00	15.121	283970.469	28.740	Analyzer fail	5.564	Off Peak Load
14/07/2024 17:00	15.066	285547.500	31.970	Analyzer fail	6.846	Off Peak Load
14/07/2024 18:00	15.139	274346.875	37.589	Analyzer fail	9.199	Off Peak Load
14/07/2024 19:00	15.163	333212.656	33.414	Analyzer fail	12.205	On Peak Load
14/07/2024 20:00	15.183	334429.719	35.142	Analyzer fail	9.575	On Peak Load
14/07/2024 21:00	15.216	348651.594	34.090	Analyzer fail	10.018	On Peak Load
14/07/2024 22:00	15.222	345931.563	35.091	Analyzer fail	12.483	On Peak Load
14/07/2024 23:00	14.998	294830.669	31.530	Analyzer fail	12.384	Off Peak Load
15/07/2024 00:00	15.048	284560.500	27.548	Analyzer fail	9.117	Off Peak Load
15/07/2024 01:00	15.037	286818.406	30.798	Analyzer fail	9.666	Off Peak Load
15/07/2024 02:00	15.013	279628.200	30.588	Analyzer fail	9.044	Off Peak Load
15/07/2024 03:00	15.036	284642.844	30.588	Analyzer fail	9.044	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1/10/24 00:00 - 31/12/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
15/07/2024 04:00	15.010	282799.563	29.819	Analysier fail	9.429	Off Peak Load
15/07/2024 05:00	15.013	281109.125	27.702	Analysier fail	8.740	On Peak Load
15/07/2024 06:00	15.051	280695.918	27.586	Analysier fail	7.418	Off Peak Load
15/07/2024 07:00	15.024	293481.188	29.653	Analysier fail	7.928	Off Peak Load
15/07/2024 08:00	15.069	284661.375	28.505	Analysier fail	7.787	Off Peak Load
15/07/2024 09:00	15.140	334364.375	34.435	Analysier fail	9.075	On Peak Load
15/07/2024 10:00	15.189	332323.781	32.183	Analysier fail	7.680	On Peak Load
15/07/2024 11:00	15.221	335829.875	32.862	Analysier fail	7.754	On Peak Load
15/07/2024 12:00	14.986	337633.781	42.714	Analysier fail	18.852	On Peak Load
15/07/2024 13:00	15.187	251507.594	51.491	0.010	14.119	Off Peak Load
15/07/2024 14:00	15.065	337755.344	32.537	0.005	23.398	On Peak Load
15/07/2024 15:00	15.058	334211.656	33.150	0.005	20.395	On Peak Load
15/07/2024 16:00	15.049	331039.648	13.992	0.004	13.681	On Peak Load
15/07/2024 17:00	15.085	327695.531	15.253	0.003	10.401	On Peak Load
15/07/2024 18:00	15.092	336813.500	13.723	0.003	10.953	On Peak Load
15/07/2024 19:00	15.071	331831.563	14.140	0.003	10.260	On Peak Load
15/07/2024 20:00	15.085	338853.219	13.797	0.003	10.908	On Peak Load
15/07/2024 21:00	15.062	339852.094	11.952	0.002	10.978	On Peak Load
15/07/2024 22:00	15.096	343917.875	13.874	0.002	14.792	On Peak Load
15/07/2024 23:00	15.084	342078.000	13.046	0.002	11.815	On Peak Load
16/07/2024 00:00	15.148	252649.156	35.399	0.001	14.586	Off Peak Load
16/07/2024 01:00	15.009	334809.125	12.100	0.002	12.286	Off Peak Load
16/07/2024 02:00	14.988	304803.125	11.547	0.002	12.797	Off Peak Load
16/07/2024 03:00	15.022	303016.750	9.858	0.002	17.960	Off Peak Load
16/07/2024 04:00	14.989	298815.125	9.232	0.002	15.764	Off Peak Load
16/07/2024 05:00	15.016	322226.594	1.211	0.002	19.216	Off Peak Load
16/07/2024 06:00	15.019	312703.719	3.307	0.003	15.858	Off Peak Load
16/07/2024 07:00	14.992	316360.781	0.214	0.003	10.682	Off Peak Load
16/07/2024 08:00	14.955	280565.938	0.007	0.003	14.238	Off Peak Load
16/07/2024 09:00	15.055	335796.156	0.000	0.002	11.137	On Peak Load
16/07/2024 10:00	15.097	337864.969	0.002	0.001	10.011	On Peak Load
16/07/2024 11:00	15.110	345913.875	0.000	0.000	10.749	On Peak Load
16/07/2024 12:00	15.028	322816.938	18.860	2.746	9.976	On Peak Load
16/07/2024 13:00	15.283	241677.984	42.112	0.001	8.699	Off Peak Load
16/07/2024 14:00	15.080	311205.031	18.001	0.896	7.073	On Peak Load
16/07/2024 15:00	15.058	319340.031	17.709	0.985	7.491	On Peak Load
16/07/2024 16:00	15.092	329696.000	13.595	0.002	8.339	On Peak Load
16/07/2024 17:00	15.050	331660.313	17.060	0.507	9.319	On Peak Load
16/07/2024 18:00	15.059	329218.219	16.105	0.007	11.820	On Peak Load
16/07/2024 19:00	15.067	329674.625	11.953	0.000	10.090	On Peak Load
16/07/2024 20:00	15.042	331673.875	17.293	0.006	10.705	On Peak Load
16/07/2024 21:00	15.078	334150.688	28.451	Analysier fail	12.576	On Peak Load
16/07/2024 22:00	15.085	325441.594	30.712	Analysier fail	12.895	On Peak Load
16/07/2024 23:00	15.106	335874.219	35.542	Analysier fail	12.445	On Peak Load
17/07/2024 00:00	15.113	260878.547	49.937	Analysier fail	11.566	Off Peak Load
17/07/2024 01:00	15.028	315406.375	35.382	Analysier fail	13.354	Off Peak Load
17/07/2024 02:00	15.060	311978.125	36.525	Analysier fail	12.120	Off Peak Load
17/07/2024 03:00	15.042	311483.438	36.253	Analysier fail	12.167	Off Peak Load
17/07/2024 04:00	15.027	305136.563	35.449	Analysier fail	13.744	Off Peak Load
17/07/2024 05:00	15.052	309948.000	36.006	Analysier fail	15.254	Off Peak Load
17/07/2024 06:00	15.009	302982.969	35.706	Analysier fail	13.743	Off Peak Load
17/07/2024 07:00	15.003	299184.344	34.893	Analysier fail	11.845	Off Peak Load
17/07/2024 08:00	15.003	281345.313	34.777	Analysier fail	11.065	Off Peak Load
17/07/2024 09:00	15.051	335495.563	36.042	Analysier fail	13.028	On Peak Load
17/07/2024 10:00	15.115	320063.906	36.806	Analysier fail	9.113	On Peak Load
17/07/2024 11:00	15.092	320002.313	20.617	0.002	7.337	On Peak Load
17/07/2024 12:00	15.132	245454.563	41.399	0.002	7.708	Off Peak Load
17/07/2024 13:00	15.117	325918.625	11.869	0.002	7.991	On Peak Load
17/07/2024 14:00	15.150	333718.031	10.779	0.002	8.413	On Peak Load
17/07/2024 15:00	15.142	335617.563	9.876	0.002	11.171	On Peak Load
17/07/2024 16:00	15.085	335705.063	7.477	0.002	10.417	On Peak Load
17/07/2024 17:00	15.070	341612.594	3.978	0.002	14.036	On Peak Load
17/07/2024 18:00	15.101	336108.125	5.848	0.002	10.118	On Peak Load
17/07/2024 19:00	15.075	333042.219	1.202	0.002	12.134	On Peak Load
17/07/2024 20:00	15.072	339730.906	9.930	0.002	12.638	On Peak Load
17/07/2024 21:00	15.048	332995.094	3.051	0.002	11.489	On Peak Load
17/07/2024 22:00	15.111	345297.594	6.643	0.003	11.197	On Peak Load
18/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/07/2024 09:00	15.034	332867.344	13.822	0.001	9.943	On Peak Load
18/07/2024 10:00	15.122	317992.688	15.169	0.001	9.141	On Peak Load
18/07/2024 11:00	15.086	315600.375	9.538	0.000	8.912	On Peak Load
18/07/2024 12:00	15.034	319451.156	6.948	0.000	9.232	On Peak Load
18/07/2024 13:00	15.261	237259.234	27.636	0.000	12.836	Off Peak Load
18/07/2024 14:00	14.989	312600.281	3.570	0.000	9.387	On Peak Load
18/07/2024 15:00	15.134	326601.875	4.661	0.000	7.970	On Peak Load
18/07/2024 16:00	15.092	329564.469	3.715	0.000	10.992	On Peak Load
18/07/2024 17:00	15.061	325004.719	3.425	0.000	10.303	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1/10/24 00:00 - 31/12/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/07/2024 18:00	15.063	328746.813	0.107	0.000	11.764	On Peak Load
18/07/2024 19:00	15.056	326700.531	0.718	0.000	14.275	On Peak Load
18/07/2024 20:00	14.998	318324.375	0.428	0.000	12.197	On Peak Load
18/07/2024 21:00	15.045	326972.500	2.071	0.000	13.386	On Peak Load
18/07/2024 22:00	15.042	337894.144	1.611	0.001	13.218	On Peak Load
18/07/2024 23:00	15.087	345650.625	1.034	0.001	13.782	On Peak Load
19/07/2024 00:00	15.095	365095.250	8.460	0.001	13.179	Off Peak Load GT12 SD Half Block
19/07/2024 01:00	15.102	356177.656	2.057	0.001	12.546	Off Peak Load GT12 SD Half Block
19/07/2024 02:00	15.098	356930.031	0.270	0.001	15.166	Off Peak Load GT12 SD Half Block
19/07/2024 03:00	15.094	358038.063	2.852	0.001	12.192	Off Peak Load GT12 SD Half Block
19/07/2024 04:00	15.089	359011.094	0.002	0.001	12.072	Off Peak Load GT12 SD Half Block
19/07/2024 05:00	15.085	356620.219	0.000	0.001	15.978	Off Peak Load GT12 SD Half Block
19/07/2024 06:00	15.081	355307.906	1.755	0.001	15.756	Off Peak Load GT12 SD Half Block
19/07/2024 07:00	15.078	357179.031	1.760	0.000	14.594	Off Peak Load GT12 SD Half Block
19/07/2024 08:00	15.063	359928.188	0.000	0.000	11.900	Off Peak Load GT12 SD Half Block
19/07/2024 09:00	15.057	334885.500	1.545	0.001	13.531	On Peak Load
19/07/2024 10:00	15.017	331568.063	2.428	0.001	10.981	On Peak Load
19/07/2024 11:00	15.065	340072.188	4.679	0.001	10.446	On Peak Load
19/07/2024 12:00	15.064	334999.813	3.574	0.002	11.804	On Peak Load
19/07/2024 13:00	15.175	248358.859	24.037	0.002	10.695	Off Peak Load
19/07/2024 14:00	15.050	326142.844	2.826	0.002	11.112	On Peak Load
19/07/2024 15:00	15.095	333267.031	2.529	0.003	11.358	On Peak Load
19/07/2024 16:00	15.076	339859.938	1.220	0.003	11.161	On Peak Load
19/07/2024 17:00	15.052	333653.406	0.000	0.002	13.006	On Peak Load
19/07/2024 18:00	15.037	331712.969	1.843	0.002	12.805	On Peak Load
19/07/2024 19:00	15.063	340513.313	0.001	0.001	16.854	On Peak Load
19/07/2024 20:00	15.064	336453.444	0.002	0.001	12.609	On Peak Load
19/07/2024 21:00	15.085	335170.219	0.344	0.000	13.447	On Peak Load
19/07/2024 22:00	15.077	346281.125	2.167	0.000	15.090	On Peak Load
19/07/2024 23:00	15.084	348041.375	0.883	0.000	14.628	On Peak Load
20/07/2024 00:00	15.085	261251.641	16.906	0.000	12.714	Off Peak Load
20/07/2024 01:00	14.930	295655.094	0.000	0.000	13.496	Off Peak Load
20/07/2024 02:00	14.968	303206.875	0.000	0.000	14.116	Off Peak Load
20/07/2024 03:00	14.932	308627.469	0.000	0.000	11.994	Off Peak Load
20/07/2024 04:00	14.938	308547.814	0.000	0.000	14.130	Off Peak Load
20/07/2024 05:00	14.944	292441.906	0.000	0.001	20.299	Off Peak Load
20/07/2024 06:00	14.902	297640.406	0.014	0.000	16.914	Off Peak Load
20/07/2024 07:00	14.911	300073.250	0.013	0.000	11.726	Off Peak Load
20/07/2024 08:00	14.942	279037.460	0.018	0.000	12.943	Off Peak Load
20/07/2024 09:00	14.944	281756.531	0.007	0.000	15.296	Off Peak Load
20/07/2024 10:00	15.000	278205.188	0.000	0.000	10.316	Off Peak Load
20/07/2024 11:00	14.931	279358.313	1.818	0.000	10.641	Off Peak Load
20/07/2024 12:00	14.980	276895.531	0.135	0.000	12.422	Off Peak Load
20/07/2024 13:00	14.965	284321.969	1.556	0.000	10.890	Off Peak Load
20/07/2024 14:00	14.931	290272.875	0.022	0.000	11.118	Off Peak Load
20/07/2024 15:00	14.895	282663.375	4.555	0.000	11.985	Off Peak Load
20/07/2024 16:00	14.936	290779.063	3.642	0.000	10.611	Off Peak Load
20/07/2024 17:00	14.957	291400.281	1.941	0.000	11.816	Off Peak Load
20/07/2024 18:00	15.013	274338.563	0.283	0.000	13.448	Off Peak Load
20/07/2024 19:00	15.019	331667.125	2.623	0.000	14.541	On Peak Load
20/07/2024 20:00	15.045	337644.000	1.927	0.000	12.222	On Peak Load
20/07/2024 21:00	15.054	343521.781	2.166	0.000	12.383	On Peak Load
20/07/2024 22:00	15.050	346523.500	1.770	0.000	15.453	On Peak Load
20/07/2024 23:00	14.900	305886.000	1.667	0.001	14.939	Off Peak Load
21/07/2024 00:00	14.908	290829.281	1.097	0.001	12.246	Off Peak Load
21/07/2024 01:00	14.974	306305.594	1.895	0.001	17.820	Off Peak Load
21/07/2024 02:00	14.919	304718.281	1.244	0.000	15.422	Off Peak Load
21/07/2024 03:00	14.908	294045.188	0.946	0.002	14.560	Off Peak Load
21/07/2024 04:00	14.893	284643.313	1.605	0.002	13.959	Off Peak Load
21/07/2024 05:00	14.910	287805.344	0.130	0.000	15.460	Off Peak Load
21/07/2024 06:00	14.913	281091.563	0.016	0.000	14.063	Off Peak Load
21/07/2024 07:00	14.936	277456.219	0.002	0.002	17.728	Off Peak Load
21/07/2024 08:00	15.046	263439.156	16.071	0.001	16.062	Off Peak Load
21/07/2024 09:00	15.095	261576.906	17.686	0.001	13.027	Off Peak Load
21/07/2024 10:00	15.113	262642.938	18.276	0.000	10.944	Off Peak Load
21/07/2024 11:00	15.067	266236.938	14.747	0.000	9.978	Off Peak Load
21/07/2024 12:00	15.152	261173.203	21.536	0.000	9.193	Off Peak Load
21/07/2024 13:00	15.213	261951.625	22.755	0.000	9.339	Off Peak Load
21/07/2024 14:00	15.077	268293.250	14.138	0.000	8.427	Off Peak Load
21/07/2024 15:00	15.020	273707.156	4.796	0.000	9.565	Off Peak Load
21/07/2024 16:00	14.986	272157.906	2.450	0.000	10.934	Off Peak Load
21/07/2024 17:00	14.998	266214.688	8.000	0.000	13.706	Off Peak Load
21/07/2024 18:00	14.932	282983.875	0.184	0.000	12.791	Off Peak Load
21/07/2024 19:00	15.047	305106.938	9.483	0.000	13.606	Off Peak Load
21/07/2024 20:00	15.041	363654.313	9.356	0.000	15.036	Off Peak Load
21/07/2024 21:00	15.036	367015.313	7.000	0.000	16.328	Off Peak Load
21/07/2024 22:00	15.030	305799.656	9.710	0.000	16.460	Off Peak Load
21/07/2024 23:00	14.856	288581.875	0.012	0.000	17.331	Off Peak Load
22/07/2024 00:00	14.978	280999.281	1.893	0.000	21.024	Off Peak Load
22/07/2024 01:00	14.936	276744.188	1.628	0.000	16.225	Off Peak Load
22/07/2024 02:00	14.957	281405.156	1.063	0.000	12.273	Off Peak Load
22/07/2024 03:00	14.955	277197.125	0.002	0.000	18.698	Off Peak Load
22/07/2024 04:00	14.953	276414.656	3.260	0.000	17.268	Off Peak Load
22/07/2024 05:00	14.937	275240.031	1.190	0.000	14.486	Off Peak Load
22/07/2024 06:00	14.955	277345.656	1.273	0.000	13.459	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRS011  
1/16/24 00:00 - 31/03/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
22/07/2024 07:00	14.953	274304.063	11.261	0.000	15.012	Off Peak Load
22/07/2024 08:00	15.022	273798.063	8.459	0.000	12.903	Off Peak Load
22/07/2024 09:00	15.011	274318.668	4.989	0.000	11.791	Off Peak Load
22/07/2024 10:00	15.076	264341.281	14.154	0.000	12.025	Off Peak Load
22/07/2024 11:00	15.151	266383.906	19.895	0.000	9.536	Off Peak Load
22/07/2024 12:00	15.149	266171.406	19.048	0.000	8.835	Off Peak Load
22/07/2024 13:00	15.182	260440.766	22.557	0.000	7.783	Off Peak Load
22/07/2024 14:00	15.090	268062.813	13.064	0.000	7.818	Off Peak Load
22/07/2024 15:00	15.102	274355.750	6.797	0.000	6.947	Off Peak Load
22/07/2024 16:00	15.056	274320.438	1.415	0.000	7.689	Off Peak Load
22/07/2024 17:00	15.017	273826.688	0.000	0.000	9.285	Off Peak Load
22/07/2024 18:00	15.113	263987.500	12.262	0.000	10.764	Off Peak Load
22/07/2024 19:00	14.995	319328.813	1.663	0.000	12.787	On Peak Load
22/07/2024 20:00	15.028	320284.906	0.703	0.000	12.303	On Peak Load
22/07/2024 21:00	15.050	319927.813	2.048	0.000	17.707	On Peak Load
22/07/2024 22:00	15.073	319507.531	3.213	0.000	13.717	On Peak Load
22/07/2024 23:00	15.121	361549.875	10.810	0.000	12.181	Off Peak Load GT12 SD Half Block
23/07/2024 00:00	15.156	359132.000	10.308	0.000	12.364	Off Peak Load GT12 SD Half Block
23/07/2024 01:00	15.156	356444.375	7.728	0.000	11.925	Off Peak Load GT12 SD Half Block
23/07/2024 02:00	15.156	357424.063	9.469	0.000	16.191	Off Peak Load GT12 SD Half Block
23/07/2024 03:00	15.152	357874.656	9.268	0.001	14.770	Off Peak Load GT12 SD Half Block
23/07/2024 04:00	15.147	360334.594	8.926	0.004	14.871	Off Peak Load GT12 SD Half Block
23/07/2024 05:00	15.142	356466.594	4.428	0.001	14.408	Off Peak Load GT12 SD Half Block
23/07/2024 06:00	15.137	358169.750	7.969	0.224	16.355	Off Peak Load GT12 SD Half Block
23/07/2024 07:00	15.131	356535.594	7.060	0.223	16.248	Off Peak Load GT12 SD Half Block
23/07/2024 08:00	15.146	360947.438	9.023	0.045	14.155	Off Peak Load GT12 SD Half Block
23/07/2024 09:00	15.134	334594.688	12.243	1.484	12.484	On Peak Load
23/07/2024 10:00	15.116	331430.875	13.244	1.337	11.410	On Peak Load
23/07/2024 11:00	15.109	329113.219	13.838	1.173	9.986	On Peak Load
23/07/2024 12:00	15.078	317121.313	5.791	0.678	9.767	On Peak Load
23/07/2024 13:00	15.414	234781.375	22.360	0.472	10.225	Off Peak Load
23/07/2024 14:00	15.096	311220.719	2.592	0.000	9.236	On Peak Load
23/07/2024 15:00	15.115	333637.906	4.136	0.001	10.894	On Peak Load
23/07/2024 16:00	15.102	317311.438	2.998	0.001	9.728	On Peak Load
23/07/2024 17:00	15.128	333696.469	5.752	0.001	10.355	On Peak Load
23/07/2024 18:00	15.136	337990.531	2.962	0.001	12.436	On Peak Load
23/07/2024 19:00	15.056	334655.814	4.313	0.001	13.463	On Peak Load
23/07/2024 20:00	15.040	335098.875	0.002	0.001	22.604	On Peak Load
23/07/2024 21:00	15.049	333553.313	0.003	0.001	14.308	On Peak Load
23/07/2024 22:00	15.041	335800.063	1.243	0.001	10.355	On Peak Load
23/07/2024 23:00	15.057	332293.813	4.372	0.001	18.697	On Peak Load
24/07/2024 00:00	15.056	368698.875	10.384	0.001	19.992	Off Peak Load GT12 SD Half Block
24/07/2024 01:00	15.092	356306.219	6.452	0.001	17.618	Off Peak Load GT12 SD Half Block
24/07/2024 02:00	15.095	359854.313	6.109	0.001	15.079	Off Peak Load GT12 SD Half Block
24/07/2024 03:00	15.097	358106.344	8.705	0.000	18.470	Off Peak Load GT12 SD Half Block
24/07/2024 04:00	15.100	356230.313	6.147	0.000	21.114	Off Peak Load GT12 SD Half Block
24/07/2024 05:00	15.104	354186.656	7.099	0.000	20.107	Off Peak Load GT12 SD Half Block
24/07/2024 06:00	15.107	354135.375	7.301	0.000	15.883	Off Peak Load GT12 SD Half Block
24/07/2024 07:00	15.110	356246.500	7.150	0.000	22.007	Off Peak Load GT12 SD Half Block
24/07/2024 08:00	15.067	360114.938	9.552	0.000	19.194	Off Peak Load GT12 SD Half Block
24/07/2024 09:00	15.077	366574.569	15.214	0.001	15.954	On Peak Load
24/07/2024 10:00	15.125	333987.938	11.551	0.001	15.191	On Peak Load
24/07/2024 11:00	15.090	328030.813	12.813	0.002	12.662	On Peak Load
24/07/2024 12:00	15.074	319755.313	7.477	0.002	9.779	On Peak Load
24/07/2024 13:00	15.274	244676.063	30.301	0.003	10.504	Off Peak Load
24/07/2024 14:00	15.151	345216.814	8.995	0.001	10.158	On Peak Load
24/07/2024 15:00	15.188	346949.906	9.279	0.783	9.804	On Peak Load
24/07/2024 16:00	15.085	321660.750	7.511	0.535	12.536	On Peak Load
24/07/2024 17:00	15.080	317219.281	7.830	0.729	13.261	On Peak Load
24/07/2024 18:00	15.128	332444.844	6.122	0.808	11.616	On Peak Load
24/07/2024 19:00	15.129	339871.625	6.500	0.095	13.198	On Peak Load
24/07/2024 20:00	15.138	329744.500	8.442	1.084	12.287	On Peak Load
24/07/2024 21:00	15.134	333236.438	9.184	0.965	11.942	On Peak Load
24/07/2024 22:00	15.132	343940.469	9.221	1.617	15.199	On Peak Load
24/07/2024 23:00	15.112	331770.313	7.423	0.451	17.706	On Peak Load
25/07/2024 00:00	15.127	366429.031	14.875	1.240	15.956	Off Peak Load GT12 SD Half Block
25/07/2024 01:00	15.154	360713.531	12.196	2.082	15.216	Off Peak Load GT12 SD Half Block
25/07/2024 02:00	15.149	356826.375	12.975	1.455	14.642	Off Peak Load GT12 SD Half Block
25/07/2024 03:00	15.144	358738.781	10.928	1.678	17.047	Off Peak Load GT12 SD Half Block
25/07/2024 04:00	15.139	356439.531	12.728	1.483	15.414	Off Peak Load GT12 SD Half Block
25/07/2024 05:00	15.135	362320.063	12.475	2.611	14.982	Off Peak Load GT12 SD Half Block
25/07/2024 06:00	15.130	362321.031	10.572	0.767	15.914	Off Peak Load GT12 SD Half Block
25/07/2024 07:00	15.125	360354.125	11.394	2.659	15.554	Off Peak Load GT12 SD Half Block
25/07/2024 08:00	15.120	364157.906	10.573	1.683	14.577	Off Peak Load GT12 SD Half Block
25/07/2024 09:00	15.113	358974.375	15.261	1.669	12.758	On Peak Load
25/07/2024 10:00	15.147	327993.500	9.536	1.549	10.318	On Peak Load
25/07/2024 11:00	15.179	349699.719	11.581	1.395	10.782	On Peak Load
25/07/2024 12:00	15.080	335150.250	8.727	1.379	10.985	On Peak Load
25/07/2024 13:00	15.220	252571.578	28.256	1.145	9.998	Off Peak Load
25/07/2024 14:00	15.151	331556.813	9.631	1.177	10.752	On Peak Load
25/07/2024 15:00	15.100	331438.656	7.642	1.078	15.195	On Peak Load
25/07/2024 16:00	15.170	341864.438	7.039	1.108	11.883	On Peak Load
25/07/2024 17:00	15.136	343836.344	7.773	1.058	18.144	On Peak Load
25/07/2024 18:00	15.122	347866.313	7.935	1.227	15.973	On Peak Load
25/07/2024 19:00	15.128	349285.094	8.917	0.515	18.185	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRS011  
1/16/24 00:00 - 31/03/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
25/07/2024 20:00	15.110	347886.813	8.848	0.209	16.845	On Peak Load
25/07/2024 21:00	15.120	349782.031	10.402	2.111	16.977	On Peak Load
25/07/2024 22:00	15.112	336162.156	2.369	0.009	15.763	On Peak Load
25/07/2024 23:00	15.110	345077.813	4.186	1.123	15.876	On Peak Load
26/07/2024 00:00	15.068	270144.969	7.126	1.163	18.010	Off Peak Load
26/07/2024 01:00	15.058	331462.281	3.070	1.424	17.528	Off Peak Load
26/07/2024 02:00	15.024	316240.781	7.122	1.219	17.616	Off Peak Load
26/07/2024 03:00	15.031	319367.844	1.931	1.053	14.753	Off Peak Load
26/07/2024 04:00	15.024	309166.031	5.769	0.928	14.175	Off Peak Load
26/07/2024 05:00	15.031	315898.563	2.907	1.245	17.583	Off Peak Load
26/07/2024 06:00	15.035	319624.375	4.344	0.265	17.349	Off Peak Load
26/07/2024 07:00	14.975	292922.906	3.810	1.208	17.306	Off Peak Load
26/07/2024 08:00	14.955	286654.719	0.564	1.877	14.303	Off Peak Load
26/07/2024 09:00	15.040	325441.531	2.794	0.181	13.855	On Peak Load
26/07/2024 10:00	15.062	323772.375	5.104	1.481	11.769	On Peak Load
26/07/2024 11:00	15.068	311355.000	5.565	0.936	11.013	On Peak Load
26/07/2024 12:00	15.036	309144.719	2.993	0.891	11.377	On Peak Load
26/07/2024 13:00	15.368	241182.156	31.053	1.009	13.750	Off Peak Load
26/07/2024 14:00	15.061	312096.375	4.228	0.753	15.038	On Peak Load
26/07/2024 15:00	15.088	328797.344	3.356	1.397	14.159	On Peak Load
26/07/2024 16:00	15.082	323478.188	7.401	0.853	14.254	On Peak Load
26/07/2024 17:00	15.054	322502.969	5.144	0.631	20.833	On Peak Load
26/07/2024 18:00	15.053	331217.156	10.341	0.729	17.942	On Peak Load
26/07/2024 19:00	15.064	327555.688	16.592	0.495	18.148	On Peak Load
26/07/2024 20:00	15.049	327612.438	20.084	0.946	14.235	On Peak Load
26/07/2024 21:00	15.021	331687.563	19.351	0.273	12.475	On Peak Load
26/07/2024 22:00	15.029	331661.188	20.414	1.618	13.057	On Peak Load
26/07/2024 23:00	15.075	329667.344	18.846	0.438	18.030	On Peak Load
27/07/2024 00:00	15.150	260738.891	36.672	1.735	20.567	Off Peak Load
27/07/2024 01:00	14.978	308545.906	19.374	0.911	17.665	Off Peak Load
27/07/2024 02:00	14.949	294859.250	18.548	0.406	14.076	Off Peak Load
27/07/2024 03:00	14.995	313971.875	15.677	0.002	16.372	Off Peak Load
27/07/2024 04:00	14.985	305070.438	9.011	0.002	14.811	Off Peak Load
27/07/2024 05:00	14.961	300648.813	9.498	0.002	16.853	Off Peak Load
27/07/2024 06:00	14.961	298960.531	3.053	0.001	18.679	Off Peak Load
27/07/2024 07:00	14.959	297810.375	6.670	0.001	18.843	Off Peak Load
27/07/2024 08:00	14.901	288911.750	0.470	0.001	17.983	Off Peak Load
27/07/2024 09:00	15.042	365813.375	13.863	0.001	16.085	On Peak Load
27/07/2024 10:00	15.094	346651.500	6.654	0.000	14.348	On Peak Load
27/07/2024 11:00	15.065	327306.250	8.138	0.000	12.141	On Peak Load
27/07/2024 12:00	15.055	329944.656	10.320	0.000	12.020	On Peak Load
27/07/2024 13:00	15.233	246035.813	29.791	0.000	11.970	Off Peak Load
27/07/2024 14:00	15.062	325947.031	6.799	0.000	13.368	On Peak Load
27/07/2024 15:00	15.113	338961.838	10.102	0.000	13.061	On Peak Load
27/07/2024 16:00	15.022	318618.125	8.465	0.000	Analysier fail	On Peak Load
27/07/2024 17:00	15.016	323311.250	6.189	0.000	Analysier fail	On Peak Load
27/07/2024 18:00	15.027	337301.719	4.840	0.000	Analysier fail	On Peak Load
27/07/2024 19:00	15.024	334481.469	6.528	0.000	Analysier fail	On Peak Load
27/07/2024 20:00	14.972	331936.813	3.157	0.000	Analysier fail	On Peak Load
27/07/2024 21:00	14.985	327662.438	5.610	0.001	Analysier fail	On Peak Load
27/07/2024 22:00	15.001	333719.625	3.039	0.001	Analysier fail	On Peak Load
27/07/2024 23:00	14.990	336558.688	4.832	0.001	Analysier fail	On Peak Load
28/07/2024 00:00	15.008	266035.219	21.201	0.001	Analysier fail	Off Peak Load
28/07/2024 01:00	14.937	310645.875	2.681	0.002	Analysier fail	Off Peak Load
28/07/2024 02:00	14.958	304197.938	5.230	0.002	Analysier fail	Off Peak Load
28/07/2024 03:00	14.983	313729.344	4.408	0.002	Analysier fail	Off Peak Load
28/07/2024 04:00	14.949	313697.750	2.793	0.002	Analysier fail	Off Peak Load
28/07/2024 05:00	14.961	302496.781	2.512	0.002	Analysier fail	Off Peak Load
28/07/2024 06:00	14.943	305060.781	2.831	0.002	Analysier fail	Off Peak Load
28/07/2024 07:00	14.876	292005.531	2.014	0.002	Analysier fail	Off Peak Load
28/07/2024 08:00	14.976	272187.344	8.183	0.002	Analysier fail	Off Peak Load
28/07/2024 09:00	14.965	270339.000	2.658	0.002	Analysier fail	Off Peak Load
28/07/2024 10:00	15.040	271344.814	13.648	0.002	Analysier fail	Off Peak Load
28/07/2024 11:00	15.060	268520.648	10.232	0.002	Analysier fail	Off Peak Load
28/07/2024 12:00	15.117	260919.568	18.361	0.002	Analysier fail	Off Peak Load
28/07/2024 13:00	15.034	264774.438	12.487	0.001	Analysier fail	Off Peak Load
28/07/2024 14:00	15.020	268227.531	7.026	0.001	Analysier fail	Off Peak Load
28/07/2024 15:00	15.078	265620.906	9.880	0.001	Analysier fail	Off Peak Load
28/07/2024 16:00	15.015	274481.781	3.725	0.001	Analysier fail	Off Peak Load
28/07/2024 17:00	14.992	281781.094	1.377	0.000	Analysier fail	Off Peak Load
28/07/2024 18:00	15.135	256626.578	18.173	0.000	Analysier fail	Off Peak Load
28/07/2024 19:00	15.012	340389.813	5.637	0.000	Analysier fail	On Peak Load
28/07/2024 20:00	15.045	333665.188	5.103	0.000	Analysier fail	On Peak Load
28/07/2024 21:00	15.064	345979.344	5.964	0.000	Analysier fail	On Peak Load
28/07/2024 22:00	15.065	349327.500	6.461	0.000	Analysier fail	On Peak Load
28/07/2024 23:00	14.903	276442.750	10.995	0.000	Analysier fail	Off Peak Load
29/07/2024 00:00	14.935	275155.188	7.736	0.000	Analysier fail	Off Peak Load
29/07/2024 01:00	14.924	273887.563	8.738	0.000	Analysier fail	Off Peak Load
29/07/2024 02:00	14.932	272402.531	4.629	0.000	Analysier fail	Off Peak Load
29/07/2024 03:00	14.964	280468.531	1.173	0.000	Analysier fail	Off Peak Load
29/07/2024 04:00	14.983	266898.813	13.140	0.000	Analysier fail	Off Peak Load
29/07/2024 05:00	14.989	268273.563	12.269	0.000	Analysier fail	Off Peak Load
29/07/2024 06:00	15.003	266318.781	11.748	0.000	Analysier fail	Off Peak Load
29/07/2024 07:00	15.004	267781.500	18.742	0.000	Analysier fail	Off Peak Load
29/07/2024 08:00	14.938	273150.219	8.343	0.000	Analysier fail	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
11Jul24 00:00 - 31Jul24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
29/07/2024 09:00	14.994	269381.250	8.766	0.000	Analysier fail	Off Peak Load
29/07/2024 10:00	14.945	271087.906	8.236	0.001	Analysier fail	Off Peak Load
29/07/2024 11:00	15.033	266600.938	14.475	0.001	Analysier fail	Off Peak Load
29/07/2024 12:00	15.006	268685.813	12.420	0.001	Analysier fail	Off Peak Load
29/07/2024 13:00	14.961	265074.644	15.730	0.001	Analysier fail	Off Peak Load
29/07/2024 14:00	15.100	258119.250	18.958	0.000	Analysier fail	Off Peak Load
29/07/2024 15:00	15.029	266194.875	19.049	0.000	Analysier fail	Off Peak Load
29/07/2024 16:00	14.982	271526.781	11.627	0.000	Analysier fail	Off Peak Load
29/07/2024 17:00	14.949	274224.063	5.118	0.000	Analysier fail	Off Peak Load
29/07/2024 18:00	15.109	255808.031	20.826	0.000	Analysier fail	Off Peak Load
29/07/2024 19:00	14.947	313183.438	5.230	0.000	Analysier fail	On Peak Load
29/07/2024 20:00	14.971	315533.594	4.317	0.000	Analysier fail	On Peak Load
29/07/2024 21:00	14.982	323173.094	4.220	0.000	16.897	On Peak Load
29/07/2024 22:00	14.987	323469.781	4.359	0.000	21.443	On Peak Load
29/07/2024 23:00	14.860	300980.156	0.402	0.000	18.189	Off Peak Load
30/07/2024 00:00	14.877	284768.219	1.113	0.000	14.725	Off Peak Load
30/07/2024 01:00	14.900	296286.444	3.466	0.000	12.493	Off Peak Load
30/07/2024 02:00	14.910	299706.219	1.306	0.000	15.961	Off Peak Load
30/07/2024 03:00	14.927	305356.156	0.222	0.000	12.124	Off Peak Load
30/07/2024 04:00	14.905	303037.094	0.027	0.000	11.228	Off Peak Load
30/07/2024 05:00	14.919	294822.500	1.069	0.000	14.544	Off Peak Load
30/07/2024 06:00	14.875	288320.500	2.039	0.000	16.268	Off Peak Load
30/07/2024 07:00	14.864	284451.750	2.182	0.000	15.798	Off Peak Load
30/07/2024 08:00	14.897	290214.781	0.542	0.001	16.363	Off Peak Load
30/07/2024 09:00	15.010	328658.500	4.185	0.001	20.290	On Peak Load
30/07/2024 10:00	14.990	316687.656	2.857	0.001	17.174	On Peak Load
30/07/2024 11:00	15.013	322188.094	5.364	0.000	13.755	On Peak Load
30/07/2024 12:00	14.995	306894.444	7.023	0.000	12.296	On Peak Load
30/07/2024 13:00	15.375	236244.313	36.243	0.000	11.753	Off Peak Load
30/07/2024 14:00	15.074	311680.063	7.388	0.000	10.724	On Peak Load
30/07/2024 15:00	15.065	314120.750	7.196	0.000	12.080	On Peak Load
30/07/2024 16:00	15.081	320079.875	8.446	0.000	11.670	On Peak Load
30/07/2024 17:00	15.044	322731.219	4.191	0.000	12.008	On Peak Load
30/07/2024 18:00	15.034	324382.625	5.303	0.000	13.006	On Peak Load
30/07/2024 19:00	15.060	323877.244	7.813	0.001	14.815	On Peak Load
30/07/2024 20:00	15.038	317117.125	3.546	0.002	15.724	On Peak Load
30/07/2024 21:00	14.974	321304.188	5.675	0.002	15.783	On Peak Load
30/07/2024 22:00	15.005	313604.906	2.200	0.002	15.900	On Peak Load
30/07/2024 23:00	15.042	335609.719	4.777	0.001	16.872	On Peak Load
31/07/2024 00:00	15.020	366586.938	7.788	0.001	15.900	Off Peak Load GT12 SD Half Block
31/07/2024 01:00	15.035	354252.125	6.232	0.000	17.696	Off Peak Load GT12 SD Half Block
31/07/2024 02:00	15.026	356511.281	5.997	0.001	21.314	Off Peak Load GT12 SD Half Block
31/07/2024 03:00	15.072	358316.344	5.817	0.001	18.594	Off Peak Load GT12 SD Half Block
31/07/2024 04:00	15.078	360219.281	8.172	0.001	16.394	Off Peak Load GT12 SD Half Block
31/07/2024 05:00	15.081	357821.719	6.528	0.002	20.287	Off Peak Load GT12 SD Half Block
31/07/2024 06:00	15.084	356626.406	5.896	0.002	19.408	Off Peak Load GT12 SD Half Block
31/07/2024 07:00	15.088	356057.438	8.405	0.003	19.417	Off Peak Load GT12 SD Half Block
31/07/2024 08:00	15.091	360653.625	8.795	0.003	18.183	Off Peak Load GT12 SD Half Block
31/07/2024 09:00	15.099	360979.469	9.828	0.003	13.531	Off Peak Load GT12 SD Half Block
31/07/2024 10:00	15.120	363003.375	12.255	0.003	12.935	Off Peak Load
31/07/2024 11:00	15.016	310117.344	6.780	0.003	11.705	On Peak Load
31/07/2024 12:00	14.975	305774.750	3.386	0.003	13.146	On Peak Load
31/07/2024 13:00	15.355	235612.219	37.052	0.003	15.589	Off Peak Load
31/07/2024 14:00	15.016	307369.750	7.374	0.003	14.967	On Peak Load
31/07/2024 15:00	15.025	313955.688	9.725	0.003	12.783	On Peak Load
31/07/2024 16:00	15.041	315958.000	9.422	0.003	14.705	On Peak Load
31/07/2024 17:00	15.056	319851.000	9.412	0.003	13.795	On Peak Load
31/07/2024 18:00	15.054	319397.406	6.872	0.004	15.442	On Peak Load
31/07/2024 19:00	15.042	321900.813	7.633	0.004	16.249	On Peak Load
31/07/2024 20:00	15.040	315361.000	7.511	0.005	14.035	On Peak Load
31/07/2024 21:00	15.039	320417.219	7.545	0.005	16.695	On Peak Load
31/07/2024 22:00	15.057	323465.688	7.564	0.006	18.158	On Peak Load
31/07/2024 23:00	15.055	339734.000	9.724	0.007	18.616	On Peak Load
Minimum	14.86	235.612	0.00	0.00	4.95	
Maximum	15.43	371.404	53.91	3.50	23.40	
Avg	15.07	318.372	13.69	0.14	11.54	
SUM			60	0	24	

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
11Jul24 00:00 - 31Jul24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
01/07/2024 00:00	15.035	323.210	31.226	0.735	12.158	Off Peak Load
01/07/2024 01:00	15.033	321.290	34.867	0.786	10.690	Off Peak Load
01/07/2024 02:00	15.125	327.269	26.940	0.180	11.089	Off Peak Load
01/07/2024 03:00	15.075	327.936	27.709	0.233	12.250	Off Peak Load
01/07/2024 04:00	15.110	330.414	29.010	0.425	10.250	Off Peak Load
01/07/2024 05:00	15.040	332.305	30.239	0.467	10.447	Off Peak Load
01/07/2024 06:00	15.012	322.863	30.307	0.478	10.040	Off Peak Load
01/07/2024 07:00	15.004	317.309	25.221	0.724	12.199	Off Peak Load
01/07/2024 08:00	15.099	319.336	24.784	0.537	11.023	Off Peak Load
01/07/2024 09:00	15.132	348.869	30.781	0.363	10.246	On Peak Load
01/07/2024 10:00	15.223	348.304	32.874	0.082	9.176	On Peak Load
01/07/2024 11:00	15.228	355.942	33.690	0.022	10.498	On Peak Load
01/07/2024 12:00	15.149	345.065	31.384	0.013	10.492	On Peak Load
01/07/2024 13:00	15.528	301.566	38.465	0.012	10.938	Off Peak Load
01/07/2024 14:00	15.317	347.991	34.300	0.012	11.202	On Peak Load
01/07/2024 15:00	15.223	352.472	33.921	0.020	10.136	On Peak Load
01/07/2024 16:00	15.197	351.802	34.330	0.017	10.308	On Peak Load
01/07/2024 17:00	15.227	348.967	34.051	0.017	10.374	On Peak Load
01/07/2024 18:00	15.297	354.323	36.416	0.017	10.157	On Peak Load
01/07/2024 19:00	15.317	354.309	35.422	0.016	10.507	On Peak Load
01/07/2024 20:00	15.235	354.446	31.650	0.016	13.747	On Peak Load
01/07/2024 21:00	15.202	353.173	31.363	0.016	9.557	On Peak Load
01/07/2024 22:00	15.215	354.868	32.077	0.015	9.996	On Peak Load
01/07/2024 23:00	15.183	359.198	30.321	0.015	9.588	On Peak Load
02/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
02/07/2024 09:00	15.190	348.400	30.481	0.018	11.846	On Peak Load
02/07/2024 10:00	15.221	347.030	32.145	0.017	11.291	On Peak Load
02/07/2024 11:00	15.262	340.174	33.378	0.016	12.192	On Peak Load
02/07/2024 12:00	15.214	328.582	32.634	0.014	11.956	On Peak Load
02/07/2024 13:00	15.685	296.825	58.388	0.013	12.297	Off Peak Load
02/07/2024 14:00	15.290	352.214	34.163	0.012	11.255	On Peak Load
02/07/2024 15:00	15.296	350.831	32.630	0.011	10.999	On Peak Load
02/07/2024 16:00	15.262	345.824	32.821	0.010	10.653	On Peak Load
02/07/2024 17:00	15.282	350.019	33.552	0.010	10.919	On Peak Load
02/07/2024 18:00	15.294	347.097	32.035	0.010	10.563	On Peak Load
02/07/2024 19:00	15.291	347.088	32.385	0.011	12.413	On Peak Load
02/07/2024 20:00	15.208	340.927	32.246	0.012	14.527	On Peak Load
02/07/2024 21:00	15.222	344.744	32.246	0.012	16.184	On Peak Load
02/07/2024 22:00	15.240	340.744	30.693	0.013	16.881	On Peak Load
02/07/2024 23:00	15.266	361.886	31.680	0.014	12.715	On Peak Load
03/07/2024 00:00	15.298	398.848	36.742	0.014	13.652	Off Peak Load GT11 SD Half Block
03/07/2024 01:00	15.302	366.458	33.941	0.014	12.870	Off Peak Load GT11 SD Half Block
03/07/2024 02:00	15.298	367.206	33.657	0.014	13.530	Off Peak Load GT11 SD Half Block
03/07/2024 03:00	15.299	370.843	33.098	0.014	13.482	Off Peak Load GT11 SD Half Block
03/07/2024 04:00	15.294	371.931	32.178	0.014	11.805	Off Peak Load GT11 SD Half Block
03/07/2024 05:00	15.285	369.769	32.746	0.014	13.291	Off Peak Load GT11 SD Half Block
03/07/2024 06:00	15.280	373.179	31.835	0.014	13.204	Off Peak Load GT11 SD Half Block
03/07/2024 07:00	15.298	375.396	33.267	0.013	12.623	Off Peak Load GT11 SD Half Block
03/07/2024 08:00	15.300	383.265	32.342	0.013	13.021	Off Peak Load GT11 SD Half Block
03/07/2024 09:00	15.155	341.935	29.506	0.013	11.856	On Peak Load
03/07/2024 10:00	15.217	338.906	28.306	0.013	12.037	On Peak Load
03/07/2024 11:00	15.266	346.398	29.345	0.013	12.182	On Peak Load
03/07/2024 12:00	15.205	339.970	30.362	0.013	12.697	On Peak Load
03/07/2024 13:00	15.571	289.945	44.882	0.013	14.663	Off Peak Load
03/07/2024 14:00	15.188	339.623	30.878	0.013	16.531	On Peak Load
03/07/2024 15:00	15.194	341.771	28.175	0.012	15.014	On Peak Load
03/07/2024 16:00	15.231	363.878	29.993	0.012	15.225	On Peak Load
03/07/2024 17:00	15.161	340.614	28.519	0.013	15.791	On Peak Load
03/07/2024 18:00	15.176	342.702	29.086	0.013	11.556	On Peak Load
03/07/2024 19:00	15.163	338.642	28.799	0.014	13.219	On Peak Load
03/07/2024 20:00	15.170	339.198	27.941	0.014	11.162	On Peak Load
03/07/2024 21:00	15.163	317.093	22.347	0.015	11.682	On Peak Load
03/07/2024 22:00	15.233	352.384	28.663	0.015	11.078	On Peak Load
03/07/2024 23:00	15.233	359.632	30.652	0.015	12.271	On Peak Load
04/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/07/2024 09:00	15.178	346.801	30.359	0.010	12.350	On Peak Load
04/07/2024 10:00	15.160	338.022	31.004	0.011	13.044	On Peak Load



Site Name: GNLL2  
Stack Name: HRS012  
Periodically: 1/10/2024 00:00 - 31/10/2024 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/07/2024 11:00	15.130	329,481	28.721	0.011	12.062	On Peak Load
04/07/2024 12:00	15.155	338,493	31.583	0.012	14.387	On Peak Load
04/07/2024 13:00	15.553	287,615	54.790	0.013	21.877	Off Peak Load
04/07/2024 14:00	15.121	330,078	29.033	0.014	16.945	On Peak Load
04/07/2024 15:00	15.126	331,821	27.732	0.014	11.760	On Peak Load
04/07/2024 16:00	15.191	340,845	26.271	0.015	12.254	On Peak Load
04/07/2024 17:00	15.212	335,682	26.196	0.015	12.477	On Peak Load
04/07/2024 18:00	15.196	334,901	26.128	0.015	16.614	On Peak Load
04/07/2024 19:00	15.159	340,194	25.708	0.015	11.571	On Peak Load
04/07/2024 20:00	15.142	336,794	25.884	0.015	8.577	On Peak Load
04/07/2024 21:00	15.199	345,013	25.068	0.015	7.128	On Peak Load
04/07/2024 22:00	15.149	342,022	24.866	0.014	6.488	On Peak Load
04/07/2024 23:00	15.197	347,753	24.214	0.014	6.720	On Peak Load
05/07/2024 00:00	15.241	293,961	32.401	0.014	7.561	Off Peak Load GT11 SD Half Block
05/07/2024 01:00	15.217	372,531	25.619	0.014	9.600	Off Peak Load GT11 SD Half Block
05/07/2024 02:00	15.219	381,573	26.573	0.014	15.884	Off Peak Load GT11 SD Half Block
05/07/2024 03:00	15.221	369,258	26.955	0.014	17.869	Off Peak Load GT11 SD Half Block
05/07/2024 04:00	15.224	373,634	25.268	0.014	18.211	Off Peak Load GT11 SD Half Block
05/07/2024 05:00	15.231	371,708	24.700	0.015	12.645	Off Peak Load GT11 SD Half Block
05/07/2024 06:00	15.240	368,383	24.581	0.015	15.009	Off Peak Load GT11 SD Half Block
05/07/2024 07:00	15.248	370,603	24.374	0.015	14.616	Off Peak Load GT11 SD Half Block
05/07/2024 08:00	15.256	378,706	25.529	0.015	11.760	Off Peak Load GT11 SD Half Block
05/07/2024 09:00	15.141	353,736	23.744	0.015	12.597	On Peak Load
05/07/2024 10:00	15.154	351,375	21.321	0.014	12.827	On Peak Load
05/07/2024 11:00	15.225	348,034	22.352	0.014	13.899	On Peak Load
05/07/2024 12:00	15.173	338,219	22.861	0.014	14.235	On Peak Load
05/07/2024 13:00	15.534	297,627	31.892	0.014	15.778	Off Peak Load
05/07/2024 14:00	15.218	349,191	23.515	0.015	16.243	On Peak Load
05/07/2024 15:00	15.162	349,312	24.676	0.015	9.316	On Peak Load
05/07/2024 16:00	15.170	351,553	23.515	0.016	7.473	On Peak Load
05/07/2024 17:00	15.121	339,430	27.891	0.016	9.216	On Peak Load
05/07/2024 18:00	15.122	342,316	23.007	0.016	7.497	On Peak Load
05/07/2024 19:00	15.177	348,356	21.793	0.017	6.937	On Peak Load
05/07/2024 20:00	15.199	340,726	22.531	0.017	11.487	On Peak Load
05/07/2024 21:00	15.222	344,869	23.764	0.017	11.806	On Peak Load
05/07/2024 22:00	15.176	346,761	22.636	0.016	22.644	On Peak Load
05/07/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
06/07/2024 09:00	15.193	354,128	25.686	0.016	15.254	On Peak Load
06/07/2024 10:00	15.212	360,623	26.413	0.014	12.953	On Peak Load
06/07/2024 11:00	15.251	356,560	26.801	0.013	12.664	On Peak Load
06/07/2024 12:00	15.222	341,634	25.093	0.014	12.063	On Peak Load
06/07/2024 13:00	15.492	298,769	27.237	0.015	11.337	Off Peak Load
06/07/2024 14:00	15.308	365,363	26.251	0.014	12.062	On Peak Load
06/07/2024 15:00	15.230	340,053	25.583	0.014	14.446	On Peak Load
06/07/2024 16:00	15.221	342,908	25.625	0.014	14.697	On Peak Load
06/07/2024 17:00	15.232	347,551	25.202	0.013	15.470	On Peak Load
06/07/2024 18:00	15.297	355,658	24.264	0.012	16.159	On Peak Load
06/07/2024 19:00	15.302	360,237	24.263	0.011	18.393	On Peak Load
06/07/2024 20:00	15.294	373,537	29.086	0.011	13.843	On Peak Load
06/07/2024 21:00	15.283	362,619	23.674	0.010	13.893	On Peak Load
06/07/2024 22:00	15.288	350,715	26.180	0.009	13.247	On Peak Load
06/07/2024 23:00	15.268	365,600	23.495	0.008	18.174	On Peak Load
07/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
07/07/2024 19:00	15.259	353,803	34.486	0.009	14.015	On Peak Load
07/07/2024 20:00	15.173	346,708	24.885	0.010	13.869	On Peak Load
07/07/2024 21:00	15.218	354,188	24.039	0.010	13.528	On Peak Load

Site Name: GNLL2  
Stack Name: HRS012  
Periodically: 1/10/2024 00:00 - 31/10/2024 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/07/2024 22:00	15.218	347,670	23.843	0.011	13.517	Off Peak Load
07/07/2024 23:00	15.155	326,536	20.720	0.012	13.996	Off Peak Load
08/07/2024 00:00	15.103	318,891	22.160	0.013	13.123	Off Peak Load
08/07/2024 01:00	15.092	325,349	20.055	0.013	13.353	Off Peak Load
08/07/2024 02:00	15.150	320,075	16.377	0.013	13.193	Off Peak Load
08/07/2024 03:00	15.088	319,323	21.726	0.012	13.281	Off Peak Load
08/07/2024 04:00	15.089	319,694	21.267	0.012	13.643	Off Peak Load
08/07/2024 05:00	15.107	323,182	19.264	0.011	8.855	Off Peak Load
08/07/2024 06:00	15.057	323,686	20.450	0.011	7.439	Off Peak Load
08/07/2024 07:00	15.035	324,637	19.749	0.010	7.560	Off Peak Load
08/07/2024 08:00	15.084	313,669	17.982	0.010	16.221	Off Peak Load
08/07/2024 09:00	15.244	387,006	28.611	0.010	13.466	Off Peak Load
08/07/2024 10:00	15.296	390,735	27.801	0.010	11.407	On Peak Load
08/07/2024 11:00	15.171	350,082	23.190	0.010	11.938	On Peak Load
08/07/2024 12:00	15.162	354.480	21.466	0.010	12.703	On Peak Load
08/07/2024 13:00	15.495	300,812	34.325	0.010	11.962	Off Peak Load
08/07/2024 14:00	15.193	347,718	22.408	0.010	12.299	On Peak Load
08/07/2024 15:00	15.251	356,413	22.365	0.010	12.255	On Peak Load
08/07/2024 16:00	15.276	361,551	23.647	0.010	12.210	On Peak Load
08/07/2024 17:00	15.295	354,002	24.300	0.011	11.382	On Peak Load
08/07/2024 18:00	15.270	346,276	22.866	0.013	14.124	On Peak Load
08/07/2024 19:00	15.263	353,738	22.918	0.013	16.176	On Peak Load
08/07/2024 20:00	15.232	353,634	23.188	0.013	13.728	On Peak Load
08/07/2024 21:00	15.228	358,326	22.678	0.013	13.420	On Peak Load
08/07/2024 22:00	15.196	352,345	20.701	0.013	8.818	On Peak Load
08/07/2024 23:00	15.230	354,932	22.175	0.014	12.282	On Peak Load
09/07/2024 00:00	15.319	299,780	21.852	0.014	14.205	Off Peak Load
09/07/2024 01:00	15.128	347,923	19.935	0.014	11.150	On Peak Load
09/07/2024 02:00	15.097	337,273	21.461	0.014	10.331	Off Peak Load
09/07/2024 03:00	15.137	338,449	20.303	0.014	12.000	Off Peak Load
09/07/2024 04:00	15.085	337,837	20.775	0.014	13.970	Off Peak Load
09/07/2024 05:00	15.085	330,546	22.373	0.015	14.228	Off Peak Load
09/07/2024 06:00	15.107	342,769	21.706	0.015	12.126	Off Peak Load
09/07/2024 07:00	15.086	334,216	18.744	0.015	17.178	Off Peak Load
09/07/2024 08:00	15.096	340,725	18.949	0.015	13.502	Off Peak Load
09/07/2024 09:00	15.206	356,396	21.303	0.015	11.625	On Peak Load
09/07/2024 10:00	15.125	352,806	20.329	0.015	12.603	On Peak Load
09/07/2024 11:00	15.187	355,270	23.338	0.012	12.441	On Peak Load
09/07/2024 12:00	15.086	347,994	20.968	0.012	12.667	On Peak Load
09/07/2024 13:00	15.499	299,107	28.859	0.013	13.541	Off Peak Load
09/07/2024 14:00	15.216	367,543	22.118	0.013	13.565	On Peak Load
09/07/2024 15:00	15.198	353,232	21.232	0.013	13.724	On Peak Load
09/07/2024 16:00	15.214	355,645	22.718	0.014	13.943	On Peak Load
09/07/2024 17:00	15.252	357,059	24.549	0.014	13.742	On Peak Load
09/07/2024 18:00	15.229	359,122	21.987	0.015	13.952	On Peak Load
09/07/2024 19:00	15.267	364,232	22.426	0.015	11.920	On Peak Load
09/07/2024 20:00	15.205	350,635	22.167	0.015	13.153	On Peak Load
09/07/2024 21:00	15.274	361,812	21.946	0.016	13.128	On Peak Load
09/07/2024 22:00	15.199	347,987	20.730	0.016	13.172	On Peak Load
09/07/2024 23:00	15.162	353,707	21.029	0.016	16.205	On Peak Load
10/07/2024 00:00	15.401	301,475	32.670	0.016	16.668	Off Peak Load
10/07/2024 01:00	15.112	345,568	22.434	0.016	16.292	Off Peak Load
10/07/2024 02:00	15.085	338,030	20.344	0.015	11.773	Off Peak Load
10/07/2024 03:00	15.075	329,549	20.789	0.015	10.749	Off Peak Load
10/07/2024 04:00	15.135	341,765	21.568	0.015	15.377	Off Peak Load
10/07/2024 05:00	15.137	339,985	20.717	0.014	14.508	Off Peak Load
10/07/2024 06:00	15.130	351,831	21.419	0.014	14.321	Off Peak Load
10/07/2024 07:00	15.112	331,766	21.273	0.014	14.290	Off Peak Load
10/07/2024 08:00	15.140	340,473	20.872	0.014	15.581	Off Peak Load
10/07/2024 09:00	15.189	387,501	25.482	0.015	13.021	On Peak Load
10/07/2024 10:00	15.187	362,056	22.359	0.018	11.524	On Peak Load
10/07/2024 11:00	15.186	368,942	20.535	0.018	12.389	On Peak Load
10/07/2024 12:00	15.135	356,969	22.189	0.008	13.293	On Peak Load
10/07/2024 13:00	15.453	299,893	31.411	0.008	13.739	Off Peak Load
10/07/2024 14:00	15.198	357,332	21.421	0.008	12.625	On Peak Load
10/07/2024 15:00	15.276	358,174	22.611	0.008	13.072	On Peak Load
10/07/2024 16:00	15.233	355,514	23.367	0.008	13.155	On Peak Load
10/07/2024 17:00	15.252	356,810	24.530	0.008	14.044	On Peak Load
10/07/2024 18:00	15.244	357,628	23.263	0.008	16.239	On Peak Load
10/07/2024 19:00	15.250	356,462	22.440	0.008	13.834	On Peak Load
10/07/2024 20:00	15.200	353,167	20.814	0.007	10.347	On Peak Load
10/07/2024 21:00	15.240	374,562	19.347	0.007	10.820	On Peak Load
10/07/2024 22:00	15.236	379,597	22.951	0.007	18.431	On Peak Load
10/07/2024 23:00	15.209	385,844	26.085	0.007	12.969	On Peak Load
11/07/2024 00:00	15.655	282,686	54.503	0.007	19.499	Off Peak Load
11/07/2024 01:00	15.157	386,796	23.056	0.007	20.255	Off Peak Load
11/07/2024 02:00	15.100	332,840	24.185	0.006	16.971	Off Peak Load
11/07/2024 03:00	15.093	336,558	23.046	0.006	11.476	Off Peak Load
11/07/2024 04:00	15.105	332,196	19.836	0.006	11.190	Off Peak Load
11/07/2024 05:00	15.104	340,316	22.075	0.006	15.623	Off Peak Load
11/07/2024 06:00	15.120	346,688	19.591	0.006	11.396	Off Peak Load
11/07/2024 07:00	15.085	329,399	26.715	0.006	14.465	Off Peak Load
11/07/2024 08:00	15.108	324,957	25.263	0.006	11.009	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
12/24/24 00:00 - 31/01/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/07/2024 09:00	15.154	351,910	30.973	0.006	13.557	On Peak Load
11/07/2024 10:00	15.170	354,341	28.851	0.008	14.524	On Peak Load
11/07/2024 11:00	15.123	348,000	29.182	0.009	15.617	On Peak Load
11/07/2024 12:00	15.080	352,319	28.081	0.011	11.137	On Peak Load
11/07/2024 13:00	15.546	304,247	45.157	0.013	14.183	Off Peak Load
11/07/2024 14:00	15.218	364,426	27.999	0.015	14.249	On Peak Load
11/07/2024 15:00	15.223	357,421	30.164	0.011	15.653	On Peak Load
11/07/2024 16:00	15.311	364,358	31.634	0.012	14.973	On Peak Load
11/07/2024 17:00	15.281	357,068	30.985	0.012	14.828	On Peak Load
11/07/2024 18:00	15.279	363,009	31.857	0.012	15.485	On Peak Load
11/07/2024 19:00	15.286	365,110	30.697	0.013	16.524	On Peak Load
11/07/2024 20:00	15.268	356,199	29.146	0.013	8.670	On Peak Load
11/07/2024 21:00	15.288	377,170	30.292	0.013	12.145	On Peak Load
11/07/2024 22:00	15.293	361,536	32.389	0.013	7.998	On Peak Load
11/07/2024 23:00	15.280	367,265	31.840	0.013	8.040	On Peak Load
12/07/2024 00:00	15.608	301,707	32.389	0.012	9.531	Off Peak Load
12/07/2024 01:00	15.221	358,022	28.166	0.010	9.438	Off Peak Load
12/07/2024 02:00	15.192	347,002	27.959	0.009	7.744	Off Peak Load
12/07/2024 03:00	15.173	339,678	27.790	0.008	15.623	Off Peak Load
12/07/2024 04:00	15.204	344,870	28.706	0.006	11.354	Off Peak Load
12/07/2024 05:00	15.142	339,194	27.419	0.005	12.391	Off Peak Load
12/07/2024 06:00	15.078	331,931	25.240	0.009	10.042	Off Peak Load
12/07/2024 07:00	15.130	335,667	25.789	0.012	11.322	Off Peak Load
12/07/2024 08:00	15.261	325,398	23.250	0.016	12.947	Off Peak Load
12/07/2024 09:00	15.209	346,502	27.573	0.006	8.229	On Peak Load
12/07/2024 10:00	15.205	340,806	27.530	0.008	7.679	On Peak Load
12/07/2024 11:00	15.287	355,101	29.374	0.010	7.009	On Peak Load
12/07/2024 12:00	15.221	343,005	30.076	0.011	7.349	On Peak Load
12/07/2024 13:00	15.637	299,784	52.542	0.013	7.142	Off Peak Load
12/07/2024 14:00	15.235	357,184	29.908	0.013	7.210	On Peak Load
12/07/2024 15:00	15.184	345,892	29.086	0.013	8.032	On Peak Load
12/07/2024 16:00	15.231	355,571	28.602	0.012	7.195	On Peak Load
12/07/2024 17:00	15.213	349,525	28.463	0.012	6.906	On Peak Load
12/07/2024 18:00	15.252	353,661	29.846	0.012	8.086	On Peak Load
12/07/2024 19:00	15.218	363,203	29.476	0.012	8.724	On Peak Load
12/07/2024 20:00	15.297	357,607	29.760	0.012	8.932	On Peak Load
12/07/2024 21:00	15.306	370,410	31.086	0.012	7.730	On Peak Load
12/07/2024 22:00	15.323	361,284	31.297	0.012	7.448	On Peak Load
12/07/2024 23:00	15.283	358,846	31.355	0.012	8.366	On Peak Load
13/07/2024 00:00	15.393	300,789	34.472	0.013	7.631	Off Peak Load
13/07/2024 01:00	15.139	378,762	28.932	0.013	9.337	Off Peak Load
13/07/2024 02:00	15.139	340,777	27.583	0.013	22.448	Off Peak Load
13/07/2024 03:00	15.082	331,217	25.511	0.013	24.074	Off Peak Load
13/07/2024 04:00	15.086	316,243	25.553	0.013	13.687	Off Peak Load
13/07/2024 05:00	15.165	346,393	27.521	0.013	15.335	Off Peak Load
13/07/2024 06:00	15.113	332,827	25.586	0.013	16.504	Off Peak Load
13/07/2024 07:00	15.071	331,701	26.402	0.012	11.353	Off Peak Load
13/07/2024 08:00	15.220	327,180	22.292	0.012	12.986	Off Peak Load
13/07/2024 09:00	15.273	372,121	28.453	0.013	11.157	On Peak Load
13/07/2024 10:00	15.208	344,655	27.748	0.013	9.679	On Peak Load
13/07/2024 11:00	15.285	366,339	30.185	0.011	10.082	On Peak Load
13/07/2024 12:00	15.253	355,144	30.762	0.008	9.447	On Peak Load
13/07/2024 13:00	15.606	308,831	42.675	0.006	8.449	Off Peak Load
13/07/2024 14:00	15.319	376,578	31.138	0.003	7.497	On Peak Load
13/07/2024 15:00	15.307	378,334	32.699	0.001	7.784	On Peak Load
13/07/2024 16:00	15.308	355,963	31.279	0.002	7.833	On Peak Load
13/07/2024 17:00	15.374	366,718	32.593	0.005	9.122	On Peak Load
13/07/2024 18:00	15.330	358,818	33.166	0.008	10.728	On Peak Load
13/07/2024 19:00	15.267	360,033	29.534	0.011	13.411	On Peak Load
13/07/2024 20:00	15.245	358,071	29.395	0.014	13.042	On Peak Load
13/07/2024 21:00	15.323	377,137	30.924	0.013	10.901	On Peak Load
13/07/2024 22:00	15.308	369,891	31.635	0.013	11.115	On Peak Load
13/07/2024 23:00	15.357	394,088	32.352	0.014	11.180	On Peak Load
14/07/2024 00:00	15.092	331,961	30.416	0.014	14.789	Off Peak Load
14/07/2024 01:00	15.168	346,230	27.550	0.014	13.090	Off Peak Load
14/07/2024 02:00	15.184	341,906	28.271	0.015	12.377	Off Peak Load
14/07/2024 03:00	15.159	327,439	28.304	0.015	11.036	Off Peak Load
14/07/2024 04:00	15.158	332,381	27.893	0.015	11.584	Off Peak Load
14/07/2024 05:00	15.139	333,578	26.864	0.015	12.821	Off Peak Load
14/07/2024 06:00	15.182	329,100	26.065	0.013	12.582	Off Peak Load
14/07/2024 07:00	15.130	327,406	27.082	0.013	10.186	Off Peak Load
14/07/2024 08:00	15.207	323,607	23.601	0.013	11.616	Off Peak Load
14/07/2024 09:00	15.253	329,187	22.503	0.013	12.164	Off Peak Load
14/07/2024 10:00	15.259	329,399	22.747	0.014	11.050	Off Peak Load
14/07/2024 11:00	15.282	319,509	23.750	0.014	13.316	Off Peak Load
14/07/2024 12:00	15.271	326,899	22.132	0.014	13.063	Off Peak Load
14/07/2024 13:00	15.288	342,508	24.948	0.014	11.550	Off Peak Load
14/07/2024 14:00	15.270	327,089	26.434	0.014	11.333	Off Peak Load
14/07/2024 15:00	15.311	352,029	25.981	0.014	10.893	Off Peak Load
14/07/2024 16:00	15.272	328,979	25.560	0.013	10.584	Off Peak Load
14/07/2024 17:00	15.250	330,105	26.559	0.013	13.101	Off Peak Load
14/07/2024 18:00	15.310	330,708	30.862	0.012	15.480	Off Peak Load
14/07/2024 19:00	15.219	356,595	28.260	0.012	10.729	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
12/24/24 00:00 - 31/01/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/07/2024 20:00	15.273	359,547	28.386	0.011	7.733	On Peak Load
14/07/2024 21:00	15.261	368,064	29.108	0.011	7.676	On Peak Load
14/07/2024 22:00	15.284	366,937	27.819	0.010	8.896	On Peak Load
14/07/2024 23:00	15.031	330,080	24.441	0.010	9.063	Off Peak Load
15/07/2024 00:00	15.217	322,529	18.165	0.009	8.312	Off Peak Load
15/07/2024 01:00	15.148	319,248	21.146	0.009	7.668	Off Peak Load
15/07/2024 02:00	15.120	319,531	22.846	0.009	7.594	Off Peak Load
15/07/2024 03:00	15.138	322,865	20.235	0.008	8.663	Off Peak Load
15/07/2024 04:00	15.134	320,592	19.136	0.008	7.211	Off Peak Load
15/07/2024 05:00	15.144	319,130	17.203	0.008	7.231	Off Peak Load
15/07/2024 06:00	15.195	324,826	17.819	0.007	5.768	Off Peak Load
15/07/2024 07:00	15.141	332,269	17.969	0.008	6.094	Off Peak Load
15/07/2024 08:00	15.169	322,153	17.177	0.009	5.199	Off Peak Load
15/07/2024 09:00	15.214	351,635	26.654	0.009	7.124	On Peak Load
15/07/2024 10:00	15.247	356,211	23.092	0.010	5.933	On Peak Load
15/07/2024 11:00	15.248	362,827	24.058	0.010	5.775	On Peak Load
15/07/2024 12:00	15.175	355,301	23.469	0.011	22.170	On Peak Load
15/07/2024 13:00	15.356	298,898	21.249	0.012	20.227	Off Peak Load
15/07/2024 14:00	15.179	352,151	28.334	0.012	5.768	On Peak Load
15/07/2024 15:00	15.169	348,917	0.000	0.003	6.094	On Peak Load
15/07/2024 16:00	15.135	352,271	29.523	0.017	5.199	On Peak Load
15/07/2024 17:00	15.187	351,175	28.545	0.014	12.922	On Peak Load
15/07/2024 18:00	15.194	357,263	28.293	0.012	13.890	On Peak Load
15/07/2024 19:00	15.181	356,257	30.374	0.012	12.583	On Peak Load
15/07/2024 20:00	15.232	359,012	28.841	0.013	13.118	On Peak Load
15/07/2024 21:00	15.215	364,110	28.094	0.013	13.623	On Peak Load
15/07/2024 22:00	15.233	368,377	27.557	0.013	22.275	On Peak Load
15/07/2024 23:00	15.227	383,963	25.957	0.013	12.533	On Peak Load
16/07/2024 00:00	15.362	297,059	37.434	0.012	16.013	Off Peak Load
16/07/2024 01:00	15.151	347,164	26.395	0.012	13.746	Off Peak Load
16/07/2024 02:00	15.094	345,764	25.249	0.012	14.104	Off Peak Load
16/07/2024 03:00	15.114	328,465	28.328	0.011	18.734	Off Peak Load
16/07/2024 04:00	15.119	328,373	23.073	0.011	15.760	Off Peak Load
16/07/2024 05:00	15.201	348,767	29.707	0.011	18.307	Off Peak Load
16/07/2024 06:00	15.159	344,070	27.572	0.010	14.125	Off Peak Load
16/07/2024 07:00	15.138	339,877	27.123	0.011	11.818	Off Peak Load
16/07/2024 08:00	15.140	325,318	25.744	0.011	14.862	Off Peak Load
16/07/2024 09:00	15.209	360,243	28.650	0.011	12.476	On Peak Load
16/07/2024 10:00	15.256	359,287	28.823	0.011	11.423	On Peak Load
16/07/2024 11:00	15.281	360,988	29.633	0.011	14.630	On Peak Load
16/07/2024 12:00	15.193	347,641	28.586	0.011	13.059	On Peak Load
16/07/2024 13:00	15.553	312,011	46.200	0.011	13.625	Off Peak Load
16/07/2024 14:00	15.260	394,447	29.379	0.011	12.429	On Peak Load
16/07/2024 15:00	15.238	363,727	29.353	0.011	12.476	On Peak Load
16/07/2024 16:00	15.257	369,777	31.053	0.011	13.391	On Peak Load
16/07/2024 17:00	15.258	351,731	29.380	0.011	14.523	On Peak Load
16/07/2024 18:00	15.243	354,734	29.918	0.010	15.815	On Peak Load
16/07/2024 19:00	15.244	356,761	28.864	0.010	15.902	On Peak Load
16/07/2024 20:00	15.265	355,339	30.078	0.010	14.768	On Peak Load
16/07/2024 21:00	15.245	357,932	28.393	0.010	10.804	On Peak Load
16/07/2024 22:00	15.197	349,043	28.668	0.010	11.401	On Peak Load
16/07/2024 23:00	15.247	362,661	28.955	0.009	11.294	On Peak Load
17/07/2024 00:00	15.308	308,439	30.891	0.009	10.120	Off Peak Load
17/07/2024 01:00	15.166	345,487	27.420	0.008	13.228	Off Peak Load
17/07/2024 02:00	15.192	339,410	26.922	0.008	13.254	Off Peak Load
17/07/2024 03:00	15.155	338,889	26.193	0.008	14.192	Off Peak Load
17/07/2024 04:00	15.159	332,965	26.310	0.008	14.366	Off Peak Load
17/07/2024 05:00	15.166	341,675	26.260	0.007	14.145	Off Peak Load
17/07/2024 06:00	15.133	333,560	26.810	0.007	7.304	Off Peak Load
17/07/2024 07:00	15.113	337,188	25.474	0.007	12.860	Off Peak Load
17/07/2024 08:00	15.203	336,859	21.586	0.007	13.075	Off Peak Load
17/07/2024 09:00	15.192	347,810	26.169	0.006	14.234	On Peak Load
17/07/2024 10:00	15.198	346,839	28.090	0.007	12.332	On Peak Load
17/07/2024 11:00	15.236	356,081	29.255	0.009	13.313	On Peak Load
17/07/2024 12:00	15.269	383,691	28.751	0.010	13.221	On Peak Load
17/07/2024 13:00	15.582	336,434	43.317	0.011	13.732	Off Peak Load
17/07/2024 14:00	15.267	359,827	27.862	0.013	13.766	On Peak Load
17/07/2024 15:00	15.271	356,603	29.236	0.014	14.422	On Peak Load
17/07/2024 16:00	15.271	356,791	29.144	0.015	15.258	On Peak Load
17/07/2024 17:00	15.257	357,729	29.045	0.017	16.405	On Peak Load
17/07/2024 18:00	15.258	364,990	29.246	0.015	17.002	On Peak Load
17/07/2024 19:00	15.250	360,207	26.103	0.014	14.801	On Peak Load
17/07/2024 20:00	15.267	360,184	26.795	0.014	12.351	On Peak Load
17/07/2024 21:00	15.278	360,825	28.655	0.014	12.043	On Peak Load
17/07/2024 22:00	15.262	355,311	28.392	0.014	10.318	On Peak Load
17/07/2024 23:00	15.281	368,011	29.199	0.014	9.683	On Peak Load
18/07/2024 00:00	15.251	376,041	36.247	0.015	9.008	Off Peak Load GT11 SD Half Block
18/07/2024 01:00	15.321	376,586	30.403	0.015	9.092	Off Peak Load GT11 SD Half Block
18/07/2024 02:00	15.307	380,747	29.107	0.015	16.685	Off Peak Load GT11 SD Half Block
18/07/2024 03:00	15.263	375,943	30.044	0.015	14.940	Off Peak Load GT11 SD Half Block
18/07/2024 04:00	15.256	378,757	30.646	0.014	14.376	Off Peak Load GT11 SD Half Block
18/07/2024 05:00	15.301	380,151	30.029	0.014	13.452	Off Peak Load GT11 SD Half Block
18/07/2024 06:00	15.296	378,694	31.218	0.014	13.870	Off Peak Load GT11 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
11/01/2024 00:00 - 11/01/2024 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
18/07/2024 07:00	15.284	378.602	30.798	0.014	16.729	Off Peak Load GT11 SD Half Block
18/07/2024 08:00	15.291	384.291	29.859	0.014	13.453	Off Peak Load GT11 SD Half Block
18/07/2024 09:00	15.175	354.622	27.857	0.013	11.165	On Peak Load
18/07/2024 10:00	15.249	363.056	29.973	0.013	12.860	On Peak Load
18/07/2024 11:00	15.220	350.783	27.185	0.013	13.316	On Peak Load
18/07/2024 12:00	15.198	356.519	27.596	0.013	12.350	On Peak Load
18/07/2024 13:00	15.553	292.574	51.207	0.013	17.283	Off Peak Load
18/07/2024 14:00	15.163	352.956	27.392	0.013	12.313	On Peak Load
18/07/2024 15:00	15.270	349.959	31.002	0.014	12.373	On Peak Load
18/07/2024 16:00	15.269	355.561	27.200	0.014	16.089	On Peak Load
18/07/2024 17:00	15.183	351.439	28.245	0.014	17.314	On Peak Load
18/07/2024 18:00	15.230	354.645	29.374	0.014	11.284	On Peak Load
18/07/2024 19:00	15.245	350.948	28.911	0.012	12.726	On Peak Load
18/07/2024 20:00	15.190	351.142	27.929	0.010	14.794	On Peak Load
19/07/2024 21:00	15.220	352.751	28.576	0.010	15.052	On Peak Load
19/07/2024 22:00	15.228	358.976	28.177	0.011	15.274	On Peak Load
19/07/2024 23:00	15.251	369.988	27.834	0.011	14.529	On Peak Load
19/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
19/07/2024 09:00	15.206	367.596	28.764	0.007	15.011	On Peak Load
19/07/2024 10:00	15.199	354.052	30.262	0.007	12.833	On Peak Load
19/07/2024 11:00	15.248	365.269	31.072	0.008	11.910	On Peak Load
19/07/2024 12:00	15.179	358.577	30.708	0.009	13.456	On Peak Load
19/07/2024 13:00	15.476	323.433	33.119	0.010	12.628	Off Peak Load
19/07/2024 14:00	15.214	347.660	28.218	0.011	12.579	On Peak Load
19/07/2024 15:00	15.235	356.785	30.426	0.012	12.375	On Peak Load
19/07/2024 16:00	15.257	360.911	30.789	0.013	12.598	On Peak Load
19/07/2024 17:00	15.192	356.395	28.460	0.013	14.628	On Peak Load
19/07/2024 18:00	15.246	353.026	27.149	0.012	14.399	On Peak Load
19/07/2024 19:00	15.274	365.366	29.084	0.012	15.998	On Peak Load
19/07/2024 20:00	15.246	362.249	28.945	0.011	14.058	On Peak Load
19/07/2024 21:00	15.255	362.353	27.286	0.011	14.473	On Peak Load
19/07/2024 22:00	15.269	368.392	29.214	0.010	13.959	On Peak Load
19/07/2024 23:00	15.278	372.931	26.420	0.010	14.741	On Peak Load
20/07/2024 00:00	15.344	309.060	29.381	0.009	14.240	Off Peak Load
20/07/2024 01:00	15.116	332.300	24.599	0.009	15.777	Off Peak Load
20/07/2024 02:00	15.133	337.278	25.155	0.010	14.741	Off Peak Load
20/07/2024 03:00	15.094	338.848	25.655	0.011	12.803	Off Peak Load
20/07/2024 04:00	15.099	331.133	23.801	0.011	15.419	Off Peak Load
20/07/2024 05:00	15.101	325.742	22.145	0.012	19.757	Off Peak Load
20/07/2024 06:00	15.101	322.665	22.210	0.013	20.429	Off Peak Load
20/07/2024 07:00	15.069	325.418	23.327	0.013	14.763	Off Peak Load
20/07/2024 08:00	15.198	312.503	16.912	0.014	15.288	Off Peak Load
20/07/2024 09:00	15.195	319.537	14.468	0.014	16.881	Off Peak Load
20/07/2024 10:00	15.224	327.557	16.677	0.014	12.585	Off Peak Load
20/07/2024 11:00	15.179	320.500	16.004	0.014	14.380	Off Peak Load
20/07/2024 12:00	15.195	318.212	17.165	0.014	12.084	Off Peak Load
20/07/2024 13:00	15.177	328.497	18.231	0.013	12.084	Off Peak Load
20/07/2024 14:00	15.143	331.644	19.564	0.013	12.135	Off Peak Load
20/07/2024 15:00	15.166	332.846	18.202	0.016	11.736	Off Peak Load
20/07/2024 16:00	15.135	329.657	17.780	0.015	12.401	Off Peak Load
20/07/2024 17:00	15.207	330.967	17.800	0.015	12.513	Off Peak Load
20/07/2024 18:00	15.203	316.746	15.738	0.014	12.999	Off Peak Load
20/07/2024 19:00	15.125	353.649	19.800	0.014	17.926	On Peak Load
20/07/2024 20:00	15.215	360.386	21.593	0.013	14.361	On Peak Load
20/07/2024 21:00	15.223	358.249	21.132	0.013	13.314	On Peak Load
20/07/2024 22:00	15.217	375.380	22.074	0.013	19.020	On Peak Load
20/07/2024 23:00	15.050	340.979	20.208	0.014	14.724	Off Peak Load
21/07/2024 00:00	15.108	332.312	18.612	0.014	14.543	Off Peak Load
21/07/2024 01:00	15.126	336.632	18.869	0.014	17.367	Off Peak Load
21/07/2024 02:00	15.108	335.760	17.373	0.015	15.643	Off Peak Load
21/07/2024 03:00	15.097	329.676	16.835	0.015	15.229	Off Peak Load
21/07/2024 04:00	15.149	324.725	15.930	0.015	15.331	Off Peak Load
21/07/2024 05:00	15.144	330.106	15.576	0.015	16.530	Off Peak Load
21/07/2024 06:00	15.139	320.720	16.255	0.015	13.930	Off Peak Load
21/07/2024 07:00	15.205	324.859	15.680	0.015	16.275	Off Peak Load
21/07/2024 08:00	15.300	313.108	20.679	0.015	16.253	Off Peak Load
21/07/2024 09:00	15.312	314.291	20.879	0.015	13.874	Off Peak Load
21/07/2024 10:00	15.339	309.732	22.497	0.015	12.228	Off Peak Load
21/07/2024 11:00	15.336	314.255	23.124	0.015	13.464	Off Peak Load
21/07/2024 12:00	15.411	312.724	23.454	0.015	14.357	Off Peak Load
21/07/2024 13:00	15.489	315.802	23.556	0.013	14.954	Off Peak Load
21/07/2024 14:00	15.333	331.008	22.430	0.013	14.131	Off Peak Load
21/07/2024 15:00	15.307	324.005	18.165	0.013	14.042	Off Peak Load
21/07/2024 16:00	15.246	313.934	16.112	0.013	15.760	Off Peak Load
21/07/2024 17:00	15.282	318.301	20.720	0.013	14.248	Off Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
11/01/2024 00:00 - 11/01/2024 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
21/07/2024 18:00	15.194	316.589	16.143	0.013	12.798	Off Peak Load
21/07/2024 19:00	15.293	383.089	26.657	0.013	15.063	Off Peak Load
21/07/2024 20:00	15.267	389.938	27.187	0.013	16.235	Off Peak Load
21/07/2024 21:00	15.242	381.946	27.134	0.013	17.036	Off Peak Load
21/07/2024 22:00	15.217	385.873	27.274	0.012	16.309	Off Peak Load
21/07/2024 23:00	15.069	319.915	18.528	0.012	16.740	Off Peak Load
22/07/2024 00:00	15.138	327.835	12.721	0.012	20.697	Off Peak Load
22/07/2024 01:00	15.180	320.132	14.201	0.012	13.802	Off Peak Load
22/07/2024 02:00	15.197	325.314	14.555	0.012	13.608	Off Peak Load
22/07/2024 03:00	15.189	324.528	12.936	0.011	16.401	Off Peak Load
22/07/2024 04:00	15.205	320.825	17.680	0.011	15.253	Off Peak Load
22/07/2024 05:00	15.193	322.421	17.425	0.011	15.404	Off Peak Load
22/07/2024 06:00	15.199	321.760	15.549	0.011	15.894	Off Peak Load
22/07/2024 07:00	15.237	319.223	22.658	0.012	15.235	Off Peak Load
22/07/2024 08:00	15.244	316.728	23.260	0.012	14.221	Off Peak Load
22/07/2024 09:00	15.279	320.270	19.484	0.012	13.011	Off Peak Load
22/07/2024 10:00	15.294	316.051	23.789	0.013	13.246	Off Peak Load
22/07/2024 11:00	15.398	314.120	24.599	0.013	13.879	Off Peak Load
22/07/2024 12:00	15.376	316.502	24.237	0.013	13.426	Off Peak Load
22/07/2024 13:00	15.456	314.930	25.048	0.014	12.639	Off Peak Load
22/07/2024 14:00	15.366	313.739	24.420	0.014	13.278	Off Peak Load
22/07/2024 15:00	15.340	318.145	20.201	0.014	11.754	Off Peak Load
22/07/2024 16:00	15.296	323.013	17.534	0.015	12.519	Off Peak Load
22/07/2024 17:00	15.233	322.052	15.328	0.015	14.017	Off Peak Load
22/07/2024 18:00	15.350	313.993	23.997	0.015	15.979	Off Peak Load
22/07/2024 19:00	15.136	344.660	20.203	0.016	13.767	On Peak Load
22/07/2024 20:00	15.136	345.322	20.797	0.016	12.550	On Peak Load
22/07/2024 21:00	15.175	352.507	20.955	0.017	18.273	On Peak Load
22/07/2024 22:00	15.166	350.207	20.530	0.017	15.047	On Peak Load
22/07/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/07/2024 09:00	15.237	366.865	23.117	0.014	13.373	On Peak Load
23/07/2024 10:00	15.242	353.937	25.071	0.014	12.102	On Peak Load
23/07/2024 11:00	15.213	354.170	25.185	0.013	14.716	On Peak Load
23/07/2024 12:00	15.159	345.917	23.268	0.013	14.794	On Peak Load
23/07/2024 13:00	15.651	300.904	43.650	0.013	16.089	Off Peak Load
23/07/2024 14:00	15.219	346.560	23.703	0.012	14.360	On Peak Load
23/07/2024 15:00	15.229	360.973	22.968	0.012	15.693	On Peak Load
23/07/2024 16:00	15.218	351.122	24.130	0.012	15.768	On Peak Load
23/07/2024 17:00	15.264	361.714	25.029	0.012	15.402	On Peak Load
23/07/2024 18:00	15.262	362.710	24.017	0.012	16.560	On Peak Load
23/07/2024 19:00	15.195	356.378	24.745	0.012	16.131	On Peak Load
23/07/2024 20:00	15.169	355.619	22.420	0.013	18.189	On Peak Load
23/07/2024 21:00	15.172	351.905	21.904	0.013	14.815	On Peak Load
23/07/2024 22:00	15.195	351.226	22.087	0.012	20.523	On Peak Load
23/07/2024 23:00	15.195	357.457	20.490	0.011	18.189	On Peak Load
24/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
24/07/2024 09:00	15.238	395.068	27.671	0.020	15.766	On Peak Load
24/07/2024 10:00	15.251	361.339	26.144	0.014	14.647	On Peak Load
24/07/2024 11:00	15.228	363.532	24.914	0.009	13.139	On Peak Load
24/07/2024 12:00	15.156	348.340	24.325	0.004	14.007	On Peak Load
24/07/2024 13:00	15.507	305.989	26.986	0.006	15.647	Off Peak Load
24/07/2024 14:00	15.277	363.028	24.655	0.007	14.743	On Peak Load
24/07/2024 15:00	15.323	395.822	25.764	0.009	15.139	On Peak Load
24/07/2024 16:00	15.240	351.996	22.199	0.010	17.024	On Peak Load
24/07/2024 17:00	15.183	346.803	21.933	0.012	14.391	On Peak Load
24/07/2024 18:00	15.251	359.117	23.220	0.013	9.897	On Peak Load
24/07/2024 19:00	15.257	356.132	22.599	0.014	11.762	On Peak Load
24/07/2024 20:00	15.246	351.776	23.072	0.016	9.567	On Peak Load
24/07/2024 21:00	15.228	353.883	20.312	0.017	13.201	On Peak Load
24/07/2024 22:00	15.240	364.844	22.459	0.018	15.047	On Peak Load
24/07/2024 23:00	15.219	354.147	20.961	0.019	16.366	On Peak Load
25/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
13Jul24 00:00 - 31Jul24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
25/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/07/2024 09:00	15.256	385.051	26.435	0.023	13.193	On Peak Load
25/07/2024 10:00	15.228	366.009	24.044	0.021	13.121	On Peak Load
25/07/2024 11:00	15.316	403.168	25.496	0.019	14.508	On Peak Load
25/07/2024 12:00	15.228	399.034	23.785	0.017	14.878	On Peak Load
25/07/2024 13:00	15.431	324.126	20.319	0.015	15.532	Off Peak Load
25/07/2024 14:00	15.244	403.959	23.141	0.014	15.111	On Peak Load
25/07/2024 15:00	15.211	351.058	23.276	0.012	17.477	On Peak Load
25/07/2024 16:00	15.301	365.102	24.649	0.012	12.731	On Peak Load
25/07/2024 17:00	15.260	365.851	23.693	0.012	15.665	On Peak Load
25/07/2024 18:00	15.279	370.418	21.855	0.011	15.646	On Peak Load
25/07/2024 19:00	15.246	373.478	22.356	0.011	15.761	On Peak Load
25/07/2024 20:00	15.276	368.423	21.771	0.011	16.569	On Peak Load
25/07/2024 21:00	15.251	373.325	22.866	0.011	15.903	On Peak Load
25/07/2024 22:00	15.205	360.977	22.199	0.011	15.519	On Peak Load
25/07/2024 23:00	15.221	354.573	22.194	0.011	15.478	On Peak Load
26/07/2024 00:00	15.095	315.870	17.717	0.012	19.942	Off Peak Load
26/07/2024 01:00	15.151	358.022	19.325	0.012	17.598	Off Peak Load
26/07/2024 02:00	15.124	347.896	22.757	0.013	15.639	Off Peak Load
26/07/2024 03:00	15.145	345.485	18.289	0.013	15.669	Off Peak Load
26/07/2024 04:00	15.133	345.292	19.371	0.013	14.695	Off Peak Load
26/07/2024 05:00	15.204	345.786	18.924	0.014	16.084	Off Peak Load
26/07/2024 06:00	15.089	346.654	21.354	0.014	16.662	Off Peak Load
26/07/2024 07:00	15.103	330.095	18.427	0.015	17.495	Off Peak Load
26/07/2024 08:00	15.092	327.399	17.015	0.015	15.582	Off Peak Load
26/07/2024 09:00	15.160	355.053	18.321	0.015	13.804	On Peak Load
26/07/2024 10:00	15.174	349.760	19.133	0.015	13.127	On Peak Load
26/07/2024 11:00	15.172	347.026	18.320	0.016	12.602	On Peak Load
26/07/2024 12:00	15.072	336.532	18.180	0.016	12.609	On Peak Load
26/07/2024 13:00	15.127	291.473	38.087	0.016	14.799	Off Peak Load
26/07/2024 14:00	15.134	343.483	17.571	0.016	13.560	On Peak Load
26/07/2024 15:00	15.187	352.616	17.546	0.017	12.495	On Peak Load
26/07/2024 16:00	15.194	352.098	19.070	0.012	13.097	On Peak Load
26/07/2024 17:00	15.132	349.376	16.851	0.008	18.330	On Peak Load
26/07/2024 18:00	15.180	359.594	17.720	0.007	16.604	On Peak Load
26/07/2024 19:00	15.162	352.262	19.630	0.009	17.336	On Peak Load
26/07/2024 20:00	15.141	351.749	18.893	0.011	15.805	On Peak Load
26/07/2024 21:00	15.157	359.638	16.878	0.012	14.615	On Peak Load
26/07/2024 22:00	15.103	360.337	19.351	0.014	13.781	On Peak Load
26/07/2024 23:00	15.123	356.826	17.619	0.015	18.320	On Peak Load
27/07/2024 00:00	15.249	307.026	20.612	0.017	20.157	Off Peak Load
27/07/2024 01:00	15.130	344.508	16.004	0.016	17.978	Off Peak Load
27/07/2024 02:00	15.030	325.506	17.620	0.016	14.293	Off Peak Load
27/07/2024 03:00	15.112	340.248	16.308	0.016	17.156	Off Peak Load
27/07/2024 04:00	15.098	340.916	16.522	0.015	16.901	Off Peak Load
27/07/2024 05:00	15.102	335.993	14.767	0.015	18.616	Off Peak Load
27/07/2024 06:00	15.070	329.490	14.798	0.014	15.407	Off Peak Load
27/07/2024 07:00	15.093	332.836	17.830	0.014	21.964	Off Peak Load
27/07/2024 08:00	15.100	330.685	15.299	0.013	16.619	Off Peak Load
27/07/2024 09:00	15.194	397.250	24.955	0.014	15.578	On Peak Load
27/07/2024 10:00	15.254	377.406	21.427	0.014	14.521	On Peak Load
27/07/2024 11:00	15.171	355.865	20.170	0.015	17.625	On Peak Load
27/07/2024 12:00	15.182	356.588	19.605	0.016	13.733	On Peak Load
27/07/2024 13:00	15.480	309.627	26.904	0.015	13.665	Off Peak Load
27/07/2024 14:00	15.161	360.950	17.623	0.015	13.962	On Peak Load
27/07/2024 15:00	15.255	368.404	19.982	0.015	13.627	On Peak Load
27/07/2024 16:00	15.202	366.015	20.975	0.014	Analysier Fail	On Peak Load
27/07/2024 17:00	15.181	351.765	18.318	0.015	Analysier Fail	On Peak Load
27/07/2024 18:00	15.166	360.910	19.665	0.015	Analysier Fail	On Peak Load
27/07/2024 19:00	15.153	364.189	20.394	0.011	Analysier Fail	On Peak Load
27/07/2024 20:00	15.167	352.053	17.987	0.012	Analysier Fail	On Peak Load
27/07/2024 21:00	15.110	349.996	19.653	0.013	Analysier Fail	On Peak Load
27/07/2024 22:00	15.155	351.053	20.074	0.013	Analysier Fail	On Peak Load
27/07/2024 23:00	15.166	358.912	18.658	0.014	Analysier Fail	On Peak Load
28/07/2024 00:00	15.210	310.647	22.236	0.014	Analysier Fail	Off Peak Load
28/07/2024 01:00	15.114	335.672	22.935	0.015	Analysier Fail	Off Peak Load
28/07/2024 02:00	15.102	336.483	23.264	0.015	Analysier Fail	Off Peak Load
28/07/2024 03:00	15.115	333.647	23.855	0.016	Analysier Fail	Off Peak Load
28/07/2024 04:00	15.103	338.715	25.152	0.014	Analysier Fail	Off Peak Load
28/07/2024 05:00	15.117	325.016	24.268	0.013	Analysier Fail	Off Peak Load
28/07/2024 06:00	15.069	332.193	24.290	0.011	Analysier Fail	Off Peak Load
28/07/2024 07:00	15.068	332.551	22.462	0.010	Analysier Fail	Off Peak Load
28/07/2024 08:00	15.227	314.316	27.975	0.009	Analysier Fail	Off Peak Load
28/07/2024 09:00	15.202	310.811	23.415	0.007	Analysier Fail	On Peak Load
28/07/2024 10:00	15.269	320.913	28.214	0.006	Analysier Fail	Off Peak Load
28/07/2024 11:00	15.262	319.103	27.107	0.005	Analysier Fail	Off Peak Load
28/07/2024 12:00	15.398	313.129	26.949	0.004	12.709	Off Peak Load
28/07/2024 13:00	15.316	320.822	26.987	0.004	12.362	Off Peak Load
28/07/2024 14:00	15.263	318.316	22.489	0.004	11.890	Off Peak Load
28/07/2024 15:00	15.290	314.355	24.904	0.005	13.497	Off Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
13Jul24 00:00 - 31Jul24 23:59

Actual Operation Condition			Emission Concentration for Standardization Comparison			Remark
Date & Time	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
28/07/2024 16:00	15.238	326.765	21.739	0.005	13.948	Off Peak Load
28/07/2024 17:00	15.202	322.406	19.736	0.006	14.798	Off Peak Load
28/07/2024 18:00	15.376	305.682	22.746	0.006	14.958	Off Peak Load
28/07/2024 19:00	15.184	352.551	25.634	0.007	15.098	On Peak Load
28/07/2024 20:00	15.217	362.014	27.225	0.007	17.147	On Peak Load
28/07/2024 21:00	15.247	362.089	27.750	0.008	13.301	On Peak Load
28/07/2024 22:00	15.248	370.353	27.690	0.008	15.954	On Peak Load
28/07/2024 23:00	15.192	315.692	27.125	0.008	15.952	Off Peak Load
29/07/2024 00:00	15.149	319.359	23.879	0.008	20.659	Off Peak Load
29/07/2024 01:00	15.155	309.910	27.137	0.009	Analysier Fail	Off Peak Load
29/07/2024 02:00	15.203	316.103	23.249	0.009	Analysier Fail	Off Peak Load
29/07/2024 03:00	15.138	321.134	21.869	0.009	Analysier Fail	Off Peak Load
29/07/2024 04:00	15.257	308.020	28.847	0.009	Analysier Fail	Off Peak Load
29/07/2024 05:00	15.238	312.019	27.298	0.010	Analysier Fail	Off Peak Load
29/07/2024 06:00	15.274	312.575	29.087	0.010	Analysier Fail	Off Peak Load
29/07/2024 07:00	15.282	304.551	27.453	0.011	Analysier Fail	Off Peak Load
29/07/2024 08:00	15.195	319.436	25.837	0.011	Analysier Fail	Off Peak Load
29/07/2024 09:00	15.222	307.560	28.575	0.012	Analysier Fail	Off Peak Load
29/07/2024 10:00	15.218	311.177	28.523	0.012	Analysier Fail	Off Peak Load
29/07/2024 11:00	15.247	307.629	28.785	0.013	Analysier Fail	Off Peak Load
29/07/2024 12:00	15.223	311.118	26.705	0.013	Analysier Fail	Off Peak Load
29/07/2024 13:00	15.237	310.310	30.235	0.014	Analysier Fail	Off Peak Load
29/07/2024 14:00	15.350	309.194	28.281	0.014	Analysier Fail	Off Peak Load
29/07/2024 15:00	15.264	320.561	25.776	0.014	Analysier Fail	Off Peak Load
29/07/2024 16:00	15.225	319.533	28.070	0.015	Analysier Fail	Off Peak Load
29/07/2024 17:00	15.199	313.565	26.890	0.015	Analysier Fail	Off Peak Load
29/07/2024 18:00	15.304	303.343	24.884	0.015	Analysier Fail	Off Peak Load
29/07/2024 19:00	15.120	353.510	25.227	0.015	Analysier Fail	On Peak Load
29/07/2024 20:00	15.117	339.772	27.655	0.015	Analysier Fail	On Peak Load
29/07/2024 21:00	15.151	341.597	28.282	0.014	15.401	On Peak Load
29/07/2024 22:00	15.148	345.372	28.049	0.014	16.728	On Peak Load
29/07/2024 23:00	15.057	327.727	23.243	0.014	13.182	Off Peak Load
30/07/2024 00:00	15.075	325.714	24.360	0.014	11.372	Off Peak Load
30/07/2024 01:00	15.073	327.555	24.196	0.013	10.828	Off Peak Load
30/07/2024 02:00	15.098	321.528	23.891	0.013	13.806	Off Peak Load
30/07/2024 03:00	15.095	339.878	25.653	0.012	9.576	Off Peak Load
30/07/2024 04:00	15.099	331.445	23.664	0.012	8.095	Off Peak Load
30/07/2024 05:00	15.092	326.881	24.318	0.012	10.647	Off Peak Load
30/07/2024 06:00	15.127	321.737	23.843	0.011	13.481	Off Peak Load
30/07/2024 07:00	15.103	323.012	22.330	0.011	11.662	Off Peak Load
30/07/2024 08:00	15.086	321.304	24.635	0.012	13.044	Off Peak Load
30/07/2024 09:00	15.129	345.849	24.281	0.013	18.643	On Peak Load
30/07/2024 10:00	15.129	340.192	26.085	0.014	13.233	On Peak Load
30/07/2024 11:00	15.151	345.142	24.985	0.015	11.179	On Peak Load
30/07/2024 12:00	15.120	345.282	24.593	0.015	9.933	On Peak Load
30/07/2024 13:00	15.622	297.016	50.724	0.013	14.370	Off Peak Load
30/07/2024 14:00	15.187	343.182	25.062	0.013	13.300	On Peak Load
30/07/2024 15:00	15.152	347.346	26.965	0.012	14.280	On Peak Load
30/07/2024 16:00	15.189	352.881	28.101	0.012	14.631	On Peak Load
30/07/2024 17:00	15.204	343.417	27.004	0.012	15.306	On Peak Load
30/07/2024 18:00	15.183	347.752	25.773	0.012	15.488	On Peak Load
30/07/2024 19:00	15.197	347.980	27.548	0.012	13.603	On Peak Load
30/07/2024 20:00	15.167	345.716	26.508	0.012	12.765	On Peak Load
30/07/2024 21:00	15.151	349.200	26.617	0.012	12.481	On Peak Load
30/07/2024 22:00	15.168	356.556	25.065	0.010	12.659	On Peak Load
30/07/2024 23:00	15.170	359.786	25.834	0.009	12.853	On Peak Load
31/07/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/07/2024 11:00	15.195	341.016	25.943	0.014	10.808	On Peak Load
31/07/2024 12:00	15.169	343.120	26.766	0.014	11.717	On Peak Load
31/07/2024 13:00	15.621	304.589	50.509	0.014	12.269	Off Peak Load
31/07/2024 14:00	15.178	347.742	26.409	0.014	10.650	On Peak Load
31/07/2024 15:00	15.187	352.167	27.150	0.014	9.541	On Peak Load
31/07/2024 16:00	15.194	343.407	27.453	0.013	9.477	On Peak Load
31/07/2024 17:00	15.203	341.909	27.963	0.013	9.213	On Peak Load
31/07/2024 18:00	15.184	338.912	27.580	0.013	10.041	On Peak Load
31/07/2024 19:00	15.200	349.891	28.107	0.013	11.153	On Peak Load
31/07/2024 20:00	15.173	339.545	25.396	0.014	8.419	On Peak Load
31/07/2024 21:00	15.169	347.907	24.692	0.014	9.999	On Peak Load
31/07/2024 22:00	15.197	346.897	24.753	0.014	12.265	On Peak Load
31/07/2024 23:00	15.193	357.826	26.714	0.014	13.670	On Peak Load
Minimum	15.00	282.686	0.00	0.00	5.20	
Maximum	15.68	403.959	58.39	0.79	24.07	
Avg	15.22	344.285	25.73	0.02	13.21	



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
1Jul24 00:00 - 31Jul24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
SUM	%	m3/hr	ppm	ppm	mg/m3	
			60	6	28	

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG11  
1Aug24 00:00 - 31Aug24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
01/08/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/08/2024 09:00	15.048	317,547	7.319	0.004	14.808	On Peak Load
01/08/2024 10:00	15.040	321,794	7.745	0.004	14.614	On Peak Load
01/08/2024 11:00	15.083	321,571	10.339	0.004	13.568	On Peak Load
01/08/2024 12:00	14.973	318,281	7.511	0.003	22.774	On Peak Load
01/08/2024 13:00	15.312	243,006	33.424	0.003	16.937	Off Peak Load
01/08/2024 14:00	15.015	305,687	0.000	0.003	13.031	On Peak Load
01/08/2024 15:00	15.094	318,173	38.193	0.002	13.364	On Peak Load
01/08/2024 16:00	15.092	321,614	12.102	0.005	16.861	On Peak Load
01/08/2024 17:00	15.090	326,277	10.405	1.459	15.787	On Peak Load
01/08/2024 18:00	15.057	319,418	16.508	1.259	16.568	On Peak Load
01/08/2024 19:00	15.030	318,129	9.429	0.004	16.104	On Peak Load
01/08/2024 20:00	15.059	311,878	16.086	0.001	14.767	On Peak Load
01/08/2024 21:00	15.041	313,963	9.755	0.296	14.791	On Peak Load
01/08/2024 22:00	15.018	318,094	17.471	1.316	15.274	On Peak Load
01/08/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/08/2024 09:00	15.081	331,660.125	36.454	1.760	14.136	On Peak Load
02/08/2024 10:00	15.127	325,641	40.768	1.760	12.458	On Peak Load
02/08/2024 11:00	15.075	317,155	29.317	1.487	13.763	On Peak Load
02/08/2024 12:00	15.019	296,365	37.819	0.356	10.663	On Peak Load
02/08/2024 13:00	15.533	227,754	36.454	1.423	10.600	Off Peak Load
02/08/2024 14:00	15.174	326,060	39.171	0.595	9.143	On Peak Load
02/08/2024 15:00	15.045	321,198	50.382	0.002	3.760	On Peak Load
02/08/2024 16:00	15.108	324,927	16.453	0.006	15.148	On Peak Load
02/08/2024 17:00	15.086	315,160	17.133	0.016	15.034	On Peak Load
02/08/2024 18:00	15.062	318,778	17.310	0.001	15.335	On Peak Load
02/08/2024 19:00	15.064	316,901	17.133	0.009	16.493	On Peak Load
02/08/2024 20:00	15.067	318,402	16.750	0.000	17.159	On Peak Load
02/08/2024 21:00	15.103	324,277	17.645	0.000	14.423	On Peak Load
02/08/2024 22:00	15.097	323,624	15.476	0.000	12.736	On Peak Load
02/08/2024 23:00	15.095	344,715.375	14.662	0.000	20.547	On Peak Load
03/08/2024 00:00	14.928	264,962.969	5.762	0.002	15.808	Off Peak Load
03/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
03/08/2024 09:00	15.173	350,884.750	18.706	0.004	14.354	On Peak Load
03/08/2024 10:00	15.171	353,914.094	20.160	0.001	13.710	On Peak Load
03/08/2024 11:00	15.143	349,531	19.575	0.002	12.039	On Peak Load
03/08/2024 12:00	15.128	327,985	18.857	0.003	11.418	On Peak Load
03/08/2024 13:00	15.315	246,766	38.195	0.021	10.563	Off Peak Load
03/08/2024 14:00	15.120	335,776	17.583	0.005	12.892	On Peak Load
03/08/2024 15:00	15.170	350,160	18.338	0.004	13.539	On Peak Load
03/08/2024 16:00	15.158	347,258	19.326	0.004	15.161	On Peak Load
03/08/2024 17:00	15.126	331,875	18.988	0.003	15.813	On Peak Load
03/08/2024 18:00	15.152	359,558	19.950	0.002	16.397	On Peak Load
03/08/2024 19:00	15.166	356,335	19.928	0.002	13.947	On Peak Load
03/08/2024 20:00	15.095	349,332	18.169	0.001	12.135	On Peak Load
03/08/2024 21:00	15.121	347,470	19.068	0.001	19.052	On Peak Load
03/08/2024 22:00	15.095	355,865	18.286	0.005	16.527	On Peak Load
03/08/2024 23:00	15.110	348,882	17.929	0.009	21.068	On Peak Load
04/08/2024 00:00	15.013	260,642	12.275	0.003	14.050	Off Peak Load
04/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
			ppm	ppm	mg/m3	
04/08/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
04/08/2024 19:00	15.032	341,994	11.397	0.002	19.366	On Peak Load
04/08/2024 20:00	15.056	335,313	7.958	0.002	17.631	On Peak Load
04/08/2024 21:00	15.111	345,931	9.060	0.002	17.618	On Peak Load
04/08/2024 22:00	15.073	347,932	8.467	0.002	19.618	On Peak Load
04/08/2024 23:00	15.004	332539.219	5.697	0.001	24.820	On Peak Load
05/08/2024 00:00	14.893	294506.344	0.012	0.001	13.353	Off Peak Load
05/08/2024 01:00	14.886	285484.500	1.757	0.001	19.366	Off Peak Load
05/08/2024 02:00	14.932	282139.188	0.000	0.001	17.631	Off Peak Load
05/08/2024 03:00	14.922	291119.063	0.000	0.001	17.618	Off Peak Load
05/08/2024 04:00	14.908	280591.313	0.000	0.001	16.701	Off Peak Load
05/08/2024 05:00	14.818	285167.031	0.000	0.001	13.797	Off Peak Load
05/08/2024 06:00	14.895	285020.031	0.000	0.001	13.419	Off Peak Load
05/08/2024 07:00	14.892	288805.000	0.000	0.001	12.160	Off Peak Load
05/08/2024 08:00	15.205	248316.938	26.950	0.001	17.130	Off Peak Load
05/08/2024 09:00	15.058	330696.313	3.358	0.001	13.746	On Peak Load
05/08/2024 10:00	15.096	327654.069	0.481	0.001	10.686	On Peak Load
05/08/2024 11:00	15.073	326.984	0.000	0.001	11.032	On Peak Load
05/08/2024 12:00	15.089	321.814	1.790	0.001	10.487	On Peak Load
05/08/2024 13:00	15.213	255.895	18.881	0.000	10.782	Off Peak Load
05/08/2024 14:00	15.046	317.454	0.023	0.000	13.594	On Peak Load
05/08/2024 15:00	15.066	324.262	3.065	0.000	12.168	On Peak Load
05/08/2024 16:00	15.048	321.085	0.093	0.000	12.532	On Peak Load
05/08/2024 17:00	15.075	331.218	1.866	0.000	12.765	On Peak Load
05/08/2024 18:00	15.107	328.136	2.180	0.000	14.810	On Peak Load
05/08/2024 19:00	15.171	336.464	2.471	0.000	14.723	On Peak Load
05/08/2024 20:00	15.071	334.212	0.071	0.000	15.254	On Peak Load
05/08/2024 21:00	15.051	339.432	2.316	0.000	12.780	On Peak Load
05/08/2024 22:00	15.080	335.660	0.000	0.000	17.559	On Peak Load
05/08/2024 23:00	15.077	343.281	0.000	0.000	19.159	On Peak Load
06/08/2024 00:00	15.016	361.172	9.214	0.000	18.674	On Peak Load
06/08/2024 01:00	14.918	322.552	0.000	0.000	12.168	Off Peak Load
06/08/2024 02:00	14.985	319.274	0.000	0.000	15.278	Off Peak Load
06/08/2024 03:00	14.968	333.473	0.001	0.000	13.727	Off Peak Load
06/08/2024 04:00	14.957	319.004	0.000	0.000	13.780	Off Peak Load
06/08/2024 05:00	14.939	301.736	0.017	0.000	14.516	Off Peak Load
06/08/2024 06:00	14.942	315.752	0.000	0.001	15.043	Off Peak Load
06/08/2024 07:00	14.941	318.926	0.001	0.001	13.587	Off Peak Load
06/08/2024 08:00	15.216	250.939	21.986	0.002	11.477	Off Peak Load
06/08/2024 09:00	15.086	325.742	0.000	0.002	11.716	On Peak Load
06/08/2024 10:00	15.062	318.121	0.000	0.002	11.010	On Peak Load
06/08/2024 11:00	15.074	311.959	0.000	0.001	10.573	On Peak Load
06/08/2024 12:00	15.161	333.608	8.166	0.001	9.180	On Peak Load
06/08/2024 13:00	15.303	247.184	24.808	0.001	9.093	Off Peak Load
06/08/2024 14:00	15.221	351.547	0.000	0.000	9.320	On Peak Load
06/08/2024 15:00	15.172	340.081	4.215	0.000	11.205	On Peak Load
06/08/2024 16:00	15.132	341.207	22.243	0.004	13.507	On Peak Load
06/08/2024 17:00	15.087	339.074	19.764	0.003	13.683	On Peak Load
06/08/2024 18:00	15.120	349.759	17.175	0.003	14.855	On Peak Load
06/08/2024 19:00	15.095	339.420	15.537	0.002	15.556	On Peak Load
06/08/2024 20:00	15.094	341.944	14.216	0.002	15.842	On Peak Load
06/08/2024 21:00	15.063	339.757	14.142	0.001	16.872	On Peak Load
06/08/2024 22:00	15.075	341.886	14.175	0.000	17.049	On Peak Load
06/08/2024 23:00	15.049	354.097	15.301	0.000	14.345	On Peak Load
07/08/2024 00:00	15.040	347.836	17.657	0.000	20.595	On Peak Load
07/08/2024 01:00	14.970	316.465	18.251	0.000	13.996	Off Peak Load
07/08/2024 02:00	15.001	339.547	15.112	0.000	12.578	Off Peak Load
07/08/2024 03:00	15.040	327.259	14.078	0.000	17.095	Off Peak Load
07/08/2024 04:00	14.989	316.498	19.592	0.000	16.838	Off Peak Load
07/08/2024 05:00	14.994	311.162	19.984	0.000	14.916	Off Peak Load
07/08/2024 06:00	14.985	325.552	13.332	0.000	13.332	Off Peak Load
07/08/2024 07:00	14.969	303.221	10.667	0.000	16.760	Off Peak Load
07/08/2024 08:00	15.152	252.019	33.246	0.000	12.716	Off Peak Load
07/08/2024 09:00	15.053	329.435	12.978	0.001	11.546	On Peak Load
07/08/2024 10:00	15.054	316.957	12.756	0.001	12.001	On Peak Load
07/08/2024 11:00	15.065	318.901	14.846	0.002	11.415	On Peak Load
07/08/2024 12:00	15.047	308.842	14.214	0.003	12.569	On Peak Load
07/08/2024 13:00	15.298	246.093	42.667	0.003	12.348	Off Peak Load
07/08/2024 14:00	15.030	322.151	11.214	0.004	12.746	On Peak Load
07/08/2024 15:00	15.054	331.613	17.662	0.004	13.302	On Peak Load
07/08/2024 16:00	15.102	328.015	18.665	0.005	12.085	On Peak Load
07/08/2024 17:00	15.105	333.815	15.038	0.004	11.357	On Peak Load
07/08/2024 18:00	15.117	343.324	20.290	0.004	12.891	On Peak Load
07/08/2024 19:00	15.080	353.201	8.079	0.004	14.981	On Peak Load
07/08/2024 20:00	15.060	336.735	15.382	0.004	15.622	On Peak Load
07/08/2024 21:00	15.046	338.780	19.521	0.004	14.248	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
			ppm	ppm	mg/m3	
07/08/2024 22:00	15.034	333.871	16.265	0.003	11.702	On Peak Load
07/08/2024 23:00	15.051	345.517	12.682	0.003	12.913	On Peak Load
08/08/2024 00:00	15.030	363.145	13.359	0.003	18.111	On Peak Load
08/08/2024 01:00	14.956	375.469	17.508	0.003	15.366	Off Peak Load
08/08/2024 02:00	14.965	321.526	14.702	0.003	15.664	Off Peak Load
08/08/2024 03:00	15.021	317.892	18.856	0.003	13.708	Off Peak Load
08/08/2024 04:00	14.966	321.420	17.264	0.003	13.730	Off Peak Load
08/08/2024 05:00	14.989	322.512	19.574	0.003	13.442	Off Peak Load
08/08/2024 06:00	14.953	317.814	18.580	0.003	17.764	Off Peak Load
08/08/2024 07:00	14.921	317.501	9.894	0.003	16.141	Off Peak Load
08/08/2024 08:00	15.225	247.002	41.216	0.003	13.729	Off Peak Load
08/08/2024 09:00	15.061	331.800	15.381	0.002	15.191	On Peak Load
08/08/2024 10:00	15.074	327.606	6.711	0.002	11.863	On Peak Load
08/08/2024 11:00	15.175	322.078	10.771	0.002	11.602	On Peak Load
08/08/2024 12:00	15.084	331.679	14.254	0.002	11.017	On Peak Load
08/08/2024 13:00	15.183	251.851	32.102	0.002	11.145	Off Peak Load
08/08/2024 14:00	15.112	354.133	17.250	0.002	13.427	On Peak Load
08/08/2024 15:00	15.084	341.998	13.844	0.001	17.662	On Peak Load
08/08/2024 16:00	15.108	336.412	19.959	0.001	11.715	On Peak Load
08/08/2024 17:00	15.086	333.026	18.197	0.001	11.293	On Peak Load
08/08/2024 18:00	15.103	340.489	24.851	0.001	14.507	On Peak Load
08/08/2024 19:00	15.059	330.757	18.613	0.001	13.683	On Peak Load
08/08/2024 20:00	15.097	328.687	22.593	0.000	15.158	On Peak Load
08/08/2024 21:00	14.962	241.607	16.195	0.000	13.203	On Peak Load
08/08/2024 22:00	15.070	332.917	23.948	0.000	16.574	On Peak Load
08/08/2024 23:00	15.067	329.646	12.885	0.000	16.346	On Peak Load
09/08/2024 00:00	14.999	341.169	20.242	0.000	15.631	On Peak Load
09/08/2024 01:00	14.917	301.211	15.760	0.000	15.922	Off Peak Load
09/08/2024 02:00	14.964	310.735	21.236	0.000	16.070	Off Peak Load
09/08/2024 03:00	14.938	306.818	17.075	0.000	12.858	Off Peak Load
09/08/2024 04:00	14.958	306.930	13.745	0.000	12.735	Off Peak Load
09/08/2024 05:00	14.889	297.181	10.000	0.000	12.993	Off Peak Load
09/08/2024 06:00	14.898	308.453	12.982	0.000	11.984	Off Peak Load
09/08/2024 07:00	14.942	305.049	8.756	0.001	11.621	Off Peak Load
09/08/2024 08:00	15.173	251.848	34.929	0.001	15.805	Off Peak Load
09/08/2024 09:00	15.091	326.074	16.717	0.001	13.739	On Peak Load
09/08/2024 10:00	15.095	334.803	19.343	0.001	12.310	On Peak Load
09/08/2024 11:00	15.053	340.721	6.687	0.001	11.388	On Peak Load
09/08/2024 12:00	15.064	324.213	21.483	0.001	12.479	On Peak Load
09/08/2024 13:00	15.133	244.442	35.226	0.001	15.331	Off Peak Load
09/08/2024 14:00	15.041	334.000	34.720	0.001	15.631	On Peak Load
09/08/2024 15:00	15.074	338.585	36.649	0.001	15.301	On Peak Load
09/08/2024 16:00	15.075	345.851	37.322	0.001	12.613	On Peak Load
09/08/2024 17:00	15.074	335.086	35.888	0.001	11.316	On Peak Load
09/08/2024 18:00	15.078	335.845	36.164	0.000	11.950	On Peak Load
09/08/2024 19:00	15.062	334.414	36.188	0.000	14.691	On Peak Load
09/08/2024 20:00	15.083	335.427	36.564	0.000	15.678	On Peak Load
09/08/2024 21:00	15.073	331.597	35.111	0.000	19.857	On Peak Load
09/08/2024 22:00	15.090	337.684	34.439	0.000	20.718	On Peak Load
09/08/2024 23:00	15.095	335.791	36.456	0.000	22.546	On Peak Load
10/08/2024 00:00	15.071	344.991	37.046	0.000	21.193	On Peak Load
10/08/2024 01:00	14.985	304.088	35.369	0.000	20.719	Off Peak Load
10/08/2024 02:00	15.012	303.072	36.142	0.000	19.931	Off Peak Load
10/08/2024 03:00	14.979	302.202	35.914	0.000	15.609	Off Peak Load
10/08/2024 04:00	14.968	300.540	35.371	0.000	13.334	Off Peak Load
10/08/2024 05:00	14.952	294.959	34.507	0.000	13.670	Off Peak Load
10/08/2024 06:00	15.001	313.178	27.026	0.000	12.851	Off Peak Load
10/08/2024 07:00	14.815	292.867	26.767	0.000	12.499	Off Peak Load
10/08/2024 08:00	15.030	214.777	41.412	0.002	17.746	Off Peak Load
10/08/2024 09:00	15.055	339.300	23.580	0.003	10.632	On Peak Load
10/08/2024 10:00	15.067	327.543	18.739	0.003	11.593	On Peak Load
10/08/2024 11:00	15.074	319.454	18.685	0.003	14.663	On Peak Load
10/08/2024 12:00	15.084	322.556	19.253	0.003	10.632	On Peak Load
10/08/2024 13:00	15.349	242.604	41.020	0.003	11.268	Off Peak Load
10/08/2024 14:00	15.154	358.317	13.303	0.003	11.413	On Peak Load
10/08/2024 15:00	15.046	333.709	15.014	0.003	12.393	On Peak Load
10/08/2024 16:00	15.084	361.786	18.068	0.003	13.210	On Peak Load
10/08/2024 17:00	15.116	345.136	16.385	0.003	13.594	On Peak Load
10/08/2024 18:00	15.093	337.551	16.042	0.003	12.948	On Peak Load
10/08/2024 19:00	15.094	336.474	19.404	0.003	16.582	On Peak Load
10/08/2024 20:00	15.057	340.408	22.391	0.003	17.394	On Peak Load
10/08/2024 21:00	15.062	339.865	11.576	0.003	16.390	On Peak Load
10/08/2024 22:00	15.063	335.631	20.645	0.003	16.509	On Peak Load
10/08/2024 23:00	15.078	333.371	16.505	0.002	17.745	On Peak Load
11/08/2024 00:00	15.025	336.879	27.662	0.004	19.753	On Peak Load
11/08/2024 01:00	14.901	294.819	15.506	0.004	19.118	Off Peak Load
11/08/2024 02:00	14.875	295.650	13.395	0.003	13.855	Off Peak Load
11/08/2024 03:00	14.872	297.105	13.902	0.003	20.052	Off Peak Load
11/08/2024 04:00	14.887	294.296	13.388	0.003	16.643	Off Peak Load
11/08/2024 05:00	14.918	294.607	15.068	0.002	21.128	Off Peak Load
11/08/2024 06:00	14.880	284.494	5.484	0.002	15.046	Off Peak Load
11/08/2024 07:00	14.869	270.450	4.813	0.002	14.974	Off Peak Load
11/08/2024 08:00	15.143	256.908	27.788	0.002	16.120	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1-Aug/24 00:00 - 31-Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SO2@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/08/2024 09:00	15.113	254,113	30.814	0.001	12.576	Off Peak Load
11/08/2024 10:00	15.156	259,728	28.757	0.002	10.669	Off Peak Load
11/08/2024 11:00	15.150	255,171	27.276	0.002	10.014	Off Peak Load
11/08/2024 12:00	15.255	251,668	31.734	0.002	9.483	Off Peak Load
11/08/2024 13:00	15.185	257,879	29.166	0.003	9.229	Off Peak Load
11/08/2024 14:00	15.191	252,110	28.182	0.003	12.422	Off Peak Load
11/08/2024 15:00	15.106	260,465	22.769	0.003	10.994	Off Peak Load
11/08/2024 16:00	15.117	260,494	27.219	0.004	10.708	Off Peak Load
11/08/2024 17:00	15.122	262,452	21.645	0.004	10.420	Off Peak Load
11/08/2024 18:00	15.133	258,455	31.503	0.004	11.845	Off Peak Load
11/08/2024 19:00	15.134	358,910	11.800	0.004	15.181	On Peak Load
11/08/2024 20:00	15.072	329,687	17.429	0.004	15.707	On Peak Load
11/08/2024 21:00	15.047	336,563	15.549	0.005	18.342	On Peak Load
11/08/2024 22:00	15.025	336,046	19.016	0.005	19.946	On Peak Load
11/08/2024 23:00	14.991	262,053	12.897	0.005	18.231	Off Peak Load
12/08/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/08/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 00:00	15.025	314,551	26.955	0.000	19.117	On Peak Load
13/08/2024 01:00	15.024	313,640	28.350	0.000	17.208	On Peak Load
13/08/2024 02:00	15.060	317,409	24.855	0.000	18.960	On Peak Load
13/08/2024 03:00	15.026	310,322	23.653	0.000	18.202	On Peak Load
13/08/2024 04:00	14.954	363,822	29.782	0.000	18.992	Off Peak Load
13/08/2024 05:00	15.104	361,482	21.875	0.000	17.541	Off Peak Load GT12 SD Half Block
13/08/2024 06:00	15.074	360,117	16.051	0.000	17.468	Off Peak Load GT12 SD Half Block
13/08/2024 07:00	15.055	356,282	20.231	0.000	19.540	Off Peak Load GT12 SD Half Block
13/08/2024 08:00	15.055	357,424	16.936	0.000	20.212	Off Peak Load GT12 SD Half Block
13/08/2024 09:00	15.058	355,613	25.539	0.000	13.972	Off Peak Load GT12 SD Half Block
13/08/2024 10:00	15.063	356,670	20.136	0.000	13.642	Off Peak Load GT12 SD Half Block
13/08/2024 11:00	15.047	358,704	23.628	0.000	14.515	Off Peak Load GT12 SD Half Block
13/08/2024 12:00	15.049	355,065	21.517	0.000	15.067	Off Peak Load GT12 SD Half Block
13/08/2024 13:00	15.058	363,502	18.835	0.000	19.135	Off Peak Load
13/08/2024 14:00	15.021	316,927	13.002	0.000	16.552	On Peak Load
13/08/2024 15:00	14.974	295,170	15.782	0.001	16.109	On Peak Load
13/08/2024 16:00	15.059	312,542	15.444	0.001	13.073	On Peak Load
13/08/2024 17:00	14.995	300,623	16.590	0.001	12.068	On Peak Load
13/08/2024 18:00	15.456	233,577	45.688	0.001	12.414	Off Peak Load
13/08/2024 19:00	15.070	303,460	17.109	0.001	11.193	On Peak Load
13/08/2024 20:00	15.022	301,925	19.064	0.001	12.774	On Peak Load
13/08/2024 21:00	15.041	315,371	17.716	0.001	12.403	On Peak Load
13/08/2024 22:00	15.045	317,395	13.844	0.001	11.919	On Peak Load
13/08/2024 23:00	15.050	325,513	18.564	0.002	12.434	On Peak Load
13/08/2024 00:00	15.038	328,155	24.108	0.002	16.502	On Peak Load
13/08/2024 01:00	15.034	323,720	14.363	0.003	16.883	On Peak Load
13/08/2024 02:00	15.024	326,441	18.245	0.004	18.485	On Peak Load
13/08/2024 03:00	14.984	318,558	5.015	0.005	17.678	On Peak Load
13/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/08/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/08/2024 00:00	15.027	304,797	25.015	0.001	12.436	On Peak Load
14/08/2024 01:00	15.043	302,761	20.587	0.001	12.191	On Peak Load
14/08/2024 02:00	15.035	294,910	24.323	0.002	11.998	On Peak Load
14/08/2024 03:00	14.973	292,695	25.129	0.002	12.169	On Peak Load
14/08/2024 04:00	15.509	226,255	55.265	0.003	13.627	Off Peak Load
14/08/2024 05:00	15.040	297,032	18.306	0.003	12.652	On Peak Load
14/08/2024 06:00	15.049	316,538	17.296	0.003	12.860	On Peak Load
14/08/2024 07:00	15.059	310,811	20.659	0.003	12.237	On Peak Load
14/08/2024 08:00	15.025	315,319	18.791	0.003	15.330	On Peak Load
14/08/2024 09:00	15.016	315,418	25.403	0.003	15.778	On Peak Load
14/08/2024 10:00	15.042	315,389	18.948	0.002	16.259	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1-Aug/24 00:00 - 31-Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SO2@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/08/2024 20:00	15.034	316,155	21.578	0.002	18.510	On Peak Load
14/08/2024 21:00	14.984	310,810	17.834	0.002	22.329	On Peak Load
14/08/2024 22:00	15.049	315,443	13.635	0.001	16.031	On Peak Load
14/08/2024 23:00	15.007	324453.750	16.654	0.001	18.443	On Peak Load
15/08/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/08/2024 08:00	15.157	248147.188	46.660	0.004	13.626	Off Peak Load
15/08/2024 09:00	15.050	317355.906	25.470	0.004	14.003	On Peak Load
15/08/2024 10:00	15.066	324,949	18.597	0.003	13.995	On Peak Load
15/08/2024 11:00	15.074	313,677	19.565	0.003	12.956	On Peak Load
15/08/2024 12:00	15.143	316,149	24.953	0.003	12.104	On Peak Load
15/08/2024 13:00	15.321	237,805	40.108	0.002	13.780	Off Peak Load
15/08/2024 14:00	15.062	310,207	15.987	0.002	11.866	On Peak Load
15/08/2024 15:00	15.102	316,283	23.468	0.002	11.628	On Peak Load
15/08/2024 16:00	15.098	327,241	20.562	0.001	12.152	On Peak Load
15/08/2024 17:00	15.045	313,768	15.358	0.001	15.255	On Peak Load
15/08/2024 18:00	15.076	323,572	23.609	0.000	14.563	On Peak Load
15/08/2024 19:00	15.099	335,996	22.101	0.000	16.632	On Peak Load
15/08/2024 20:00	15.058	330,976	5.022	0.000	18.288	On Peak Load
15/08/2024 21:00	15.056	336,099	18.772	0.000	18.724	On Peak Load
15/08/2024 22:00	15.105	350,655	13.781	0.000	19.920	On Peak Load
15/08/2024 23:00	15.116	358,194	21.520	0.000	19.082	On Peak Load
16/08/2024 00:00	15.050	368,517	16.116	0.000	19.207	Off Peak Load
16/08/2024 01:00	15.061	356,458	18.356	0.000	14.549	Off Peak Load
16/08/2024 02:00	15.066	354,378	18.050	0.000	13.937	Off Peak Load
16/08/2024 03:00	15.063	358,176	20.277	0.000	13.407	Off Peak Load
16/08/2024 04:00	15.064	358,203	19.173	0.000	14.651	Off Peak Load
16/08/2024 05:00	15.046	358,284	12.814	0.000	14.447	Off Peak Load
16/08/2024 06:00	15.087	357,945	19.844	0.000	15.473	Off Peak Load
16/08/2024 07:00	15.094	354,192	13.165	0.000	15.432	Off Peak Load
16/08/2024 08:00	15.089	360,416	20.664	0.000	12.934	Off Peak Load
16/08/2024 09:00	15.070	319,173	16.892	0.000	12.923	On Peak Load
16/08/2024 10:00	15.115	339,903	18.729	0.000	13.319	On Peak Load
16/08/2024 11:00	15.065	320,924	13.931	0.000	13.041	On Peak Load
16/08/2024 12:00	15.055	317,030	19.118	0.000	11.150	On Peak Load
16/08/2024 13:00	15.280	248,750	40.554	0.000	11.908	Off Peak Load
16/08/2024 14:00	15.050	335,897	12.435	0.000	15.412	On Peak Load
16/08/2024 15:00	15.051	350,764	17.824	0.000	14.563	On Peak Load
16/08/2024 16:00	15.077	332,840	21.873	0.000	12.165	On Peak Load
16/08/2024 17:00	15.021	334,516	13.436	0.000	13.499	On Peak Load
16/08/2024 18:00	15.117	327,723	23.552	0.000	14.901	On Peak Load
16/08/2024 19:00	15.078	331,102	20.409	0.001	16.530	On Peak Load
16/08/2024 20:00	15.055	331,699	14.497	0.002	13.123	On Peak Load
16/08/2024 21:00	15.033	324,545	21.588	0.003	13.482	On Peak Load
16/08/2024 22:00	15.033	343,910	21.556	0.003	16.288	On Peak Load
16/08/2024 23:00	15.015	332421.375	20.431	0.004	14.856	On Peak Load
17/08/2024 00:00	15.487	221716.906	43.507	0.000	13.753	Off Peak Load
17/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/08/2024 09:00	15.077	345592.319	25.830	0.001	13.582	On Peak Load
17/08/2024 10:00	15.075	349,167	27.670	0.002	12.733	On Peak Load
17/08/2024 11:00	15.083	324,801	26.386	0.002	12.526	On Peak Load
17/08/2024 12:00	15.063	333,004	24.917	0.003	13.759	On Peak Load
17/08/2024 13:00	15.276	246,056	40.157	0.003	13.761	Off Peak Load
17/08/2024 14:00	15.140	338,626	23.593	0.004	13.194	On Peak Load
17/08/2024 15:00	15.119	322,994	26.019	0.004	12.310	On Peak Load
17/08/2024 16:00	15.114	345,583	9.421	0.004	12.719	On Peak Load
17/08/2024 17:00	15.098	335,792	26.733	0.003	13.026	On Peak Load
17/08/2024 18:00	15.086	359,120	20.351	0.003	13.933	On Peak Load
17/08/2024 19:00	15.081	341,786	22.136	0.002	13.379	On Peak Load
17/08/2024 20:00	15.090	347,674	20.765	0.001	14.336	On Peak Load
17/08/2024 21:00	15.096	358,162	20.896	0.001	14.597	On Peak Load
17/08/2024 22:00	15.083	345,238	10.772	0.000	13.452	On Peak Load
17/08/2024 23:00	15.029	345,666	10.839	0.000	16.399	On Peak Load
18/08/2024 00:00	15.312	239,328	34.289	0.000	18.801	Off Peak Load
18/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ ATM ZSO	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
18/08/2024 19:00	15.117	340,515	27.284	0.000	17.022	On Peak Load
18/08/2024 20:00	15.114	339,811	28.623	0.000	18.917	On Peak Load
18/08/2024 21:00	15.114	338,845	27.542	0.000	18.952	On Peak Load
18/08/2024 22:00	15.106	334,721	26.941	0.000	19.487	On Peak Load
18/08/2024 23:00	15.070	332,904	33.939	0.000	18.660	On Peak Load
19/08/2024 00:00	14.958	287,438	32.396	0.000	17.508	Off Peak Load
19/08/2024 01:00	14.985	284,846	32.050	0.002	18.952	Off Peak Load
19/08/2024 02:00	14.926	285,101	22.564	0.002	19.781	Off Peak Load
19/08/2024 03:00	14.962	278,892	1.372	0.003	20.188	Off Peak Load
19/08/2024 04:00	14.979	283,468	18.905	0.003	16.666	Off Peak Load
19/08/2024 05:00	14.956	286,177	11.394	0.003	17.263	Off Peak Load
19/08/2024 06:00	14.920	289,521	17.942	0.003	16.660	Off Peak Load
19/08/2024 07:00	14.916	282,669	10.017	0.003	15.944	Off Peak Load
19/08/2024 08:00	15.197	246,457	28.684	0.003	18.140	Off Peak Load
19/08/2024 09:00	15.068	323,303	12.252	0.003	15.654	On Peak Load
19/08/2024 10:00	15.033	315,120	11.418	0.003	16.234	On Peak Load
19/08/2024 11:00	15.059	312,893	19.628	0.003	13.554	On Peak Load
19/08/2024 12:00	14.998	306,871	7.488	0.003	11.603	On Peak Load
19/08/2024 13:00	15.476	239,826	53.789	0.002	12.230	Off Peak Load
19/08/2024 14:00	15.085	309,976	16.853	0.002	11.844	On Peak Load
19/08/2024 15:00	15.074	318,157	12.043	0.002	12.461	On Peak Load
19/08/2024 16:00	15.081	318,167	27.365	0.002	11.410	On Peak Load
19/08/2024 17:00	15.103	323,824	28.953	0.002	12.566	On Peak Load
19/08/2024 18:00	15.072	322,865	8.000	0.001	14.573	On Peak Load
19/08/2024 19:00	15.077	331,923	7.077	0.000	16.643	On Peak Load
19/08/2024 20:00	15.056	325,920	16.628	0.000	18.404	On Peak Load
19/08/2024 21:00	15.060	333,939	11.511	0.000	15.090	On Peak Load
19/08/2024 22:00	15.045	335,381	26.308	0.000	14.149	On Peak Load
19/08/2024 23:00	15.030	343,565	33.707	0.000	18.690	On Peak Load
20/08/2024 00:00	15.026	353,701	9.338	0.000	18.135	On Peak Load
20/08/2024 01:00	15.036	319,566	6.25	0.000	19.804	Off Peak Load
20/08/2024 02:00	14.986	315,372	156	0.000	18.107	Off Peak Load
20/08/2024 03:00	14.964	308,858	875	0.000	14.180	Off Peak Load
20/08/2024 04:00	14.991	312,936	0.314	0.000	21.684	Off Peak Load
20/08/2024 05:00	14.974	306,046	250	0.000	18.314	Off Peak Load
20/08/2024 06:00	14.961	310,399	406	0.000	16.147	Off Peak Load
20/08/2024 07:00	14.865	298,816	0.31	0.000	13.321	Off Peak Load
20/08/2024 08:00	15.183	251,667	0.31	0.000	14.382	Off Peak Load
20/08/2024 09:00	15.089	339,778	156	0.000	15.365	On Peak Load
20/08/2024 10:00	15.099	333,687	19.427	0.000	12.185	On Peak Load
20/08/2024 11:00	15.112	327,865	15.814	0.000	11.768	On Peak Load
20/08/2024 12:00	15.015	315,139	7.606	0.000	17.605	On Peak Load
20/08/2024 13:00	15.471	234,063	45.954	0.000	10.991	Off Peak Load
20/08/2024 14:00	15.171	335,775	7.689	0.000	12.474	On Peak Load
20/08/2024 15:00	15.148	344,457	26.093	0.000	12.290	On Peak Load
20/08/2024 16:00	15.104	329,582	12.387	0.000	12.202	On Peak Load
20/08/2024 17:00	15.126	329,673	20.389	0.000	12.752	On Peak Load
20/08/2024 18:00	15.117	339,946	10.089	0.000	15.390	On Peak Load
20/08/2024 19:00	15.104	339,799	7.495	0.000	16.428	On Peak Load
20/08/2024 20:00	15.096	336,097	10.150	0.000	17.666	On Peak Load
20/08/2024 21:00	15.065	334,064	19.555	0.000	16.864	On Peak Load
20/08/2024 22:00	15.101	351,947	13.642	0.000	17.809	On Peak Load
20/08/2024 23:00	15.123	357,584	22.836	0.000	19.362	On Peak Load
21/08/2024 00:00	15.059	352,852	11.250	0.000	18.913	On Peak Load
21/08/2024 01:00	14.968	315,279	2.695	0.000	22.859	Off Peak Load
21/08/2024 02:00	15.037	309,272	21.718	0.000	14.481	Off Peak Load
21/08/2024 03:00	15.005	309,318	19.612	0.000	15.624	Off Peak Load
21/08/2024 04:00	14.964	307,095	20.879	0.000	14.413	Off Peak Load
21/08/2024 05:00	14.977	306,671	14.568	0.000	12.600	Off Peak Load
21/08/2024 06:00	14.951	301,004	3.249	0.000	11.903	Off Peak Load
21/08/2024 07:00	14.971	304,115	9.227	0.000	11.745	Off Peak Load
21/08/2024 08:00	15.142	250,991	25.722	0.000	13.684	On Peak Load
21/08/2024 09:00	15.047	330,755	10.642	0.000	14.234	On Peak Load
21/08/2024 10:00	15.072	329,689	10.941	0.000	13.191	On Peak Load
21/08/2024 11:00	15.092	331,619	10.196	0.000	11.194	On Peak Load
21/08/2024 12:00	15.074	322,226	15.798	0.001	9.281	On Peak Load
21/08/2024 13:00	15.328	246,785	37.817	0.001	10.160	Off Peak Load
21/08/2024 14:00	15.143	341,821	22.211	0.001	11.884	On Peak Load
21/08/2024 15:00	15.117	333,681	6.310	0.001	14.403	On Peak Load
21/08/2024 16:00	15.131	338,505	10.244	0.002	10.867	On Peak Load
21/08/2024 17:00	15.142	333,599	8.002	0.002	10.273	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O <sub>2</sub>	FLOW @ ATM ZSO	HRSG1_NOx@7%O <sub>2</sub>	HRSG1_SOx@7%O <sub>2</sub>	HRSG1_Dust (7%O <sub>2</sub> )	
			ppm	ppm	mg/m <sup>3</sup>	
21/08/2024 18:00	15.114	338,044	5,544	0.002	12.219	On Peak Load
21/08/2024 19:00	15.094	339,090	10,969	0.002	13.615	On Peak Load
21/08/2024 20:00	15.121	337,748	22,253	0.003	12.131	On Peak Load
21/08/2024 21:00	15.018	331,834	6,536	0.003	12.312	On Peak Load
21/08/2024 22:00	15.085	348,756	9,940	0.003	11,257	On Peak Load
21/08/2024 23:00	15.058	351805,250	20,929	0.003	12,678	On Peak Load
22/08/2024 00:00	15.040	351217,44	26,655	0.003	12,787	On Peak Load
22/08/2024 01:00	14.949	320235,875	13,822	0.003	12,113	Off Peak Load
22/08/2024 02:00	14.981	317561,125	9,188	0.003	11,777	Off Peak Load
22/08/2024 03:00	15.004	319923,406	4,972	0.002	11,701	Off Peak Load
22/08/2024 04:00	14.965	318507,219	1,672	0.001	12,547	Off Peak Load
22/08/2024 05:00	14.978	312721,031	0,000	0.000	12,554	Off Peak Load
22/08/2024 06:00	14.931	302956,594	12,103	0.000	13,567	Off Peak Load
22/08/2024 07:00	14.990	306843,875	27,965	0.000	13,785	Off Peak Load
22/08/2024 08:00	15.187	252331,344	39,644	0.000	12,586	Off Peak Load
22/08/2024 09:00	15.100	310484,250	15,696	0.000	12,279	On Peak Load
22/08/2024 10:00	15.104	343,152	20,871	0.000	15,004	On Peak Load
22/08/2024 11:00	15.132	338,777	15,404	0.000	12,776	On Peak Load
22/08/2024 12:00	15.087	321,855	22,440	0.000	12,291	On Peak Load
22/08/2024 13:00	15.315	246,710	36,202	0.000	11,194	Off Peak Load
22/08/2024 14:00	15.165	342,797	23,679	0.000	14,081	On Peak Load
22/08/2024 15:00	15.109	319,152	23,660	0.000	12,547	On Peak Load
22/08/2024 16:00	15.145	325,269	7,203	0.000	10,528	On Peak Load
22/08/2024 17:00	15.143	326,826	15,629	0.000	12,945	On Peak Load
22/08/2024 18:00	15.130	335,795	27,485	0.000	13,280	On Peak Load
22/08/2024 19:00	15.117	343,148	26,010	0.000	14,834	On Peak Load
22/08/2024 20:00	15.087	339,491	4,117	0.000	15,782	On Peak Load
22/08/2024 21:00	15.086	347,826	17,271	0.000	13,893	On Peak Load
22/08/2024 22:00	15.107	343,512	13,711	0.000	13,351	On Peak Load
22/08/2024 23:00	15.052	340,953	5,008	0.000	14,829	On Peak Load
23/08/2024 00:00	15.081	352,157	22,836	0.000	13,681	On Peak Load
23/08/2024 01:00	14.992	316,037	7,423	0.000	15,725	Off Peak Load
23/08/2024 02:00	15.011	330,878	9,491	0.000	17,852	Off Peak Load
23/08/2024 03:00	14.940	319,588	9,586	0.000	15,344	Off Peak Load
23/08/2024 04:00	14.974	315,236	1,746	0.000	14,644	Off Peak Load
23/08/2024 05:00	14.945	308,082	16,302	0.000	14,015	Off Peak Load
23/08/2024 06:00	14.975	317,375	20,742	0.000	13,963	Off Peak Load
23/08/2024 07:00	14.991	312,110	23,366	0.000	12,192	Off Peak Load
23/08/2024 08:00	15.186	250,453	25,224	0.000	12,703	Off Peak Load
23/08/2024 09:00	15.044	311,397	10,562	0.000	12,555	On Peak Load
23/08/2024 10:00	15.002	322,722	2,796	0.000	16,608	On Peak Load
23/08/2024 11:00	15.000	326,572	2,033	0.000	11,831	On Peak Load
23/08/2024 12:00	14.959	325,514	10,829	0.000	11,539	On Peak Load
23/08/2024 13:00	15.320	235,445	42,482	0.000	17,873	Off Peak Load
23/08/2024 14:00	14.943	318,514	15,637	0.000	17,084	On Peak Load
23/08/2024 15:00	15.022	316,494	4,064	0.001	14,881	On Peak Load
23/08/2024 16:00	15.005	327,556	24,745	0.001	13,139	On Peak Load
23/08/2024 17:00	15.040	321,943	7,049	0.001	11,580	On Peak Load
23/08/2024 18:00	15.028	328,048	18,780	0.001	11,646	On Peak Load
23/08/2024 19:00	15.027	329,716	5,328	0.001	12,221	On Peak Load
23/08/2024 20:00	15.047	331,608	3,922	0.001	11,370	On Peak Load
23/08/2024 21:00	15.046	327,518	2,361	0.001	11,531	On Peak Load
23/08/2024 22:00	15.029	332,137	4,070	0.001	11,851	On Peak Load
23/08/2024 23:00	15.065	343,880	5,074	0.001	11,801	On Peak Load
24/08/2024 00:00	15.066	348,915	7,787	0.001	11,923	On Peak Load
24/08/2024 01:00	14.959	307,512	2,543	0.001	16,815	Off Peak Load
24/08/2024 02:00	14.957	317,521	2,963	0.001	15,219	Off Peak Load
24/08/2024 03:00	14.936	315,192	5,714	0.000	12,999	Off Peak Load
24/08/2024 04:00	14.973	320,578	12,004	0.000	21,553	Off Peak Load
24/08/2024 05:00	14.938	314,252	16,671	0.000	16,895	Off Peak Load
24/08/2024 06:00	14.955	318,896	23,292	0.002	17,052	Off Peak Load
24/08/2024 07:00	14.966	318,281	20,625	0.000	14,237	Off Peak Load
24/08/2024 08:00	14.974	300,125	22,973	0.000	12,877	Off Peak Load
24/08/2024 09:00	15.056	370,894	12,209	0.000	18,224	On Peak Load
24/08/2024 10:00	15.078	367,251	14,579	0.000	12,170	Off Peak Load
24/08/2024 11:00	15.117	368,327	16,718	0.000	10,311	Off Peak Load
24/08/2024 12:00	15.163	360,425	19,954	0.000	12,389	Off Peak Load
24/08/2024 13:00	15.267	248,769	28,520	0.000	10,045	Off Peak Load
24/08/2024 14:00	15.068	315,851	7,766	0.000	9,189	On Peak Load
24/08/2024 15:00	15.038	312,356	11,283	0.000	10,946	On Peak Load
24/08/2024 16:00	15.134	330,959	4,709	0.000	12,283	On Peak Load
24/08/2024 17:00	15.065	329,346	20,697	0.001	12,507	On Peak Load
24/08/2024 18:00	15.027	323,110	1,726	0.001	11,644	On Peak Load
24/08/2024 19:00	15.001	322,018	24,219	0.001	11,799	On Peak Load
24/08/2024 20:00	14.938	323,461	7,810	0.001	13,015	On Peak Load
24/08/2024 21:00	15.013	343,983	1,597	0.001	12,706	On Peak Load
24/08/2024 22:00	14.956	342,761	0,016	0.001	12,716	On Peak Load
24/08/2024 23:00	15.009	336,863	16,532	0.001	15,646	On Peak Load
25/08/2024 00:00	14.983	343,915	19,256	0.001	16,138	Off Peak Load
25/08/2024 01:00	15.000	327,259	15,765	0.000	22,628	Off Peak Load
25/08/2024 02:00	14.917	307,024	7,083	0.000	18,527	Off Peak Load
25/08/2024 03:00	14.972	314,385	2,073	0.000	17,374	Off Peak Load
25/08/2024 04:00	14.940	299,258	2,134	0.000	14,716	Off Peak Load



Site Name:  
Stack Name:  
Periodicity:

GNLL2  
HRS011  
1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
25/08/2024 05:00	14.916	297.359	4.460	0.000	15.466	Off Peak Load
25/08/2024 06:00	14.980	313.117	9.723	0.000	15.342	Off Peak Load
25/08/2024 07:00	14.868	287.708	14.325	0.000	14.018	Off Peak Load
25/08/2024 08:00	14.945	274.480	5.454	0.000	12.572	Off Peak Load
25/08/2024 09:00	14.961	277.315	1.075	0.000	11.721	Off Peak Load
25/08/2024 10:00	14.947	278.518	2.234	0.000	11.936	Off Peak Load
25/08/2024 11:00	15.009	282.527	10.288	0.000	11.182	Off Peak Load
25/08/2024 12:00	15.022	280.496	7.404	0.000	10.205	Off Peak Load
25/08/2024 13:00	15.045	282.515	13.374	0.000	10.016	Off Peak Load
25/08/2024 14:00	15.071	278.707	5.457	0.001	9.522	Off Peak Load
25/08/2024 15:00	15.063	282.582	1.335	0.001	9.727	Off Peak Load
25/08/2024 16:00	15.016	289.334	14.919	0.001	9.258	Off Peak Load
25/08/2024 17:00	15.079	305.857	13.658	0.001	9.562	Off Peak Load
25/08/2024 18:00	15.230	257.767	32.030	0.001	11.158	Off Peak Load
25/08/2024 19:00	15.121	333.855	13.791	0.001	13.813	On Peak Load
25/08/2024 20:00	15.113	327.582	3.478	0.001	11.616	On Peak Load
25/08/2024 21:00	15.086	339.273	12.389	0.001	14.246	On Peak Load
25/08/2024 22:00	15.067	343.883	7.746	0.001	13.612	On Peak Load
25/08/2024 23:00	15.071	371.423	23.391	0.001	12.859	Off Peak Load
26/08/2024 00:00	15.068	351.983	15.470	0.001	12.261	Off Peak Load
26/08/2024 01:00	15.102	357.429	11.696	0.002	12.378	Off Peak Load
26/08/2024 02:00	15.089	359.502	9.217	0.002	11.950	Off Peak Load
26/08/2024 03:00	15.102	355.050	9.578	0.002	12.513	Off Peak Load
26/08/2024 04:00	15.106	360.280	10.979	0.002	11.663	Off Peak Load
26/08/2024 05:00	15.102	356.779	27.556	0.002	11.868	Off Peak Load
26/08/2024 06:00	15.113	358.214	30.066	0.003	12.227	Off Peak Load
26/08/2024 07:00	15.125	356.369	30.932	0.003	18.026	Off Peak Load
26/08/2024 08:00	15.135	365.973	35.165	0.003	15.328	Off Peak Load
26/08/2024 09:00	15.118	323.429	30.603	0.002	12.841	Off Peak Load
26/08/2024 10:00	15.096	327.997	29.492	0.002	10.895	On Peak Load
26/08/2024 11:00	15.174	331.675	32.624	0.002	9.755	On Peak Load
26/08/2024 12:00	14.966	304.629	29.337	0.001	14.998	On Peak Load
26/08/2024 13:00	15.356	247.052	12.389	0.001	13.984	Off Peak Load
26/08/2024 14:00	15.087	323.422	33.632	0.001	18.143	On Peak Load
26/08/2024 15:00	15.134	319.425	32.486	0.000	13.248	On Peak Load
26/08/2024 16:00	15.157	316.125	32.226	0.001	11.345	On Peak Load
26/08/2024 17:00	15.161	328.430	33.712	0.001	11.832	On Peak Load
26/08/2024 18:00	15.131	331.307	32.495	0.002	13.857	On Peak Load
26/08/2024 19:00	15.089	336.543	33.239	0.003	19.187	On Peak Load
26/08/2024 20:00	15.124	331.646	34.450	0.003	17.498	On Peak Load
26/08/2024 21:00	15.129	343.634	33.574	0.004	17.807	On Peak Load
26/08/2024 22:00	15.130	339.386	33.632	0.004	18.095	On Peak Load
26/08/2024 23:00	15.173	357.755	34.635	0.005	18.485	On Peak Load
27/08/2024 00:00	14.990	265.755	28.796	0.005	16.866	Off Peak Load
27/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/08/2024 09:00	15.091	325.599	33.541	0.004	14.202	On Peak Load
27/08/2024 10:00	15.132	312.656	31.442	0.004	11.527	On Peak Load
27/08/2024 11:00	15.174	323.365	33.377	0.003	12.737	On Peak Load
27/08/2024 12:00	15.066	310.052	32.321	0.003	11.852	On Peak Load
27/08/2024 13:00	15.416	235.485	33.541	0.002	11.624	Off Peak Load
27/08/2024 14:00	15.202	334.697	33.825	0.001	13.662	On Peak Load
27/08/2024 15:00	15.102	333.942	32.735	0.001	12.900	On Peak Load
27/08/2024 16:00	15.113	323.913	23.317	0.000	11.672	On Peak Load
27/08/2024 17:00	15.139	335.834	26.067	0.000	11.798	On Peak Load
27/08/2024 18:00	15.171	331.747	31.383	0.000	15.267	On Peak Load
27/08/2024 19:00	15.138	333.731	34.904	0.000	15.960	On Peak Load
27/08/2024 20:00	15.126	325.911	31.320	0.000	14.816	On Peak Load
27/08/2024 21:00	15.122	335.412	32.371	0.000	12.235	On Peak Load
27/08/2024 22:00	15.158	336.175	31.193	0.000	16.831	On Peak Load
27/08/2024 23:00	15.185	354.869	34.453	0.000	18.389	On Peak Load
28/08/2024 00:00	15.081	356.370	36.375	0.000	17.661	On Peak Load
28/08/2024 01:00	15.133	330.535	35.435	0.000	13.790	Off Peak Load
28/08/2024 02:00	15.020	311.727	33.475	0.000	12.900	Off Peak Load
28/08/2024 03:00	15.015	311.696	30.859	0.000	11.672	Off Peak Load
28/08/2024 04:00	15.024	306.871	29.006	0.000	21.844	Off Peak Load
28/08/2024 05:00	14.993	315.135	31.817	0.000	19.940	Off Peak Load
28/08/2024 06:00	15.018	306.859	29.823	0.000	16.594	Off Peak Load
28/08/2024 07:00	14.982	301.340	29.353	0.000	13.095	Off Peak Load
28/08/2024 08:00	15.261	247.637	58.802	0.000	12.202	Off Peak Load
28/08/2024 09:00	15.085	320.456	30.854	0.000	12.075	On Peak Load
28/08/2024 10:00	15.136	320.417	32.267	0.000	13.253	On Peak Load
28/08/2024 11:00	15.098	318.226	32.748	0.001	15.001	On Peak Load
28/08/2024 12:00	15.092	322.779	33.053	0.001	13.814	On Peak Load
28/08/2024 13:00	15.328	243.745	56.392	0.001	18.304	Off Peak Load
28/08/2024 14:00	15.152	335.740	34.598	0.002	13.343	On Peak Load
28/08/2024 15:00	15.165	327.559	33.004	0.002	14.345	On Peak Load

Site Name:  
Stack Name:  
Periodicity:

GNLL2  
HRS011  
1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
28/08/2024 16:00	15.120	376.412	32.765	0.002	13.579	On Peak Load
28/08/2024 17:00	15.137	320.777	28.581	0.002	15.058	On Peak Load
28/08/2024 18:00	15.110	329.716	22.812	0.002	16.603	On Peak Load
28/08/2024 19:00	15.096	331.691	24.715	0.002	17.128	On Peak Load
28/08/2024 20:00	15.064	326.021	18.668	0.002	19.038	On Peak Load
28/08/2024 21:00	15.044	321.513	8.200	0.002	19.978	On Peak Load
28/08/2024 22:00	15.072	329.529	7.334	0.002	20.043	On Peak Load
28/08/2024 23:00	15.056	329.615.156	12.552	0.002	18.381	On Peak Load
29/08/2024 00:00	15.053	257.88.328	19.360	0.001	18.115	Off Peak Load
29/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/08/2024 09:00	15.103	317.815.656	21.436	0.001	15.973	On Peak Load
29/08/2024 10:00	15.052	327.592.156	25.941	0.001	16.603	On Peak Load
29/08/2024 11:00	15.004	322.554	10.084	0.000	22.716	On Peak Load
29/08/2024 12:00	14.941	307.101	23.954	0.000	20.819	On Peak Load
29/08/2024 13:00	15.296	236.981	39.116	0.000	23.011	Off Peak Load
29/08/2024 14:00	15.035	323.538	16.516	0.000	17.875	On Peak Load
29/08/2024 15:00	15.058	327.683	1.230	0.000	17.232	On Peak Load
29/08/2024 16:00	15.031	317.784	6.494	0.000	16.603	On Peak Load
29/08/2024 17:00	15.028	319.777	8.769	0.000	22.716	On Peak Load
29/08/2024 18:00	15.027	328.071	0.670	0.000	20.819	On Peak Load
29/08/2024 19:00	15.082	318.257	13.475	0.000	23.454	On Peak Load
29/08/2024 20:00	15.017	324.789	0.002	0.000	15.132	On Peak Load
29/08/2024 21:00	15.016	316.051	0.000	0.000	13.817	On Peak Load
29/08/2024 22:00	15.000	319.451	5.228	0.000	13.093	On Peak Load
29/08/2024 23:00	15.026	331.851.281	16.933	0.000	14.222	On Peak Load
30/08/2024 00:00	15.053	368.735.531	25.574	0.000	15.973	Off Peak Load
30/08/2024 01:00	15.118	355.397.000	26.057	0.000	16.066	Off Peak Load
30/08/2024 02:00	15.129	358.455.813	26.449	0.001	17.618	Off Peak Load
30/08/2024 03:00	15.139	357.376.656	27.873	0.001	21.977	Off Peak Load
30/08/2024 04:00	15.151	358.499.875	30.956	0.002	21.485	Off Peak Load
30/08/2024 05:00	15.172	362.384.406	33.315	0.002	18.795	Off Peak Load
30/08/2024 06:00	15.164	358.463.344	33.866	0.003	19.106	Off Peak Load
30/08/2024 07:00	15.130	354.802.094	32.633	0.004	14.577	Off Peak Load
30/08/2024 08:00	15.178	362.149.188	36.891	0.004	16.316	Off Peak Load
30/08/2024 09:00	15.103	315.311.594	31.204	0.004	16.561	Off Peak Load
30/08/2024 10:00	15.115	303.296	30.999	0.003	13.091	Off Peak Load
30/08/2024 11:00	15.128	317.118	32.643	0.003	13.146	Off Peak Load
30/08/2024 12:00	15.092	311.030	32.880	0.003	11.970	Off Peak Load
30/08/2024 13:00	15.449	240.372	40.808	0.003	12.371	Off Peak Load
30/08/2024 14:00	15.144	308.654	32.432	0.003	10.833	Off Peak Load
30/08/2024 15:00	15.165	317.630	31.532	0.003	11.184	On Peak Load
30/08/2024 16:00	15.075	311.580	32.022	0.003	14.940	On Peak Load
30/08/2024 17:00	15.120	321.461	30.891	0.003	11.778	On Peak Load
30/08/2024 18:00	15.080	311.317	29.263	0.002	12.072	On Peak Load
30/08/2024 19:00	15.027	308.529	28.856	0.002	15.391	On Peak Load
30/08/2024 20:00	15.048	311.114	30.125	0.002	13.755	On Peak Load
30/08/2024 21:00	15.084	313.311	28.602	0.002	13.146	On Peak Load
30/08/2024 22:00	15.126	316.842	31.542	0.002	12.125	On Peak Load
30/08/2024 23:00	15.161	331.296	32.019	0.001	14.659	On Peak Load
31/08/2024 00:00	15.148	258.8.60	40.808	0.000	14.894	Off Peak Load
31/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/08/2024 09:00	15.109	328.116	32.361	0.002	14.717	On Peak Load
31/08/2024 10:00	15.195	330.556	33.728	0.002	13.576	On Peak Load
31/08/2024 11:00	15.144	331.789	33.531	0.007	11.624	On Peak Load
31/08/2024 12:00	15.099	315.712	31.461	0.002	10.316	On Peak Load
31/08/2024 13:00	15.476	237.315	32.361	0.002	9.915	Off Peak Load
31/08/2024 14:00	15.194	323.102	31.677	0.002	8.828	On Peak Load
31/08/2024 15:00	15.189	328.127	30.945	0.002	9.918	On Peak Load
31/08/2024 16:00	15.240	341.721	33.158	0.002	9.723	On Peak Load
31/08/2024 17:00	15.185	329.600	31.947	0.002	10.083	On Peak Load
31/08/2024 18:00	15.199	321.365	30.750	0.002	10.649	On Peak Load
31/08/2024 19:00	15.171	328.383	31.652	0.002	12.884	On Peak Load
31/08/2024 20:00	15.148	325.815	30.623	0.002	14.410	On Peak Load
31/08/2024 21:00	15.130	339.947	31.795	0.001	16.610	On Peak Load
31/08/2024 22:00	15.118	337.572	32.866	0.001	18.411	On Peak Load
31/08/2024 23:00	15.117	327.967.375	31.669	0.001	15.590	On Peak Load
Minimum	14.82	221.717	0.00	0.00	3.76	
Maximum	15.53	371.423	58.80	1.76	24.82	
Avg	15.07	319.350	19.33	0.02	14.52	



Site Name: GNLL2  
Stack Name: HRSRG11  
Periodically: 1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSRG1_NOx@7%O2	HRSRG1_SOx@7%O2	HRSRG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
SUM			60	6	28	

Site Name: GNLL2  
Stack Name: HRSRG12  
Periodically: 1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSRG1_NOx@7%O2	HRSRG1_SOx@7%O2	HRSRG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
01/08/2024 00:00	15.291	396.457	29.851	0.014	15.121	Off Peak Load
01/08/2024 01:00	15.243	378.075	27.839	0.014	17.692	Off Peak Load
01/08/2024 02:00	15.228	373.349	28.923	0.013	17.061	Off Peak Load
01/08/2024 03:00	15.229	388.351	27.479	0.012	16.884	Off Peak Load
01/08/2024 04:00	15.229	382.102	25.725	0.011	16.100	Off Peak Load
01/08/2024 05:00	15.252	392.242	26.680	0.010	16.711	Off Peak Load
01/08/2024 06:00	15.276	387.443	25.056	0.009	14.755	Off Peak Load
01/08/2024 07:00	15.299	391.801	27.491	0.008	12.161	Off Peak Load
01/08/2024 08:00	15.300	396.461	29.353	0.007	11.402	Off Peak Load
01/08/2024 09:00	15.149	348.459	23.471	0.007	9.924	Off Peak Load
01/08/2024 10:00	15.144	357.621	21.574	0.008	10.781	Off Peak Load
01/08/2024 11:00	15.192	350.065	21.178	0.009	9.830	Off Peak Load
01/08/2024 12:00	15.120	343.015	21.601	0.009	13.629	Off Peak Load
01/08/2024 13:00	15.569	299.097	41.356	0.010	12.357	Off Peak Load
01/08/2024 14:00	15.130	338.073	18.688	0.011	9.649	Off Peak Load
01/08/2024 15:00	15.155	346.971	22.539	0.011	9.579	Off Peak Load
01/08/2024 16:00	15.179	342.818	20.073	0.012	10.678	Off Peak Load
01/08/2024 17:00	15.152	351.511	19.385	0.012	11.206	Off Peak Load
01/08/2024 18:00	15.170	345.822	18.527	0.013	11.793	Off Peak Load
01/08/2024 19:00	15.180	342.339	23.950	0.014	10.860	Off Peak Load
01/08/2024 20:00	15.151	338.254	24.868	0.014	10.124	Off Peak Load
01/08/2024 21:00	15.132	339.964	24.995	0.015	9.414	Off Peak Load
01/08/2024 22:00	15.145	348.701	26.472	0.015	10.871	Off Peak Load
01/08/2024 23:00	15.158	353115.063	25.919	0.016	15.121	Off Peak Load
02/08/2024 00:00	15.208	403776.188	31.731	0.016	21.771	Off Peak Load
02/08/2024 01:00	15.225	387598.625	28.961	0.016	13.088	Off Peak Load
02/08/2024 02:00	15.227	392350.969	27.764	0.015	12.892	Off Peak Load
02/08/2024 03:00	15.229	387832.531	26.480	0.015	11.626	Off Peak Load
02/08/2024 04:00	15.230	386428.138	26.876	0.014	10.396	Off Peak Load
02/08/2024 05:00	15.232	391014.438	27.481	0.014	10.200	Off Peak Load
02/08/2024 06:00	15.233	388254.281	27.703	0.015	9.654	Off Peak Load
02/08/2024 07:00	15.244	388656.094	27.179	0.007	11.177	Off Peak Load
02/08/2024 08:00	15.237	404417.313	30.149	0.006	10.085	Off Peak Load
02/08/2024 09:00	15.176	368310.813	25.107	0.006	11.179	On Peak Load
02/08/2024 10:00	15.161	348.309	25.701	0.005	10.023	On Peak Load
02/08/2024 11:00	15.194	352.501	23.540	0.005	11.019	On Peak Load
02/08/2024 12:00	15.107	334.898	23.600	0.004	9.609	On Peak Load
02/08/2024 13:00	15.708	294.577	50.987	0.004	11.212	Off Peak Load
02/08/2024 14:00	15.243	359.450	26.528	0.004	9.136	On Peak Load
02/08/2024 15:00	14.371	347.791	26.480	0.015	10.852	On Peak Load
02/08/2024 16:00	15.078	341.854	33.099	0.020	13.215	On Peak Load
02/08/2024 17:00	15.076	338.799	30.904	0.019	9.729	On Peak Load
02/08/2024 18:00	15.072	344.688	31.798	0.018	8.859	On Peak Load
02/08/2024 19:00	15.081	343.000	31.077	0.017	9.511	On Peak Load
02/08/2024 20:00	15.064	343.187	31.749	0.016	9.935	On Peak Load
02/08/2024 21:00	15.095	353.169	32.336	0.015	8.096	On Peak Load
02/08/2024 22:00	15.076	349.375	32.018	0.015	5.191	On Peak Load
02/08/2024 23:00	15.127	367148.875	32.867	0.014	10.772	On Peak Load
03/08/2024 00:00	15.079	398336.938	39.826	0.013	13.061	Off Peak Load
03/08/2024 01:00	15.179	388279.125	34.200	0.013	13.571	Off Peak Load
03/08/2024 02:00	15.169	387617.281	32.296	0.014	10.798	Off Peak Load
03/08/2024 03:00	15.160	377950.844	33.158	0.014	9.623	Off Peak Load
03/08/2024 04:00	15.157	389769.000	33.260	0.014	13.428	Off Peak Load
03/08/2024 05:00	15.163	381485.688	34.325	0.014	13.561	Off Peak Load
03/08/2024 06:00	15.168	382913.344	33.516	0.014	15.124	Off Peak Load
03/08/2024 07:00	15.174	384461.938	32.392	0.014	14.564	Off Peak Load
03/08/2024 08:00	15.167	399115.625	37.631	0.014	10.824	Off Peak Load
03/08/2024 09:00	15.151	372934.250	32.651	0.014	10.074	Off Peak Load
03/08/2024 10:00	15.122	382.779	32.374	0.015	10.315	Off Peak Load
03/08/2024 11:00	15.145	377.027	32.266	0.015	12.373	Off Peak Load
03/08/2024 12:00	15.095	367.216	32.031	0.015	12.409	Off Peak Load
03/08/2024 13:00	15.392	306.690	33.184	0.015	11.441	Off Peak Load
03/08/2024 14:00	15.140	373.617	32.098	0.016	12.785	Off Peak Load
03/08/2024 15:00	15.191	372.080	33.830	0.016	13.497	Off Peak Load
03/08/2024 16:00	15.127	376.981	32.203	0.008	15.246	Off Peak Load
03/08/2024 17:00	15.103	354.163	30.724	0.007	10.959	Off Peak Load
03/08/2024 18:00	15.176	380.330	31.168	0.008	10.634	Off Peak Load
03/08/2024 19:00	15.146	379.588	32.193	0.009	7.777	Off Peak Load
03/08/2024 20:00	15.104	373.116	30.387	0.010	11.143	Off Peak Load
03/08/2024 21:00	15.138	366.862	29.241	0.011	13.622	Off Peak Load
03/08/2024 22:00	15.107	378.099	27.725	0.012	11.107	Off Peak Load
03/08/2024 23:00	15.131	364890.125	28.676	0.013	13.899	Off Peak Load
04/08/2024 00:00	15.155	428756.063	39.344	0.014	9.309	Off Peak Load
04/08/2024 01:00	15.147	370683.031	32.429	0.015	23.076	Off Peak Load
04/08/2024 02:00	15.145	365256.531	31.299	0.015	13.622	Off Peak Load
04/08/2024 03:00	15.142	363775.969	30.380	0.015	11.107	Off Peak Load
04/08/2024 04:00	15.140	372087.906	29.826	0.015	13.899	Off Peak Load
04/08/2024 05:00	15.137	369042.531	30.170	0.016	20.215	Off Peak Load
04/08/2024 06:00	15.135	370490.168	29.990	0.016	22.458	Off Peak Load
04/08/2024 07:00	15.132	372881.844	29.109	0.016	15.082	Off Peak Load
04/08/2024 08:00	15.130	380710.500	27.514	0.016	15.035	Off Peak Load
04/08/2024 09:00	15.167	387284.000	28.004	0.016	12.093	Off Peak Load
04/08/2024 10:00	15.219	398.796	29.774	0.016	11.365	Off Peak Load



Site Name: ONLL2  
Stack Name: HRSIG12  
Periodically: 11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM	HRSIG1_NOx@7%O2	HRSIG1_SOx@7%O2	HRSIG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/08/2024 11:00	15.224	399,230	29.713	0.016	11.922	Off Peak Load
04/08/2024 12:00	15.230	405,246	29.962	0.015	10.969	Off Peak Load
04/08/2024 13:00	15.234	392,833	30.166	0.014	10.805	Off Peak Load
04/08/2024 14:00	15.237	391,457	30.140	0.013	12.159	Off Peak Load
04/08/2024 15:00	15.216	382,856	29.246	0.013	14.758	Off Peak Load
04/08/2024 16:00	15.256	381,484	28.891	0.012	19.109	Off Peak Load
04/08/2024 17:00	15.218	377,373	25.980	0.011	9.913	Off Peak Load
04/08/2024 18:00	15.181	387,050	28.734	0.010	10.125	Off Peak Load
04/08/2024 19:00	15.074	354,494	24.441	0.009	13.867	Off Peak Load
04/08/2024 20:00	15.055	352,739	23.248	0.009	12.591	Off Peak Load
04/08/2024 21:00	15.083	358,286	24.923	0.011	12.689	Off Peak Load
04/08/2024 22:00	15.096	364,520	24.319	0.011	13.867	Off Peak Load
04/08/2024 23:00	15.021	359,799	25.891	0.011	19.198	Off Peak Load
05/08/2024 00:00	14.942	333,488	22.536	0.010	10.173	Off Peak Load
05/08/2024 01:00	14.988	302,777	21.186	0.010	20.823	Off Peak Load
05/08/2024 02:00	15.003	304,653	20.792	0.009	10.125	Off Peak Load
05/08/2024 03:00	15.003	313,122	21.997	0.009	13.867	Off Peak Load
05/08/2024 04:00	15.052	317,370	20.190	0.009	13.074	Off Peak Load
05/08/2024 05:00	14.992	323,174	22.968	0.008	9.968	Off Peak Load
05/08/2024 06:00	14.987	323,740	22.694	0.009	9.333	Off Peak Load
05/08/2024 07:00	14.978	324,583	23.269	0.009	9.076	Off Peak Load
05/08/2024 08:00	15.306	300,097	35.373	0.010	12.613	Off Peak Load
05/08/2024 09:00	15.028	360,781	24.874	0.011	11.650	Off Peak Load
05/08/2024 10:00	15.076	361,124	24.440	0.011	11.121	Off Peak Load
05/08/2024 11:00	15.067	350,596	25.169	0.012	11.777	Off Peak Load
05/08/2024 12:00	15.080	355,519	26.207	0.013	12.489	Off Peak Load
05/08/2024 13:00	15.354	315,471	29.610	0.014	12.719	Off Peak Load
05/08/2024 14:00	15.080	343,732	25.824	0.013	9.526	Off Peak Load
05/08/2024 15:00	15.100	352,166	24.815	0.013	8.451	Off Peak Load
05/08/2024 16:00	15.078	347,631	25.380	0.013	8.966	Off Peak Load
05/08/2024 17:00	15.135	355,568	24.350	0.012	8.523	Off Peak Load
05/08/2024 18:00	15.148	345,814	24.789	0.012	10.077	Off Peak Load
05/08/2024 19:00	15.108	355,345	25.762	0.012	9.498	On Peak Load
05/08/2024 20:00	15.130	355,161	24.815	0.011	10.046	On Peak Load
05/08/2024 21:00	15.086	354,096	24.711	0.011	11.162	On Peak Load
05/08/2024 22:00	15.080	357,742	24.605	0.012	11.417	On Peak Load
05/08/2024 23:00	15.130	361,122,188	22.896	0.012	13.477	On Peak Load
06/08/2024 00:00	15.173	380,430,500	26.379	0.013	14.206	On Peak Load
06/08/2024 01:00	15.027	349,504,875	22.887	0.013	19.182	Off Peak Load
06/08/2024 02:00	15.011	351,991,813	24.236	0.013	11.281	Off Peak Load
06/08/2024 03:00	14.999	359,471,438	23.747	0.014	9.612	Off Peak Load
06/08/2024 04:00	14.993	347,851,531	22.664	0.014	9.424	Off Peak Load
06/08/2024 05:00	14.970	339,898,500	21.331	0.013	8.789	Off Peak Load
06/08/2024 06:00	14.989	345,170,156	21.849	0.013	10.125	Off Peak Load
06/08/2024 07:00	14.979	344,497,156	22.427	0.012	10.927	Off Peak Load
06/08/2024 08:00	15.357	305,209,281	29.933	0.011	11.279	Off Peak Load
06/08/2024 09:00	15.090	358,692,313	25.928	0.010	13.442	On Peak Load
06/08/2024 10:00	15.081	348,568	24.755	0.009	13.631	On Peak Load
06/08/2024 11:00	15.124	346,574	24.994	0.009	13.452	On Peak Load
06/08/2024 12:00	15.140	366,702	27.220	0.008	13.416	On Peak Load
06/08/2024 13:00	15.403	313,113	29.291	0.008	12.584	Off Peak Load
06/08/2024 14:00	15.277	380,754	28.840	0.008	12.385	On Peak Load
06/08/2024 15:00	15.245	368,529	28.627	0.008	13.545	On Peak Load
06/08/2024 16:00	15.180	370,432	26.679	0.008	15.083	On Peak Load
06/08/2024 17:00	15.160	359,953	26.254	0.007	15.648	On Peak Load
06/08/2024 18:00	15.141	369,895	25.650	0.007	16.400	On Peak Load
06/08/2024 19:00	15.132	361,508	24.170	0.007	16.826	On Peak Load
06/08/2024 20:00	15.105	363,735	25.298	0.008	14.993	On Peak Load
06/08/2024 21:00	15.106	357,015	30.035	0.009	11.854	On Peak Load
06/08/2024 22:00	15.166	361,206	29.834	0.010	11.735	On Peak Load
06/08/2024 23:00	15.131	369,211	31.578	0.011	8.321	On Peak Load
07/08/2024 00:00	15.099	364,777	29.873	0.011	13.718	On Peak Load
07/08/2024 01:00	15.004	351,716	28.264	0.012	10.940	Off Peak Load
07/08/2024 02:00	15.045	357,232	28.918	0.013	8.461	Off Peak Load
07/08/2024 03:00	15.119	352,670	30.710	0.014	12.430	Off Peak Load
07/08/2024 04:00	15.038	343,757	30.740	0.013	11.755	Off Peak Load
07/08/2024 05:00	15.014	338,033	29.265	0.012	10.822	Off Peak Load
07/08/2024 06:00	15.000	345,890	32.707	0.011	8.735	Off Peak Load
07/08/2024 07:00	15.008	336,334	31.043	0.010	13.647	Off Peak Load
07/08/2024 08:00	15.298	308,132	31.104	0.009	10.378	Off Peak Load
07/08/2024 09:00	15.070	360,294	31.120	0.007	10.232	On Peak Load
07/08/2024 10:00	15.100	356,472	31.787	0.006	11.159	On Peak Load
07/08/2024 11:00	15.106	353,812	30.607	0.005	10.437	On Peak Load
07/08/2024 12:00	15.056	349,994	31.162	0.009	10.711	On Peak Load
07/08/2024 13:00	15.444	316,375	48.130	0.011	10.735	Off Peak Load
07/08/2024 14:00	15.130	348,578	31.557	0.010	11.234	On Peak Load
07/08/2024 15:00	15.103	350,194	31.990	0.010	11.133	On Peak Load
07/08/2024 16:00	15.149	356,337	30.800	0.009	11.286	On Peak Load
07/08/2024 17:00	15.161	361,922	32.102	0.008	11.146	On Peak Load
07/08/2024 18:00	15.185	362,362	31.136	0.007	11.009	On Peak Load
07/08/2024 19:00	15.167	375,664	33.047	0.008	12.257	On Peak Load
07/08/2024 20:00	15.133	364,402	29.813	0.008	12.316	On Peak Load
07/08/2024 21:00	15.132	366,302	30.186	0.009	11.716	On Peak Load

Site Name: ONLL2  
Stack Name: HRSIG12  
Periodically: 11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSIG1_NOx@7%O2	HRSIG1_SOx@7%O2	HRSIG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/08/2024 22:00	15.108	360,113	29.609	0.010	9.193	On Peak Load
07/08/2024 23:00	15.095	367,881	29.993	0.010	9.598	On Peak Load
08/08/2024 00:00	15.121	377,780	32.672	0.011	11.045	On Peak Load
08/08/2024 01:00	15.016	354,360	30.075	0.012	11.872	Off Peak Load
08/08/2024 02:00	15.058	347,062	29.918	0.013	10.826	Off Peak Load
08/08/2024 03:00	15.093	363,040	28.805	0.013	8.681	Off Peak Load
08/08/2024 04:00	15.006	354,176	30.175	0.013	8.444	Off Peak Load
08/08/2024 05:00	15.012	355,266	28.894	0.014	8.806	Off Peak Load
08/08/2024 06:00	15.019	349,120	27.932	0.014	12.870	Off Peak Load
08/08/2024 07:00	14.994	346,481	31.512	0.015	12.599	Off Peak Load
08/08/2024 08:00	15.346	304,075	36.161	0.015	10.810	Off Peak Load
08/08/2024 09:00	15.067	361,290	30.070	0.015	10.183	On Peak Load
08/08/2024 10:00	15.118	357,166	30.433	0.016	10.026	On Peak Load
08/08/2024 11:00	15.159	352,461	31.186	0.015	11.960	On Peak Load
08/08/2024 12:00	15.120	363,813	31.218	0.014	12.650	On Peak Load
08/08/2024 13:00	15.364	305,525	35.067	0.013	11.762	Off Peak Load
08/08/2024 14:00	15.199	374,785	31.812	0.012	12.968	On Peak Load
08/08/2024 15:00	15.129	372,252	31.240	0.011	12.985	On Peak Load
08/08/2024 16:00	15.140	368,820	31.014	0.010	8.607	On Peak Load
08/08/2024 17:00	15.152	357,309	30.891	0.009	9.246	On Peak Load
08/08/2024 18:00	15.154	368,894	32.783	0.008	11.132	On Peak Load
08/08/2024 19:00	15.104	361,476	30.381	0.008	8.027	On Peak Load
08/08/2024 20:00	15.075	356,020	30.180	0.008	9.007	On Peak Load
08/08/2024 21:00	15.180	400,215	34.423	0.008	8.650	On Peak Load
08/08/2024 22:00	15.095	353,149	31.272	0.008	9.583	On Peak Load
08/08/2024 23:00	15.086	362,266	29.250	0.007	10.762	On Peak Load
09/08/2024 00:00	15.057	366,387	28.661	0.007	8.501	On Peak Load
09/08/2024 01:00	14.967	339,726	27.448	0.007	10.905	Off Peak Load
09/08/2024 02:00	14.956	343,922	28.486	0.007	12.170	Off Peak Load
09/08/2024 03:00	14.962	342,241	26.525	0.007	9.966	Off Peak Load
09/08/2024 04:00	15.011	340,991	27.696	0.007	9.382	Off Peak Load
09/08/2024 05:00	14.988	333,172	27.578	0.008	9.620	Off Peak Load
09/08/2024 06:00	14.975	342,046	26.254	0.008	8.553	Off Peak Load
09/08/2024 07:00	15.008	341,556	26.331	0.008	8.687	Off Peak Load
09/08/2024 08:00	15.293	306,480	28.351	0.008	12.136	Off Peak Load
09/08/2024 09:00	15.119	358,212	31.089	0.008	9.978	On Peak Load
09/08/2024 10:00	15.135	367,151	31.277	0.008	9.481	On Peak Load
09/08/2024 11:00	15.076	368,394	29.000	0.009	9.975	On Peak Load
09/08/2024 12:00	15.029	360,584	29.311	0.010	9.896	On Peak Load
09/08/2024 13:00	15.311	306,033	29.885	0.011	11.362	Off Peak Load
09/08/2024 14:00	15.090	353,223	30.644	0.011	8.553	On Peak Load
09/08/2024 15:00	15.113	360,330	32.997	0.012	13.946	On Peak Load
09/08/2024 16:00	15.074	371,935	32.007	0.013	9.514	On Peak Load
09/08/2024 17:00	15.081	366,328	29.251	0.014	11.174	On Peak Load
09/08/2024 18:00	15.096	364,861	29.460	0.014	11.628	On Peak Load
09/08/2024 19:00	15.119	365,244	28.764	0.013	13.779	On Peak Load
09/08/2024 20:00	15.063	356,680	28.355	0.011	13.293	On Peak Load
09/08/2024 21:00	15.030	352,935	26.105	0.010	13.815	On Peak Load
09/08/2024 22:00	15.041	356,135	26.691	0.009	15.164	On Peak Load
09/08/2024 23:00	15.077	354,422	27.065	0.009	15.831	On Peak Load
10/08/2024 00:00	15.054	363,980	28.275	0.010	15.404	On Peak Load
10/08/2024 01:00	14.991	328,556	27.425	0.011	14.998	Off Peak Load
10/08/2024 02:00	14.991	331,138	27.471	0.011	14.681	Off Peak Load
10/08/2024 03:00	14.970	339,223	26.126	0.012	12.668	Off Peak Load
10/08/2024 04:00	14.972	334,239	27.478	0.012	10.034	Off Peak Load
10/08/2024 05:00	14.947	334,775	26.396	0.012	10.028	Off Peak Load
10/08/2024 06:00	14.947	346,308	27.511	0.013	9.679	Off Peak Load
10/08/2024 07:00	14.975	331,311	27.769	0.013	9.643	Off Peak Load
10/08/2024 08:00	15.184	307,577	31.354	0.013	10.530	On Peak Load
10/08/2024 09:00	15.093	371,990	30.516	0.014	11.579	On Peak Load
10/08/2024 10:00	15.058	362,998	29.995	0.012	12.084	On Peak Load
10/08/2024 11:00	15.069	351,081	30.900	0.006	14.550	On Peak Load
10/08/2024 12:00	15.108	353,959	30.670	0.004	13.648	On Peak Load
10/08/2024 13:00	15.466	305,019	47.531	0.004	13.771	Off Peak Load
10/08/2024 14:00	15.200	382,887	31.686	0.005	13.574	On Peak Load
10/08/2024 15:00	15.104	361,741	31.042	0.006	14.454	On Peak Load
10/08/2024 16:00	15.231	382,500	33.265	0.007	14.551	On Peak Load
10/08/2024 17:00	15.172	362,275	31.044	0.007	15.256	On Peak Load
10/08/2024 18:00	15.127	355,757	30.576	0.008	14.776	On Peak Load
10/08/2024 19:00	15.105	356,163	30.920	0.009	16.145	On Peak Load
10/08/2024 20:00	15.107	362,578	30.085	0.009	12.233	On Peak Load
10/08/2024 21:00	15.129	361,993	31.768	0.010	10.298	On Peak Load
10/08/2024 22:00	15.084	352,656	29.035	0.011	10.227	On Peak Load
10/08/2024 23:00	15.105	352,466	28.851	0.011	13.994	On Peak Load
11/08/2024 00:00	15.047	361,334	28.441	0.012	14.419	On Peak Load
11/08/2024 01:00	14.977	329,343	26.186	0.012	15.144	Off Peak Load
11/08/2024 02:00	14.920	332,836	25.830	0.012	10.797	Off Peak Load
11/08/2024 03:00	14.920	327,664	25.472	0.013	11.944	Off Peak Load
11/08/2024 04:00	14.962	324,114	25.885	0.013	11.995	Off Peak Load
11/08/2024 05:00	15.005	326,220	24.903	0.014	14.172	Off Peak Load
11/08/2024 06:00	15.020	325,324	25.705	0.014	11.750	Off Peak Load
11/08/2024 07:00	15.000	320,520	24.679	0.014	12.322	Off Peak Load
11/08/2024 08:00	15.277	315,200	29.781	0.014	11.938	Off Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_dust(7%O2)	
11/08/2024 09:00	15.292	311,513	30.012	0.014	10.054	Off Peak Load
11/08/2024 10:00	15.298	321,202	30.475	0.015	12.360	Off Peak Load
11/08/2024 11:00	15.275	316,224	30.707	0.015	11.977	Off Peak Load
11/08/2024 12:00	15.396	313,716	31.100	0.015	11.464	Off Peak Load
11/08/2024 13:00	15.344	310,810	28.781	0.015	11.180	Off Peak Load
11/08/2024 14:00	15.331	311,788	29.314	0.015	13.270	Off Peak Load
11/08/2024 15:00	15.309	318,713	29.728	0.015	13.193	Off Peak Load
11/08/2024 16:00	15.264	322,244	30.590	0.015	12.260	Off Peak Load
11/08/2024 17:00	15.316	319,705	32.157	0.015	12.607	Off Peak Load
11/08/2024 18:00	15.306	312,805	31.803	0.015	13.366	Off Peak Load
11/08/2024 19:00	15.264	375,674	33.923	0.015	16.129	On Peak Load
11/08/2024 20:00	15.120	351,817	30.709	0.015	17.001	On Peak Load
11/08/2024 21:00	15.096	361,114	26.801	0.015	13.758	On Peak Load
11/08/2024 22:00	15.060	349,671	27.991	0.015	15.284	On Peak Load
11/08/2024 23:00	15.043	387,245	32.257	0.015	14.378	Off Peak Load
12/08/2024 00:00	15.171	383,400	28.642	0.015	15.210	Off Peak Load
12/08/2024 01:00	15.173	392,647	29.237	0.015	15.190	Off Peak Load
12/08/2024 02:00	15.161	389,688	31.008	0.015	13.366	Off Peak Load
12/08/2024 03:00	15.129	382,936	28.533	0.015	13.549	Off Peak Load
12/08/2024 04:00	15.123	384,497	28.675	0.015	13.217	Off Peak Load
12/08/2024 05:00	15.127	384,874	28.259	0.015	11.897	Off Peak Load
12/08/2024 06:00	15.135	391,416	28.425	0.015	13.802	Off Peak Load
12/08/2024 07:00	15.160	396,563	27.067	0.013	13.363	Off Peak Load
12/08/2024 08:00	15.183	392,274	27.354	0.013	13.313	Off Peak Load
12/08/2024 09:00	15.196	397,837	27.740	0.012	12.059	Off Peak Load
12/08/2024 10:00	15.209	392,141	27.577	0.010	10.918	Off Peak Load
12/08/2024 11:00	15.222	384,680	27.048	0.008	12.512	Off Peak Load
12/08/2024 12:00	15.234	396,066	28.968	0.007	13.336	Off Peak Load
12/08/2024 13:00	15.246	390,925	27.509	0.008	13.340	Off Peak Load
12/08/2024 14:00	15.245	395,068	26.843	0.009	12.447	Off Peak Load
12/08/2024 15:00	15.235	389,933	26.972	0.010	14.089	Off Peak Load
12/08/2024 16:00	15.225	400,113	26.742	0.011	14.383	Off Peak Load
12/08/2024 17:00	15.215	383,933	27.532	0.012	13.812	Off Peak Load
12/08/2024 18:00	15.195	378,885	27.642	0.013	15.146	Off Peak Load
12/08/2024 19:00	15.041	335,863	21.338	0.014	12.539	Off Peak Load
12/08/2024 20:00	15.037	340,957	20.582	0.015	13.138	On Peak Load
12/08/2024 21:00	15.037	343,771	22.619	0.016	13.520	On Peak Load
12/08/2024 22:00	15.023	338,676	22.189	0.016	13.805	On Peak Load
12/08/2024 23:00	15.215	304,249	19.242	0.017	13.614	Off Peak Load
13/08/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
13/08/2024 09:00	15.028	362,020	25.647	0.019	12.616	On Peak Load
13/08/2024 10:00	15.017	339,735	23.513	0.017	11.831	On Peak Load
13/08/2024 11:00	15.043	351,411	25.281	0.015	10.004	On Peak Load
13/08/2024 12:00	15.073	336,576	24.609	0.013	11.734	On Peak Load
13/08/2024 13:00	15.593	298,950	49.929	0.011	13.756	Off Peak Load
13/08/2024 14:00	15.065	342,710	23.983	0.009	12.121	On Peak Load
13/08/2024 15:00	15.057	343,295	23.341	0.007	13.168	On Peak Load
13/08/2024 16:00	15.095	347,139	24.186	0.006	12.892	On Peak Load
13/08/2024 17:00	15.073	346,520	23.294	0.007	12.411	On Peak Load
13/08/2024 18:00	15.108	350,127	24.390	0.008	12.947	On Peak Load
13/08/2024 19:00	15.104	351,636	25.603	0.008	11.398	On Peak Load
13/08/2024 20:00	15.076	351,172	24.531	0.009	12.800	On Peak Load
13/08/2024 21:00	15.029	351,647	21.509	0.010	12.442	On Peak Load
13/08/2024 22:00	15.034	348,423	21.551	0.011	13.825	On Peak Load
13/08/2024 23:00	15.057	364,136	21.767	0.011	17.720	On Peak Load
14/08/2024 00:00	15.144	394,354	27.774	0.012	12.240	Off Peak Load
14/08/2024 01:00	15.135	393,002	25.045	0.011	13.170	Off Peak Load
14/08/2024 02:00	15.125	393,754	23.102	0.010	13.349	Off Peak Load
14/08/2024 03:00	15.126	393,251	26.005	0.009	10.715	Off Peak Load
14/08/2024 04:00	15.128	390,677	25.063	0.008	9.814	Off Peak Load
14/08/2024 05:00	15.130	388,992	25.984	0.008	10.729	Off Peak Load
14/08/2024 06:00	15.131	386,415	25.877	0.007	11.548	Off Peak Load
14/08/2024 07:00	15.138	394,204	26.119	0.006	11.127	Off Peak Load
14/08/2024 08:00	15.147	409,566	26.832	0.007	11.283	Off Peak Load
14/08/2024 09:00	15.011	343,679	27.047	0.007	9.731	Off Peak Load
14/08/2024 10:00	15.045	347,815	28.478	0.007	12.641	On Peak Load
14/08/2024 11:00	15.094	342,917	28.052	0.007	12.186	On Peak Load
14/08/2024 12:00	15.101	341,545	28.043	0.008	12.767	On Peak Load
14/08/2024 13:00	15.626	307,775	52.163	0.008	14.477	Off Peak Load
14/08/2024 14:00	15.056	347,927	28.430	0.009	14.461	On Peak Load
14/08/2024 15:00	15.080	348,026	29.474	0.010	14.627	On Peak Load
14/08/2024 16:00	15.087	360,334	27.166	0.010	14.386	On Peak Load
14/08/2024 17:00	15.086	345,679	29.126	0.011	15.457	On Peak Load
14/08/2024 18:00	15.047	343,654	28.397	0.012	15.480	On Peak Load
14/08/2024 19:00	15.045	341,256	28.945	0.012	14.411	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/08/2024 20:00	15.063	343,043	28.966	0.013	13.636	On Peak Load
14/08/2024 21:00	15.030	344,599	27.562	0.013	16.756	On Peak Load
14/08/2024 22:00	15.066	351,499	27.958	0.013	12.138	On Peak Load
14/08/2024 23:00	15.048	355,760	29.000	0.012	12.137	On Peak Load
15/08/2024 00:00	15.124	402,257	35.551	0.012	13.964	Off Peak Load
15/08/2024 01:00	15.156	376,639	32.507	0.012	19.025	Off Peak Load
15/08/2024 02:00	15.145	387,756	31.740	0.012	18.328	Off Peak Load
15/08/2024 03:00	15.134	393,386	31.257	0.012	11.012	Off Peak Load
15/08/2024 04:00	15.124	393,077	30.821	0.012	10.348	Off Peak Load
15/08/2024 05:00	15.127	395,613	29.256	0.012	11.075	Off Peak Load
15/08/2024 06:00	15.131	392,993	30.577	0.013	11.075	Off Peak Load
15/08/2024 07:00	15.134	396,931	30.160	0.013	10.316	Off Peak Load
15/08/2024 08:00	15.184	414,933	34.562	0.014	9.998	Off Peak Load
15/08/2024 09:00	15.040	353,483	30.347	0.014	11.792	Off Peak Load
15/08/2024 10:00	15.058	357,310	28.469	0.014	12.277	On Peak Load
15/08/2024 11:00	15.086	351,797	30.004	0.015	10.913	On Peak Load
15/08/2024 12:00	15.128	373,217	30.677	0.015	10.196	On Peak Load
15/08/2024 13:00	15.474	306,130	50.037	0.015	12.173	Off Peak Load
15/08/2024 14:00	15.060	350,127	27.710	0.014	11.068	On Peak Load
15/08/2024 15:00	15.099	356,005	30.281	0.014	11.104	On Peak Load
15/08/2024 16:00	15.155	358,139	30.586	0.014	10.654	On Peak Load
15/08/2024 17:00	15.091	350,705	28.685	0.014	12.866	On Peak Load
15/08/2024 18:00	15.114	351,991	30.788	0.013	10.082	On Peak Load
15/08/2024 19:00	15.130	365,046	30.822	0.013	10.779	On Peak Load
15/08/2024 20:00	15.097	356,038	28.345	0.013	11.837	On Peak Load
15/08/2024 21:00	15.095	359,446	30.751	0.013	11.248	On Peak Load
15/08/2024 22:00	15.137	369,057	29.609	0.014	13.044	On Peak Load
15/08/2024 23:00	15.140	361,877	31.951	0.018	13.514	On Peak Load
16/08/2024 00:00	15.232	304,834	28.616	0.022	13.709	Off Peak Load
16/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
16/08/2024 09:00	15.070	364,400	30.388	0.014	12.805	On Peak Load
16/08/2024 10:00	15.113	375,221	30.509	0.013	14.951	On Peak Load
16/08/2024 11:00	15.093	356,542	30.799	0.013	15.038	On Peak Load
16/08/2024 12:00	15.061	359,279	30.084	0.013	14.021	On Peak Load
16/08/2024 13:00	15.437	314,519	38.356	0.013	13.851	Off Peak Load
16/08/2024 14:00	15.125	356,076	31.326	0.012	15.229	On Peak Load
16/08/2024 15:00	15.099	376,521	30.892	0.012	11.661	On Peak Load
16/08/2024 16:00	15.088	363,700	30.542	0.012	9.179	On Peak Load
16/08/2024 17:00	15.035	364,910	28.816	0.012	10.632	On Peak Load
16/08/2024 18:00	15.119	355,234	28.854	0.012	10.834	On Peak Load
16/08/2024 19:00	15.096	362,409	27.737	0.012	11.803	On Peak Load
16/08/2024 20:00	15.058	359,729	27.199	0.012	8.597	On Peak Load
16/08/2024 21:00	15.063	356,819	26.592	0.012	8.235	On Peak Load
16/08/2024 22:00	15.056	376,195	26.226	0.012	11.449	On Peak Load
16/08/2024 23:00	15.059	369,688	27.487	0.012	8.591	On Peak Load
17/08/2024 00:00	15.119	407,652	31.026	0.011	7.204	Off Peak Load
17/08/2024 01:00	15.125	396,221	27.120	0.011	6.293	Off Peak Load
17/08/2024 02:00	15.120	387,706	31.3	0.011	9.967	Off Peak Load
17/08/2024 03:00	15.120	392,158	27.042	0.011	19.152	Off Peak Load
17/08/2024 04:00	15.119	390,914	26.725	0.011	12.904	Off Peak Load
17/08/2024 05:00	15.119	381,933	25.799	0.011	13.361	Off Peak Load
17/08/2024 06:00	15.119	383,998	26.643	0.011	17.023	Off Peak Load
17/08/2024 07:00	15.118	384,362	26.509	0.011	12.584	Off Peak Load
17/08/2024 08:00	15.112	375,527	28.481	0.011	16.115	Off Peak Load
17/08/2024 09:00	15.102	373,480	27.528	0.010	9.942	Off Peak Load
17/08/2024 10:00	15.087	379,461	29.119	0.010	15.573	Off Peak Load
17/08/2024 11:00	15.027	361,427	29.935	0.010	11.461	On Peak Load
17/08/2024 12:00	15.074	369,697	30.806	0.009	13.507	On Peak Load
17/08/2024 13:00	15.357	312,378	40.484	0.009	13.430	Off Peak Load
17/08/2024 14:00	15.112	369,699	29.081	0.008	17.539	On Peak Load
17/08/2024 15:00	15.099	357,582	29.306	0.008	12.422	On Peak Load
17/08/2024 16:00	15.161	376,855	30.311	0.008	12.142	On Peak Load
17/08/2024 17:00	15.100	361,103	29.854	0.008	11.859	On Peak Load
17/08/2024 18:00	15.135	384,326	29.840	0.009	13.022	On Peak Load
17/08/2024 19:00	15.098	371,989	30.171	0.009	12.005	On Peak Load
17/08/2024 20:00	15.148	373,515	30.609	0.010	12.807	On Peak Load
17/08/2024 21:00	15.128	386,789	29.976	0.010	13.009	On Peak Load
17/08/2024 22:00	15.106	370,783	29.822	0.010	11.817	On Peak Load
17/08/2024 23:00	15.075	368,911	28.972	0.011	13.314	On Peak Load
18/08/2024 00:00	15.123	402,712	33.726	0.010	14.051	Off Peak Load
18/08/2024 01:00	15.154	393,759	31.469	0.009	14.069	Off Peak Load
18/08/2024 02:00	15.143	393,438	32.041	0.008	14.633	Off Peak Load
18/08/2024 03:00	15.132	398,745	30.870	0.008	11.913	Off Peak Load
18/08/2024 04:00	15.123	395,065	30.300	0.007	9.719	Off Peak Load
18/08/2024 05:00	15.119	396,047	31.124	0.006	10.605	Off Peak Load
18/08/2024 06:00	15.126	394,183	30.308	0.005	10.381	Off Peak Load



Site Name: GALL2  
Stack Name: HRS012  
Periodically: 11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/08/2024 07:00	15.132	392.940	29.728	0.005	10.464	Off Peak Load
18/08/2024 08:00	15.138	386.679	30.403	0.006	10.350	Off Peak Load
18/08/2024 09:00	15.171	402.397	31.721	0.007	10.340	Off Peak Load
18/08/2024 10:00	15.222	403.083	32.857	0.008	9.812	Off Peak Load
18/08/2024 11:00	15.274	403.687	32.114	0.009	11.282	Off Peak Load
18/08/2024 12:00	15.263	403.127	33.922	0.010	10.088	Off Peak Load
18/08/2024 13:00	15.233	392.786	32.698	0.011	10.401	Off Peak Load
18/08/2024 14:00	15.255	394.628	34.490	0.012	10.567	Off Peak Load
18/08/2024 15:00	15.252	402.781	34.327	0.013	11.242	Off Peak Load
18/08/2024 16:00	15.233	393.964	33.930	0.013	10.891	Off Peak Load
18/08/2024 17:00	15.233	396.274	34.792	0.012	10.631	Off Peak Load
18/08/2024 18:00	15.220	393.062	36.451	0.012	11.790	Off Peak Load
18/08/2024 19:00	15.093	363.407	30.117	0.012	11.120	Off Peak Load
18/08/2024 20:00	15.087	350.260	30.391	0.012	11.761	Off Peak Load
18/08/2024 21:00	15.094	351.160	29.938	0.012	12.529	Off Peak Load
18/08/2024 22:00	15.161	361.369	33.406	0.011	13.879	On Peak Load
18/08/2024 23:00	15.097	363.011	31.364	0.012	13.064	On Peak Load
19/08/2024 00:00	14.986	327.267	29.197	0.013	12.660	Off Peak Load
19/08/2024 01:00	14.971	327.646	28.324	0.000	14.149	Off Peak Load
19/08/2024 02:00	14.986	329.020	27.909	0.005	14.814	Off Peak Load
19/08/2024 03:00	14.993	323.887	27.609	0.013	14.582	Off Peak Load
19/08/2024 04:00	15.006	339.508	30.197	0.014	12.781	Off Peak Load
19/08/2024 05:00	15.009	331.345	29.269	0.014	12.585	Off Peak Load
19/08/2024 06:00	14.971	328.869	28.265	0.014	12.161	Off Peak Load
19/08/2024 07:00	15.009	333.751	28.214	0.013	13.053	Off Peak Load
19/08/2024 08:00	15.327	313.074	35.209	0.013	12.544	Off Peak Load
19/08/2024 09:00	15.027	360.727	34.212	0.013	11.819	On Peak Load
19/08/2024 10:00	15.043	355.423	33.702	0.012	11.970	On Peak Load
19/08/2024 11:00	15.052	352.091	31.800	0.012	9.984	On Peak Load
19/08/2024 12:00	15.041	352.792	33.835	0.012	12.578	On Peak Load
19/08/2024 13:00	15.517	309.515	58.025	0.012	13.630	Off Peak Load
19/08/2024 14:00	15.048	356.109	31.946	0.011	12.626	On Peak Load
19/08/2024 15:00	15.062	357.565	35.462	0.011	12.985	On Peak Load
19/08/2024 16:00	15.073	358.324	34.363	0.013	12.671	On Peak Load
19/08/2024 17:00	15.082	358.576	33.718	0.010	13.247	On Peak Load
19/08/2024 18:00	15.086	355.048	31.688	0.010	14.951	On Peak Load
19/08/2024 19:00	15.061	356.226	32.116	0.010	15.837	On Peak Load
19/08/2024 20:00	15.052	356.923	33.347	0.010	13.522	On Peak Load
19/08/2024 21:00	15.059	364.833	33.755	0.010	11.055	On Peak Load
19/08/2024 22:00	15.047	362.271	30.891	0.010	9.303	On Peak Load
19/08/2024 23:00	15.058	367921.156	35.230	0.010	12.214	On Peak Load
20/08/2024 00:00	15.048	377675.594	31.015	0.010	12.305	On Peak Load
20/08/2024 01:00	15.001	348359.813	33.091	0.010	13.159	Off Peak Load
20/08/2024 02:00	14.983	349581.281	29.268	0.010	12.839	Off Peak Load
20/08/2024 03:00	14.973	346259.344	33.539	0.011	9.759	Off Peak Load
20/08/2024 04:00	14.957	346113.563	32.344	0.011	16.003	Off Peak Load
20/08/2024 05:00	14.973	339912.000	33.749	0.012	14.055	Off Peak Load
20/08/2024 06:00	14.954	344928.750	33.682	0.013	13.597	Off Peak Load
20/08/2024 07:00	14.913	344958.250	32.837	0.013	10.455	Off Peak Load
20/08/2024 08:00	15.240	305660.375	31.604	0.014	11.175	Off Peak Load
20/08/2024 09:00	15.036	376085.344	32.140	0.015	12.076	On Peak Load
20/08/2024 10:00	15.085	370.434	35.181	0.015	13.282	On Peak Load
20/08/2024 11:00	15.070	362.396	34.191	0.015	12.578	On Peak Load
20/08/2024 12:00	15.015	362.054	35.971	0.015	13.314	On Peak Load
20/08/2024 13:00	15.563	303.189	31.015	0.015	12.816	Off Peak Load
20/08/2024 14:00	15.131	369.397	36.380	0.015	12.894	On Peak Load
20/08/2024 15:00	15.153	377.148	35.374	0.015	13.101	On Peak Load
20/08/2024 16:00	15.132	363.589	37.600	0.015	13.094	On Peak Load
20/08/2024 17:00	15.120	359.784	37.146	0.015	13.761	On Peak Load
20/08/2024 18:00	15.087	366.806	37.266	0.015	14.910	On Peak Load
20/08/2024 19:00	15.095	366.441	36.953	0.015	16.112	On Peak Load
20/08/2024 20:00	15.088	356.275	35.954	0.015	13.175	On Peak Load
20/08/2024 21:00	15.099	366.967	33.477	0.015	11.111	On Peak Load
20/08/2024 22:00	15.091	373.425	36.792	0.015	11.282	On Peak Load
20/08/2024 23:00	15.104	379.069	37.036	0.014	12.327	On Peak Load
21/08/2024 00:00	15.072	378.426	33.317	0.014	13.448	On Peak Load
21/08/2024 01:00	14.951	351.955	34.799	0.014	17.818	Off Peak Load
21/08/2024 02:00	15.032	343.935	35.415	0.014	13.431	Off Peak Load
21/08/2024 03:00	15.003	344.047	36.046	0.015	14.684	Off Peak Load
21/08/2024 04:00	14.966	339.714	36.618	0.015	9.368	Off Peak Load
21/08/2024 05:00	14.949	339.757	34.572	0.015	7.527	Off Peak Load
21/08/2024 06:00	14.972	338.774	32.753	0.016	6.686	Off Peak Load
21/08/2024 07:00	14.974	338.654	32.600	0.010	5.912	Off Peak Load
21/08/2024 08:00	15.254	307.126	36.543	0.016	8.217	Off Peak Load
21/08/2024 09:00	15.006	366.782	33.059	0.008	8.980	On Peak Load
21/08/2024 10:00	15.049	370.163	35.214	0.008	8.255	On Peak Load
21/08/2024 11:00	15.065	370.447	35.706	0.008	6.959	On Peak Load
21/08/2024 12:00	15.068	361.834	36.818	0.008	4.824	On Peak Load
21/08/2024 13:00	15.372	313.189	42.853	0.008	5.165	Off Peak Load
21/08/2024 14:00	15.123	376.642	36.870	0.008	5.769	On Peak Load
21/08/2024 15:00	15.099	366.368	40.341	0.008	7.995	On Peak Load
21/08/2024 16:00	15.115	374.492	38.524	0.002	5.279	On Peak Load
21/08/2024 17:00	15.144	375.377	38.717	0.004	5.343	On Peak Load

Site Name: GALL2  
Stack Name: HRS012  
Periodically: 11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
21/08/2024 19:00	15.096	373.455	38.165	0.005	6.585	On Peak Load
21/08/2024 20:00	15.096	377.886	36.026	0.006	6.086	On Peak Load
21/08/2024 21:00	15.060	371.414	35.138	0.008	6.255	On Peak Load
21/08/2024 22:00	15.051	383.791	35.597	0.009	5.776	On Peak Load
22/08/2024 00:00	15.066	383339.188	39.013	0.011	6.651	On Peak Load
22/08/2024 00:00	15.027	387370.594	35.719	0.012	6.579	On Peak Load
22/08/2024 01:00	14.963	362157.938	33.023	0.012	6.249	Off Peak Load
22/08/2024 02:00	14.960	356163.844	34.013	0.012	6.705	Off Peak Load
22/08/2024 03:00	14.975	355498.719	36.333	0.012	6.029	Off Peak Load
22/08/2024 04:00	14.958	349280.719	30.813	0.012	6.170	Off Peak Load
22/08/2024 05:00	14.935	353442.000	30.783	0.012	6.858	Off Peak Load
22/08/2024 06:00	14.915	343842.938	33.713	0.012	7.529	Off Peak Load
22/08/2024 07:00	14.969	350947.719	30.837	0.012	7.953	Off Peak Load
22/08/2024 08:00	15.286	315272.594	33.315	0.012	6.855	Off Peak Load
22/08/2024 09:00	15.059	364972.875	33.988	0.013	6.413	On Peak Load
22/08/2024 10:00	15.060	380.740	33.363	0.014	8.711	On Peak Load
22/08/2024 11:00	15.094	366.181	37.609	0.015	6.738	On Peak Load
22/08/2024 12:00	15.057	354.927	34.335	0.016	5.989	On Peak Load
22/08/2024 13:00	15.348	309.495	41.350	0.016	5.050	Off Peak Load
22/08/2024 14:00	15.121	377.683	35.745	0.015	6.525	On Peak Load
22/08/2024 15:00	15.091	360.303	34.596	0.015	6.953	On Peak Load
22/08/2024 16:00	15.098	360.406	35.852	0.014	4.869	On Peak Load
22/08/2024 17:00	15.096	366.172	38.324	0.014	6.638	On Peak Load
22/08/2024 18:00	15.143	367.273	38.576	0.014	6.290	On Peak Load
22/08/2024 19:00	15.114	369.616	38.465	0.013	7.315	On Peak Load
22/08/2024 20:00	15.105	362.448	38.346	0.013	8.080	On Peak Load
22/08/2024 21:00	15.115	378.437	34.878	0.004	7.786	On Peak Load
22/08/2024 22:00	15.081	366.384	34.250	0.005	5.934	On Peak Load
22/08/2024 23:00	15.090	374.273	34.610	0.006	8.580	On Peak Load
23/08/2024 00:00	15.097	378.278	37.102	0.007	6.713	On Peak Load
23/08/2024 01:00	14.965	344.368	31.285	0.009	7.090	Off Peak Load
23/08/2024 02:00	15.012	355.339	36.350	0.010	11.669	Off Peak Load
23/08/2024 03:00	14.947	352.218	32.026	0.011	9.468	Off Peak Load
23/08/2024 04:00	14.926	346.952	30.923	0.012	11.402	Off Peak Load
23/08/2024 05:00	14.939	341.805	31.267	0.013	9.828	Off Peak Load
23/08/2024 06:00	14.974	349.809	33.524	0.013	9.877	Off Peak Load
23/08/2024 07:00	14.962	354.297	33.667	0.013	8.313	Off Peak Load
23/08/2024 08:00	15.212	309.170	34.809	0.013	9.274	Off Peak Load
23/08/2024 09:00	15.016	370.683	33.783	0.013	8.918	On Peak Load
23/08/2024 10:00	14.992	356.377	35.577	0.013	10.792	On Peak Load
23/08/2024 11:00	14.992	359.022	32.933	0.013	7.451	On Peak Load
23/08/2024 12:00	14.960	348.626	35.881	0.013	5.364	On Peak Load
23/08/2024 13:00	15.427	290.207	57.604	0.013	16.387	Off Peak Load
23/08/2024 14:00	14.935	346.852	32.124	0.013	13.922	On Peak Load
23/08/2024 15:00	14.952	345.839	34.747	0.013	11.973	On Peak Load
23/08/2024 16:00	14.994	353.807	35.638	0.013	10.436	On Peak Load
23/08/2024 17:00	14.977	357.044	33.071	0.013	11.311	On Peak Load
23/08/2024 18:00	14.997	361.490	33.442	0.012	11.309	On Peak Load
23/08/2024 19:00	15.006	359.083	35.108	0.012	11.797	On Peak Load
23/08/2024 20:00	15.041	361.319	39.338	0.012	11.427	On Peak Load
23/08/2024 21:00	15.045	356.162	34.043	0.012	11.407	On Peak Load
23/08/2024 22:00	15.008	360.626	33.392	0.012	11.601	On Peak Load
23/08/2024 23:00	15.064	381.542	35.147	0.013	12.161	On Peak Load
24/08/2024 00:00	15.068	379.564	36.034	0.013	11.454	On Peak Load
24/08/2024 01:00	14.957	343.878	33.824	0.013	13.748	Off Peak Load
24/08/2024 02:00	14.939	355.385	35.627	0.013	11.362	Off Peak Load
24/08/2024 03:00	14.934	345.980	35.447	0.013	6.506	Off Peak Load
24/08/2024 04:00	14.954	350.070	35.764	0.014	20.073	Off Peak Load
24/08/2024 05:00	14.920	346.020	34.910	0.013	13.277	Off Peak Load
24/08/2024 06:00	14.921	349.861	33.527	0.012	12.453	Off Peak Load
24/08/2024 07:00	14.915	348.400	31.479	0.011	11.543	Off Peak Load
24/08/2024 08:00	14.969	343.552	30.689	0.011	10.483	Off Peak Load
24/08/2024 09:00	15.129	400.367	40.527	0.010	13.820	On Peak Load
24/08/2024 10:00	15.111	411.710	44.307	0.009	11.334	Off Peak Load
24/08/2024 11:00	15.134	410.810	43.827	0.008	9.283	Off Peak Load
24/08/2024 12:00	15.189	407.669	43.608	0.007	11.433	Off Peak Load
24/08/2024 13:00	15.378	314.234	38.186	0.008	10.405	Off Peak Load
24/08/2024 14:00	15.031	375.829	36.849	0.009	9.162	On Peak Load
24/08/2024 15:00	14.997	368.845	32.909	0.009	11.214	On Peak Load
24/08/2024 16:00	15.084	365.348	35.428	0.010	12.310	On Peak Load
24/08/2024 17:00	15.082	364.061	38.789	0.011	13.613	On Peak Load
24/08/2024 18:00	15.017	363.487	35.737	0.012	13.326	On Peak Load
24/08/2024 19:00	14.978	363.520	31.852	0.013	13.163	On Peak Load
24/08/2024 20:00	14.974	353.392	34.526	0.014	13.332	On Peak Load
24/08/2024 21:00	15.019	375.719	30.779	0.014	14.120	On Peak Load
24/08/2024 22:00	14.968	372.411	30.948	0.014	13.336	On Peak Load
24/08/2024 23:00	15.033	370.235	35.534	0.014	14.822	On Peak Load
25/08/2024 00:00	15.018	373.903	31.221	0.013	15.056	Off Peak Load
25/08/2024 01:00	12.897	333.469	30.090	0.013	19.127	Off Peak Load
25/08/2024 02:00	14.118	338.036	30.832	0.013	15.005	Off Peak Load
25/08/2024 03:00	14.923	345.196	29.704	0.013	13.523	Off Peak Load
25/08/2024 04:00	14.941	333.718	29.071	0.012	12.015	Off Peak Load
25/08/2024 05:00	14.905	340.076	28.177	0.012	12.292	Off Peak Load



Site Name: GNL2  
Stack Name: HRS012  
Periodically: 1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison				Remark
	O2	FLOW @1 ATM ZSC	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)		
			ppm	ppm	mg/m3		
25/08/2024 06:00	14.916	355,736	28.568	0.012	12.086	Off Peak Load	
25/08/2024 07:00	14.913	337,540	28.025	0.012	11.432	Off Peak Load	
25/08/2024 08:00	15.008	332,433	24.470	0.012	10.421	Off Peak Load	
25/08/2024 09:00	15.026	328,363	25.780	0.012	9.975	Off Peak Load	
25/08/2024 10:00	15.000	330,414	25.617	0.013	10.628	Off Peak Load	
25/08/2024 11:00	15.062	330,616	27.615	0.013	12.528	Off Peak Load	
25/08/2024 12:00	15.079	328,573	28.090	0.014	12.046	Off Peak Load	
25/08/2024 13:00	15.125	327,943	34.293	0.014	11.651	Off Peak Load	
25/08/2024 14:00	15.112	325,375	30.544	0.014	11.438	Off Peak Load	
25/08/2024 15:00	15.111	337,549	33.168	0.015	11.355	Off Peak Load	
25/08/2024 16:00	15.085	342,758	35.969	0.015	11.256	Off Peak Load	
25/08/2024 17:00	15.091	359,274	37.545	0.015	11.124	Off Peak Load	
25/08/2024 18:00	15.338	313,136	38.771	0.015	12.140	Off Peak Load	
25/08/2024 19:00	15.125	366,188	39.208	0.015	14.364	On Peak Load	
25/08/2024 20:00	15.078	358,884	37.339	0.015	14.026	On Peak Load	
25/08/2024 21:00	15.067	371,193	35.503	0.015	16.279	On Peak Load	
25/08/2024 22:00	15.073	380,177	36.256	0.015	12.426	On Peak Load	
25/08/2024 23:00	15.448	296,720	40.225	0.018	12.463	Off Peak Load	
26/08/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
26/08/2024 09:00	15.045	368,251	37.968	0.015	11.120	On Peak Load	
26/08/2024 10:00	15.033	371,797	38.485	0.015	12.362	On Peak Load	
26/08/2024 11:00	15.136	368,432	37.800	0.015	11.553	On Peak Load	
26/08/2024 12:00	14.955	339,098	34.579	0.014	17.500	On Peak Load	
26/08/2024 13:00	15.358	306,967	36.416	0.014	15.574	Off Peak Load	
26/08/2024 14:00	14.999	359,709	34.327	0.014	14.572	On Peak Load	
26/08/2024 15:00	15.066	355,187	36.382	0.014	9.634	On Peak Load	
26/08/2024 16:00	15.066	350,084	35.570	0.014	8.547	On Peak Load	
26/08/2024 17:00	15.069	364,470	36.071	0.014	8.151	On Peak Load	
26/08/2024 18:00	15.064	365,930	33.549	0.014	9.861	On Peak Load	
26/08/2024 19:00	15.052	364,560	34.573	0.014	11.263	On Peak Load	
26/08/2024 20:00	15.035	354,109	38.322	0.014	11.938	On Peak Load	
26/08/2024 21:00	15.047	364,688	35.564	0.014	11.050	On Peak Load	
26/08/2024 22:00	15.043	360,620	37.876	0.014	12.444	On Peak Load	
26/08/2024 23:00	15.117	377,430	35.566	0.014	12.591	On Peak Load	
27/08/2024 00:00	15.099	398,839	42.575	0.014	12.574	Off Peak Load	
27/08/2024 01:00	15.099	391,129	36.343	0.014	13.166	Off Peak Load	
27/08/2024 02:00	15.093	390,161	34.316	0.013	11.873	Off Peak Load	
27/08/2024 03:00	15.087	397,764	35.994	0.013	8.585	Off Peak Load	
27/08/2024 04:00	15.081	388,345	36.698	0.013	9.218	Off Peak Load	
27/08/2024 05:00	15.078	386,500	37.998	0.013	9.134	Off Peak Load	
27/08/2024 06:00	15.075	395,793	35.836	0.013	8.656	Off Peak Load	
27/08/2024 07:00	15.073	390,879	36.803	0.013	8.666	Off Peak Load	
27/08/2024 08:00	15.085	404,727	39.504	0.013	9.999	Off Peak Load	
27/08/2024 09:00	15.009	359,615	36.380	0.013	9.419	Off Peak Load	
27/08/2024 10:00	15.017	357,284	32.455	0.013	6.187	Off Peak Load	
27/08/2024 11:00	15.045	364,197	36.992	0.013	7.026	On Peak Load	
27/08/2024 12:00	15.011	354,119	34.754	0.013	6.361	On Peak Load	
27/08/2024 13:00	15.481	310,129	57.273	0.013	5.825	Off Peak Load	
27/08/2024 14:00	15.105	369,820	35.457	0.013	6.119	On Peak Load	
27/08/2024 15:00	15.045	365,448	37.607	0.013	6.278	On Peak Load	
27/08/2024 16:00	15.008	357,731	33.027	0.013	6.998	On Peak Load	
27/08/2024 17:00	15.114	362,388	36.368	0.013	5.012	On Peak Load	
27/08/2024 18:00	15.084	361,407	35.670	0.012	7.676	On Peak Load	
27/08/2024 19:00	15.076	363,513	34.502	0.011	8.408	On Peak Load	
27/08/2024 20:00	15.069	361,704	37.977	0.011	7.907	On Peak Load	
27/08/2024 21:00	15.041	369,871	33.779	0.010	6.042	On Peak Load	
27/08/2024 22:00	15.095	364,537	36.034	0.009	8.153	On Peak Load	
27/08/2024 23:00	15.109	373,491	36.058	0.009	10.620	On Peak Load	
28/08/2024 00:00	15.117	384,794	36.420	0.009	10.248	On Peak Load	
28/08/2024 01:00	15.026	366,572	38.248	0.010	10.631	Off Peak Load	
28/08/2024 02:00	14.971	333.625	33.180	0.010	20.598	Off Peak Load	
28/08/2024 03:00	14.979	336,990	36.227	0.011	7.676	Off Peak Load	
28/08/2024 04:00	14.979	332,369	35.323	0.012	21.902	Off Peak Load	
28/08/2024 05:00	14.946	339,610	33.128	0.013	18.046	Off Peak Load	
28/08/2024 06:00	14.934	333,345	33.069	0.013	13.099	Off Peak Load	
28/08/2024 07:00	14.941	338,450	32.678	0.014	10.840	Off Peak Load	
28/08/2024 08:00	15.325	304,815	47.660	0.014	12.458	Off Peak Load	
28/08/2024 09:00	14.995	355,184	34.164	0.014	12.728	On Peak Load	
28/08/2024 10:00	15.042	362,832	36.824	0.014	14.112	On Peak Load	
28/08/2024 11:00	15.005	350,082	36.761	0.014	17.026	On Peak Load	
28/08/2024 12:00	14.989	357,012	35.636	0.014	12.763	On Peak Load	
28/08/2024 13:00	15.311	301,884	47.088	0.014	13.657	Off Peak Load	
28/08/2024 14:00	15.043	362,235	35.205	0.014	10.862	On Peak Load	
28/08/2024 15:00	15.033	357,274	31.993	0.014	14.439	On Peak Load	
28/08/2024 16:00	15.073	361,185	32.394	0.014	15.090	On Peak Load	

Site Name: GNL2  
Stack Name: HRS012  
Periodically: 1/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
28/08/2024 17:00	15.041	358,937	33.617	0.014	15.729	On Peak Load
28/08/2024 18:00	15.022	354,505	31.175	0.014	15.605	On Peak Load
28/08/2024 19:00	15.068	355,016	35.852	0.014	12.210	On Peak Load
28/08/2024 20:00	14.999	362,034	30.802	0.014	17.540	On Peak Load
28/08/2024 21:00	15.029	361,275	33.219	0.014	14.168	On Peak Load
28/08/2024 22:00	15.034	360,844	30.277	0.014	13.560	On Peak Load
28/08/2024 23:00	15.046	368,560	29.677	0.014	14.225	On Peak Load
29/08/2024 00:00	15.056	401,427	39.469	0.014	14.919	Off Peak Load
29/08/2024 01:00	15.109	388,465	37.000	0.014	13.661	Off Peak Load
29/08/2024 02:00	15.118	394,870	31.256	0.014	13.103	Off Peak Load
29/08/2024 03:00	15.126	395,234	36.007	0.014	13.571	Off Peak Load
29/08/2024 04:00	15.135	392,125	38.246	0.014	11.243	Off Peak Load
29/08/2024 05:00	15.128	398,841	39.469	0.014	12.673	Off Peak Load
29/08/2024 06:00	15.118	394,513	37.764	0.014	13.037	Off Peak Load
29/08/2024 07:00	15.148	394,088	35.359	0.014	15.385	Off Peak Load
29/08/2024 08:00	15.134	402,141	41.763	0.015	14.664	Off Peak Load
29/08/2024 09:00	15.037	354,279	35.975	0.015	12.004	Off Peak Load
29/08/2024 10:00	14.991	353,141	38.182	0.015	14.168	Off Peak Load
29/08/2024 11:00	14.998	346,903	34.650	0.015	13.560	On Peak Load
29/08/2024 12:00	14.929	341,203	36.133	0.016	22.601	On Peak Load
29/08/2024 13:00	15.365	298,183	55.747	0.016	17.246	Off Peak Load
29/08/2024 14:00	14.987	351,842	35.343	0.015	14.959	On Peak Load
29/08/2024 15:00	15.040	363,101	37.157	0.015	13.466	On Peak Load
29/08/2024 16:00	14.996	354,859	34.796	0.014	15.048	On Peak Load
29/08/2024 17:00	14.991	344,141	34.414	0.014	16.813	On Peak Load
29/08/2024 18:00	15.006	360,744	33.466	0.013	14.671	On Peak Load
29/08/2024 19:00	15.026	352,093	34.659	0.013	14.995	On Peak Load
29/08/2024 20:00	14.970	352,010	34.836	0.012	11.919	On Peak Load
29/08/2024 21:00	14.986	345,768	34.812	0.012	10.435	On Peak Load
29/08/2024 22:00	14.985	355,099	34.628	0.012	12.977	On Peak Load
29/08/2024 23:00	15.017	361,449	35.155	0.012	14.666	On Peak Load
30/08/2024 00:00	15.013	369,593	31.643	0.011	15.217	Off Peak Load
30/08/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/08/2024 09:00	15.011	352,996	37.347	0.014	12.161	On Peak Load
30/08/2024 10:00	15.073	348,045	34.275	0.015	13.204	On Peak Load
30/08/2024 11:00	15.097	354,492	37.080	0.015	14.397	On Peak Load
30/08/2024 12:00	15.020	350,888	37.456	0.016	13.766	On Peak Load
30/08/2024 13:00	15.446	322,634	58.944	0.016	14.470	Off Peak Load
30/08/2024 14:00	15.068	363,449	37.405	0.017	13.096	On Peak Load
30/08/2024 15:00	15.094	355,355	36.200	0.017	12.730	On Peak Load
30/08/2024 16:00	15.021	350,623	34.470	0.017	16.038	On Peak Load
30/08/2024 17:00	15.086	350,732	39.087	0.017	14.972	On Peak Load
30/08/2024 18:00	14.989	347,540	36.514	0.017	15.364	On Peak Load
30/08/2024 19:00	14.992	348,819	33.367	0.016	16.614	On Peak Load
30/08/2024 20:00	14.981	351,600	36.095	0.016	12.983	On Peak Load
30/08/2024 21:00	14.995	356,311	32.783	0.015	12.045	On Peak Load
30/08/2024 22:00	15.055	349,985	38.168	0.015	10.910	On Peak Load
30/08/2024 23:00	15.116	361,373	37.934	0.015	12.472	On Peak Load
31/08/2024 00:00	15.132	400,863	41.447	0.014	13.207	Off Peak Load
31/08/2024 01:00	15.173	395,058	43.089	0.014	13.348	Off Peak Load
31/08/2024 02:00	15.169	394,454	39.105	0.013	12.841	Off Peak Load
31/08/2024 03:00	15.165	394,365	37.601	0.013	12.478	Off Peak Load
31/08/2024 04:00	15.160	391,402	39.808	0.013	12.600	Off Peak Load
31/08/2024 05:00	15.156	389,116	40.602	0.014	13.441	Off Peak Load
31/08/2024 06:00	15.152	388,878	37.811	0.014	11.614	Off Peak Load
31/08/2024 07:00	15.173	388,709	41.603	0.014	11.054	Off Peak Load
31/08/2024 08:00	15.125	410,583	42.571	0.013	11.713	Off Peak Load
31/08/2024 09:00	15.055	384,286	36.992	0.014	11.611	Off Peak Load
31/08/2024 10:00	15.103	359,838	34.800	0.014	10.545	Off Peak Load
31/08/2024 11:00	15.054	367,653	34.011	0.014	9.293	Off Peak Load
31/08/2024 12:00	15.066	359,655	39.168	0.013	8.527	Off Peak Load
31/08/2024 13:00	15.492	304,995	35.444	0.012	8.652	Off Peak Load
31/08/2024 14:00	15.105	370,215	35.298	0.011	7.349	On Peak Load
31/08/2024 15:00	15.169	368,634	40.125	0.010	8.067	On Peak Load
31/08/2024 16:00	15.171	365,869	38.726	0.010	7.946	On Peak Load
31/08/2024 17:00	15.149	365,746	39.622	0.009	7.983	On Peak Load
31/08/2024 18:00	15.128	360,564	39.827	0.008	8.548	On Peak Load
31/08/2024 19:00	15.111	367,256	35.933	0.008	9.618	On Peak Load
31/08/2024 20:00	15.080	358,825	34.760	0.008	11.457	On Peak Load
31/08/2024 21:00	15.104	378,320	35.290	0.009	10.731	On Peak Load
31/08/2024 22:00	15.034	368,467	38.631	0.010	10.239	On Peak Load
31/08/2024 23:00	15.043	373,799	35.414	0.010	8.863	On Peak Load
Minimum	14.37	297.507	19.533	0.00	4.82	
Maximum	15.71	428.756	58.94	0.02	23.68	
Avg	15.10	350.657	31.70	0.01	11.84	
SUM						



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
11/Aug/24 00:00 - 31/Aug/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG11  
15/Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
01/09/2023 00:00	15.085	364.878	39.794	0.001	10.809	Off Peak Load
01/09/2023 01:00	15.154	361.904	32.720	0.001	13.484	Off Peak Load GT12 SD Half Block
01/09/2023 02:00	15.142	362.214	33.646	0.001	15.235	Off Peak Load GT12 SD Half Block
01/09/2023 03:00	15.158	358.565	34.275	0.001	15.334	Off Peak Load GT12 SD Half Block
01/09/2023 04:00	15.177	358.169	33.088	0.001	15.538	Off Peak Load GT12 SD Half Block
01/09/2023 05:00	15.153	358.318	32.678	0.000	13.920	Off Peak Load GT12 SD Half Block
01/09/2023 06:00	15.168	355.977	32.158	0.000	15.836	Off Peak Load GT12 SD Half Block
01/09/2023 07:00	15.143	358.144	26.108	0.000	13.678	Off Peak Load GT12 SD Half Block
01/09/2023 08:00	15.179	356.479	24.764	0.000	14.725	Off Peak Load GT12 SD Half Block
01/09/2023 09:00	15.214	360.326	21.520	0.000	13.229	Off Peak Load GT12 SD Half Block
01/09/2023 10:00	15.245	359.671	33.402	0.000	13.766	Off Peak Load GT12 SD Half Block
01/09/2023 11:00	15.245	359.473	35.462	0.000	11.532	Off Peak Load GT12 SD Half Block
01/09/2023 12:00	15.227	359.907	35.350	0.000	10.809	Off Peak Load GT12 SD Half Block
01/09/2023 13:00	15.205	358.280	36.957	0.000	10.500	Off Peak Load GT12 SD Half Block
01/09/2023 14:00	15.242	356.244	35.729	0.000	9.884	Off Peak Load GT12 SD Half Block
01/09/2023 15:00	15.249	357.160	36.069	0.000	10.013	Off Peak Load GT12 SD Half Block
01/09/2023 16:00	15.238	352.296	36.531	0.000	9.187	Off Peak Load GT12 SD Half Block
01/09/2023 17:00	15.222	355.388	36.508	0.000	10.093	Off Peak Load GT12 SD Half Block
01/09/2023 18:00	15.222	359.763	36.359	0.000	10.626	Off Peak Load
01/09/2023 19:00	15.171	312.416	31.570	0.000	10.813	On Peak Load
01/09/2023 20:00	15.157	322.250	31.771	0.000	14.119	On Peak Load
01/09/2023 21:00	15.139	337.806	31.715	0.000	16.885	On Peak Load
01/09/2023 22:00	15.115	332.386	31.618	0.001	16.711	On Peak Load
01/09/2023 23:00	15.058	320.027	32.016	0.001	14.946	On Peak Load
02/09/2023 00:00	14.943	274.372	27.988	0.001	22.073	Off Peak Load
02/09/2023 01:00	14.939	288.649	28.670	0.000	10.809	Off Peak Load
02/09/2023 02:00	14.937	284.637	29.149	0.000	10.500	Off Peak Load
02/09/2023 03:00	14.940	286.627	26.681	0.000	9.884	Off Peak Load
02/09/2023 04:00	14.958	276.988	27.085	0.000	19.941	Off Peak Load
02/09/2023 05:00	14.988	276.867	26.936	0.000	15.824	Off Peak Load
02/09/2023 06:00	14.955	285.131	28.120	0.000	16.845	Off Peak Load
02/09/2023 07:00	14.990	278.424	28.428	0.000	18.368	Off Peak Load
02/09/2023 08:00	15.386	237.028	24.764	0.000	16.908	Off Peak Load
02/09/2023 09:00	15.022	319.914	20.641	0.000	14.748	On Peak Load
02/09/2023 10:00	15.033	311.039	17.741	0.000	14.502	On Peak Load
02/09/2023 11:00	14.983	293.956	15.452	0.000	13.019	On Peak Load
02/09/2023 12:00	15.040	311.259	19.272	0.000	12.038	On Peak Load
02/09/2023 13:00	15.278	245.581	38.710	0.000	14.583	Off Peak Load
02/09/2023 14:00	15.049	329.740	13.845	0.000	19.822	On Peak Load
02/09/2023 15:00	15.012	327.537	19.919	0.000	21.471	On Peak Load
02/09/2023 16:00	14.993	322.227	18.333	0.000	19.184	On Peak Load
02/09/2023 17:00	14.968	318.460	18.412	0.000	15.391	On Peak Load
02/09/2023 18:00	14.988	317.442	13.411	0.000	15.534	On Peak Load
02/09/2023 19:00	14.986	315.052	0.004	0.001	22.518	On Peak Load
02/09/2023 20:00	14.960	312.045	1.612	0.001	15.563	On Peak Load
02/09/2023 21:00	14.942	326.490	5.803	0.001	16.897	On Peak Load
02/09/2023 22:00	14.999	320.644	16.517	0.001	18.109	On Peak Load
02/09/2023 23:00	15.035	334171.500	13.413	0.001	15.623	On Peak Load
03/09/2023 00:00	14.971	329193.438	10.097	0.001	13.096	On Peak Load
03/09/2023 01:00	14.868	291224.094	4.586	0.002	14.258	Off Peak Load
03/09/2023 02:00	14.955	301441.969	21.773	0.002	14.788	Off Peak Load
03/09/2023 03:00	14.958	314914.594	0.000	0.002	13.409	Off Peak Load
03/09/2023 04:00	14.923	303307.500	0.007	0.003	17.722	Off Peak Load
03/09/2023 05:00	14.907	298974.469	8.737	0.003	15.818	Off Peak Load
03/09/2023 06:00	14.898	312469.688	6.069	0.003	14.327	Off Peak Load
03/09/2023 07:00	14.955	315323.625	0.001	0.003	23.792	Off Peak Load
03/09/2023 08:00	15.098	254421.219	26.202	0.003	19.780	Off Peak Load
03/09/2023 09:00	14.971	315463.594	19.492	0.002	16.327	On Peak Load
03/09/2023 10:00	14.997	317.434	0.064	0.002	15.534	On Peak Load
03/09/2023 11:00	14.987	328.997	22.104	0.002	18.235	On Peak Load
03/09/2023 12:00	14.981	307.548	19.430	0.001	15.815	On Peak Load
03/09/2023 13:00	15.285	238.120	34.225	0.001	17.171	Off Peak Load
03/09/2023 14:00	15.053	317.774	0.321	0.000	18.048	On Peak Load
03/09/2023 15:00	15.058	321.707	20.514	0.000	13.551	On Peak Load
03/09/2023 16:00	15.092	335.735	8.970	0.000	17.689	On Peak Load
03/09/2023 17:00	15.081	323.810	11.959	0.000	18.102	On Peak Load
03/09/2023 18:00	15.092	340.283	19.304	0.000	18.373	On Peak Load
03/09/2023 19:00	15.085	338.155	1.249	0.000	23.452	On Peak Load
03/09/2023 20:00	15.083	327.394	2.378	0.001	18.752	On Peak Load
03/09/2023 21:00	15.045	329.642	21.508	0.001	20.598	On Peak Load
03/09/2023 22:00	15.049	330.168	0.668	0.001	22.722	On Peak Load
03/09/2023 23:00	15.067	343943.500	19.305	0.001	20.777	On Peak Load
04/09/2023 00:00	15.036	342645.250	6.532	0.001	20.639	On Peak Load
04/09/2023 01:00	15.082	327594.000	15.749	0.001	20.103	Off Peak Load
04/09/2023 02:00	14.996	304318.063	11.922	0.001	20.678	Off Peak Load
04/09/2023 03:00	15.005	314546.031	1.988	0.001	19.035	Off Peak Load
04/09/2023 04:00	14.994	318434.531	0.549	0.002	21.471	Off Peak Load
04/09/2023 05:00	15.026	311903.469	3.231	0.002	19.184	Off Peak Load
04/09/2023 06:00	15.090	329649.938	22.734	0.002	15.391	Off Peak Load
04/09/2023 07:00	14.991	299000.938	8.966	0.002	15.534	Off Peak Load
04/09/2023 08:00	15.234	249275.500	33.800	0.002	18.721	Off Peak Load
04/09/2023 09:00	15.056	315236.281	10.572	0.001	14.601	On Peak Load
04/09/2023 10:00	15.085	318.296	13.722	0.001	15.304	On Peak Load



Site Name: GNL2  
Stack Name: HRS511  
Periodically: 1/Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	%	FLOW @ 1 ATM m <sup>3</sup> /hr	HRSG1_Nox@7%O2			
			ppm	ppm	mg/h <sup>3</sup>	
04/09/2023 11:00	15.041	314,720	18.544	0.001	12.539	On Peak Load
04/09/2023 12:00	15.060	316,069	3.812	0.001	11.478	On Peak Load
04/09/2023 13:00	15.340	236,570	46.736	0.001	11.459	Off Peak Load
04/09/2023 14:00	15.076	315,630	6.386	0.001	11.304	On Peak Load
04/09/2023 15:00	21.151	312,543	0.000	0.000	0.000	On Peak Load
04/09/2023 16:00	15.169	330,200	32.035	0.000	6.722	On Peak Load
04/09/2023 17:00	15.123	319,470	20.002	0.000	7.585	On Peak Load
04/09/2023 18:00	15.086	327,494	32.473	0.000	8.494	On Peak Load
04/09/2023 19:00	15.056	330,338	19.537	0.000	13.469	On Peak Load
04/09/2023 20:00	15.014	315,353	17.108	0.000	17.903	On Peak Load
04/09/2023 21:00	15.078	344,420	21.948	0.001	14.141	On Peak Load
04/09/2023 22:00	15.135	345,960	17.782	0.002	12.915	On Peak Load
04/09/2023 23:00	15.099	342,130	13.692	0.004	11.257	On Peak Load
05/09/2023 00:00	15.088	345,972	15.927	0.004	11.557	On Peak Load
05/09/2023 01:00	15.051	315,211	22.466	0.003	13.162	Off Peak Load
05/09/2023 02:00	14.970	296,466	15.367	0.003	13.435	Off Peak Load
05/09/2023 03:00	14.952	303,644	14.495	0.003	14.580	Off Peak Load
05/09/2023 04:00	15.000	304,531	30.210	0.003	13.767	Off Peak Load
05/09/2023 05:00	14.963	297,141	9.480	0.003	14.614	Off Peak Load
05/09/2023 06:00	15.032	307,679	23.548	0.002	15.861	Off Peak Load
05/09/2023 07:00	15.066	318,185	20.736	0.002	12.064	Off Peak Load
05/09/2023 08:00	15.265	246,334	38.605	0.002	11.484	Off Peak Load
05/09/2023 09:00	15.060	313,024	18.266	0.001	10.120	On Peak Load
05/09/2023 10:00	15.075	317422.156	22.191	0.000	9.106	On Peak Load
05/09/2023 11:00	15.084	310733.813	8.996	0.001	9.666	On Peak Load
05/09/2023 12:00	15.029	300174.063	19.184	0.000	7.531	On Peak Load
05/09/2023 13:00	15.399	237976.594	52.245	0.000	6.984	Off Peak Load
05/09/2023 14:00	15.102	313216.438	17.014	0.000	6.665	On Peak Load
05/09/2023 15:00	15.129	305148.313	11.186	0.000	6.094	On Peak Load
05/09/2023 16:00	15.132	321491.500	24.025	0.000	6.283	On Peak Load
05/09/2023 17:00	15.099	315340.656	12.990	0.000	9.277	On Peak Load
05/09/2023 18:00	15.080	328843.500	15.128	0.000	8.375	On Peak Load
05/09/2023 19:00	15.103	319.837	24.126	0.000	8.971	On Peak Load
05/09/2023 20:00	15.050	317.095	16.202	0.001	8.742	On Peak Load
05/09/2023 21:00	15.054	317.472	16.711	0.001	8.587	On Peak Load
05/09/2023 22:00	15.053	319.804	21.098	0.002	9.137	On Peak Load
05/09/2023 23:00	15.080	329631.281	31.742	0.002	12.339	On Peak Load
06/09/2023 00:00	15.066	335720.469	12.525	0.002	11.576	On Peak Load
06/09/2023 01:00	15.012	308963.844	11.373	0.002	12.074	Off Peak Load
06/09/2023 02:00	15.020	307288.750	16.056	0.002	12.234	Off Peak Load
06/09/2023 03:00	15.012	303770.469	24.587	0.002	14.345	Off Peak Load
06/09/2023 04:00	15.019	313902.313	25.800	0.002	12.774	Off Peak Load
06/09/2023 05:00	14.982	303467.750	9.716	0.002	13.787	Off Peak Load
06/09/2023 06:00	15.012	311094.594	15.058	0.002	12.473	Off Peak Load
06/09/2023 07:00	15.125	323753.063	29.973	0.002	10.683	Off Peak Load
06/09/2023 08:00	15.291	246127.984	52.391	0.001	11.811	Off Peak Load
06/09/2023 09:00	15.037	311280.500	17.306	0.001	12.397	On Peak Load
06/09/2023 10:00	15.073	313.794	18.188	0.000	10.440	On Peak Load
06/09/2023 11:00	15.059	313.650	17.618	0.000	8.498	On Peak Load
06/09/2023 12:00	15.040	299.389	6.783	0.000	6.580	On Peak Load
06/09/2023 13:00	15.083	231.692	46.449	0.000	6.925	Off Peak Load
06/09/2023 14:00	15.074	318.941	5.544	0.000	6.541	On Peak Load
06/09/2023 15:00	15.109	315.177	16.951	0.000	7.206	On Peak Load
06/09/2023 16:00	15.106	325.533	20.698	0.000	8.208	On Peak Load
06/09/2023 17:00	15.080	311.203	20.819	0.000	9.122	On Peak Load
06/09/2023 18:00	15.097	319.485	30.381	0.000	13.179	On Peak Load
06/09/2023 19:00	15.097	325.908	36.623	0.000	12.156	On Peak Load
06/09/2023 20:00	15.066	318.886	35.624	0.000	14.578	On Peak Load
06/09/2023 21:00	15.106	329.158	36.776	0.000	13.318	On Peak Load
06/09/2023 22:00	15.080	325174.469	38.214	0.001	14.696	On Peak Load
06/09/2023 23:00	15.108	339913.344	39.204	0.001	13.581	On Peak Load
07/09/2023 00:00	15.125	352432.406	40.291	0.001	13.778	On Peak Load
07/09/2023 01:00	15.032	297645.156	36.122	0.001	15.689	Off Peak Load
07/09/2023 02:00	15.048	296819.188	37.141	0.001	12.436	Off Peak Load
07/09/2023 03:00	14.997	295773.625	38.471	0.000	17.233	Off Peak Load
07/09/2023 04:00	15.013	299124.625	37.572	0.000	14.459	Off Peak Load
07/09/2023 05:00	15.002	293667.656	37.246	0.000	14.559	Off Peak Load
07/09/2023 06:00	15.013	296758.344	38.253	0.000	14.956	Off Peak Load
07/09/2023 07:00	14.969	280928.563	38.429	0.000	14.211	Off Peak Load
07/09/2023 08:00	15.302	246179.969	36.776	0.000	13.353	Off Peak Load
07/09/2023 09:00	15.131	335824.563	40.869	0.001	16.641	On Peak Load
07/09/2023 10:00	15.171	345.871	42.395	0.001	9.703	On Peak Load
07/09/2023 11:00	15.160	334.814	42.043	0.001	9.018	On Peak Load
07/09/2023 12:00	15.145	332.920	41.652	0.001	10.262	On Peak Load
07/09/2023 13:00	15.240	248.082	55.874	0.002	9.564	Off Peak Load
07/09/2023 14:00	15.249	358.263	42.887	0.002	9.397	On Peak Load
07/09/2023 15:00	15.179	348.920	43.673	0.002	10.145	On Peak Load
07/09/2023 16:00	15.109	327.769	43.516	0.002	13.350	On Peak Load
07/09/2023 17:00	15.114	320.401	41.912	0.002	11.095	On Peak Load
07/09/2023 18:00	15.107	315.374	41.659	0.002	12.811	On Peak Load
07/09/2023 19:00	15.107	343.016	40.824	0.001	17.650	On Peak Load
07/09/2023 20:00	15.102	330.389	40.767	0.001	13.231	On Peak Load
07/09/2023 21:00	15.128	335.062	41.641	0.001	13.701	On Peak Load

Site Name: GNL2  
Stack Name: HRS511  
Periodically: 1/Sep/24 00:00 - 30/Sep/24 21:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM	HRSG1_Nox@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/09/2023 22:00	15.154	326.327	42.116	0.001	12.784	On Peak Load
07/09/2023 23:00	15.142	332.806	41.519	0.001	12.446	On Peak Load
08/09/2023 00:00	15.100	330.936	41.350	0.001	11.663	On Peak Load
08/09/2023 01:00	15.008	280.529	36.144	0.001	17.930	Off Peak Load
08/09/2023 02:00	14.991	283.568	36.656	0.001	12.290	Off Peak Load
08/09/2023 03:00	15.010	283.639	37.410	0.000	14.549	Off Peak Load
08/09/2023 04:00	15.020	279.133	37.754	0.000	12.948	Off Peak Load
08/09/2023 05:00	15.027	275.152	42.084	0.000	19.134	Off Peak Load
08/09/2023 06:00	15.070	277.744	36.537	0.000	14.192	Off Peak Load
08/09/2023 07:00	15.050	279.682	37.483	0.000	12.276	Off Peak Load
08/09/2023 08:00	15.177	262.234	53.860	0.000	12.658	Off Peak Load
08/09/2023 09:00	15.099	275.384	42.255	0.000	10.478	Off Peak Load
08/09/2023 10:00	15.128	283.000	44.686	0.000	9.971	Off Peak Load
08/09/2023 11:00	15.110	276.040	40.184	0.000	10.513	Off Peak Load
08/09/2023 12:00	15.144	271.499	50.999	0.000	9.070	Off Peak Load
08/09/2023 13:00	15.151	268.761	50.121	0.000	9.162	Off Peak Load
08/09/2023 14:00	15.016	287.986	40.666	0.000	9.424	Off Peak Load
08/09/2023 15:00	15.046	278.205	37.754	0.000	10.281	Off Peak Load
08/09/2023 16:00	15.047	281.236	37.773	0.000	10.530	Off Peak Load
08/09/2023 17:00	14.960	283.556	39.127	0.000	23.446	Off Peak Load
08/09/2023 18:00	15.186	251.993	36.537	0.000	13.874	Off Peak Load
08/09/2023 19:00	15.060	330.496	39.351	0.001	19.644	On Peak Load
08/09/2023 20:00	15.049	321.831	39.062	0.001	13.793	On Peak Load
08/09/2023 21:00	15.082	337.837	38.450	0.001	12.616	On Peak Load
08/09/2023 22:00	15.073	329.473	37.830	0.002	10.923	On Peak Load
08/09/2023 23:00	15.146	254.198	47.528	0.006	17.056	Off Peak Load
09/09/2023 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/09/2023 10:00	15.145	323.452	41.676	0.001	12.598	On Peak Load
09/09/2023 11:00	15.149	337.860	42.773	0.001	13.888	On Peak Load
09/09/2023 12:00	15.154	316.433	42.608	0.001	10.073	On Peak Load
09/09/2023 13:00	15.120	330.910	41.657	0.001	9.551	On Peak Load
09/09/2023 14:00	15.425	239.084	41.676	0.001	9.810	Off Peak Load
09/09/2023 15:00	15.179	336.971	42.637	0.000	10.429	On Peak Load
09/09/2023 16:00	15.172	333.181	42.600	0.000	10.135	On Peak Load
09/09/2023 17:00	15.145	323.564	42.257	0.000	9.348	On Peak Load
09/09/2023 18:00	15.160	326.626	42.324	0.000	12.230	On Peak Load
09/09/2023 19:00	15.145	339.255	42.499	0.000	14.835	On Peak Load
09/09/2023 20:00	15.134	339.640	44.317	0.000	12.821	On Peak Load
09/09/2023 21:00	15.106	329.075	41.381	0.000	14.463	On Peak Load
09/09/2023 22:00	15.130	319.351	41.497	0.000	17.242	On Peak Load
09/09/2023 23:00	15.141	338.375	41.096	0.000	14.784	On Peak Load
09/09/2023 00:00	15.130	359.341	34.775	0.000	19.635	On Peak Load
10/09/2023 00:00	15.073	363.094	34.633	0.001	17.677	Off Peak Load
10/09/2023 01:00	15.139	363.306	35.652	0.001	14.830	Off Peak Load GT12 SD Half Block
10/09/2023 02:00	15.135	358.628	28.626	0.001	14.507	Off Peak Load GT12 SD Half Block
10/09/2023 03:00	15.124	358.536	25.206	0.001	14.769	Off Peak Load GT12 SD Half Block
10/09/2023 04:00	15.100	359.103	26.264	0.001	15.959	Off Peak Load GT12 SD Half Block
10/09/2023 05:00	15.101	358.043	30.181	0.002	17.526	Off Peak Load GT12 SD Half Block
10/09/2023 06:00	15.104	356.409	12.841	0.002	17.480	Off Peak Load GT12 SD Half Block
10/09/2023 07:00	15.122	358.409	21.315	0.002	17.054	Off Peak Load GT12 SD Half Block
10/09/2023 08:00	15.054	362.911	27.861	0.002	18.439	Off Peak Load
10/09/2023 09:00	15.038	322.856	11.078	0.002	14.639	On Peak Load
10/09/2023 10:00	15.045	318.833	13.990	0.002	13.347	On Peak Load
10/09/2023 11:00	15.070	320.963	26.337	0.002	13.271	On Peak Load
10/09/2023 12:00	15.018	309.250	11.521	0.002	10.652	On Peak Load
10/09/2023 13:00	15.406	237.453	45.346	0.002	10.099	Off Peak Load
10/09/2023 14:00	15.096	322.581	13.944	0.002	9.836	On Peak Load
10/09/2023 15:00	15.082	331.596	16.241	0.002	10.243	On Peak Load
10/09/2023 16:00	15.063	322.911	25.461	0.002	9.610	On Peak Load
10/09/2023 17:00	15.058	318.499	19.743	0.002	10.899	On Peak Load
10/09/2023 18:00	15.047	317.493	24.885	0.001	12.337	On Peak Load
10/09/2023 19:00	15.026	331.399	10.903	0.001	18.376	On Peak Load
10/09/2023 20:00	15.040	311.415	10.722	0.001	14.928	On Peak Load
10/09/2023 21:00	15.027	334.395	10.686	0.001	14.807	On Peak Load
10/09/2023 22:00	15.046	339.217	14.799	0.000	14.003	On Peak Load
10/09/2023 23:00	15.051	327.664	25.421	0.000	13.673	On Peak Load
11/09/2023 00:00	15.139	266.476	15.982	0.000	15.019	Off Peak Load
11/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block



Site Name: GNLS  
Stack Name: HRS011  
Periodically: 15Sep24 00:00 - 30Sep24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/09/2023 09:00	15.085	317,962	28.486	0.000	13.164	On Peak Load
11/09/2023 10:00	15.108	327,369	29.017	0.000	11.267	On Peak Load
11/09/2023 11:00	15.068	306,942	26.264	0.000	9.812	On Peak Load
11/09/2023 12:00	15.005	303,772	27.067	0.001	9.835	On Peak Load
11/09/2023 13:00	15.291	214,099	46.653	0.001	13.357	Off Peak Load
11/09/2023 14:00	15.064	324,480	20.440	0.001	12.836	On Peak Load
11/09/2023 15:00	15.026	329,893	17.418	0.001	9.530	On Peak Load
11/09/2023 16:00	15.101	334,670	18.299	0.001	12.110	On Peak Load
11/09/2023 17:00	15.066	321,177	15.215	0.001	13.409	On Peak Load
11/09/2023 18:00	15.082	341,030	18.805	0.001	13.902	On Peak Load
11/09/2023 19:00	15.020	325,403	31.614	0.001	18.972	On Peak Load
11/09/2023 20:00	15.049	323,462	12.054	0.001	19.414	On Peak Load
11/09/2023 21:00	14.976	322,360	13.767	0.001	13.989	On Peak Load
11/09/2023 22:00	15.007	327,543	20.413	0.001	9.976	On Peak Load
11/09/2023 23:00	14.998	333,081	10.709	0.001	10.785	On Peak Load
12/09/2023 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/09/2023 09:00	15.044	307,699	26.166	0.000	11.407	On Peak Load
12/09/2023 10:00	15.082	310,548	29.233	0.000	9.472	On Peak Load
12/09/2023 11:00	15.131	323,710	26.440	0.000	8.112	On Peak Load
12/09/2023 12:00	15.031	323,589	21.464	0.000	14.558	On Peak Load
12/09/2023 13:00	15.217	246,251	57.199	0.000	18.515	Off Peak Load
12/09/2023 14:00	14.971	327,819	27.512	0.000	12.962	On Peak Load
12/09/2023 15:00	15.016	325,517	28.243	0.000	10.209	On Peak Load
12/09/2023 16:00	15.007	320,405	27.862	0.000	9.650	On Peak Load
12/09/2023 17:00	15.005	314,046	30.114	0.000	9.276	On Peak Load
12/09/2023 18:00	15.041	322,354	27.550	0.000	13.109	On Peak Load
12/09/2023 19:00	15.040	329,602	20.082	0.000	15.516	On Peak Load
12/09/2023 20:00	15.047	329,900	14.724	0.001	13.216	On Peak Load
12/09/2023 21:00	15.042	327,322	8.003	0.001	17.628	On Peak Load
12/09/2023 22:00	15.013	331,783	20.384	0.002	12.436	On Peak Load
12/09/2023 23:00	15.053	341,874	29.414	0.001	12.977	On Peak Load
13/09/2023 00:00	14.830	278,985	13.705	0.000	10.301	Off Peak Load
13/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/09/2023 09:00	15.084	329,648	28.455	0.000	11.090	On Peak Load
13/09/2023 10:00	15.125	334,720	26.724	0.000	10.090	On Peak Load
13/09/2023 11:00	15.122	323,361	20.239	0.000	11.690	On Peak Load
13/09/2023 12:00	15.045	322,553	25.774	0.000	12.588	On Peak Load
13/09/2023 13:00	15.231	246,592	50.644	0.000	14.571	Off Peak Load
13/09/2023 14:00	15.123	338,025	20.710	0.000	18.609	On Peak Load
13/09/2023 15:00	15.117	335,597	27.689	0.000	15.999	On Peak Load
13/09/2023 16:00	15.084	326,501	20.312	0.000	11.045	On Peak Load
13/09/2023 17:00	15.102	325,554	29.739	0.000	11.693	On Peak Load
13/09/2023 18:00	15.163	332,361	18.137	0.000	10.370	On Peak Load
13/09/2023 19:00	15.080	331,620	21.947	0.000	12.527	On Peak Load
13/09/2023 20:00	15.034	320,317	28.042	0.000	15.131	On Peak Load
13/09/2023 21:00	15.097	335,924	10.445	0.000	16.368	On Peak Load
13/09/2023 22:00	15.106	336,688	16.937	0.000	14.221	On Peak Load
13/09/2023 23:00	15.124	339,020	31.390	0.000	20.094	On Peak Load
14/09/2023 00:00	15.046	370,262	14.558	0.000	16.812	On Peak Load
14/09/2023 01:00	15.122	358,024	28.103	0.000	22.150	Off Peak Load GT12 SD Half Block
14/09/2023 02:00	15.104	356,215	11.905	0.000	15.999	Off Peak Load GT12 SD Half Block
14/09/2023 03:00	15.106	356,256	33.181	0.000	11.045	Off Peak Load GT12 SD Half Block
14/09/2023 04:00	15.073	353,765	12.077	0.001	11.693	Off Peak Load GT12 SD Half Block
14/09/2023 05:00	15.082	354,244	14.085	0.001	10.370	Off Peak Load GT12 SD Half Block
14/09/2023 06:00	15.065	354,730	33.663	0.002	25.046	Off Peak Load GT12 SD Half Block
14/09/2023 07:00	15.110	354,718	10.722	0.003	23.872	Off Peak Load GT12 SD Half Block
14/09/2023 08:00	15.067	370,542	22.626	0.003	17.070	Off Peak Load
14/09/2023 09:00	15.077	341,908	31.744	0.003	12.066	On Peak Load
14/09/2023 10:00	15.080	335,738	11.713	0.003	15.859	On Peak Load
14/09/2023 11:00	15.080	336,391	11.627	0.003	13.349	On Peak Load
14/09/2023 12:00	15.083	338,339	16.351	0.003	10.594	On Peak Load
14/09/2023 13:00	15.230	250,163	33.808	0.003	11.201	Off Peak Load
14/09/2023 14:00	15.154	350,482	30.723	0.002	11.743	On Peak Load
14/09/2023 15:00	15.151	354,158	27.031	0.002	12.603	On Peak Load
14/09/2023 16:00	15.159	337,693	27.619	0.002	12.631	On Peak Load
14/09/2023 17:00	15.143	334,058	13.754	0.002	11.152	On Peak Load
14/09/2023 18:00	15.124	351,719	26.769	0.002	11.688	On Peak Load
14/09/2023 19:00	15.149	351,696	26.694	0.002	12.986	On Peak Load

Site Name: GNLS  
Stack Name: HRS011  
Periodically: 15Sep24 00:00 - 30Sep24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/09/2023 20:00	15.130	344,639	22.725	0.002	15.205	On Peak Load
14/09/2023 21:00	15.131	350,108	12.095	0.002	18.351	On Peak Load
14/09/2023 22:00	15.099	345,112	17.467	0.002	17.822	On Peak Load
14/09/2023 23:00	15.095	347,933.531	31.087	0.002	17.097	On Peak Load
15/09/2023 00:00	15.060	346,913.344	13.845	0.001	18.515	On Peak Load
15/09/2023 01:00	14.933	293,084.719	12.891	0.001	19.568	Off Peak Load
15/09/2023 02:00	14.922	297,616.094	25.833	0.000	14.528	Off Peak Load
15/09/2023 03:00	14.938	286,716.444	9.241	0.000	14.144	Off Peak Load
15/09/2023 04:00	14.940	288,922.000	5.123	0.000	12.627	Off Peak Load
15/09/2023 05:00	14.949	283,697.000	6.842	0.000	10.772	Off Peak Load
15/09/2023 06:00	14.919	24,462.1531	10.607	0.000	9.948	Off Peak Load
15/09/2023 07:00	14.883	28,460.063	13.444	0.000	9.270	Off Peak Load
15/09/2023 08:00	15.032	26,832.188	32.930	0.000	18.221	Off Peak Load
15/09/2023 09:00	15.068	27,517.594	8.984	0.000	16.255	Off Peak Load
15/09/2023 10:00	15.121	268.245	33.969	0.000	9.387	Off Peak Load
15/09/2023 11:00	15.062	281.163	7.797	0.000	8.497	Off Peak Load
15/09/2023 12:00	15.072	270.199	26.725	0.000	11.965	Off Peak Load
15/09/2023 13:00	15.090	267.787	27.163	0.001	9.896	Off Peak Load
15/09/2023 14:00	15.020	282.230	8.844	0.002	10.771	Off Peak Load
15/09/2023 15:00	15.061	273.686	19.182	0.002	10.559	Off Peak Load
15/09/2023 16:00	15.037	272.095	17.120	0.003	10.803	Off Peak Load
15/09/2023 17:00	15.074	279.732	8.058	0.003	10.416	Off Peak Load
15/09/2023 18:00	15.026	285.945	14.817	0.002	11.586	Off Peak Load
15/09/2023 19:00	15.124	365.311	15.678	0.002	14.004	Off Peak Load
15/09/2023 20:00	15.051	372.008	21.021	0.002	23.326	On Peak Load
15/09/2023 21:00	15.069	370.623	28.913	0.002	9.948	On Peak Load
15/09/2023 22:00	15.061	373.388	30.833	0.002	17.169	On Peak Load
15/09/2023 23:00	15.050	373.720	33.622	0.002	15.688	On Peak Load
16/09/2023 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/09/2023 09:00	15.126	336.070	28.280	0.007	10.185	On Peak Load
16/09/2023 10:00	15.160	325.498	30.807	0.007	8.834	On Peak Load
16/09/2023 11:00	15.215	329.495	37.491	0.007	8.605	On Peak Load
16/09/2023 12:00	15.184	317.241	39.280	0.007	7.355	On Peak Load
16/09/2023 13:00	15.423	244.189	28.280	0.008	7.611	Off Peak Load
16/09/2023 14:00	15.194	325.369	38.621	0.008	7.478	On Peak Load
16/09/2023 15:00	15.241	326.796	40.343	0.008	7.125	On Peak Load
16/09/2023 16:00	15.245	330.742	38.132	0.008	7.330	On Peak Load
16/09/2023 17:00	15.218	337.295	40.520	0.006	7.649	On Peak Load
16/09/2023 18:00	15.232	331.740	40.564	0.005	9.102	On Peak Load
16/09/2023 19:00	15.131	329.966	37.420	0.003	12.388	On Peak Load
16/09/2023 20:00	15.126	331.657	39.471	0.002	18.550	On Peak Load
16/09/2023 21:00	15.118	326.949	38.562	0.001	14.409	On Peak Load
16/09/2023 22:00	15.117	337.222	38.759	0.001	20.063	On Peak Load
16/09/2023 23:00	15.138	344,934.938	38.717	0.001	18.952	On Peak Load
17/09/2023 00:00	15.055	336,499.814	39.844	0.002	17.497	On Peak Load
17/09/2023 01:00	14.963	29,256.406	36.707	0.002	17.070	Off Peak Load
17/09/2023 02:00	15.007	294,119.313	38.108	0.002	13.861	Off Peak Load
17/09/2023 03:00	15.005	29,267.438	38.003	0.003	11.266	Off Peak Load
17/09/2023 04:00	15.034	29,666.719	38.177	0.003	13.926	Off Peak Load
17/09/2023 05:00	14.998	29,690.656	36.737	0.004	12.562	Off Peak Load
17/09/2023 06:00	14.997	29,716.625	36.996	0.003	11.312	Off Peak Load
17/09/2023 07:00	15.003	29,007.523	35.923	0.003	9.938	Off Peak Load
17/09/2023 08:00	15.241	263,328.219	39.814	0.003	10.809	Off Peak Load
17/09/2023 09:00	15.145	334,213.500	38.037	0.002	10.402	On Peak Load
17/09/2023 10:00	15.152	324,571.000	40.096	0.002	8.966	On Peak Load
17/09/2023 11:00	15.188	315.358	38.164	0.002	8.804	On Peak Load
17/09/2023 12:00	15.150	319.350	38.910	0.001	8.715	On Peak Load
17/09/2023 13:00	15.422	240.702	38.037	0.001	8.405	Off Peak Load
17/09/2023 14:00	15.234	325.631	36.948	0.001	7.457	On Peak Load
17/09/2023 15:00	15.211	323.721	38.033	0.002	8.309	On Peak Load
17/09/2023 16:00	15.223	339.937	39.860	0.002	8.388	On Peak Load
17/09/2023 17:00	15.200	333.803	40.095	0.002	9.046	On Peak Load
17/09/2023 18:00	15.197	341.782	39.713	0.002	10.382	On Peak Load
17/09/2023 19:00	15.175	337.800	37.444	0.002	10.540	On Peak Load
17/09/2023 20:00	15.151	339.748	38.564	0.002	11.525	On Peak Load
17/09/2023 21:00	15.154	333.073	38.699	0.002	11.777	On Peak Load
17/09/2023 22:00	15.135	335.032	36.908	0.002	10.839	On Peak Load
17/09/2023 23:00	15.160	335.365	38.700	0.002	11.454	On Peak Load
18/09/2023 00:00	15.132	346.591	31.656	0.001	10.063	On Peak Load
18/09/2023 01:00	15.177	312.673	36.789	0.001	8.823	Off Peak Load
18/09/2023 02:00	15.060	319.811	36.130	0.001	14.612	Off Peak Load
18/09/2023 03:00	15.051	321.458	38.677	0.001	17.901	Off Peak Load
18/09/2023 04:00	15.090	311.265	36.802	0.000	16.897	Off Peak Load
18/09/2023 05:00	15.074	319.452	36.761	0.000	18.814	Off Peak Load
18/09/2023 06:00	15.066	317.372	35.421	0.001	18.564	Off Peak Load



Site Name: GNLL2  
 Stack Name: HRSGL1  
 Periodically: 1 Sep/24 00:00 - 30 Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM ZPG	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
18/09/2023 07:00	15.044	313.881	35.743	0.001	18.713	Off Peak Load
18/09/2023 08:00	15.244	250.997	38.699	0.001	20.219	Off Peak Load
18/09/2023 09:00	15.111	337.597	37.237	0.002	14.030	On Peak Load
18/09/2023 10:00	15.148	331.690	38.039	0.002	13.117	On Peak Load
18/09/2023 11:00	15.145	326.264	37.031	0.002	11.509	On Peak Load
18/09/2023 12:00	15.105	319.547	37.796	0.002	10.175	On Peak Load
18/09/2023 13:00	15.402	241.585	37.237	0.002	10.879	Off Peak Load
18/09/2023 14:00	15.189	335.903	38.735	0.002	9.653	On Peak Load
18/09/2023 15:00	15.205	341.750	40.760	0.002	9.833	On Peak Load
18/09/2023 16:00	15.181	344.522	39.315	0.002	11.390	On Peak Load
18/09/2023 17:00	15.107	334.588	37.908	0.001	18.771	On Peak Load
18/09/2023 18:00	15.078	334.138	33.666	0.001	16.242	On Peak Load
18/09/2023 19:00	15.082	341.841	39.467	0.001	21.127	On Peak Load
18/09/2023 20:00	15.112	331.707	37.579	0.001	21.229	On Peak Load
18/09/2023 21:00	15.104	335.654	31.330	0.001	19.930	On Peak Load
18/09/2023 22:00	15.057	339.134	27.032	0.001	18.626	On Peak Load
18/09/2023 23:00	15.126	345.935	35.278	0.001	19.960	On Peak Load
19/09/2023 00:00	15.130	352.692	38.782	0.001	24.509	On Peak Load
19/09/2023 01:00	15.064	315.466	37.596	0.001	21.072	Off Peak Load
19/09/2023 02:00	15.034	323.895	36.170	0.001	23.769	Off Peak Load
19/09/2023 03:00	15.019	313.441	35.643	0.001	20.877	Off Peak Load
19/09/2023 04:00	15.051	317.801	35.919	0.001	17.245	Off Peak Load
19/09/2023 05:00	15.012	309.115	35.231	0.001	16.744	Off Peak Load
19/09/2023 06:00	15.052	320.743	35.886	0.000	17.480	Off Peak Load
19/09/2023 07:00	15.081	326.859	35.986	0.000	13.468	Off Peak Load
19/09/2023 08:00	15.280	243.368	35.643	0.000	18.366	Off Peak Load
19/09/2023 09:00	15.108	315.547	37.739	0.000	13.856	On Peak Load
19/09/2023 10:00	15.108	310.803	38.165	0.000	11.393	On Peak Load
19/09/2023 11:00	15.160	321.596	38.445	0.000	9.661	On Peak Load
19/09/2023 12:00	15.105	302.320	35.687	0.000	8.940	On Peak Load
19/09/2023 13:00	15.380	211.744	39.832	0.000	8.894	Off Peak Load
19/09/2023 14:00	15.157	327.893	37.361	0.000	9.677	On Peak Load
19/09/2023 15:00	15.182	326.616	37.409	0.000	9.604	On Peak Load
19/09/2023 16:00	15.092	335.527	40.027	0.001	11.211	On Peak Load
19/09/2023 17:00	15.176	334.424	39.111	0.000	14.300	On Peak Load
19/09/2023 18:00	15.153	339.816	39.832	0.001	15.412	On Peak Load
19/09/2023 19:00	15.120	337.070	37.371	0.002	15.038	On Peak Load
19/09/2023 20:00	15.124	333.680	37.846	0.003	18.803	On Peak Load
19/09/2023 21:00	15.131	333.412	36.971	0.003	13.940	On Peak Load
19/09/2023 22:00	15.124	341.304	37.470	0.003	21.349	On Peak Load
19/09/2023 23:00	15.115	345537.594	39.066	0.002	22.499	On Peak Load
20/09/2023 00:00	15.074	353551.344	37.656	0.002	12.611	On Peak Load
20/09/2023 01:00	15.067	315406.625	34.908	0.002	11.815	Off Peak Load
20/09/2023 02:00	15.084	323867.594	38.446	0.002	11.000	Off Peak Load
20/09/2023 03:00	15.043	317498.125	35.494	0.002	13.603	Off Peak Load
20/09/2023 04:00	15.070	314526.156	36.788	0.002	19.764	Off Peak Load
20/09/2023 05:00	15.085	317697.500	37.254	0.002	17.834	Off Peak Load
20/09/2023 06:00	15.093	319334.906	36.826	0.002	19.856	On Peak Load
20/09/2023 07:00	15.056	313097.094	37.890	0.001	16.048	Off Peak Load
20/09/2023 08:00	15.258	249783.813	37.656	0.001	14.992	Off Peak Load
20/09/2023 09:00	15.164	338362.344	31.420	0.001	16.319	On Peak Load
20/09/2023 10:00	15.168	337.776	35.587	0.001	11.717	On Peak Load
20/09/2023 11:00	15.200	336.794	39.515	0.001	10.479	On Peak Load
20/09/2023 12:00	15.094	320.209	38.287	0.001	10.916	On Peak Load
20/09/2023 13:00	15.416	261.594	36.826	0.002	10.152	Off Peak Load
20/09/2023 14:00	15.177	332.706	40.238	0.002	10.866	On Peak Load
20/09/2023 15:00	15.199	342.062	41.090	0.002	11.023	On Peak Load
20/09/2023 16:00	15.175	340.042	42.993	0.003	12.017	On Peak Load
20/09/2023 17:00	15.157	339.823	42.286	0.003	14.771	On Peak Load
20/09/2023 18:00	15.164	345.899	40.163	0.004	14.655	On Peak Load
20/09/2023 19:00	15.161	354.525	40.647	0.004	14.019	On Peak Load
20/09/2023 20:00	15.158	343.920	39.580	0.004	17.159	On Peak Load
20/09/2023 21:00	15.152	335.877	40.076	0.004	16.831	On Peak Load
20/09/2023 22:00	15.170	341.758	40.400	0.004	16.497	On Peak Load
20/09/2023 23:00	15.190	352.290	40.493	0.004	15.884	On Peak Load
21/09/2023 00:00	15.123	342.539	39.430	0.004	19.466	On Peak Load
21/09/2023 01:00	15.060	323.689	37.709	0.004	22.587	Off Peak Load
21/09/2023 02:00	15.090	315.122	38.857	0.003	19.039	Off Peak Load
21/09/2023 03:00	15.074	312.814	36.847	0.003	18.440	Off Peak Load
21/09/2023 04:00	15.109	319.031	35.965	0.003	20.280	Off Peak Load
21/09/2023 05:00	15.125	327.377	38.586	0.003	17.598	Off Peak Load
21/09/2023 06:00	15.041	310.575	35.865	0.003	18.768	Off Peak Load
21/09/2023 07:00	14.986	295.737	39.879	0.003	19.479	Off Peak Load
21/09/2023 08:00	15.306	249.202	39.515	0.003	14.859	Off Peak Load
21/09/2023 09:00	15.219	342.631	40.248	0.003	12.408	On Peak Load
21/09/2023 10:00	15.223	356.939	42.789	0.003	12.940	On Peak Load
21/09/2023 11:00	15.181	327.468	40.768	0.003	11.935	On Peak Load
21/09/2023 12:00	15.170	328.231	40.709	0.003	10.284	On Peak Load
21/09/2023 13:00	15.322	253.874	36.447	0.003	10.558	Off Peak Load
21/09/2023 14:00	15.153	333.764	39.905	0.003	10.902	On Peak Load
21/09/2023 15:00	15.180	362.338	43.493	0.003	13.887	On Peak Load
21/09/2023 16:00	15.210	340.638	41.426	0.002	14.227	On Peak Load
21/09/2023 17:00	15.126	338.420	42.121	0.002	24.219	On Peak Load

Site Name: GNLL2  
 Stack Name: HRSGL1  
 Periodically: 1 Sep/24 00:00 - 30 Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
21/09/2023 18:00	15.142	350.059	40.968	0.002	18.573	Off Peak Load
21/09/2023 19:00	15.169	360.265	41.274	0.002	21.447	On Peak Load
21/09/2023 20:00	15.158	335.775	40.476	0.001	21.415	On Peak Load
21/09/2023 21:00	15.218	358.618	43.405	0.000	13.021	On Peak Load
21/09/2023 22:00	15.179	344.966	43.112	0.000	16.502	On Peak Load
21/09/2023 23:00	15.164	350096.031	43.436	0.000	18.437	On Peak Load
22/09/2023 00:00	15.082	327465.063	41.458	0.000	14.906	On Peak Load
22/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
22/09/2023 19:00	15.073	337.874	40.091	0.001	0.985	On Peak Load
22/09/2023 20:00	15.115	339.375	40.593	0.001	1.759	On Peak Load
22/09/2023 21:00	15.133	349.001	38.037	0.001	1.461	On Peak Load
22/09/2023 22:00	15.156	337.730	39.954	0.001	1.347	On Peak Load
22/09/2023 23:00	15.112	336.909	38.494	0.002	1.400	On Peak Load
23/09/2023 00:00	15.032	283.818	35.462	0.002	1.016	Off Peak Load
23/09/2023 01:00	15.022	294.034	36.269	0.002	0.983	Off Peak Load
23/09/2023 02:00	15.043	284.631	36.861	0.002	0.946	Off Peak Load
23/09/2023 03:00	15.009	287.320	35.989	0.003	1.172	Off Peak Load
23/09/2023 04:00	15.039	281.297	34.478	0.002	1.078	Off Peak Load
23/09/2023 05:00	15.010	292.808	34.353	0.002	1.138	Off Peak Load
23/09/2023 06:00	14.991	286.674	36.439	0.002	1.138	Off Peak Load
23/09/2023 07:00	15.062	304.303	35.730	0.002	1.066	Off Peak Load
23/09/2023 08:00	15.211	251.449	58.970	0.002	1.278	Off Peak Load
23/09/2023 09:00	15.180	344.113	41.093	0.002	1.591	On Peak Load
23/09/2023 10:00	15.136	328.342	40.443	0.002	1.598	On Peak Load
23/09/2023 11:00	15.202	324.223	40.732	0.002	1.517	On Peak Load
23/09/2023 12:00	15.134	318.122	42.347	0.002	1.544	On Peak Load
23/09/2023 13:00	15.408	245.903	40.091	0.002	1.403	Off Peak Load
23/09/2023 14:00	15.193	342.845	42.048	0.002	1.512	On Peak Load
23/09/2023 15:00	15.207	339.166	43.100	0.002	1.783	On Peak Load
23/09/2023 16:00	15.224	351.021	42.272	0.002	1.584	On Peak Load
23/09/2023 17:00	15.212	343.656	42.443	0.002	1.755	On Peak Load
23/09/2023 18:00	15.189	349.934	42.067	0.002	1.770	On Peak Load
23/09/2023 19:00	15.199	357.360	43.245	0.002	1.790	On Peak Load
23/09/2023 20:00	15.156	343.495	42.258	0.001	1.699	On Peak Load
23/09/2023 21:00	15.170	343.760	41.751	0.001	1.689	On Peak Load
23/09/2023 22:00	15.171	355.225	40.861	0.001	1.790	On Peak Load
23/09/2023 23:00	15.119	339.967	40.807	0.001	1.846	On Peak Load
24/09/2023 00:00	15.116	258.708	37.957	0.001	1.130	Off Peak Load
24/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
24/09/2023 09:00	15.146	335.211	39.013	0.000	1.292	On Peak Load
24/09/2023 10:00	15.146	336.914	40.411	0.000	0.703	On Peak Load
24/09/2023 11:00	15.092	341.925	42.323	0.000	5.576	On Peak Load
24/09/2023 12:00	15.093	334.076	41.691	0.000	1.533	On Peak Load
24/09/2023 13:00	15.190	252.816	56.797	0.000	1.944	Off Peak Load
24/09/2023 14:00	15.146	356.345	42.516	0.000	1.836	On Peak Load
24/09/2023 15:00	15.157	349.890	41.427	0.000	1.475	On Peak Load
24/09/2023 16:00	15.160	351.255	41.399	0.000	1.814	On Peak Load
24/09/2023 17:00	15.198	345.479	38.754	0.000	1.766	On Peak Load
24/09/2023 18:00	15.155	339.542	30.679	0.000	1.673	On Peak Load
24/09/2023 19:00	15.117	346.330	33.141	0.000	1.634	On Peak Load
24/09/2023 20:00	15.081	334.186	25.982	0.000	1.118	On Peak Load
24/09/2023 21:00	15.045	337.766	22.967	0.000	0.703	On Peak Load
24/09/2023 22:00	15.179	327.618	26.510	0.000	1.218	On Peak Load
24/09/2023 23:00	15.026	337.723	24.496	0.000	0.635	On Peak Load
25/09/2023 00:00	15.016	320.678	17.281	0.000	2.449	Off Peak Load
25/09/2023 01:00	15.083	349.790	14.561	0.000	1.542	Off Peak Load GT12 SD Half Block
25/09/2023 02:00	15.064	354.404	28.704	0.000	1.886	Off Peak Load GT12 SD Half Block
25/09/2023 03:00	15.080	354.122	14.457	0.000	1.570	Off Peak Load GT12 SD Half Block
25/09/2023 04:00	15.103	350.361	12.970	0.001	1.485	Off Peak Load GT12 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSGL1  
1/Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
25/09/2023 05:00	15.106	353,865	21.618	0.001	1.491	Off Peak Load GT12 SD Half Block
25/09/2023 06:00	15.114	353,517	33.639	0.002	1.207	Off Peak Load GT12 SD Half Block
25/09/2023 07:00	15.086	354,908	30.612	0.002	1.267	Off Peak Load GT12 SD Half Block
25/09/2023 08:00	15.046	369,375	22.510	0.002	1.737	Off Peak Load
25/09/2023 09:00	15.074	336,511	11.164	0.002	1.543	On Peak Load
25/09/2023 10:00	15.047	323,442	13.945	0.002	1.819	On Peak Load
25/09/2023 11:00	15.168	337,463	20.331	0.002	1.474	On Peak Load
25/09/2023 12:00	15.095	324,728	11.791	0.002	1.531	On Peak Load
25/09/2023 13:00	15.275	253,213	35.819	0.002	1.457	Off Peak Load
25/09/2023 14:00	15.151	342,735	24.712	0.001	1.242	On Peak Load
25/09/2023 15:00	15.161	341,095	29.073	0.001	1.807	On Peak Load
25/09/2023 16:00	15.177	344,479	27.770	0.001	0.964	On Peak Load
25/09/2023 17:00	15.058	346,352	16.905	0.001	1.110	On Peak Load
25/09/2023 18:00	15.089	350,668	10.963	0.001	1.860	On Peak Load
25/09/2023 19:00	15.096	349,543	24.030	0.001	1.566	On Peak Load
25/09/2023 20:00	15.055	329,320	24.204	0.001	1.595	On Peak Load
25/09/2023 21:00	15.077	335,363	31.574	0.001	1.085	On Peak Load
25/09/2023 22:00	15.061	351,553	23.963	0.001	1.307	On Peak Load
25/09/2023 23:00	15.075	334,665	19.923	0.001	1.125	On Peak Load
26/09/2023 00:00	14.936	269,805	11.986	0.000	0.804	Off Peak Load
26/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
26/09/2023 09:00	15.131	343,188	30.179	0.003	2.181	On Peak Load
26/09/2023 10:00	15.119	322,188	18.871	0.002	1.814	On Peak Load
26/09/2023 11:00	15.158	327,745	20.276	0.001	1.467	On Peak Load
26/09/2023 12:00	15.114	330,598	22.838	0.000	1.226	On Peak Load
26/09/2023 13:00	15.110	246,146	29.127	0.000	0.930	Off Peak Load
26/09/2023 14:00	15.107	339,125	11.158	0.000	0.930	On Peak Load
26/09/2023 15:00	15.118	333,833	21.949	0.000	1.405	On Peak Load
26/09/2023 16:00	15.077	350,107	10.145	0.000	1.682	On Peak Load
26/09/2023 17:00	15.046	337,597	29.380	0.000	1.328	On Peak Load
26/09/2023 18:00	15.075	341,921	13.959	0.000	1.379	On Peak Load
26/09/2023 19:00	15.074	339,781	17.117	0.000	1.181	On Peak Load
26/09/2023 20:00	15.054	333,733	16.838	0.000	1.215	On Peak Load
26/09/2023 21:00	15.018	335,767	26.716	0.000	1.855	On Peak Load
26/09/2023 22:00	15.060	335,870	20.743	0.000	1.076	On Peak Load
26/09/2023 23:00	15.016	335,740	15.925	0.001	1.136	On Peak Load
27/09/2023 00:00	15.088	256,607	18.138	0.000	1.347	Off Peak Load
27/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
27/09/2023 09:00	15.089	336,294	30.476	0.000	1.787	On Peak Load
27/09/2023 10:00	15.130	338,341	24.828	0.000	1.951	On Peak Load
27/09/2023 11:00	15.160	341,871	18.157	0.000	1.472	On Peak Load
27/09/2023 12:00	15.196	346,726	25.691	0.000	1.258	On Peak Load
27/09/2023 13:00	15.285	247,794	36.480	0.000	1.500	Off Peak Load
27/09/2023 14:00	15.189	344,104	20.160	0.000	1.504	On Peak Load
27/09/2023 15:00	15.184	350,066	15.352	0.000	1.052	On Peak Load
27/09/2023 16:00	15.050	337,758	10.273	0.000	2.401	On Peak Load
27/09/2023 17:00	15.056	345,469	22.757	0.000	1.744	On Peak Load
27/09/2023 18:00	15.068	339,455	14.679	0.000	0.972	On Peak Load
27/09/2023 19:00	15.068	339,803	11.698	0.000	1.906	On Peak Load
27/09/2023 20:00	15.039	333,727	9.419	0.000	2.645	On Peak Load
27/09/2023 21:00	15.043	338,557	7.195	0.001	1.492	On Peak Load
27/09/2023 22:00	15.060	346,068	16.388	0.001	1.665	On Peak Load
27/09/2023 23:00	15.045	346,074	26.502	0.001	2.280	On Peak Load
28/09/2023 00:00	15.045	373,966	36.067	0.002	1.645	Off Peak Load
28/09/2023 01:00	15.115	359,689	28.983	0.002	1.800	Off Peak Load GT12 SD Half Block
28/09/2023 02:00	15.108	359,030	29.094	0.002	1.442	Off Peak Load GT12 SD Half Block
28/09/2023 03:00	15.099	352,555	31.395	0.002	1.282	Off Peak Load GT12 SD Half Block
28/09/2023 04:00	15.081	356,556	10.079	0.002	1.521	Off Peak Load GT12 SD Half Block
28/09/2023 05:00	15.075	355,499	7.801	0.002	1.419	Off Peak Load GT12 SD Half Block
28/09/2023 06:00	15.079	351,320	12.911	0.001	1.567	Off Peak Load GT12 SD Half Block
28/09/2023 07:00	15.085	352,706	15.922	0.001	1.518	Off Peak Load GT12 SD Half Block
28/09/2023 08:00	15.073	364,361	19.256	0.001	1.998	Off Peak Load
28/09/2023 09:00	15.100	346,557	11.005	0.001	1.834	On Peak Load
28/09/2023 10:00	15.131	336,719	11.930	0.002	1.693	On Peak Load
28/09/2023 11:00	15.137	359,718	16.546	0.002	1.563	On Peak Load
28/09/2023 12:00	15.020	345,992	14.265	0.002	1.924	On Peak Load
28/09/2023 13:00	15.249	247,281	31.971	0.003	1.468	Off Peak Load
28/09/2023 14:00	15.012	373,482	29.037	0.003	1.228	On Peak Load
28/09/2023 15:00	15.126	345,344	11.420	0.004	1.339	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSGL1  
1/Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
28/09/2023 16:00	15.170	352,855	13.415	0.004	1.792	On Peak Load
28/09/2023 17:00	15.198	351,867	22.224	0.004	1.440	On Peak Load
28/09/2023 18:00	15.187	348,493	24.484	0.003	1.640	On Peak Load
28/09/2023 19:00	15.111	345,641	31.044	0.002	1.648	On Peak Load
28/09/2023 20:00	15.107	347,630	9.930	0.000	1.722	On Peak Load
28/09/2023 21:00	15.101	341,725	20.263	0.000	1.729	On Peak Load
28/09/2023 22:00	15.052	342,608	16.324	0.000	1.545	On Peak Load
28/09/2023 23:00	15.071	354195.719	8.134	0.000	1.453	On Peak Load
29/09/2023 00:00	14.917	269229.656	5.623	0.000	0.898	Off Peak Load
29/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/09/2023 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/09/2023 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/09/2023 04:00	14.873	286041.219	23.624	0.001	0.354	Off Peak Load
30/09/2023 05:00	14.948	286608.938	20.212	0.001	1.059	Off Peak Load
30/09/2023 06:00	14.943	294442.750	22.143	0.001	1.032	Off Peak Load
30/09/2023 07:00	14.986	302314.906	22.318	0.000	1.151	Off Peak Load
30/09/2023 08:00	15.210	245808.266	30.381	0.000	1.734	Off Peak Load
30/09/2023 09:00	15.085	345566.594	14.713	0.000	1.487	On Peak Load
30/09/2023 10:00	15.141	330.452	22	0	2	On Peak Load
30/09/2023 11:00	15.175	341.879	16.262	0.000	1.286	On Peak Load
30/09/2023 12:00	15.083	335.656	13.507	0.000	1.931	On Peak Load
30/09/2023 13:00	15.224	247.912	39.238	0.001	1.069	Off Peak Load
30/09/2023 14:00	15.185	344.751	26.270	0.001	0.978	On Peak Load
30/09/2023 15:00	15.174	346.091	14.531	0.001	1.330	On Peak Load
30/09/2023 16:00	15.176	335.776	13.125	0.001	1.040	On Peak Load
30/09/2023 17:00	15.106	341.120	14.058	0.002	1.444	On Peak Load
30/09/2023 18:00	15.123	329.688	15.169	0.002	1.427	On Peak Load
30/09/2023 19:00	15.109	331.657	18.222	0.002	1.533	On Peak Load
30/09/2023 20:00	15.047	331.733	15.216	0.002	1.703	On Peak Load
30/09/2023 21:00	15.065	324.677	8.460	0.001	1.677	On Peak Load
30/09/2023 22:00	15.024	331.613	27.295	0.000	1.322	On Peak Load
30/09/2023 23:00	15.091	321.500	31.126	0.000	1.758	On Peak Load
Minimum	14.83	231.692	0.00	0.00	0.00	
Maximum	21.15	373.966	56.97	0.01	25.05	
Avg	15.11	321.754	28.26	0.00	10.83	
SUM						



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
1/5Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O <sub>2</sub>	FLOW @1 ATM % m <sup>3</sup> /hr	HRSG1_NOx@7%O <sub>2</sub> ppm	HRSG1_SOx@7%O <sub>2</sub> ppm	HRSG1_Dust (7%O <sub>2</sub> ) mg/m <sup>3</sup>	
01/09/2023 00:00	15.108	314,573	30.171	0.011	14.012	Off Peak Load
01/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
01/09/2023 19:00	15.110	357,565	45.730	0.011	4.623	On Peak Load
01/09/2023 20:00	15.106	356,891	44.585	0.003	6.203	On Peak Load
01/09/2023 21:00	15.082	377,031	35.554	0.004	7.572	On Peak Load
01/09/2023 22:00	15.062	365,282	35.224	0.005	8.332	On Peak Load
01/09/2023 23:00	15.002	364218.281	32.414	0.006	8.754	On Peak Load
02/09/2023 00:00	14.994	310545.781	27.210	0.007	11.261	On Peak Load
02/09/2023 01:00	14.973	325372.813	31.870	0.008	4.623	On Peak Load
02/09/2023 02:00	11.938	315646.750	31.957	0.009	4.623	On Peak Load
02/09/2023 03:00	14.928	311427.125	28.136	0.011	6.203	On Peak Load
02/09/2023 04:00	15.005	321591.188	27.771	0.011	16.596	On Peak Load
02/09/2023 05:00	14.995	316717.063	28.708	0.011	11.745	On Peak Load
02/09/2023 06:00	14.922	323405.594	29.662	0.011	25.398	On Peak Load
02/09/2023 07:00	14.983	313819.156	26.664	0.011	22.511	On Peak Load
02/09/2023 08:00	15.199	293297.906	58.405	0.011	13.706	On Peak Load
02/09/2023 09:00	14.984	352527.781	33.031	0.011	12.724	On Peak Load
02/09/2023 10:00	14.983	347.865	34.093	0.011	12.492	On Peak Load
02/09/2023 11:00	14.969	332.402	33.440	0.011	11.359	On Peak Load
02/09/2023 12:00	14.995	355.440	36.882	0.011	12.793	On Peak Load
02/09/2023 13:00	15.374	304.129	51.738	0.011	16.361	On Peak Load
02/09/2023 14:00	14.986	357.080	35.711	0.011	14.615	On Peak Load
02/09/2023 15:00	14.966	357.215	37.494	0.011	13.706	On Peak Load
02/09/2023 16:00	14.988	354.716	33.926	0.011	12.724	On Peak Load
02/09/2023 17:00	14.938	349.961	34.980	0.011	12.492	On Peak Load
02/09/2023 18:00	14.970	351.341	34.881	0.011	11.359	On Peak Load
02/09/2023 19:00	14.985	356.811	35.582	0.010	18.164	On Peak Load
02/09/2023 20:00	14.961	346.389	34.958	0.009	13.194	On Peak Load
02/09/2023 21:00	14.923	353.972	34.550	0.009	13.641	On Peak Load
02/09/2023 22:00	14.944	350.032	33.467	0.008	13.444	On Peak Load
02/09/2023 23:00	14.989	362137.125	32.716	0.007	13.092	On Peak Load
03/09/2023 00:00	14.936	357551.906	34.168	0.006	10.412	On Peak Load
03/09/2023 01:00	14.911	331612.406	34.626	0.005	14.506	On Peak Load
03/09/2023 02:00	14.937	337859.438	35.528	0.005	15.479	On Peak Load
03/09/2023 03:00	14.934	349019.156	34.826	0.006	20.442	On Peak Load
03/09/2023 04:00	14.926	342738.250	32.599	0.007	15.963	On Peak Load
03/09/2023 05:00	14.913	334191.906	31.701	0.008	13.319	On Peak Load
03/09/2023 06:00	14.896	343980.175	32.788	0.009	11.064	On Peak Load
03/09/2023 07:00	14.945	34408.906	32.222	0.009	16.445	On Peak Load
03/09/2023 08:00	15.219	305108.813	37.499	0.010	16.916	On Peak Load
03/09/2023 09:00	14.957	352823.618	36.606	0.011	13.237	On Peak Load
03/09/2023 10:00	14.978	352.869	37.219	0.011	13.641	On Peak Load
03/09/2023 11:00	14.922	362.214	35.336	0.010	15.932	On Peak Load
03/09/2023 12:00	14.925	343.891	34.263	0.010	12.386	On Peak Load
03/09/2023 13:00	15.376	301.630	55.119	0.010	13.015	On Peak Load
03/09/2023 14:00	14.989	358.731	34.997	0.010	13.485	On Peak Load
03/09/2023 15:00	15.041	357.659	34.771	0.010	13.712	On Peak Load
03/09/2023 16:00	15.061	368.409	35.436	0.009	17.551	On Peak Load
03/09/2023 17:00	15.059	363.395	36.968	0.009	12.274	On Peak Load
03/09/2023 18:00	15.063	371.732	39.210	0.009	10.240	On Peak Load
03/09/2023 19:00	15.073	373.297	34.737	0.009	15.752	On Peak Load
03/09/2023 20:00	15.031	354.690	35.542	0.009	14.452	On Peak Load
03/09/2023 21:00	15.044	354.185	36.418	0.009	14.497	On Peak Load
03/09/2023 22:00	15.023	362.134	34.033	0.009	17.531	On Peak Load
03/09/2023 23:00	15.059	380243.594	39.757	0.009	15.090	On Peak Load
04/09/2023 00:00	15.030	380764.156	36.066	0.009	14.534	On Peak Load
04/09/2023 01:00	15.051	358921.031	36.814	0.009	16.429	On Peak Load
04/09/2023 02:00	14.949	340676.614	32.514	0.010	13.913	On Peak Load
04/09/2023 03:00	15.007	350701.250	36.297	0.010	14.816	On Peak Load
04/09/2023 04:00	14.989	344695.500	32.963	0.011	16.071	On Peak Load
04/09/2023 05:00	14.992	350752.125	33.776	0.011	14.118	On Peak Load
04/09/2023 06:00	15.040	355264.719	36.906	0.012	11.708	On Peak Load
04/09/2023 07:00	14.972	338755.406	32.740	0.012	12.002	On Peak Load
04/09/2023 08:00	15.327	309942.219	44.126	0.013	14.049	On Peak Load
04/09/2023 09:00	15.016	360796.719	35.874	0.012	11.949	On Peak Load
04/09/2023 10:00	15.030	360.645	34.034	0.010	11.498	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
1/5Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O <sub>2</sub>	FLOW @1 ATM % m <sup>3</sup> /hr	HRSG1_NOx@7%O <sub>2</sub> ppm	HRSG1_SOx@7%O <sub>2</sub> ppm	HRSG1_Dust (7%O <sub>2</sub> ) mg/m <sup>3</sup>	
04/09/2023 11:00	15.033	355,444	31.924	0.009	13.738	On Peak Load
04/09/2023 12:00	15.010	357,717	38.204	0.008	13.462	On Peak Load
04/09/2023 13:00	15.457	326,190	58.677	0.006	13.581	On Peak Load
04/09/2023 14:00	15.044	355,050	37.822	0.005	12.950	On Peak Load
04/09/2023 15:00	15.192	374,180	37.889	0.018	8.231	On Peak Load
04/09/2023 16:00	15.209	360,009	40.163	0.015	8.257	On Peak Load
04/09/2023 17:00	15.167	361,243	37.063	0.012	9.161	On Peak Load
04/09/2023 18:00	15.124	363,034	36.068	0.011	9.000	On Peak Load
04/09/2023 19:00	15.105	359,886	35.034	0.011	9.796	On Peak Load
04/09/2023 20:00	15.163	377,485	37.090	0.012	10.142	On Peak Load
04/09/2023 21:00	15.187	382,710	36.912	0.012	8.382	On Peak Load
04/09/2023 22:00	15.194	374,155	38.421	0.013	7.327	On Peak Load
05/09/2023 00:00	15.170	376,472	40.188	0.014	8.111	On Peak Load
05/09/2023 01:00	15.095	354,223	33.756	0.014	7.591	On Peak Load
05/09/2023 02:00	15.063	341,308	36.693	0.015	8.562	On Peak Load
05/09/2023 03:00	15.040	347,973	31.731	0.015	8.445	On Peak Load
05/09/2023 04:00	15.096	343,710	36.026	0.015	7.642	On Peak Load
05/09/2023 05:00	15.071	338,469	31.286	0.015	8.798	On Peak Load
05/09/2023 06:00	15.096	354,351	35.024	0.015	9.012	On Peak Load
05/09/2023 07:00	15.126	360,868	33.210	0.015	6.787	On Peak Load
05/09/2023 08:00	15.436	312,723	50.170	0.015	6.256	On Peak Load
05/09/2023 09:00	15.123	351,712	32.903	0.015	5.414	On Peak Load
05/09/2023 10:00	15.130	362,869	37.711	0.015	5.593	On Peak Load
05/09/2023 11:00	15.130	351,345	36.317	0.014	6.267	On Peak Load
05/09/2023 12:00	15.112	348,480	32.822	0.013	4.768	On Peak Load
05/09/2023 13:00	15.551	337,584	35.024	0.012	3.971	On Peak Load
05/09/2023 14:00	15.177	387,532	36.780	0.012	3.903	On Peak Load
05/09/2023 15:00	15.185	355,375	37.654	0.011	3.634	On Peak Load
05/09/2023 16:00	15.192	359,674	37.655	0.010	3.692	On Peak Load
05/09/2023 17:00	15.171	360,049	35.634	0.009	5.114	On Peak Load
05/09/2023 18:00	15.137	369,212	35.423	0.008	5.392	On Peak Load
05/09/2023 19:00	15.119	357,990	39.165	0.008	6.219	On Peak Load
05/09/2023 20:00	15.134	352,494	38.422	0.008	5.818	On Peak Load
05/09/2023 21:00	15.151	351,383	38.911	0.008	6.094	On Peak Load
05/09/2023 22:00	15.123	356,652	36.708	0.008	6.335	On Peak Load
05/09/2023 23:00	15.145	364318.188	35.331	0.008	8.016	On Peak Load
06/09/2023 00:00	15.111	371,622.594	37.520	0.008	6.016	On Peak Load
06/09/2023 01:00	15.048	347409.219	35.721	0.008	5.230	On Peak Load
06/09/2023 02:00	15.095	346421.438	32.687	0.008	5.818	On Peak Load
06/09/2023 03:00	15.082	348662.156	35.374	0.009	6.373	On Peak Load
06/09/2023 04:00	15.071	353541.906	35.566	0.010	4.948	On Peak Load
06/09/2023 05:00	15.081	344784.875	33.396	0.011	7.701	On Peak Load
06/09/2023 06:00	15.118	354517.125	37.010	0.012	6.805	On Peak Load
06/09/2023 07:00	15.158	364636.938	33.152	0.012	4.903	On Peak Load
06/09/2023 08:00	15.449	308664.000	48.265	0.013	5.293	On Peak Load
06/09/2023 09:00	15.103	352780.000	34.840	0.014	4.627	On Peak Load
06/09/2023 10:00	15.084	360,477	32.270	0.015	3.892	On Peak Load
06/09/2023 11:00	15.143	356,160	37.049	0.014	2.342	On Peak Load
06/09/2023 12:00	15.116	375,424	35.171	0.012	0.416	On Peak Load
06/09/2023 13:00	15.639	319.775	37.010	0.008	0.460	On Peak Load
06/09/2023 14:00	15.166	375,279	38.403	0.008	0.249	On Peak Load
06/09/2023 15:00	15.185	364,196	34.265	0.009	0.739	On Peak Load



Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1/Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison				Remark
	O2	FLOW @1 ATM ZSC	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)		
	%	m3/hr	ppm	ppm	mg/m3		
07/09/2023 23:00	15.136	369,910	39.417	0.010	7.919	On Peak Load	
08/09/2023 00:00	15.154	367,683	38.089	0.011	7.937	On Peak Load	
08/09/2023 01:00	15.097	331,787	29.182	0.011	8.951	Off Peak Load	
08/09/2023 02:00	15.098	337,599	32.551	0.011	8.676	Off Peak Load	
08/09/2023 03:00	15.066	337,392	31.390	0.012	9.544	Off Peak Load	
08/09/2023 04:00	15.097	334,443	27.573	0.012	8.313	Off Peak Load	
08/09/2023 05:00	15.139	327,304	35.522	0.013	11.767	Off Peak Load	
08/09/2023 06:00	15.167	327,051	29.359	0.013	10.100	Off Peak Load	
08/09/2023 07:00	15.123	328,786	31.569	0.013	9.078	Off Peak Load	
08/09/2023 08:00	15.283	322,056	37.885	0.014	8.938	Off Peak Load	
08/09/2023 09:00	15.209	339,373	34.920	0.014	7.351	Off Peak Load	
08/09/2023 10:00	15.254	340,996	38.712	0.014	10.031	Off Peak Load	
08/09/2023 11:00	15.176	333,690	31.148	0.013	10.557	Off Peak Load	
08/09/2023 12:00	15.251	333,876	38.663	0.013	10.006	Off Peak Load	
08/09/2023 13:00	15.283	324,179	40.286	0.013	9.682	Off Peak Load	
08/09/2023 14:00	15.084	344,526	31.080	0.013	9.153	Off Peak Load	
08/09/2023 15:00	15.079	333,034	28.995	0.012	5.792	Off Peak Load	
08/09/2023 16:00	15.131	333,498	26.836	0.012	5.392	Off Peak Load	
08/09/2023 17:00	15.078	333,617	29.420	0.012	14.190	Off Peak Load	
08/09/2023 18:00	15.321	332,398	36.415	0.011	8.179	Off Peak Load	
08/09/2023 19:00	15.092	358,565	35.221	0.010	17.798	On Peak Load	
08/09/2023 20:00	15.057	353,500	34.027	0.010	10.502	On Peak Load	
08/09/2023 21:00	15.086	372,031	34.229	0.009	10.134	On Peak Load	
08/09/2023 22:00	15.094	368,422	33.936	0.008	8.071	On Peak Load	
08/09/2023 23:00	15.159	405,164	42.546	0.008	9.831	Off Peak Load	
08/09/2023 00:00	15.209	391,218	39.614	0.007	8.899	Off Peak Load GT11 SD Half Block	
09/09/2023 01:00	15.213	399,190	40.416	0.008	10.147	Off Peak Load GT11 SD Half Block	
09/09/2023 02:00	15.217	399,493	37.208	0.009	10.117	Off Peak Load GT11 SD Half Block	
09/09/2023 03:00	15.221	397,962	39.148	0.010	10.124	Off Peak Load GT11 SD Half Block	
09/09/2023 04:00	15.225	394,218	38.059	0.011	10.122	Off Peak Load GT11 SD Half Block	
09/09/2023 05:00	15.229	392,361	38.837	0.012	10.114	Off Peak Load GT11 SD Half Block	
09/09/2023 06:00	15.232	392,219	38.232	0.014	9.848	Off Peak Load GT11 SD Half Block	
09/09/2023 07:00	15.235	390,922	40.765	0.015	9.634	Off Peak Load GT11 SD Half Block	
09/09/2023 08:00	15.168	403,568	41.032	0.016	12.210	Off Peak Load	
09/09/2023 09:00	15.125	359,321	36.093	0.016	8.833	On Peak Load	
09/09/2023 10:00	15.180	378,445	34.251	0.015	9.523	On Peak Load	
09/09/2023 11:00	15.115	355,804	36.597	0.015	9.397	On Peak Load	
09/09/2023 12:00	15.125	361,518	34.579	0.014	10.046	On Peak Load	
09/09/2023 13:00	15.538	318,205	54.758	0.014	10.632	Off Peak Load	
09/09/2023 14:00	15.157	372,404	34.552	0.014	10.608	On Peak Load	
09/09/2023 15:00	15.179	373,184	36.959	0.013	10.755	On Peak Load	
09/09/2023 16:00	15.164	361,756	34.281	0.013	10.471	On Peak Load	
09/09/2023 17:00	15.125	366,690	37.320	0.012	11.240	On Peak Load	
09/09/2023 18:00	15.175	377,541	34.030	0.012	13.193	On Peak Load	
09/09/2023 19:00	15.188	371,618	38.344	0.011	9.625	On Peak Load	
09/09/2023 20:00	15.118	361,373	35.328	0.011	5.785	On Peak Load	
09/09/2023 21:00	15.128	359,612	33.590	0.010	11.246	On Peak Load	
09/09/2023 22:00	15.147	371,548	35.179	0.010	9.642	On Peak Load	
09/09/2023 23:00	15.188	404,424	38.237	0.009	14.833	On Peak Load	
10/09/2023 00:00	14.951	330,508	32.954	0.013	9.656	Off Peak Load	
10/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
10/09/2023 09:00	15.109	362,474	35.260	0.019	9.423	On Peak Load	
10/09/2023 10:00	15.120	361,102	36.486	0.016	8.688	On Peak Load	
10/09/2023 11:00	15.142	365,196	33.876	0.014	8.769	On Peak Load	
10/09/2023 12:00	15.085	354,297	37.833	0.014	9.320	On Peak Load	
10/09/2023 13:00	15.565	308,040	35.260	0.015	10.608	Off Peak Load	
10/09/2023 14:00	15.171	364,371	37.778	0.015	10.048	On Peak Load	
10/09/2023 15:00	15.165	368,472	35.467	0.014	11.207	On Peak Load	
10/09/2023 16:00	15.164	365,798	38.024	0.013	10.854	On Peak Load	
10/09/2023 17:00	15.168	359,986	38.642	0.011	10.788	On Peak Load	
10/09/2023 18:00	15.137	352,858	35.006	0.010	14.070	On Peak Load	
10/09/2023 19:00	15.107	365,711	35.544	0.009	12.449	On Peak Load	
10/09/2023 20:00	15.089	346,838	32.376	0.008	10.345	On Peak Load	
10/09/2023 21:00	15.101	365,580	33.495	0.007	10.715	On Peak Load	
10/09/2023 22:00	15.106	377,910	35.929	0.005	10.492	On Peak Load	
10/09/2023 23:00	15.109	343,541	34.248	0.006	9.038	On Peak Load	
11/09/2023 00:00	15.143	407,356	42.121	0.006	9.013	Off Peak Load	
11/09/2023 01:00	15.177	399,986	39.315	0.006	8.800	Off Peak Load GT11 SD Half Block	
11/09/2023 02:00	15.169	400,186	39.868	0.007	8.499	Off Peak Load GT11 SD Half Block	
11/09/2023 03:00	15.161	394,592	40.217	0.007	8.409	Off Peak Load GT11 SD Half Block	
11/09/2023 04:00	15.152	397,563	38.843	0.007	7.618	Off Peak Load GT11 SD Half Block	
11/09/2023 05:00	15.144	393,633	36.043	0.007	7.541	Off Peak Load GT11 SD Half Block	
11/09/2023 06:00	15.140	392,214	35.962	0.008	7.716	Off Peak Load GT11 SD Half Block	
11/09/2023 07:00	15.153	398,560	35.824	0.009	8.180	Off Peak Load GT11 SD Half Block	
11/09/2023 08:00	15.176	410,387	41.767	0.009	6.759	Off Peak Load	
11/09/2023 09:00	15.099	364,048	33.210	0.010	8.431	On Peak Load	

Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1/Sep/24 00:00 - 30/Sep/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison				Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_dust (7%O2)		
	%	m3/hr	ppm	ppm	mg/m3		
11/09/2023 10:00	15.143	367,487	37.311	0.011	10.031	On Peak Load	
11/09/2023 11:00	15.111	348,272	33.702	0.011	9.901	On Peak Load	
11/09/2023 12:00	15.050	355,721	36.135	0.012	10.385	On Peak Load	
11/09/2023 13:00	15.452	308,883	55.860	0.013	11.924	Off Peak Load	
11/09/2023 14:00	15.105	356,319	31.422	0.013	9.314	On Peak Load	
11/09/2023 15:00	15.064	365,721	31.825	0.014	9.027	On Peak Load	
11/09/2023 16:00	15.136	368,876	34.476	0.014	12.926	On Peak Load	
11/09/2023 17:00	15.113	353,392	37.008	0.014	8.039	On Peak Load	
11/09/2023 18:00	15.114	365,538	36.513	0.014	8.504	On Peak Load	
11/09/2023 19:00	15.116	349,326	33.207	0.014	10.945	On Peak Load	
11/09/2023 20:00	15.097	360,372	35.764	0.014	9.902	On Peak Load	
11/09/2023 21:00	15.067	358,529	32.659	0.014	10.834	On Peak Load	
11/09/2023 22:00	15.048	368,925	37.447	0.015	7.398	On Peak Load	
11/09/2023 23:00	15.076	372,753	32.991	0.015	9.752	On Peak Load	
12/09/2023 00:00	15.152	414,851	39.938	0.016	9.119	Off Peak Load	
12/09/2023 01:00	15.179	400,228	38.559	0.012	9.037	Off Peak Load GT11 SD Half Block	
12/09/2023 02:00	15.173	378,907	35.148	0.012	10.586	Off Peak Load GT11 SD Half Block	
12/09/2023 03:00	15.168	382,039	37.036	0.013	12.403	Off Peak Load GT11 SD Half Block	
12/09/2023 04:00	15.169	385,676	36.887	0.014	11.837	Off Peak Load GT11 SD Half Block	
12/09/2023 05:00	15.175	387,754	38.616	0.014	8.148	Off Peak Load GT11 SD Half Block	
12/09/2023 06:00	15.188	386,509	38.625	0.015	10.232	Off Peak Load GT11 SD Half Block	
12/09/2023 07:00	15.186	388,917	40.427	0.015	11.591	Off Peak Load GT11 SD Half Block	
12/09/2023 08:00	15.180	401,320	40.484	0.016	14.169	Off Peak Load GT11 SD Half Block	
12/09/2023 09:00	15.031	348,790	34.129	0.016	7.419	Off Peak Load	
12/09/2023 10:00	15.067	347,691	35.488	0.016	5.691	On Peak Load	
12/09/2023 11:00	15.146	369,640	38.458	0.016	3.891	On Peak Load	
12/09/2023 12:00	15.086	358,237	39.044	0.015	7.116	On Peak Load	
12/09/2023 13:00	15.372	294,474	56.323	0.015	16.198	Off Peak Load	
12/09/2023 14:00	15.009	350,068	37.995	0.015	10.462	On Peak Load	
12/09/2023 15:00	15.077	351,407	37.603	0.015	6.931	On Peak Load	
12/09/2023 16:00	15.049	355,473	36.204	0.015	9.625	On Peak Load	
12/09/2023 17:00	15.014	350,076	35.724	0.015	9.438	On Peak Load	
12/09/2023 18:00	15.098	357,020	36.033	0.014	13.457	On Peak Load	
12/09/2023 19:00	15.099	364,308	35.655	0.014	12.692	On Peak Load	
12/09/2023 20:00	15.096	359,275	36.649	0.014	9.347	On Peak Load	
12/09/2023 21:00	15.093	359,060	36.633	0.014	10.726	On Peak Load	
12/09/2023 22:00	15.051	367,856	37.696	0.014	8.670	On Peak Load	
12/09/2023 23:00	15.112	374,602	34.372	0.013	9.029	On Peak Load	
13/09/2023 00:00	15.132	407,207	39.523	0.013	7.681	Off Peak Load	
13/09/2023 01:00	15.124	391,075	36.848	0.013	8.849	Off Peak Load GT11 SD Half Block	
13/09/2023 02:00	15.128	390,370	36.157	0.012	8.390	Off Peak Load GT11 SD Half Block	
13/09/2023 03:00	15.131	391,804	35.841	0.012	7.551	Off Peak Load GT11 SD Half Block	
13/09/2023 04:00	15.135	389,867	36.140	0.012	11.086	Off Peak Load GT11 SD Half Block	
13/09/2023 05:00	15.141	394,490	37.148	0.011	9.975	Off Peak Load GT11 SD Half Block	
13/09/2023 06:00	15.161	397,067	38.823	0.011	8.258	Off Peak Load GT11 SD Half Block	
13/09/2023 07:00	15.182	397,370	39.147	0.011	7.775	Off Peak Load GT11 SD Half Block	
13/09/2023 08:00	15.157	414,675	40.105	0.010	6.725	Off Peak Load	
13/09/2023 09:00	15.113	361,897	34.461	0.011	7.354	On Peak Load	
13/09/2023 10:00	15.140	374,917	35.691	0.012	7.415	On Peak Load	
13/09/2023 11:00	15.110	362,102	37.261	0.012	10.144	On Peak Load	
13/09/2023 12:00	15.066	354,107	34.058	0.013	12.625	On Peak Load	
13/09/2023 13:00	15.377	307,064	36.043	0.013	9.611	Off Peak Load	
13/09/2023 14:00	15.139	369,233	34.665	0.014	11.013	On Peak Load	
13/09/2023 15:00	15.135	372,673	34.204	0.014	9.479	On Peak Load	
13/09/2023 16:00	15.154	359,165	38.011	0.015	7.725	On Peak Load	
13/09/2023 17:00	15.149	362,693	33.854	0.015	7.485	On Peak Load	
13/09/2023 18:00	15.185	357,234	37.036	0.015	9.632	On Peak Load	
13/09/2023 19:00	15.150	352,513	33.642	0.015	12.537	On Peak Load	
13/09/2023 20:00	15.101	350,018	38.412	0.015	10.747	On Peak Load	
13/09/2023 21:00	15.151	367,377	37.080	0.016	10.457	On Peak Load	
13/09/2023 22:00	15.145	367,365	37.097	0.016	9.489	On Peak Load	
13/09/2023 23:00	15.150	365,880	34.534	0.016	13.020	On Peak Load	
14/09/2023 00:00	15.007	342,559	35.659	0.021	10.626	On Peak Load	
14/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
14/09/2023 09:00	15.160	378,314	36.669	0.016	8.107	On Peak Load	
14/09/2023 10:00	15.158	364,931	33.064	0.016	8.090	On Peak Load	
14/09/2023 11:00	15.156	370,909	35.165	0.016	8.791	On Peak Load	
14/09/2023 12:00	15.145	362,359	33.197	0.016	10.225	On Peak Load	
14/09/2023 13:00	15.365	308,730	33.839	0.016	12.563	Off Peak Load	
14/09/2023 14:00	15.201	376,548	33.056	0.017	14.350	On Peak Load	
14/09/2023 15:00	15.214	373,314	31.252	0.017	14.076	On Peak Load	
14/09/2023 16:00	15.179	359,456	36.242	0.016	14.076	On Peak Load	
14/09/2023 17:00	15.156	364,526	31.654	0.016	12.494	On Peak Load	
14/09/2023 18:00	15.192	372,337	34.786	0.016	12.256	On Peak Load	
14/09/2023 19:00	15.209	370,002	30.800	0.015	13.083	On Peak Load	
14/09/2023 20:00	15.185	363,050	32.117	0.015	13.088	On Peak Load	



Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1-Sep-24 00:00 - 30-Sep-24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM ZPG	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
14/09/2023 21:00	15.189	367,193	32.077	0.015	12.544	On Peak Load
14/09/2023 22:00	15.141	367,296	33.033	0.015	12.710	On Peak Load
14/09/2023 23:00	15.134	372553.281	30.826	0.015	10.860	On Peak Load
15/09/2023 00:00	15.109	359944.844	37.738	0.015	12.260	On Peak Load
15/09/2023 01:00	14.977	320416.750	30.890	0.015	16.193	Off Peak Load
15/09/2023 02:00	15.011	320972.063	29.013	0.015	10.812	Off Peak Load
15/09/2023 03:00	15.002	314354.144	27.675	0.014	10.993	Off Peak Load
15/09/2023 04:00	15.029	321413.313	31.046	0.015	10.245	Off Peak Load
15/09/2023 05:00	15.053	324544.531	26.632	0.015	8.528	Off Peak Load
15/09/2023 06:00	15.071	329303.875	30.700	0.015	10.396	Off Peak Load
15/09/2023 07:00	15.021	329943.406	32.319	0.015	10.098	Off Peak Load
15/09/2023 08:00	15.207	315665.094	39.956	0.015	14.217	Off Peak Load
15/09/2023 09:00	15.156	323705.188	31.317	0.015	11.138	Off Peak Load
15/09/2023 10:00	15.298	321.550	39.531	0.015	10.382	Off Peak Load
15/09/2023 11:00	15.194	328.715	32.146	0.015	10.127	Off Peak Load
15/09/2023 12:00	15.216	320.786	38.378	0.015	11.555	Off Peak Load
15/09/2023 13:00	15.245	313.951	40.444	0.015	11.157	Off Peak Load
15/09/2023 14:00	15.117	327.456	28.785	0.015	11.603	Off Peak Load
15/09/2023 15:00	15.188	319.960	28.522	0.015	12.402	Off Peak Load
15/09/2023 16:00	15.235	324.333	36.988	0.015	13.093	Off Peak Load
15/09/2023 17:00	15.177	329.512	30.924	0.015	13.071	Off Peak Load
15/09/2023 18:00	15.170	326.351	26.208	0.015	13.259	Off Peak Load
15/09/2023 19:00	15.224	399.218	40.054	0.015	8.082	Off Peak Load
15/09/2023 20:00	15.190	420.309	45.027	0.015	13.776	On Peak Load
15/09/2023 21:00	15.220	388.934	44.944	0.016	11.138	On Peak Load
15/09/2023 22:00	15.208	384.730	43.034	0.016	12.293	On Peak Load
15/09/2023 23:00	15.203	395.356	42.784	0.016	13.195	On Peak Load
16/09/2023 00:00	15.151	393.825	37.718	0.016	9.376	Off Peak Load GT11 SD Half Block
16/09/2023 01:00	15.155	382.905	39.444	0.017	8.165	Off Peak Load GT11 SD Half Block
16/09/2023 02:00	15.158	375.057	39.797	0.017	10.837	Off Peak Load GT11 SD Half Block
16/09/2023 03:00	15.173	385.803	35.856	0.016	10.624	Off Peak Load GT11 SD Half Block
16/09/2023 04:00	15.200	385.785	38.287	0.015	11.204	Off Peak Load GT11 SD Half Block
16/09/2023 05:00	15.191	380.413	36.974	0.013	12.311	Off Peak Load GT11 SD Half Block
16/09/2023 06:00	15.171	381.419	35.359	0.011	13.576	Off Peak Load GT11 SD Half Block
16/09/2023 07:00	15.200	386.201	38.720	0.010	10.857	Off Peak Load GT11 SD Half Block
16/09/2023 08:00	15.175	403.201	41.512	0.011	9.272	Off Peak Load
16/09/2023 09:00	15.127	365.886	37.521	0.011	10.270	On Peak Load
16/09/2023 10:00	15.128	355.372	36.433	0.012	8.155	On Peak Load
16/09/2023 11:00	15.145	363.931	38.603	0.013	7.865	On Peak Load
16/09/2023 12:00	15.153	400.367	35.275	0.013	7.070	On Peak Load
16/09/2023 13:00	15.481	321.391	42.913	0.014	7.179	Off Peak Load
16/09/2023 14:00	15.196	366.042	36.291	0.015	6.999	On Peak Load
16/09/2023 15:00	15.192	373.786	37.615	0.014	6.869	On Peak Load
16/09/2023 16:00	15.204	364.968	40.039	0.014	7.172	On Peak Load
16/09/2023 17:00	15.214	362.304	37.016	0.013	7.124	On Peak Load
16/09/2023 18:00	15.234	361.930	38.250	0.012	8.264	On Peak Load
16/09/2023 19:00	15.131	350.198	32.318	0.012	9.944	On Peak Load
16/09/2023 20:00	15.114	356.843	32.451	0.013	13.381	On Peak Load
16/09/2023 21:00	15.105	356.416	36.915	0.013	11.340	On Peak Load
16/09/2023 22:00	15.092	355.911	34.313	0.014	13.651	On Peak Load
16/09/2023 23:00	15.142	362470.531	37.431	0.014	14.788	On Peak Load
17/09/2023 00:00	15.063	352970.781	38.078	0.015	14.154	On Peak Load
17/09/2023 01:00	14.974	322925.194	32.442	0.016	13.832	Off Peak Load
17/09/2023 02:00	15.004	326289.438	32.658	0.016	10.713	Off Peak Load
17/09/2023 03:00	15.002	325424.906	31.926	0.017	8.776	Off Peak Load
17/09/2023 04:00	15.011	333008.969	31.544	0.017	10.058	Off Peak Load
17/09/2023 05:00	14.994	329429.531	30.284	0.018	9.535	Off Peak Load
17/09/2023 06:00	15.006	316998.475	30.814	0.019	9.216	Off Peak Load
17/09/2023 07:00	15.001	328017.313	31.016	0.019	10.237	Off Peak Load
17/09/2023 08:00	15.341	304958.219	40.359	0.020	14.034	Off Peak Load
17/09/2023 09:00	15.100	361544.750	37.926	0.019	13.666	On Peak Load
17/09/2023 10:00	15.173	389.900	35.683	0.018	12.125	On Peak Load
17/09/2023 11:00	15.146	365.342	36.588	0.017	11.780	On Peak Load
17/09/2023 12:00	15.157	352.005	35.142	0.016	11.481	On Peak Load
17/09/2023 13:00	15.533	312.374	54.826	0.015	12.010	Off Peak Load
17/09/2023 14:00	15.200	342.261	36.096	0.015	10.778	On Peak Load
17/09/2023 15:00	15.195	356.766	35.968	0.015	11.313	On Peak Load
17/09/2023 16:00	15.238	373.834	36.589	0.015	11.206	On Peak Load
17/09/2023 17:00	15.211	366.366	35.559	0.016	11.352	On Peak Load
17/09/2023 18:00	15.214	366.756	37.116	0.016	12.487	On Peak Load
17/09/2023 19:00	15.209	364.315	35.146	0.015	12.910	On Peak Load
17/09/2023 20:00	15.156	358.175	35.968	0.015	13.294	On Peak Load
17/09/2023 21:00	15.140	356.927	34.716	0.015	13.145	On Peak Load
17/09/2023 22:00	15.119	357.111	34.467	0.014	13.467	On Peak Load
17/09/2023 23:00	15.151	377.489	34.504	0.014	13.148	On Peak Load
18/09/2023 00:00	15.121	377.341	39.602	0.014	12.814	On Peak Load
18/09/2023 01:00	15.084	348.432	33.720	0.013	11.351	Off Peak Load
18/09/2023 02:00	15.044	344.427	34.584	0.013	12.839	Off Peak Load
18/09/2023 03:00	15.023	348.180	36.113	0.013	16.209	Off Peak Load
18/09/2023 04:00	15.047	354.801	36.764	0.013	12.796	Off Peak Load
18/09/2023 05:00	15.067	353.550	36.956	0.012	14.640	Off Peak Load
18/09/2023 06:00	15.032	344.464	33.982	0.012	16.780	Off Peak Load
18/09/2023 07:00	15.039	335.582	31.154	0.012	18.934	Off Peak Load

Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1-Sep-24 00:00 - 30-Sep-24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/09/2023 08:00	15.348	299.509	38.460	0.012	21.168	Off Peak Load
18/09/2023 09:00	15.105	360.412	33.621	0.012	11.446	On Peak Load
18/09/2023 10:00	15.116	357.349	35.767	0.012	10.592	On Peak Load
18/09/2023 11:00	15.110	356.545	33.056	0.012	9.120	On Peak Load
18/09/2023 12:00	15.087	353.964	32.808	0.012	10.366	On Peak Load
18/09/2023 13:00	15.452	302.851	48.908	0.013	11.829	Off Peak Load
18/09/2023 14:00	15.156	372.838	36.118	0.013	10.403	On Peak Load
18/09/2023 15:00	15.183	385.422	38.289	0.013	10.459	On Peak Load
18/09/2023 16:00	15.186	369.627	36.205	0.013	11.749	On Peak Load
18/09/2023 17:00	15.084	350.114	37.369	0.014	12.985	On Peak Load
18/09/2023 18:00	15.108	358.425	37.838	0.013	10.682	On Peak Load
18/09/2023 19:00	15.095	358.245	37.781	0.013	16.622	On Peak Load
18/09/2023 20:00	15.082	352.037	38.194	0.012	19.370	On Peak Load
18/09/2023 21:00	15.091	355.957	37.263	0.011	17.022	On Peak Load
18/09/2023 22:00	15.077	355.384	37.724	0.012	15.914	On Peak Load
18/09/2023 23:00	15.110	359.246	35.405	0.012	15.142	On Peak Load
19/09/2023 00:00	15.134	372.585	34.097	0.013	11.749	On Peak Load
19/09/2023 01:00	15.020	343.353	32.286	0.013	20.520	Off Peak Load
19/09/2023 02:00	15.005	351.206	31.351	0.014	10.459	Off Peak Load
19/09/2023 03:00	15.016	342.806	31.459	0.014	20.240	Off Peak Load
19/09/2023 04:00	15.017	341.917	33.200	0.015	14.963	Off Peak Load
19/09/2023 05:00	15.007	333.703	35.390	0.015	15.158	Off Peak Load
19/09/2023 06:00	15.068	347.652	34.291	0.015	16.426	Off Peak Load
19/09/2023 07:00	15.054	346.521	31.681	0.015	9.272	Off Peak Load
19/09/2023 08:00	15.393	295.304	53.333	0.014	14.476	Off Peak Load
19/09/2023 09:00	15.079	347.611	33.170	0.014	10.560	On Peak Load
19/09/2023 10:00	15.079	348.788	35.188	0.014	8.756	On Peak Load
19/09/2023 11:00	15.108	356.230	33.143	0.013	10.688	On Peak Load
19/09/2023 12:00	15.098	344.065	35.265	0.013	11.035	On Peak Load
19/09/2023 13:00	15.455	304.816	48.587	0.013	10.449	Off Peak Load
19/09/2023 14:00	15.139	356.200	35.480	0.013	10.584	On Peak Load
19/09/2023 15:00	15.137	365.597	35.660	0.013	11.185	On Peak Load
19/09/2023 16:00	15.124	355.750	36.165	0.013	13.698	On Peak Load
19/09/2023 17:00	15.146	356.733	37.537	0.013	15.275	On Peak Load
19/09/2023 18:00	15.159	370.864	36.830	0.013	11.342	On Peak Load
19/09/2023 19:00	15.180	365.507	35.372	0.014	9.859	On Peak Load
19/09/2023 20:00	15.110	358.690	31.808	0.014	5.807	On Peak Load
19/09/2023 21:00	15.120	356.664	35.905	0.013	10.620	On Peak Load
19/09/2023 22:00	15.117	365.891	33.028	0.013	12.031	On Peak Load
19/09/2023 23:00	15.141	372.828.969	33.703	0.013	11.756	On Peak Load
20/09/2023 00:00	15.090	384207.125	37.119	0.012	8.852	On Peak Load
20/09/2023 01:00	15.015	349273.500	33.748	0.012	9.499	Off Peak Load
20/09/2023 02:00	15.054	351700.750	31.182	0.011	9.495	Off Peak Load
20/09/2023 03:00	15.020	343157.488	32.637	0.011	10.821	Off Peak Load
20/09/2023 04:00	15.069	347940.500	34.406	0.011	13.429	Off Peak Load
20/09/2023 05:00	15.081	352928.625	36.209	0.011	11.497	Off Peak Load
20/09/2023 06:00	15.058	353549.188	30.938	0.011	12.157	Off Peak Load
20/09/2023 07:00	15.034	344436.906	32.490	0.012	10.870	Off Peak Load
20/09/2023 08:00	15.352	302956.000	33.209	0.012	10.077	Off Peak Load
20/09/2023 09:00	15.134	368212.656	36.001	0.012	10.176	On Peak Load
20/09/2023 10:00	15.155	362.865	33.275	0.013	7.925	On Peak Load
20/09/2023 11:00	15.139	365.431	37.331	0.013	10.204	On Peak Load
20/09/2023 12:00	15.090	356.069	33.281	0.013	10.787	On Peak Load
20/09/2023 13:00	15.480	316.330	47.597	0.014	10.617	Off Peak Load
20/09/2023 14:00	15.167	370.671	36.455	0.014	10.192	On Peak Load
20/09/2023 15:00	15.210	371.342	34.414	0.014	11.387	On Peak Load
20/09/2023 16:00	15.177	373.931	34.545	0.014	10.305	On Peak Load
20/09/2023 17:00	15.170	368.758	37.740	0.014	10.120	On Peak Load
20/09/2023 18:00	15.171	368.149	33.008	0.014	7.972	On Peak Load
20/09/2023 19:00	15.171	382.825	36.877	0.014	10.530	On Peak Load
20/09/2023 20:00	15.173	373.173	37.576	0.014	13.353	On Peak Load
20/09/2023 21:00	15.159	370.233	34.809	0.014	11.162	On Peak Load
20/09/2023 22:00	15.152	369.489	32.965	0.014	11.584	On Peak Load
20/09/2023 23:00	15.176	381.279	36.643	0.014	10.289	On Peak Load
21/09/2023 00:00	15.139	365.584	38.779	0.014	13.016	On Peak Load
21/09/2023 01:00	15.082	355.741	31.595	0.014	13.409	Off Peak Load
21/09/2023 02:00	15.033	349.043	35.720	0.014	12.388	Off Peak Load
21/09/2023 03:00	15.048	345.800	31.377	0.014	12.363	Off Peak Load
21/09/2023 04:00	15.057	347.206	35.772	0.014	11.981	Off Peak Load
21/09/2023 05:00	15.069	359.632	31.610	0.014	11.461	Off Peak Load
21/09/2023 06:00	15.056	346.789	34.423	0.014	12.593	Off Peak Load
21/09/2023 07:00	15.016	341.725	30.896	0.014	12.389	Off Peak Load
21/09/2023 08:00	15.418	310.878	41.215	0.014	10.260	Off Peak Load
21/09/2023 09:00	15.236	373.364	36.405	0.014	8.816	On Peak Load
21/09/2023 10:00	15.228	386.361	38.762	0.014	10.818	On Peak Load
21/09/2023 11:00	15.160	365.227	34.576	0.014	10.588	On Peak Load
21/09/2023 12:00	15.143	364.782	35.054	0.014	9.917	On Peak Load
21/09/2023 13:00	15.366	316.931	35.053	0.015	9.142	Off Peak Load
21/09/2023 14:00	15.153	381.909	33.007	0.015	10.026	On Peak Load
21/09/2023 15:00	15.196	386.015	37.301	0.015	12.686	On Peak Load
21/09/2023 16:00	15.211	366.085	37.129	0.016	7.077	On Peak Load
21/09/2023 17:00	15.129	365.238	34.395	0.016	16.417	On Peak Load
21/09/2023 18:00	15.183	369.196	37.150	0.016	12.456	Off Peak Load



Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 15Sep24 00:00 - 30Sep24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
21/09/2023 19:00	15.188	383.256	33.848	0.015	15.358	On Peak Load
21/09/2023 20:00	15.137	366.367	33.479	0.013	15.823	On Peak Load
21/09/2023 21:00	15.185	388.525	38.302	0.012	8.467	On Peak Load
21/09/2023 22:00	15.183	377.504	36.046	0.010	10.436	On Peak Load
21/09/2023 23:00	15.166	379989.438	35.092	0.010	11.293	On Peak Load
22/09/2023 00:00	15.202	391349.750	37.994	0.010	9.825	On Peak Load
22/09/2023 01:00	15.243	391117.125	35.120	0.009	9.936	Off Peak Load GT11 SD Half Block
22/09/2023 02:00	15.215	390042.656	40.880	0.009	10.183	Off Peak Load GT11 SD Half Block
22/09/2023 03:00	15.236	390466.750	36.181	0.009	11.108	Off Peak Load GT11 SD Half Block
22/09/2023 04:00	15.228	387309.500	37.697	0.009	11.849	Off Peak Load GT11 SD Half Block
22/09/2023 05:00	15.217	390265.875	37.766	0.009	11.123	Off Peak Load GT11 SD Half Block
22/09/2023 06:00	15.204	386950.938	35.704	0.008	11.751	Off Peak Load GT11 SD Half Block
22/09/2023 07:00	15.190	391335.469	39.436	0.011	11.818	Off Peak Load GT11 SD Half Block
22/09/2023 08:00	15.203	391232.906	34.452	0.014	10.495	Off Peak Load GT11 SD Half Block
22/09/2023 09:00	15.221	394598.156	37.020	0.014	8.587	Off Peak Load GT11 SD Half Block
22/09/2023 10:00	15.230	393.980	36.744	0.015	9.435	Off Peak Load GT11 SD Half Block
22/09/2023 11:00	15.200	391.580	36.710	0.015	9.669	Off Peak Load GT11 SD Half Block
22/09/2023 12:00	15.196	392.782	33.892	0.015	10.271	Off Peak Load GT11 SD Half Block
22/09/2023 13:00	15.224	398.876	37.025	0.016	8.921	Off Peak Load GT11 SD Half Block
22/09/2023 14:00	15.203	389.386	32.094	0.016	9.350	Off Peak Load GT11 SD Half Block
22/09/2023 15:00	15.193	390.395	35.824	0.016	9.904	Off Peak Load GT11 SD Half Block
22/09/2023 16:00	15.189	405.622	36.521	0.017	9.644	Off Peak Load GT11 SD Half Block
22/09/2023 17:00	15.192	383.696	36.458	0.016	11.235	Off Peak Load GT11 SD Half Block
22/09/2023 18:00	15.194	406.790	35.442	0.015	11.428	Off Peak Load
22/09/2023 19:00	15.053	363.515	28.700	0.015	9.375	On Peak Load
22/09/2023 20:00	15.073	368.555	29.918	0.014	17.717	On Peak Load
22/09/2023 21:00	15.115	377.660	37.113	0.013	11.727	On Peak Load
22/09/2023 22:00	15.114	369.328	29.433	0.013	10.797	On Peak Load
22/09/2023 23:00	15.081	362.818	30.162	0.012	10.659	On Peak Load
23/09/2023 00:00	15.047	333.596	26.808	0.011	9.550	Off Peak Load
23/09/2023 01:00	15.032	338.935	25.610	0.011	9.512	Off Peak Load
23/09/2023 02:00	15.064	332.977	29.531	0.010	9.297	Off Peak Load
23/09/2023 03:00	15.073	337.423	26.963	0.009	8.587	Off Peak Load
23/09/2023 04:00	15.080	329.520	28.103	0.009	9.796	Off Peak Load
23/09/2023 05:00	15.084	343.683	24.597	0.009	12.692	Off Peak Load
23/09/2023 06:00	15.050	342.699	25.242	0.011	9.915	Off Peak Load
23/09/2023 07:00	15.044	350.963	29.246	0.012	11.360	Off Peak Load
23/09/2023 08:00	15.307	313.431	28.327	0.014	10.641	Off Peak Load
23/09/2023 09:00	15.163	381.171	30.371	0.015	10.800	On Peak Load
23/09/2023 10:00	15.135	364.044	29.318	0.016	9.661	On Peak Load
23/09/2023 11:00	15.157	369.562	31.803	0.010	10.258	On Peak Load
23/09/2023 12:00	15.092	361.523	29.522	0.010	11.149	On Peak Load
23/09/2023 13:00	15.504	310.991	51.118	0.010	11.520	Off Peak Load
23/09/2023 14:00	15.197	382.443	29.767	0.011	10.556	On Peak Load
23/09/2023 15:00	15.211	379.292	31.446	0.011	11.659	On Peak Load
23/09/2023 16:00	15.190	378.769	26.871	0.011	12.245	On Peak Load
23/09/2023 17:00	15.186	369.792	34.249	0.011	12.892	On Peak Load
23/09/2023 18:00	15.155	378.552	35.819	0.012	14.501	On Peak Load
23/09/2023 19:00	15.172	374.285	32.476	0.012	14.057	On Peak Load
23/09/2023 20:00	15.118	368.255	28.162	0.012	10.783	On Peak Load
23/09/2023 21:00	15.113	367.873	32.015	0.011	11.220	On Peak Load
23/09/2023 22:00	15.131	378.504	29.242	0.011	12.549	On Peak Load
23/09/2023 23:00	15.118	373.758	31.794	0.011	16.776	On Peak Load
24/09/2023 00:00	15.116	402.596	36.907	0.010	11.697	Off Peak Load
24/09/2023 01:00	15.185	393.895	32.397	0.010	12.859	Off Peak Load GT11 SD Half Block
24/09/2023 02:00	15.179	395.375	35.482	0.010	13.661	Off Peak Load GT11 SD Half Block
24/09/2023 03:00	15.173	387.291	34.459	0.010	10.105	Off Peak Load GT11 SD Half Block
24/09/2023 04:00	15.167	386.650	30.086	0.010	11.967	Off Peak Load GT11 SD Half Block
24/09/2023 05:00	15.161	391.573	31.569	0.010	8.727	Off Peak Load GT11 SD Half Block
24/09/2023 06:00	15.156	391.055	30.749	0.011	11.361	Off Peak Load GT11 SD Half Block
24/09/2023 07:00	15.150	395.809	35.592	0.011	11.519	Off Peak Load GT11 SD Half Block
24/09/2023 08:00	15.183	415.004	39.311	0.011	11.378	Off Peak Load
24/09/2023 09:00	15.083	373.490	34.366	0.012	11.074	On Peak Load
24/09/2023 10:00	15.126	382.976	36.251	0.012	10.768	On Peak Load
24/09/2023 11:00	15.125	359.599	36.809	0.012	11.659	On Peak Load
24/09/2023 12:00	15.075	372.655	35.104	0.012	15.263	On Peak Load
24/09/2023 13:00	15.269	311.290	30.382	0.013	15.110	Off Peak Load
24/09/2023 14:00	15.140	383.065	37.038	0.013	11.243	On Peak Load
24/09/2023 15:00	15.137	376.496	34.465	0.013	10.592	On Peak Load
24/09/2023 16:00	15.146	389.699	34.946	0.013	11.508	On Peak Load
24/09/2023 17:00	15.149	379.404	35.937	0.014	10.148	On Peak Load
24/09/2023 18:00	15.150	376.518	37.012	0.015	10.023	On Peak Load
24/09/2023 19:00	15.178	380.126	34.381	0.016	10.827	On Peak Load
24/09/2023 20:00	15.080	374.599	33.851	0.016	10.605	On Peak Load
24/09/2023 21:00	15.058	374.303	34.569	0.017	8.632	On Peak Load
24/09/2023 22:00	15.034	370.458	35.722	0.018	8.575	On Peak Load
24/09/2023 23:00	15.058	365.636	37.684	0.019	9.311	On Peak Load
25/09/2023 00:00	15.202	311.153	37.887	0.020	11.742	Off Peak Load
25/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block

Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 15Sep24 00:00 - 30Sep24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust@7%O2	
		25C				
	%	m3/hr	ppm	ppm	mg/m3	
25/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
25/09/2023 09:00	15.138	371.498	36.506	0.005	0.000	On Peak Load
25/09/2023 10:00	15.097	363.276	35.985	0.006	0.000	On Peak Load
25/09/2023 11:00	15.191	375.164	37.861	0.007	0.000	On Peak Load
25/09/2023 12:00	15.149	362.620	39.583	0.008	0.000	On Peak Load
25/09/2023 13:00	15.438	314.560	43.869	0.010	0.000	Off Peak Load
25/09/2023 14:00	15.179	379.666	38.970	0.011	0.000	On Peak Load
25/09/2023 15:00	15.194	373.494	40.283	0.012	0.000	On Peak Load
25/09/2023 16:00	15.199	382.521	39.548	0.013	0.000	On Peak Load
25/09/2023 17:00	15.146	377.164	39.701	0.012	0.000	On Peak Load
25/09/2023 18:00	15.183	379.397	38.632	0.012	0.000	On Peak Load
25/09/2023 19:00	15.149	378.709	39.697	0.012	0.000	On Peak Load
25/09/2023 20:00	15.116	366.986	40.297	0.011	0.000	On Peak Load
25/09/2023 21:00	15.117	374.700	40.412	0.011	0.000	On Peak Load
25/09/2023 22:00	15.152	384.022	39.564	0.011	0.000	On Peak Load
25/09/2023 23:00	15.104	372.486	39.803	0.010	0.000	On Peak Load
26/09/2023 00:00	15.112	414.796	46.982	0.010	0.000	Off Peak Load
26/09/2023 01:00	15.164	390.243	38.540	0.011	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 02:00	15.166	390.833	37.130	0.012	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 03:00	15.169	386.781	35.755	0.013	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 04:00	15.171	389.301	35.836	0.014	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 05:00	15.173	385.947	37.206	0.015	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 06:00	15.176	390.543	39.565	0.016	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 07:00	15.178	385.151	36.733	0.017	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 08:00	15.133	407.686	39.595	0.017	0.000	Off Peak Load GT11 SD Half Block
26/09/2023 09:00	15.124	382.982	34.443	0.014	0.000	On Peak Load
26/09/2023 10:00	15.119	363.127	34.297	0.011	0.000	On Peak Load
26/09/2023 11:00	15.172	372.774	39.034	0.010	0.000	On Peak Load
26/09/2023 12:00	15.122	377.440	37.202	0.013	0.000	On Peak Load
26/09/2023 13:00	15.467	317.055	40.777	0.013	0.000	Off Peak Load
26/09/2023 14:00	15.164	381.238	36.372	0.013	0.000	On Peak Load
26/09/2023 15:00	15.150	370.570	38.694	0.013	0.000	On Peak Load
26/09/2023 16:00	15.149	379.004	39.415	0.012	0.000	On Peak Load
26/09/2023 17:00	15.111	367.416	35.699	0.012	0.000	On Peak Load
26/09/2023 18:00	15.114	373.963	35.297	0.012	0.000	On Peak Load
26/09/2023 19:00	15.129	373.288	35.440	0.012	0.000	On Peak Load
26/09/2023 20:00	15.111	374.978	35.589	0.011	0.000	On Peak Load
26/09/2023 21:00	15.093	373.555	34.372	0.012	0.000	On Peak Load
26/09/2023 22:00	15.062	373.732	34.360	0.012	0.000	On Peak Load
26/09/2023 23:00	15.077	375.750	35.016	0.012	0.000	On Peak Load
27/09/2023 00:00	15.130	415.572	40.805	0.013	0.000	Off Peak Load
27/09/2023 01:00	15.121	395.087	35.639	0.013	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 02:00	15.119	394.581	36.773	0.014	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 03:00	15.117	392.156	35.046	0.014	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 04:00	15.115	388.945	33.729	0.015	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 05:00	15.112	386.959	34.905	0.015	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 06:00	15.121	392.654	34.434	0.015	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 07:00	15.149	388.679	36.742	0.015	0.000	Off Peak Load GT11 SD Half Block
27/09/2023 08:00	15.161	413.300	40.669	0.015	0.000	Off Peak Load
27/09/2023 09:00	15.099	370.673	36.552	0.015	0.000	On Peak Load
27/09/2023 10:00	15.131	383.477	34.188	0.015	0.000	On Peak Load
27/09/2023 11:00	15.179	382.827	37.000	0.015	0.000	On Peak Load
27/09/2023 12:00	15.220	386.150	39.914	0.014	0.000	On Peak Load
27/09/2023 13:00	15.407	317.395	41.166	0.014	0.000	Off Peak Load
27/09/2023 14:00	15.159	377.999	37.690	0.014	0.000	On Peak Load
27/09/2023 15:00	15.243	388.123	35.824	0.014	0.000	On Peak Load
27/09/2023 16:00	15.144	367.298	34.789	0.013	0.000	On Peak Load
27/09/2023 17:00	15.127	373.425	36.480	0.013	0.000	On Peak Load
27/09/2023 18:00	15.104	367.828	37.997	0.013	0.000	On Peak Load
27/09/2023 19:00	15.105	365.552	36.626	0.012	0.000	On Peak Load
27/09/2023 20:00	15.097	363.846	34.332	0.012	0.000	On Peak Load
27/09/2023 21:00	15.091	362.618	35.058	0.013	0.000	On Peak Load
27/09/2023 22:00	15.120	373.366	36.819	0.013	0.000	On Peak Load
27/09/2023 23:00	15.112	373.238	37.104	0.014	0.000	On Peak Load
28/09/2023 00:00	15.031	316.526	32.050	0.018	0.000	Off Peak Load
28/09/2023 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
28/09/2023 09:00	15.187	390.134	36.834	0.014	0.000	On Peak Load
28/09/2023 10:00	15.165	388.892	35.693	0.013	0.000	On Peak Load
28/09/2023 11:00	15.194	395.274	38.066	0.012	0.000	On Peak Load
28/09/2023 12:00	15.124	380.672	35.433	0.011	0.000	On Peak Load
28/09/2023 13:00	15.345	317.123	42.118	0.012	0.000	Off Peak Load
28/09/2023 14:00	15.059	352.764	34.601	0.010	0.000	On Peak Load
28/09/2023 15:00	15.139	379.989	34.209	0.009	0.000	On Peak Load
28/09/2023 16:00	15.240	388.819	39.429	0.008	0.000	On Peak Load



Site Name: GNLL2  
 Stack Name: HRS12  
 Periodically: 1-Sep-24 00:00 - 30-Sep-24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2 %	FLOW @ 1 ATM 25C m3/hr	HRS12_NOx@7%O2 ppm	HRS12_SOx@7%O2 ppm	HRS12_Dust (7%O2) mg/m3	
28/09/2023 17:00	15.270	385,566	38.594	0.008	0.000	On Peak Load
28/09/2023 18:00	15.275	381,492	37.414	0.008	0.000	On Peak Load
28/09/2023 19:00	15.189	375,887	39.722	0.009	0.000	On Peak Load
28/09/2023 20:00	15.159	377,521	34.992	0.009	0.000	On Peak Load
28/09/2023 21:00	15.139	373,834	35.340	0.009	0.000	On Peak Load
28/09/2023 22:00	15.136	380,637	37.237	0.010	0.000	On Peak Load
28/09/2023 23:00	15.128	396918.563	38.051	0.010	0.000	On Peak Load
29/09/2023 00:00	15.133	418636.875	45.014	0.011	0.000	Off Peak Load
29/09/2023 01:00	15.142	400903.375	35.424	0.011	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 02:00	15.143	401153.406	35.604	0.012	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 03:00	15.142	394355.813	36.456	0.012	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 04:00	15.144	399544.531	39.736	0.015	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 05:00	15.150	400891.281	38.753	0.015	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 06:00	15.156	397860.500	36.763	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 07:00	15.162	398218.438	35.743	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 08:00	15.188	409005.906	36.660	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 09:00	15.230	411287.719	38.795	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 10:00	15.272	413494.375	37.391	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 11:00	15.268	403,658	41.563	0.017	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 12:00	15.263	402,645	38.992	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 13:00	15.249	396,508	40.507	0.016	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 14:00	15.251	395,306	40.657	0.015	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 15:00	15.258	401,761	40.261	0.014	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 16:00	15.261	399,146	40.470	0.014	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 17:00	15.233	402,076	37.646	0.013	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 18:00	15.204	391,917	36.693	0.012	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 19:00	15.184	407,846	38.490	0.012	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 20:00	15.181	405,301	41.436	0.012	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 21:00	15.174	407,061	38.783	0.012	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 22:00	15.167	412,611	39.155	0.013	0.000	Off Peak Load GT11 SD Half Block
29/09/2023 23:00	15.160	406711.469	39.684	0.013	0.000	Off Peak Load GT11 SD Half Block
30/09/2023 00:00	15.187	398597.344	37.275	0.013	0.000	Off Peak Load GT11 SD Half Block
30/09/2023 01:00	15.168	395531.781	37.330	0.014	0.000	Off Peak Load GT11 SD Half Block
30/09/2023 02:00	15.148	399790.469	38.099	0.014	0.000	Off Peak Load GT11 SD Half Block
30/09/2023 03:00	15.136	414724.625	40.863	0.015	0.000	Off Peak Load
30/09/2023 04:00	15.030	331707.531	31.441	0.015	0.000	Off Peak Load
30/09/2023 05:00	15.030	334543.250	29.344	0.015	0.000	Off Peak Load
30/09/2023 06:00	15.061	340889.594	27.863	0.015	0.000	Off Peak Load
30/09/2023 07:00	15.020	345855.375	29.691	0.014	0.000	Off Peak Load
30/09/2023 08:00	15.360	309103.906	40.850	0.014	0.000	Off Peak Load
30/09/2023 09:00	15.116	382645.156	36.351	0.014	0.000	On Peak Load
30/09/2023 10:00	15.139	373,925	34.367	0.014	0.000	On Peak Load
30/09/2023 11:00	15.192	380,822	37.132	0.014	0.000	On Peak Load
30/09/2023 12:00	15.113	371,408	35.168	0.013	0.000	On Peak Load
30/09/2023 13:00	15.308	313,657	29.412	0.013	0.000	Off Peak Load
30/09/2023 14:00	15.201	389,947	34.868	0.012	0.000	On Peak Load
30/09/2023 15:00	15.194	387,406	35.650	0.012	0.000	On Peak Load
30/09/2023 16:00	15.218	373,828	34.461	0.011	0.000	On Peak Load
30/09/2023 17:00	15.138	370,457	35.288	0.010	0.000	On Peak Load
30/09/2023 18:00	15.141	364,122	31.803	0.010	0.000	On Peak Load
30/09/2023 19:00	15.108	361,694	33.821	0.009	0.000	On Peak Load
30/09/2023 20:00	15.064	357,435	34.449	0.010	0.000	On Peak Load
30/09/2023 21:00	15.080	357,784	30.163	0.010	0.000	On Peak Load
30/09/2023 22:00	15.038	362,669	32.520	0.011	0.000	On Peak Load
30/09/2023 23:00	15.079	359,306	30.134	0.012	0.000	On Peak Load
Minimum	14.90	293,208	24.90	0.00	0.00	
Maximum	15.64	420,300	58.68	0.02	25.40	
Avg	15.14	363,466	35.91	0.01	8.62	
SUM			60	0	28	

Site Name: GNLL2  
 Stack Name: HRS11  
 Periodically: 1-Oct-24 00:00 - 31-Oct-24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2 %	FLOW @1 ATM 25C m3/hr	HRSG1_NOx@7%O2 ppm	HRSG1_SOx@7%O2 ppm	HRSG1_Dust@7%O2 mg/m3	
01/10/2024 00:00	15.116	329,179	36.029	0.000	0.920	On Peak Load
01/10/2024 01:00	15.029	295,597	33.182	0.000	1.331	Off Peak Load
01/10/2024 02:00	15.071	311,708	34.145	0.000	1.370	Off Peak Load
01/10/2024 03:00	14.976	289,223	36.650	0.000	0.906	Off Peak Load
01/10/2024 04:00	14.973	292,920	35.699	0.000	0.993	Off Peak Load
01/10/2024 05:00	14.953	296,656	35.173	0.000	0.988	Off Peak Load
01/10/2024 06:00	15.030	314,379	34.467	0.000	0.986	Off Peak Load
01/10/2024 07:00	14.940	284,703	33.777	0.000	0.776	Off Peak Load
01/10/2024 08:00	14.990	282,696	34.814	0.001	0.783	Off Peak Load
01/10/2024 09:00	15.198	264,174	50.565	0.001	1.374	Off Peak Load
01/10/2024 10:00	15.150	331,507	36.830	0.002	1.511	On Peak Load
01/10/2024 11:00	15.185	332,753	36.748	0.003	1.464	On Peak Load
01/10/2024 12:00	15.203	335,553	39.113	0.002	1.623	On Peak Load
01/10/2024 13:00	15.292	253,102	56.159	0.002	1.884	Off Peak Load
01/10/2024 14:00	15.127	334,486	30.225	0.002	1.601	On Peak Load
01/10/2024 15:00	15.175	339,878	31.442	0.002	1.480	On Peak Load
01/10/2024 16:00	15.143	360,709	32.212	0.002	1.934	Off Peak Load
01/10/2024 17:00	15.158	345,667	25.684	0.002	1.575	On Peak Load
01/10/2024 18:00	15.118	329,259	22.392	0.001	1.532	On Peak Load
01/10/2024 19:00	15.082	331,597	19.099	0.001	1.402	On Peak Load
01/10/2024 20:00	15.041	324,732	27.607	0.001	1.497	On Peak Load
01/10/2024 21:00	15.032	319,041	9.937	0.001	1.555	On Peak Load
01/10/2024 22:00	14.978	307,843	15.503	0.001	1.205	On Peak Load
01/10/2024 23:00	15.028	321508.900	15.527	0.001	0.520	On Peak Load
02/10/2024 00:00	14.895	295727.44	20.272	0.000	1.311	Off Peak Load
02/10/2024 01:00	14.899	287136.688	4.919	0.000	1.032	Off Peak Load
02/10/2024 02:00	14.983	300264.750	24.741	0.000	0.982	Off Peak Load
02/10/2024 03:00	14.915	292018.500	14.361	0.000	1.001	Off Peak Load
02/10/2024 04:00	14.948	291916.688	19.186	0.000	1.373	Off Peak Load
02/10/2024 05:00	14.943	303347.156	5.872	0.000	1.135	Off Peak Load
02/10/2024 06:00	14.890	294050.750	14.410	0.000	1.107	Off Peak Load
02/10/2024 07:00	14.948	283004.750	21.362	0.000	0.747	Off Peak Load
02/10/2024 08:00	15.017	275988.969	11.981	0.000	0.887	Off Peak Load
02/10/2024 09:00	15.184	261723.078	27.682	0.000	1.279	Off Peak Load
02/10/2024 10:00	15.128	330,329	17.108	0.000	1.728	On Peak Load
02/10/2024 11:00	15.118	317,004	8.926	0.001	1.653	On Peak Load
02/10/2024 12:00	15.134	319,451	11.467	0.001	1.792	On Peak Load
02/10/2024 13:00	15.384	243,680	36.407	0.001	1.898	Off Peak Load
02/10/2024 14:00	15.114	325,724	11.463	0.001	1.890	On Peak Load
02/10/2024 15:00	15.115	321,976	17.669	0.002	1.555	On Peak Load
02/10/2024 16:00	15.120	324,761	6.948	0.002	1.479	On Peak Load
02/10/2024 17:00	15.095	325,418	12.794	0.002	1.555	On Peak Load
02/10/2024 18:00	15.065	328,522	10.750	0.002	1.613	On Peak Load
02/10/2024 19:00	15.070	328,128	11.542	0.002	1.559	On Peak Load
02/10/2024 20:00	15.046	317,335	11.752	0.001	0.578	On Peak Load
02/10/2024 21:00	15.027	320,310	6.946	0.001	0.580	On Peak Load
02/10/2024 22:00	15.063	319,857	22.336	0.000	0.813	On Peak Load
02/10/2024 23:00	15.020	327631.281	27.694	0.000	0.583	On Peak Load
03/10/2024 00:00	14.835	291527.531	6.730	0.000	0.964	Off Peak Load
03/10/2024 01:00	14.878	289162.906	22.329	0.000	1.009	Off Peak Load
03/10/2024 02:00	14.933	291616.188	12.933	0.000	0.231	Off Peak Load
03/10/2024 03:00	14.873	286695.688	5.163	0.000	0.642	Off Peak Load
03/10/2024 04:00	14.909	286363.406	23.094	0.000	0.957	Off Peak Load
03/10/2024 05:00	14.894	286677.781	11.497	0.000	1.063	Off Peak Load
03/10/2024 06:00	14.924	292790.844	5.676	0.000	1.104	Off Peak Load
03/10/2024 07:00	14.920	279203.406	21.222	0.000	0.699	Off Peak Load
03/10/2024 08:00	14.983	273849.781	14.505	0.000	1.056	Off Peak Load
03/10/2024 09:00	15.161	261711.531	25.339	0.000	1.212	Off Peak Load
03/10/2024 10:00	15.051	323,628	11.347	0.000	1.108	On Peak Load
03/10/2024 11:00	15.053	321,355	9.901	0.000	0.841	On Peak Load
03/10/2024 12:00	15.061	311,138	18.090	0.000	1.005	On Peak Load
03/10/2024 13:00	15.421	236,715	55.416	0.000	1.318	Off Peak Load
03/10/2024 14:00	15.077	311,769	17.224	0.000	1.080	On Peak Load
03/10/2024 15:00	15.098	312,273	10.140	0.000	0.765	On Peak Load
03/10/2024 16:00	15.136	324,440	23.777	0.000	1.004	On Peak Load
03/10/2024 17:00	15.144	327,551	24.916	0.000	0.715	On Peak Load
03/10/2024 18:00	15.081	319,389	18.862	0.000	1.085	On Peak Load
03/10/2024 19:00	15.068	323,986	21.643	0.000	1.389	On Peak Load
03/10/2024 20:00	15.062	320,326	12.405	0.000	1.511	On Peak Load
03/10/2024 21:00	15.042	321,842	19.429	0.000	1.208	On Peak Load
03/10/2024 22:00	15.037	319,403	22.741	0.000	0.452	On Peak Load
03/10/2024 23:00	15.001	320933.969	14.679	0.000	0.878	On Peak Load
04/10/2024 00:00	14.929	278364.118	19.345	0.001	0.411	Off Peak Load
04/10/2024 01:00	14.934	276352.938	13.107	0.001	1.016	Off Peak Load
04/10/2024 02:00	14.943	279832.219	18.195	0.001	0.661	Off Peak Load
04/10/2024 03:00	14.939	270311.938	13.368	0.001	1.023	Off Peak Load
04/10/2024 04:00	14.968	273593.119	20.847	0.001	0.841	Off Peak Load
04/10/2024 05:00	14.975	275974.625	31.833	0.002	1.126	Off Peak Load
04/10/2024 06:00	14.937	273584.594	19.474	0.002	1.490	Off Peak Load
04/10/2024 07:00	14.945	277224.375	14.208	0.002	2.360	Off Peak Load
04/10/2024 08:00	15.114	257905.609	36.443	0.002	2.117	Off Peak Load
04/10/2024 09:00	15.265	249808.313	46.525	0.003	2.061	Off Peak Load
04/10/2024 10:00	14.941	299,810	9.033	0.003	1.747	On Peak Load



Site Name: GNL2  
Stack Name: HRS011  
Periodically: 1-Oct/24 00:00 - 31-Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SO2@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/10/2024 11:00	15.029	300,759	17,946	0.003	1.376	On Peak Load
04/10/2024 12:00	14.973	299,211	8,178	0.002	0.671	On Peak Load
04/10/2024 13:00	15.545	222,582	57,246	0.002	1.776	Off Peak Load
04/10/2024 14:00	14.973	297,194	20,423	0.002	0.941	On Peak Load
04/10/2024 15:00	15.033	303,010	21,603	0.002	0.896	On Peak Load
04/10/2024 16:00	15.005	306,261	11,734	0.001	0.855	On Peak Load
04/10/2024 17:00	14.973	303,076	19,174	0.001	0.772	On Peak Load
04/10/2024 18:00	14.954	296,963	17,124	0.001	0.977	On Peak Load
04/10/2024 19:00	14.935	294,891	16,058	0.001	0.708	On Peak Load
04/10/2024 20:00	14.958	297,861	22,599	0.001	0.927	On Peak Load
04/10/2024 21:00	14.945	308,245	27,191	0.001	1.073	On Peak Load
04/10/2024 22:00	14.972	295,477	31,482	0.002	0.933	On Peak Load
04/10/2024 23:00	14.993	302,408	32,808	0.002	0.988	On Peak Load
05/10/2024 00:00	15.045	267,708	45,865	0.002	1.359	Off Peak Load
05/10/2024 01:00	14.971	273,458	40,354	0.002	2.586	Off Peak Load
05/10/2024 02:00	15.012	276,353	39,117	0.002	3.430	Off Peak Load
05/10/2024 03:00	14.924	285,233	33,474	0.003	2.741	Off Peak Load
05/10/2024 04:00	15.024	272,610	41,588	0.003	3.034	Off Peak Load
05/10/2024 05:00	15.041	267,362	46,076	0.003	5.352	Off Peak Load
05/10/2024 06:00	15.063	266,021	47,096	0.003	3.903	Off Peak Load
05/10/2024 07:00	15.012	262,982	39,028	0.004	2.839	Off Peak Load
05/10/2024 08:00	15.202	253,317	56,943	0.004	2.207	Off Peak Load
05/10/2024 09:00	15.285	250,630	33,474	0.004	1.916	Off Peak Load
05/10/2024 10:00	15.087	306,085	35,817	0.005	1.811	On Peak Load
05/10/2024 11:00	15.166	314,387	38,126	0.004	1.599	On Peak Load
05/10/2024 12:00	15.152	315,635	37,303	0.004	1.739	On Peak Load
05/10/2024 13:00	15.412	239,487	41,588	0.004	1.518	Off Peak Load
05/10/2024 14:00	15.156	328,680	27,489	0.004	1.463	On Peak Load
05/10/2024 15:00	15.117	321,658	27,071	0.004	1.172	On Peak Load
05/10/2024 16:00	15.080	331,405	23,894	0.003	1.213	On Peak Load
05/10/2024 17:00	15.061	331,739	30,120	0.003	6.457	On Peak Load
05/10/2024 18:00	15.032	319,737	25,851	0.003	1.163	On Peak Load
05/10/2024 19:00	15.037	335,734	19,138	0.003	1.695	On Peak Load
05/10/2024 20:00	15.043	321,516	12,895	0.002	0.803	On Peak Load
05/10/2024 21:00	15.020	328,403	13,280	0.002	0.659	On Peak Load
05/10/2024 22:00	15.037	339,709	17,054	0.002	1.567	On Peak Load
05/10/2024 23:00	14.990	339,024,375	15,614	0.002	0.954	On Peak Load
06/10/2024 00:00	14.845	283,409,000	21,985	0.001	1.161	Off Peak Load
06/10/2024 01:00	14.958	300,48,344	12,253	0.001	1.240	Off Peak Load
06/10/2024 02:00	14.984	311,416,813	9,040	0.001	1.949	Off Peak Load
06/10/2024 03:00	14.878	295,126,719	7,642	0.001	2.100	Off Peak Load
06/10/2024 04:00	14.910	292,769,438	21,097	0.001	1.519	Off Peak Load
06/10/2024 05:00	14.966	285,677,875	29,082	0.001	3.728	Off Peak Load
06/10/2024 06:00	14.936	284,622,844	32,715	0.002	2.912	Off Peak Load
06/10/2024 07:00	15.033	273,222,438	39,569	0.002	2.264	Off Peak Load
06/10/2024 08:00	15.034	266,06,719	44,207	0.002	2.138	Off Peak Load
06/10/2024 09:00	15.098	269,014,313	45,671	0.002	1.740	Off Peak Load
06/10/2024 10:00	15.173	262,810	51,221	0.002	1.757	Off Peak Load
06/10/2024 11:00	15.168	269,171	45,953	0.003	1.784	Off Peak Load
06/10/2024 12:00	15.126	265,514	25,856	0.003	1.733	Off Peak Load
06/10/2024 13:00	15.138	268,974	30,303	0.003	1.491	Off Peak Load
06/10/2024 14:00	15.169	264,210	32,891	0.003	1.776	Off Peak Load
06/10/2024 15:00	15.042	278,564	23,773	0.003	1.067	Off Peak Load
06/10/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/10/2024 17:00	15.216	245,506	47,149	0.000	0.876	Off Peak Load
06/10/2024 18:00	15.129	252,964	25,918	0.000	1.292	Off Peak Load
06/10/2024 19:00	14.930	303,163	25,104	0.000	1.096	On Peak Load
06/10/2024 20:00	14.958	305,183	10,345	0.002	0.582	On Peak Load
06/10/2024 21:00	14.991	329,041	5,971	0.004	1.430	On Peak Load
06/10/2024 22:00	15.126	251,676	19,144	0.005	0.676	Off Peak Load
06/10/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
07/10/2024 10:00	15.079	314,381	26,809	0.001	1.585	On Peak Load
07/10/2024 11:00	15.172	314,312	19,748	0.001	1.436	On Peak Load
07/10/2024 12:00	15.118	316,309	9,114	0.002	1.295	On Peak Load
07/10/2024 13:00	15.370	244,692	46,713	0.002	1.395	Off Peak Load
07/10/2024 14:00	15.121	333,708	6,054	0.003	1.564	On Peak Load
07/10/2024 15:00	15.166	339,628	20,814	0.003	0.914	On Peak Load
07/10/2024 16:00	15.101	335,910	26,670	0.004	1.120	On Peak Load
07/10/2024 17:00	15.093	324,495	23,212	0.004	1.504	On Peak Load
07/10/2024 18:00	15.044	323,501	19,180	0.004	1.330	On Peak Load
07/10/2024 19:00	15.057	326,491	23,193	0.003	0.958	On Peak Load
07/10/2024 20:00	15.053	325,027	7,527	0.003	1.161	On Peak Load
07/10/2024 21:00	15.060	323,677	27,443	0.002	0.593	On Peak Load

Site Name: GNL2  
Stack Name: HRS011  
Periodically: 1-Oct/24 00:00 - 31-Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SO2@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/10/2024 22:00	15.065	327,870	16,399	0.002	1.170	On Peak Load
07/10/2024 23:00	15.099	334,585	27,698	0.001	1.071	On Peak Load
08/10/2024 00:00	15.095	369,898	14,101	0.001	1.328	Off Peak Load GT12 SD Half Block
08/10/2024 01:00	15.088	358,331	19,451	0.001	1.883	Off Peak Load GT12 SD Half Block
08/10/2024 02:00	15.105	358,190	24,411	0.000	3.036	Off Peak Load GT12 SD Half Block
08/10/2024 03:00	15.096	356,267	12,009	0.000	2.668	Off Peak Load GT12 SD Half Block
08/10/2024 04:00	15.077	358,334	8,056	0.000	2.071	Off Peak Load GT12 SD Half Block
08/10/2024 05:00	15.072	356,304	27,938	0.000	1.782	Off Peak Load GT12 SD Half Block
08/10/2024 06:00	15.131	353,917	16,911	0.000	1.522	Off Peak Load GT12 SD Half Block
08/10/2024 07:00	15.099	356,238	8,766	0.000	2.162	Off Peak Load GT12 SD Half Block
08/10/2024 08:00	15.096	355,861	26,111	0.000	1.935	Off Peak Load GT12 SD Half Block
08/10/2024 09:00	15.157	366,264	24,708	0.000	1.773	Off Peak Load
08/10/2024 10:00	15.083	314,183	23,048	0.000	1.419	On Peak Load
08/10/2024 11:00	15.074	311,329	5,937	0.000	1.490	On Peak Load
08/10/2024 12:00	15.087	316,172	15,019	0.000	1.423	On Peak Load
08/10/2024 13:00	15.422	239,955	49,717	0.000	1.976	Off Peak Load
08/10/2024 14:00	15.181	345,949	11,040	0.000	1.723	On Peak Load
08/10/2024 15:00	15.131	327,977	11,173	0.000	1.451	On Peak Load
08/10/2024 16:00	15.135	325,489	21,378	0.001	1.554	On Peak Load
08/10/2024 17:00	15.170	333,391	24,201	0.001	0.733	On Peak Load
08/10/2024 18:00	15.099	321,383	24,029	0.001	1.027	On Peak Load
08/10/2024 19:00	15.038	321,714	19,564	0.001	1.567	On Peak Load
08/10/2024 20:00	14.989	318,907	21,435	0.001	1.058	On Peak Load
08/10/2024 21:00	15.007	320,849	16,142	0.002	1.239	On Peak Load
08/10/2024 22:00	14.965	313,740	11,366	0.002	1.140	On Peak Load
08/10/2024 23:00	15.004	317,338	6,638	0.002	0.949	On Peak Load
09/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
09/10/2024 10:00	15.099	321,532	28,784	0.001	0.966	On Peak Load
09/10/2024 11:00	15.102	311,176	25,692	0.001	1.080	On Peak Load
09/10/2024 12:00	15.091	313,392	20,282	0.002	1.441	On Peak Load
09/10/2024 13:00	15.395	237,455	38,314	0.002	1.531	Off Peak Load
09/10/2024 14:00	15.161	330,524	24,065	0.002	1.514	On Peak Load
09/10/2024 15:00	15.196	336,706	14,627	0.002	1.122	On Peak Load
09/10/2024 16:00	15.172	331,303	24,687	0.002	1.139	On Peak Load
09/10/2024 17:00	15.146	329,292	25,534	0.003	1.034	On Peak Load
09/10/2024 18:00	15.124	342,181	16,864	0.003	1.187	On Peak Load
09/10/2024 19:00	15.106	342,183	8,182	0.003	1.132	On Peak Load
09/10/2024 20:00	15.020	320,755	16,939	0.002	1.268	On Peak Load
09/10/2024 21:00	15.064	320,123	10,161	0.002	1.977	On Peak Load
09/10/2024 22:00	15.042	327,114	25,297	0.002	1.901	On Peak Load
09/10/2024 23:00	15.015	322,472	12,015	0.002	2.005	On Peak Load
10/10/2024 00:00	15.096	364,852	12,007	0.002	1.483	Off Peak Load GT12 SD Half Block
10/10/2024 01:00	15.146	352,181	9,802	0.002	1.946	Off Peak Load GT12 SD Half Block
10/10/2024 02:00	15.102	355,047	28,919	0.002	1.794	Off Peak Load GT12 SD Half Block
10/10/2024 03:00	15.082	354,101	27,791	0.002	2.430	Off Peak Load GT12 SD Half Block
10/10/2024 04:00	15.102	357,459	24,398	0.002	3.296	Off Peak Load GT12 SD Half Block
10/10/2024 05:00	15.085	356,259	16,179	0.002	3.274	Off Peak Load GT12 SD Half Block
10/10/2024 06:00	15.083	354,401	12,973	0.003	2.983	Off Peak Load GT12 SD Half Block
10/10/2024 07:00	15.136	356,190	16,921	0.003	3.312	Off Peak Load GT12 SD Half Block
10/10/2024 08:00	15.128	352,579	15,209	0.003	2.004	Off Peak Load GT12 SD Half Block
10/10/2024 09:00	15.147	364,528	17,497	0.003	2.021	Off Peak Load
10/10/2024 10:00	15.093	323,560	16,155	0.000	1.810	On Peak Load
10/10/2024 11:00	121.089	313,231	0.000	0.000	0.000	On Peak Load
10/10/2024 12:00	15.114	321,578	27,042	0.002	0.967	On Peak Load
10/10/2024 13:00	15.316	240,503	52,585	0.002	1.124	Off Peak Load
10/10/2024 14:00	14.997	338,848	16,981	0.001	1.109	On Peak Load
10/10/2024 15:00	15.019	341,936	12,484	0.001	2.621	On Peak Load
10/10/2024 16:00	14.997	333,932	9,466	0.001	3.405	On Peak Load
10/10/2024 17:00	15.011	330,400	17,096	0.000	1.526	On Peak Load
10/10/2024 18:00	15.003	345,060	19,413	0.000	4.445	On Peak Load
10/10/2024 19:00	15.020	341,300	14,226	0.000	2.170	On Peak Load
10/10/2024 20:00	14.998	336,023	9,622	0.001	1.947	On Peak Load
10/10/2024 21:00	15.017	348,293	8,736	0.002	2.051	On Peak Load
10/10/2024 22:00	14.998	343,477	7,748	0.003	2.409	On Peak Load
10/10/2024 23:00	14.992	333,347	11,901	0.005	2.783	On Peak Load
11/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSGL1  
10/24/24 00:00 - 31/10/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZPG	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/10/2024 10:00	15.086	327,585	27.541	0.000	1.544	On Peak Load
11/10/2024 11:00	15.128	325,600	23.847	0.000	1.259	On Peak Load
11/10/2024 12:00	15.161	330,412	27.538	0.001	1.218	On Peak Load
11/10/2024 13:00	15.349	244,990	53.124	0.001	1.321	Off Peak Load
11/10/2024 14:00	15.190	337,922	23.420	0.001	1.257	On Peak Load
11/10/2024 15:00	15.079	333,712	21.361	0.001	0.951	On Peak Load
11/10/2024 16:00	15.117	348,241	19.119	0.002	1.407	On Peak Load
11/10/2024 17:00	15.082	339,918	26.545	0.002	1.348	On Peak Load
11/10/2024 18:00	15.073	333,585	22.583	0.002	1.434	On Peak Load
11/10/2024 19:00	15.040	349,689	15.699	0.002	2.757	On Peak Load
11/10/2024 20:00	15.045	347,594	13.712	0.002	1.379	On Peak Load
11/10/2024 21:00	15.064	354,197	14.804	0.002	1.465	On Peak Load
11/10/2024 22:00	15.015	348,707	7.954	0.002	1.489	On Peak Load
11/10/2024 23:00	15.029	341,899	18.102	0.002	1.156	On Peak Load
12/10/2024 00:00	15.041	362,330	23.852	0.002	1.468	Off Peak Load GT12 SD Half Block
12/10/2024 01:00	15.032	357,124	27.225	0.002	2.519	Off Peak Load GT12 SD Half Block
12/10/2024 02:00	15.022	357,378	23.906	0.002	3.264	Off Peak Load GT12 SD Half Block
12/10/2024 03:00	15.027	357,170	18.118	0.002	2.603	Off Peak Load GT12 SD Half Block
12/10/2024 04:00	15.013	355,632	13.647	0.001	2.769	Off Peak Load GT12 SD Half Block
12/10/2024 05:00	15.044	356,202	11.804	0.001	3.153	Off Peak Load GT12 SD Half Block
12/10/2024 06:00	15.041	358,281	9.468	0.001	2.636	Off Peak Load GT12 SD Half Block
12/10/2024 07:00	15.056	357,588	7.660	0.000	1.646	Off Peak Load GT12 SD Half Block
12/10/2024 08:00	15.077	358,331	21.271	0.000	2.393	Off Peak Load GT12 SD Half Block
12/10/2024 09:00	15.046	364,502	15.223	0.000	2.056	Off Peak Load
12/10/2024 10:00	15.109	341,793	13.701	0.000	1.715	On Peak Load
12/10/2024 11:00	15.111	341,166	8.929	0.000	1.508	On Peak Load
12/10/2024 12:00	15.065	321,477	12.332	0.000	1.439	On Peak Load
12/10/2024 13:00	15.235	252,227	36.420	0.000	1.788	Off Peak Load
12/10/2024 14:00	15.053	349,100	21.304	0.000	0.011	On Peak Load
13/10/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/10/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
13/10/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
14/10/2024 19:00	15.019	347,032	28.665	0.005	1.674	On Peak Load
14/10/2024 20:00	15.063	331,701	29.468	0.004	0.985	On Peak Load
14/10/2024 21:00	15.048	333,811	25.319	0.002	1.131	On Peak Load
14/10/2024 22:00	14.977	335,907	15.508	0.001	1.312	On Peak Load
14/10/2024 23:00	14.921	298,603	24.575	0.000	0.858	Off Peak Load
15/10/2024 00:00	14.862	294,257	10.677	0.000	0.644	Off Peak Load
15/10/2024 01:00	14.877	300,628	15.6	0.000	0.829	Off Peak Load
15/10/2024 02:00	14.873	299,369	8.019	0.000	0.793	Off Peak Load
15/10/2024 03:00	14.911	303,455	20.271	0.000	1.847	Off Peak Load
15/10/2024 04:00	14.924	307,132	10.946	0.000	1.991	Off Peak Load
15/10/2024 05:00	14.869	301,397	5.360	0.000	3.069	Off Peak Load
15/10/2024 06:00	14.914	302,632	17.537	0.000	4.631	Off Peak Load
15/10/2024 07:00	14.858	294,053	18.683	0.000	2.797	Off Peak Load
15/10/2024 08:00	14.912	277,142	18.8	0.001	1.650	Off Peak Load
15/10/2024 09:00	15.018	268,84	8.75	0.002	1.540	Off Peak Load
15/10/2024 10:00	15.057	337,124	0.012	0.002	1.762	On Peak Load
15/10/2024 11:00	15.115	327,622	15.143	0.002	1.711	On Peak Load
15/10/2024 12:00	15.164	337,899	13.604	0.002	0.822	On Peak Load
15/10/2024 13:00	15.094	254,811	39.217	0.001	1.136	Off Peak Load
15/10/2024 14:00	15.068	345,976	16.939	0.001	1.077	On Peak Load
15/10/2024 15:00	15.067	341,763	20.553	0.001	1.609	On Peak Load
15/10/2024 16:00	15.067	343,924	6.116	0.001	1.016	On Peak Load
15/10/2024 17:00	15.054	331,604	24.604	0.000	1.050	On Peak Load
15/10/2024 18:00	15.056	343,405	25.097	0.000	0.801	On Peak Load
15/10/2024 19:00	15.080	338,776	5.384	0.000	0.484	On Peak Load
15/10/2024 20:00	15.039	340,483	16.126	0.001	1.523	On Peak Load
15/10/2024 21:00	15.067	337,847	9.351	0.001	1.495	On Peak Load
15/10/2024 22:00	15.067	344,550	22.361	0.001	0.850	On Peak Load
15/10/2024 23:00	15.053	342,939	16.525	0.001	1.419	On Peak Load
16/10/2024 00:00	14.905	302,839	20.058	0.001	1.129	Off Peak Load
16/10/2024 01:00	14.987	315,412	13.182	0.002	1.189	Off Peak Load

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSGL1  
10/24/24 00:00 - 31/10/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remarks
	O2	FLOW @1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
16/10/2024 02:00	14.952	318,131	14.266	0.002	1.315	Off Peak Load
16/10/2024 03:00	14.947	320,025	4.199	0.001	0.963	Off Peak Load
16/10/2024 04:00	14.930	312,798	19.761	0.000	1.217	Off Peak Load
16/10/2024 05:00	14.986	323,636	24.066	0.000	1.031	Off Peak Load
16/10/2024 06:00	14.986	315,853	13.036	0.000	1.263	Off Peak Load
16/10/2024 07:00	14.936	317,325	8.009	0.000	1.347	Off Peak Load
16/10/2024 08:00	14.916	276,539	16.328	0.000	1.199	Off Peak Load
16/10/2024 09:00	15.033	277,964	8.433	0.000	1.487	Off Peak Load
16/10/2024 10:00	15.081	337,891	20.960	0.000	1.407	On Peak Load
16/10/2024 11:00	15.131	345,273	11.921	0.000	1.427	On Peak Load
16/10/2024 12:00	15.067	339,787	16.992	0.000	1.290	On Peak Load
16/10/2024 13:00	14.974	319,093	10.104	0.000	8.315	Off Peak Load
16/10/2024 14:00	15.026	373,500	25.636	0.000	5.564	Off Peak Load
16/10/2024 15:00	15.049	374,091	33.007	0.000	3.866	On Peak Load
16/10/2024 16:00	15.034	342,038	19.285	0.000	1.508	On Peak Load
16/10/2024 17:00	15.037	339,915	13.038	0.000	1.190	On Peak Load
16/10/2024 18:00	15.041	343,872	22.384	0.000	2.056	On Peak Load
16/10/2024 19:00	15.084	343,867	25.963	0.000	1.232	On Peak Load
16/10/2024 20:00	15.022	336,448	25.041	0.000	1.711	On Peak Load
16/10/2024 21:00	15.049	340,564	26.869	0.000	1.407	On Peak Load
16/10/2024 22:00	15.055	339,555	25.603	0.000	1.634	On Peak Load
16/10/2024 23:00	15.037	345,602	25.942	0.000	1.733	On Peak Load
17/10/2024 00:00	14.911	304,276	23.844	0.000	1.194	Off Peak Load
17/10/2024 01:00	14.973	322,441	21.080	0.000	1.556	Off Peak Load
17/10/2024 02:00	14.991	311,313	21.845	0.000	2.385	Off Peak Load
17/10/2024 03:00	14.983	323,682	18.173	0.000	1.812	Off Peak Load
17/10/2024 04:00	14.972	313,294	15.685	0.000	1.563	Off Peak Load
17/10/2024 05:00	14.943	304,661	13.673	0.000	1.337	Off Peak Load
17/10/2024 06:00	14.942	315,968	14.400	0.000	2.351	Off Peak Load
17/10/2024 07:00	14.930	305,047	18.098	0.000	2.100	Off Peak Load
17/10/2024 08:00	14.901	288,354	22.344	0.000	2.728	Off Peak Load
17/10/2024 09:00	15.020	269,935	13.112	0.000	1.756	Off Peak Load
17/10/2024 10:00	15.077	322,829	29.966	0.000	1.580	On Peak Load
17/10/2024 11:00	15.135	327,599	33.156	0.000	1.732	On Peak Load
17/10/2024 12:00	15.155	322,948	33.298	0.000	1.632	On Peak Load
17/10/2024 13:00	15.265	248,000	56.155	0.000	1.419	Off Peak Load
17/10/2024 14:00	15.068	331,675	35.595	0.000	2.273	On Peak Load
17/10/2024 15:00	15.075	329,321	36.713	0.000	1.175	On Peak Load
17/10/2024 16:00	15.135	337,185	38.184	0.000	1.141	On Peak Load
17/10/2024 17:00	15.127	338,302	37.378	0.000	1.143	On Peak Load
17/10/2024 18:00	15.152	336,216	36.386	0.001	1.065	On Peak Load
17/10/2024 19:00	15.100	333,334	36.389	0.001	1.357	On Peak Load
17/10/2024 20:00	15.067	329,790	34.357	0.001	1.050	On Peak Load
17/10/2024 21:00	15.083	350,170	35.451	0.002	1.349	On Peak Load
17/10/2024 22:00	15.065	349,682	35.728	0.002	1.705	On Peak Load
17/10/2024 23:00	15.047	333,769	27.791	0.003	0.814	On Peak Load
18/10/2024 00:00	14.867	299,447	21.775	0.003	0.416	Off Peak Load
18/10/2024 01:00	14.938	307,454	22.809	0.003	1.317	Off Peak Load
18/10/2024 02:00	14.984	311,215	18.356	0.003	0.749	Off Peak Load
18/10/2024 03:00	14.979	311,209	25.111	0.002	1.242	Off Peak Load
18/10/2024 04:00	14.979	311,138	15.091	0.002	1.782	Off Peak Load
18/10/2024 05:00	14.970	309,527	12.739	0.002	1.232	Off Peak Load
18/10/2024 06:00	14.956	309,303	10.376	0.001	1.125	Off Peak Load
18/10/2024 07:00	14.915	302,581	10.124	0.001	0.890	Off Peak Load
18/10/2024 08:00	14.863	286,685	16.170	0.000	1.184	Off Peak Load
18/10/2024 09:00	15.039	270,430	28.905	0.001	1.361	Off Peak Load
18/10/2024 10:00	15.053	334,210	6.725	0.001	1.320	On Peak Load
18/10/2024 11:00	15.070	319,967	14.001	0.001	1.407	On Peak Load
18/10/2024 12:00	15.070	339,580	10.452	0.002	1.307	On Peak Load
18/10/2024 13:00	15.106	754,059	42.200	0.002	0.978	Off Peak Load
18/10/2024 14:00	14.985	338,869	16.519	0.003	1.549	On Peak Load
18/10/2024 15:00	15.053	348,664	7.214	0.003	1.540	On Peak Load
18/10/2024 16:00	15.054	343,532	7.081	0.004	0.766	On Peak Load
18/10/2024 17:00	15.021	339,968	13.124	0.004	0.830	On Peak Load
18/10/2024 18:00	14.996	336,136	5.037	0.004	2.231	On Peak Load
18/10/2024 19:00	15.031	337,788	15.882	0.003	4.779	On Peak Load
18/10/2024 20:00	15.024	334,106	3.943	0.003	1.182	On Peak Load
18/10/2024 21:00	15.002	339,537	4.337	0.003	1.355	On Peak Load
18/10/2024 22:00	15.016	343,921	4.759	0.002	1.442	On Peak Load
18/10/2024 23:00	15.023	343,905	4.457	0.002	1.340	On Peak Load
19/10/2024 00:00	14.825	291,924	3.481	0.002	0.838	Off Peak Load
19/10/2024 01:00	14.960	320,050	6.530	0.002	1.421	Off Peak Load
19/10/2024 02:00	14.965	331,418	8.267	0.002	1.286	Off Peak Load
19/10/2024 03:00	15.024	314,791	13.238	0.002	1.166	Off Peak Load
19/10/2024 04:00	14.930	299,441	22.752	0.002	1.797	Off Peak Load
19/10/2024 05:00	14.894	300,007	3.703	0.002	3.674	Off Peak Load
19/10/2024 06:00	14.926	303,041	4.557	0.002	3.808	Off Peak Load
19/10/2024 07:00	14.959	311,947	11.117	0.002	5.151	Off Peak Load
19/10/2024 08:00	14.859	289,639	5.693	0.002	2.722	Off Peak Load
19/10/2024 09:00	14.900	302,419	19.059	0.002	2.746	Off Peak Load
19/10/2024 10:00	15.036	366,609	12.735	0.002	2.241	On Peak Load
19/10/2024 11:00	15.097	366,653	17.271	0.002	1.681	Off Peak Load
19/10/2024 12:00	15.066	335,500	17.197	0.002	1.420	On Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
10/02/24 00:00 - 31/02/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust @7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
18/10/2024 13:00	15.309	245,506	40.621	0.001	1.655	Off Peak Load
18/10/2024 14:00	15.056	334,498	19.881	0.001	1.144	On Peak Load
18/10/2024 15:00	15.029	327,476	6.361	0.001	3.210	On Peak Load
18/10/2024 16:00	15.094	313,901	27.785	0.001	1.844	On Peak Load
18/10/2024 17:00	15.002	331,959	24.792	0.001	1.589	On Peak Load
18/10/2024 18:00	15.002	337,175	7.261	0.001	1.285	On Peak Load
18/10/2024 19:00	14.979	331,844	8.620	0.001	0.751	On Peak Load
18/10/2024 20:00	15.009	338,750	26.772	0.001	1.405	On Peak Load
18/10/2024 21:00	14.985	340,119	18.560	0.001	1.037	On Peak Load
18/10/2024 22:00	14.995	333,860	11.815	0.000	0.696	On Peak Load
18/10/2024 23:00	14.983	337,652,969	9.591	0.000	1.016	On Peak Load
20/10/2024 00:00	14.810	287,514,031	12.433	0.000	0.301	Off Peak Load
20/10/2024 01:00	14.931	304,603,000	10.908	0.000	0.793	Off Peak Load
20/10/2024 02:00	14.945	302,775,656	10.012	0.000	1.743	Off Peak Load
20/10/2024 03:00	14.934	312,023,156	18.690	0.000	0.899	Off Peak Load
20/10/2024 04:00	14.941	296,938,188	18.690	0.000	0.662	Off Peak Load
20/10/2024 05:00	14.907	302,545,563	23.618	0.000	1.047	Off Peak Load
20/10/2024 06:00	14.906	290,766,344	6.974	0.000	0.925	Off Peak Load
20/10/2024 07:00	14.856	286,294,531	3.207	0.000	1.017	Off Peak Load
20/10/2024 08:00	14.997	268,623,313	32.582	0.000	1.155	Off Peak Load
20/10/2024 09:00	14.956	240,872,625	14.770	0.000	0.562	Off Peak Load
20/10/2024 10:00	14.979	277,990	20.429	0.000	2.069	Off Peak Load
20/10/2024 11:00	14.999	270,299	13.366	0.000	1.464	Off Peak Load
20/10/2024 12:00	15.025	273,878	19.971	0.000	1.252	Off Peak Load
20/10/2024 13:00	15.075	268,802	20.614	0.000	1.580	Off Peak Load
20/10/2024 14:00	15.037	280,695	15.212	0.000	1.381	Off Peak Load
20/10/2024 15:00	15.042	282,323	12.419	0.000	1.134	Off Peak Load
20/10/2024 16:00	15.056	279,079	17.082	0.000	1.057	Off Peak Load
20/10/2024 17:00	14.949	284,621	11.002	0.000	1.309	Off Peak Load
20/10/2024 18:00	15.081	268,254	25.137	0.000	1.859	Off Peak Load
20/10/2024 19:00	14.981	328,597	18.975	0.000	1.961	On Peak Load
20/10/2024 20:00	14.984	321,743	10.744	0.000	1.120	On Peak Load
20/10/2024 21:00	15.000	330,595	20.207	0.000	0.696	On Peak Load
20/10/2024 22:00	15.167	275,135	45.760	0.000	1.077	Off Peak Load
20/10/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
21/10/2024 10:00	15.119	341,589	27.552	0.009	1.366	On Peak Load
21/10/2024 11:00	15.142	334,859	23.883	0.006	1.701	On Peak Load
21/10/2024 12:00	15.147	325,846	26.458	0.004	1.696	On Peak Load
21/10/2024 13:00	15.304	250,174	41.454	0.003	1.395	Off Peak Load
21/10/2024 14:00	15.093	331,786	22.790	0.003	1.158	On Peak Load
21/10/2024 15:00	15.119	351,473	19.352	0.003	2.074	On Peak Load
21/10/2024 16:00	15.148	345,967	22.431	0.003	0.755	On Peak Load
21/10/2024 17:00	15.094	333,815	22.442	0.003	1.033	On Peak Load
21/10/2024 18:00	15.111	337,735	26.176	0.002	1.012	On Peak Load
21/10/2024 19:00	15.114	337,133	23.768	0.002	1.380	On Peak Load
21/10/2024 20:00	15.044	333,214	21.308	0.002	1.186	On Peak Load
21/10/2024 21:00	15.034	333,775	11.142	0.002	1.129	On Peak Load
21/10/2024 22:00	15.021	342,235	17.828	0.003	1.258	On Peak Load
21/10/2024 23:00	15.078	333,452,844	18.747	0.003	1.010	On Peak Load
22/10/2024 00:00	15.012	366,510,031	13.035	0.003	1.485	Off Peak Load GT12 SD Half Block
22/10/2024 01:00	15.068	355,690,469	21.052	0.004	0.941	Off Peak Load GT12 SD Half Block
22/10/2024 02:00	15.053	354,356,375	22.744	0.004	1.780	Off Peak Load GT12 SD Half Block
22/10/2024 03:00	15.061	355,708,219	13.385	0.004	1.269	Off Peak Load GT12 SD Half Block
22/10/2024 04:00	15.065	353,365,781	19.263	0.004	1.393	Off Peak Load GT12 SD Half Block
22/10/2024 05:00	15.072	357,647,875	18.110	0.004	1.779	Off Peak Load GT12 SD Half Block
22/10/2024 06:00	15.059	352,991,875	7.773	0.004	1.916	Off Peak Load GT12 SD Half Block
22/10/2024 07:00	15.055	350,221,656	11.895	0.004	2.607	Off Peak Load GT12 SD Half Block
22/10/2024 08:00	15.073	358,724,875	23.958	0.003	1.916	Off Peak Load GT12 SD Half Block
22/10/2024 09:00	15.068	364,331,844	18.815	0.003	2.021	Off Peak Load
22/10/2024 10:00	15.070	326,855	9.804	0.003	1.657	On Peak Load
22/10/2024 11:00	15.091	331,442	14.193	0.003	1.889	On Peak Load
22/10/2024 12:00	15.091	320,195	11.531	0.002	1.631	On Peak Load
22/10/2024 13:00	15.204	252,480	25.295	0.001	1.522	Off Peak Load
22/10/2024 14:00	15.083	347,690	20.988	0.000	0.874	On Peak Load
22/10/2024 15:00	15.082	340,983	23.605	0.000	2.788	On Peak Load
22/10/2024 16:00	15.056	331,642	7.817	0.000	2.409	On Peak Load
22/10/2024 17:00	15.025	336,389	20.689	0.000	1.855	On Peak Load
22/10/2024 18:00	15.083	341,818	8.815	0.000	1.165	On Peak Load
22/10/2024 19:00	15.039	351,208	5.158	0.000	1.329	On Peak Load
22/10/2024 20:00	15.020	322,899	4.559	0.000	1.200	On Peak Load
22/10/2024 21:00	15.037	349,310	19.509	0.000	1.490	On Peak Load
22/10/2024 22:00	15.016	332,083	23.620	0.001	0.977	On Peak Load
22/10/2024 23:00	15.021	335,686	22.620	0.003	1.535	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG11  
10/02/24 00:00 - 31/02/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
23/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
23/10/2024 09:00	15.050	318,151	26.173	0.001	1.935	On Peak Load
23/10/2024 10:00	15.163	322,280	21.837	0.002	1.594	On Peak Load
23/10/2024 11:00	15.151	329,667	26.129	0.002	1.356	On Peak Load
23/10/2024 12:00	15.312	249,482	40.908	0.002	1.474	Off Peak Load
23/10/2024 13:00	15.170	340,399	19.738	0.003	1.121	On Peak Load
23/10/2024 14:00	15.151	335,366	17.229	0.003	1.442	On Peak Load
23/10/2024 15:00	15.093	342,300	14.735	0.003	0.908	On Peak Load
23/10/2024 16:00	15.046	333,267	15.326	0.003	1.237	On Peak Load
23/10/2024 17:00	15.019	330,389	22.511	0.002	1.492	On Peak Load
23/10/2024 18:00	15.037	331,758	13.430	0.002	1.409	On Peak Load
23/10/2024 19:00	15.033	346,563	4.343	0.001	1.428	On Peak Load
23/10/2024 20:00	15.018	329,599	12.571	0.001	1.399	On Peak Load
23/10/2024 21:00	15.014	330,232	3.735	0.000	1.046	On Peak Load
23/10/2024 22:00	15.006	327,491	14.153	0.000	1.386	On Peak Load
24/10/2024 00:00	15.039	367,924	8.122	0.000	3.074	Off Peak Load GT12 SD Half Block
24/10/2024 01:00	15.028	356,249	24.379	0.000	2.878	Off Peak Load GT12 SD Half Block
24/10/2024 02:00	15.036	356,204	12.859	0.000	3.592	Off Peak Load GT12 SD Half Block
24/10/2024 03:00	15.030	354,187	5.802	0.000	3.891	Off Peak Load GT12 SD Half Block
24/10/2024 04:00	15.035	356,081	9.141	0.000	4.031	Off Peak Load GT12 SD Half Block
24/10/2024 05:00	15.063	354,267	18.832	0.000	4.293	Off Peak Load GT12 SD Half Block
24/10/2024 06:00	15.094	354,520	12.992	0.000	5.376	Off Peak Load GT12 SD Half Block
24/10/2024 07:00	15.091	355,363	16.242	0.000	4.289	Off Peak Load GT12 SD Half Block
24/10/2024 08:00	15.116	358,235	21.361	0.001	2.369	Off Peak Load GT12 SD Half Block
24/10/2024 09:00	15.131	362,458	17.457	0.001	2.016	Off Peak Load
24/10/2024 10:00	15.170	326,656	22.185	0.001	1.881	On Peak Load
24/10/2024 11:00	15.178	331,733	21.198	0.001	2.148	On Peak Load
24/10/2024 12:00	15.170	317,614	21.188	0.001	1.910	On Peak Load
24/10/2024 13:00	14.668	245,518	41.740	0.000	1.715	Off Peak Load
24/10/2024 14:00	14.488	327,597	16.643	0.000	1.400	On Peak Load
24/10/2024 15:00	14.520	342,511	19.935	0.000	1.130	On Peak Load
24/10/2024 16:00	14.463	343,036	11.457	0.000	1.144	On Peak Load
24/10/2024 17:00	14.447	335,651	19.928	0.000	0.775	On Peak Load
24/10/2024 18:00	14.401	340,460	9.048	0.000	0.631	On Peak Load
24/10/2024 19:00	14.388	339,039	6.162	0.000	0.582	On Peak Load
24/10/2024 20:00	14.378	340,088	3.828	0.000	1.436	On Peak Load
24/10/2024 21:00	14.376	340,608	9.954	0.000	1.282	On Peak Load
24/10/2024 22:00	14.377	355,043	23.448	0.000	1.495	On Peak Load
24/10/2024 23:00	14.304	336,856	3.393	0.000	1.144	On Peak Load
25/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
25/10/2024 09:00	14.457	334,188	22.723	0.009	1.563	On Peak Load
25/10/2024 10:00	14.432	327,792	21.955	0.009	1.445	On Peak Load
25/10/2024 11:00	14.435	320,435	18.084	0.008	1.446	On Peak Load
25/10/2024 12:00	14.463	214,607	39.307	0.007	1.671	Off Peak Load
25/10/2024 13:00	14.487	339,819	21.542	0.007	1.227	On Peak Load
25/10/2024 14:00	14.513	337,756	14.528	0.006	1.281	On Peak Load
25/10/2024 15:00	14.511	339,593	21.384	0.005	0.755	On Peak Load
25/10/2024 16:00	14.460	341,871	16.007	0.005	0.977	On Peak Load
25/10/2024 17:00	14.432	333,768	22.401	0.004	0.774	On Peak Load
25/10/2024 18:00	14.384	333,764	8.102	0.003	0.760	On Peak Load
25/10/2024 19:00	14.375	329,383	11.538	0.003	0.758	On Peak Load
25/10/2024 20:00	14.444	354,766	5.951	0.002	1.486	On Peak Load
25/10/2024 21:00	14.378	343,916	4.654	0.001	1.269	On Peak Load
25/10/2024 22:00	14.371	334,832	15.185	0.001	1.064	On Peak Load
26/10/2024 00:00	14.387	363,331	8.323	0.000	1.303	Off Peak Load GT12 SD Half Block
26/10/2024 01:00	14.417	358,204	17.048	0.000	1.273	Off Peak Load GT12 SD Half Block
26/10/2024 02:00	14.383	358,242	10.735	0.000	1.270	Off Peak Load GT12 SD Half Block
26/10/2024 03:00	14.409	356,221	22.681	0.000	1.272	Off Peak Load GT12 SD Half Block
26/10/2024 04:00	14.379	356,189	16.370	0.000	1.282	Off Peak Load GT12 SD Half Block
26/10/2024 05:00	14.363	358,253	8.208	0.000	1.775	Off Peak Load GT12 SD Half Block
26/10/2024 06:00	14.379	356,141	10.630	0.000	1.443	Off Peak Load GT12 SD Half Block
26/10/2024 07:00	14.413	354,450	22.457	0.000	1.600	Off Peak Load GT12 SD Half Block
26/10/2024 08:00	14.416	359,128	16.236	0.000	1.669	Off Peak Load GT12 SD Half Block
26/10/2024 09:00	14.382	360,741	18.151	0.001	1.604	Off Peak Load
26/10/2024 10:00	14.435	344,117	10.571	0.001	1.574	On Peak Load



Site Name: GNL2  
 Stack Name: HRS011  
 Periodically: 1/01/24 00:00 - 31/01/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
26/10/2024 11:00	14.428	323.114	15.460	0.001	1.499	Off Peak Load
26/10/2024 12:00	14.398	313.671	12.476	0.002	1.011	On Peak Load
26/10/2024 13:00	14.517	246.937	24.955	0.002	1.097	Off Peak Load
26/10/2024 14:00	14.457	343.939	7.368	0.002	1.044	On Peak Load
26/10/2024 15:00	14.440	351.673	8.097	0.003	0.824	On Peak Load
26/10/2024 16:00	14.483	345.744	10.007	0.003	0.744	On Peak Load
26/10/2024 17:00	14.469	335.018	13.422	0.003	0.533	On Peak Load
26/10/2024 18:00	14.429	341.298	18.060	0.003	0.678	On Peak Load
26/10/2024 19:00	14.438	353.329	5.222	0.003	0.738	On Peak Load
26/10/2024 20:00	14.410	333.643	20.326	0.002	0.741	On Peak Load
26/10/2024 21:00	14.388	326.274	13.869	0.002	1.140	On Peak Load
26/10/2024 22:00	14.392	345.332	4.456	0.002	1.978	On Peak Load
26/10/2024 23:00	14.380	339.879	17.549	0.002	2.129	On Peak Load
27/10/2024 00:00	14.240	302.158	14.831	0.002	1.677	Off Peak Load
27/10/2024 01:00	14.329	306.425	18.895	0.001	1.546	Off Peak Load
27/10/2024 02:00	14.281	305.291	9.452	0.001	2.039	Off Peak Load
27/10/2024 03:00	14.283	315.710	3.974	0.001	1.067	Off Peak Load
27/10/2024 04:00	14.268	307.295	9.973	0.001	1.236	Off Peak Load
27/10/2024 05:00	14.191	288.764	16.491	0.000	1.159	Off Peak Load
27/10/2024 06:00	14.238	300.577	0.965	0.000	0.946	Off Peak Load
27/10/2024 07:00	14.213	283.248	7.475	0.000	1.213	Off Peak Load
27/10/2024 08:00	14.273	272.408	19.093	0.000	1.361	Off Peak Load
27/10/2024 09:00	14.354	267.832	19.959	0.000	1.157	Off Peak Load
27/10/2024 10:00	14.394	266.433	19.847	0.000	1.100	Off Peak Load
27/10/2024 11:00	14.385	270.517	15.881	0.000	1.252	Off Peak Load
27/10/2024 12:00	14.444	271.927	21.836	0.000	1.256	Off Peak Load
27/10/2024 13:00	14.420	273.087	7.583	0.000	1.003	Off Peak Load
27/10/2024 14:00	14.313	283.682	5.672	0.000	0.692	Off Peak Load
27/10/2024 15:00	14.386	284.142	8.394	0.000	0.430	Off Peak Load
27/10/2024 16:00	14.340	283.110	21.922	0.000	0.709	Off Peak Load
27/10/2024 17:00	14.347	287.885	25.564	0.000	0.611	Off Peak Load
27/10/2024 18:00	14.285	286.587	28.644	0.000	0.821	Off Peak Load
27/10/2024 19:00	14.470	354.180	30.411	0.000	1.620	On Peak Load
27/10/2024 20:00	14.471	363.976	33.398	0.000	1.442	On Peak Load
27/10/2024 21:00	14.427	354.145	29.145	0.000	1.207	On Peak Load
27/10/2024 22:00	14.714	233.618	49.510	0.000	2.159	Off Peak Load
27/10/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/10/2024 10:00	14.368	340.942	32.687	0.004	1.529	On Peak Load
28/10/2024 11:00	14.437	329.541	33.594	0.003	1.684	On Peak Load
28/10/2024 12:00	14.493	324.894	31.849	0.003	1.566	On Peak Load
28/10/2024 13:00	14.607	250.013	50.749	0.002	1.566	Off Peak Load
28/10/2024 14:00	14.440	334.273	31.597	0.002	1.175	On Peak Load
28/10/2024 15:00	14.518	346.779	32.518	0.001	1.205	On Peak Load
28/10/2024 16:00	14.497	332.149	32.687	0.001	1.130	On Peak Load
28/10/2024 17:00	14.536	335.807	33.498	0.001	0.554	On Peak Load
28/10/2024 18:00	14.495	338.441	34.596	0.001	0.844	On Peak Load
28/10/2024 19:00	14.456	336.928	30.816	0.001	1.514	On Peak Load
28/10/2024 20:00	14.414	327.572	31.063	0.002	1.537	On Peak Load
28/10/2024 21:00	14.413	334.593	31.221	0.002	0.995	On Peak Load
28/10/2024 22:00	14.430	339.122	29.979	0.003	0.708	On Peak Load
28/10/2024 23:00	14.421	338.62.813	30.264	0.003	1.204	On Peak Load
29/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/10/2024 10:00	14.511	348.189.438	32.269	0.000	1.703	On Peak Load
29/10/2024 11:00	14.562	329.659	33.759	0.000	1.797	On Peak Load
29/10/2024 12:00	14.553	322.524	32.246	0.000	1.717	On Peak Load
29/10/2024 13:00	14.668	245.328	54.938	0.000	1.587	Off Peak Load
29/10/2024 14:00	14.516	341.798	29.949	0.000	1.421	On Peak Load
29/10/2024 15:00	14.492	343.904	32.129	0.000	1.451	On Peak Load
29/10/2024 16:00	14.498	351.529	33.803	0.000	1.573	On Peak Load
29/10/2024 17:00	14.491	349.623	34.159	0.000	1.646	On Peak Load
29/10/2024 18:00	14.481	344.504	33.834	0.000	1.333	On Peak Load
29/10/2024 19:00	14.493	342.772	32.855	0.000	1.772	On Peak Load
29/10/2024 20:00	14.457	335.754	32.440	0.000	1.614	On Peak Load
29/10/2024 21:00	14.417	339.944	32.367	0.000	1.534	On Peak Load

Site Name: GNL2  
 Stack Name: HRS011  
 Periodically: 1/01/24 00:00 - 31/01/24 23:59

	Actual Operation Condition		Emission Concentration for Standardization Comparison			
Date & Time	O2	FLOW @ 1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	Remark
	%	m3/hr	ppm	ppm	mg/m3	
29/10/2024 22:00	14.389	339.907	30.143	0.000	0.959	On Peak Load
29/10/2024 23:00	14.394	334.460.344	31.343	0.000	1.329	On Peak Load
30/10/2024 00:00	14.443	367453.688	33.410	0.000	1.548	Off Peak Load GT12 SD Half Block
30/10/2024 01:00	14.452	358132.500	33.122	0.000	1.328	Off Peak Load GT12 SD Half Block
30/10/2024 02:00	14.439	356073.531	31.161	0.000	1.422	Off Peak Load GT12 SD Half Block
30/10/2024 03:00	14.434	357024.219	27.093	0.000	1.265	Off Peak Load GT12 SD Half Block
30/10/2024 04:00	14.429	356212.656	29.375	0.000	1.353	Off Peak Load GT12 SD Half Block
30/10/2024 05:00	14.439	356538.719	32.424	0.000	1.335	Off Peak Load GT12 SD Half Block
30/10/2024 06:00	14.458	355428.625	32.980	0.000	1.321	Off Peak Load GT12 SD Half Block
30/10/2024 07:00	14.459	356259.250	32.797	0.000	1.490	Off Peak Load GT12 SD Half Block
30/10/2024 08:00	14.452	356326.688	31.959	0.000	1.236	Off Peak Load GT12 SD Half Block
30/10/2024 09:00	14.401	368645.250	35.062	0.000	1.946	Off Peak Load
30/10/2024 10:00	14.373	306.482	29.165	0.000	1.301	On Peak Load
30/10/2024 11:00	14.383	301.198	29.437	0.000	0.927	On Peak Load
30/10/2024 12:00	14.413	298.325	30.172	0.000	1.393	On Peak Load
30/10/2024 13:00	14.820	230.854	58.912	0.000	1.809	Off Peak Load
30/10/2024 14:00	14.410	306.144	29.044	0.000	1.187	On Peak Load
30/10/2024 15:00	14.415	310.296	30.224	0.000	1.103	On Peak Load
30/10/2024 16:00	14.427	307.050	31.589	0.000	1.218	On Peak Load
30/10/2024 17:00	14.333	310.031	31.067	0.000	1.224	On Peak Load
30/10/2024 18:00	14.340	304.940	29.045	0.000	1.541	On Peak Load
30/10/2024 19:00	14.306	307.621	28.646	0.000	1.051	On Peak Load
30/10/2024 20:00	14.292	303.059	28.224	0.000	1.224	On Peak Load
30/10/2024 21:00	14.285	309.046	28.643	0.001	0.938	On Peak Load
30/10/2024 22:00	14.280	298.344	29.649	0.001	1.086	On Peak Load
30/10/2024 23:00	14.305	303.297	29.726	0.001	1.245	On Peak Load
31/10/2024 00:00	14.419	308.776	34.707	0.002	1.540	Off Peak Load GT12 SD Half Block
31/10/2024 01:00	14.443	355.301	32.147	0.002	1.772	Off Peak Load GT12 SD Half Block
31/10/2024 02:00	14.441	356.945	32.347	0.001	1.586	Off Peak Load GT12 SD Half Block
31/10/2024 03:00	14.440	352.680	33.005	0.000	1.615	Off Peak Load GT12 SD Half Block
31/10/2024 04:00	14.439	355.830	33.329	0.000	1.831	Off Peak Load GT12 SD Half Block
31/10/2024 05:00	14.437	355.647	32.583	0.000	1.848	Off Peak Load GT12 SD Half Block
31/10/2024 06:00	14.436	356.708	31.528	0.000	1.322	Off Peak Load GT12 SD Half Block
31/10/2024 07:00	14.434	355.352	30.090	0.000	1.814	Off Peak Load GT12 SD Half Block
31/10/2024 08:00	14.431	354.654	29.345	0.000	1.440	Off Peak Load GT12 SD Half Block
31/10/2024 09:00	14.436	365.992	28.841	0.000	1.096	Off Peak Load
31/10/2024 10:00	14.363	307.310	25.872	0.000	1.380	On Peak Load
31/10/2024 11:00	14.385	297.995	28.239	0.000	1.415	On Peak Load
31/10/2024 12:00	14.377	293.810	29.690	0.000	1.138	On Peak Load
31/10/2024 13:00	14.764	234.434	56.514	0.000	1.463	Off Peak Load
31/10/2024 14:00	14.348	315.812	28.592	0.000	0.721	On Peak Load
31/10/2024 15:00	14.392	311.638	29.861	0.000	2.174	On Peak Load
31/10/2024 16:00	14.345	299.615	29.258	0.000	1.506	On Peak Load
31/10/2024 17:00	14.341	301.115	27.895	0.000	1.348	On Peak Load
31/10/2024 18:00	14.337	305.672	28.013	0.000	1.084	On Peak Load
31/10/2024 19:00	14.382	319.147	29.533	0.000	1.019	On Peak Load
31/10/2024 20:00	14.330	303.001	28.121	0.000	1.178	On Peak Load
31/10/2024 21:00	14.344	324.937	27.908	0.000	1.159	On Peak Load
31/10/2024 22:00	14.333	311.458	30.095	0.000	1.283	On Peak Load
31/10/2024 23:00	14.328	313153.719	27.824	0.000	1.184	On Peak Load
Minimum	14.19	222.582	0.00	0.00	0.00	
Maximum	21.09	374.901	58.91	0.01	8.31	
Avg	14.91	319.459	21.41	0.00	1.53	
SUM			60	6	24	



Site Name: GNL12  
Stack Name: HRS012  
Periodically: 1/06/24 00:00 - 31/06/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
01/10/2024 00:00	15.085	361.068	31.728	0.012	0.000	On Peak Load
01/10/2024 01:00	15.039	336.296	33.915	0.013	0.000	Off Peak Load
01/10/2024 02:00	15.018	350.845	28.583	0.013	0.000	Off Peak Load
01/10/2024 03:00	14.993	331.264	32.310	0.014	0.000	Off Peak Load
01/10/2024 04:00	14.951	331.814	31.669	0.014	0.000	Off Peak Load
01/10/2024 05:00	14.969	334.398	28.617	0.014	0.000	Off Peak Load
01/10/2024 06:00	14.995	343.561	27.694	0.014	0.000	Off Peak Load
01/10/2024 07:00	15.001	329.542	24.777	0.015	0.000	Off Peak Load
01/10/2024 08:00	15.031	335.703	23.580	0.015	0.000	Off Peak Load
01/10/2024 09:00	15.287	325.836	32.582	0.015	0.000	Off Peak Load
01/10/2024 10:00	15.096	361.565	31.351	0.015	0.000	On Peak Load
01/10/2024 11:00	15.149	377.427	29.997	0.015	0.000	On Peak Load
01/10/2024 12:00	15.143	370.007	27.222	0.015	0.000	On Peak Load
01/10/2024 13:00	15.371	323.489	28.357	0.014	0.000	Off Peak Load
01/10/2024 14:00	15.104	374.901	32.309	0.014	0.000	On Peak Load
01/10/2024 15:00	15.200	372.990	31.681	0.013	0.000	On Peak Load
01/10/2024 16:00	15.215	398.776	36.967	0.013	0.000	Off Peak Load
01/10/2024 17:00	15.161	372.977	30.574	0.012	0.000	On Peak Load
01/10/2024 18:00	15.085	356.059	32.507	0.012	0.000	On Peak Load
01/10/2024 19:00	15.076	358.013	35.593	0.013	0.000	On Peak Load
01/10/2024 20:00	15.069	355.891	30.173	0.013	0.000	On Peak Load
01/10/2024 21:00	15.101	350.780	32.731	0.014	0.000	On Peak Load
01/10/2024 22:00	15.035	347.849	30.212	0.014	0.000	On Peak Load
01/10/2024 23:00	15.056	354.772	31.352	0.015	0.000	On Peak Load
02/10/2024 00:00	14.950	333.059	31.946	0.015	0.000	Off Peak Load
02/10/2024 01:00	14.970	340.215	28.577	0.016	0.000	Off Peak Load
02/10/2024 02:00	14.991	339.556	29.829	0.016	0.000	Off Peak Load
02/10/2024 03:00	14.984	333.065	29.459	0.016	0.000	Off Peak Load
02/10/2024 04:00	14.967	336.649	29.662	0.017	0.000	Off Peak Load
02/10/2024 05:00	14.990	347.827	31.604	0.017	0.000	Off Peak Load
02/10/2024 06:00	14.980	336.550	31.360	0.017	0.000	Off Peak Load
02/10/2024 07:00	15.062	328.405	29.557	0.017	0.000	Off Peak Load
02/10/2024 08:00	15.114	330.540	30.142	0.018	0.000	Off Peak Load
02/10/2024 09:00	15.267	323.475	34.812	0.018	0.000	Off Peak Load
02/10/2024 10:00	15.076	370.563	32.248	0.017	0.000	On Peak Load
02/10/2024 11:00	15.069	357.587	32.618	0.016	0.000	On Peak Load
02/10/2024 12:00	15.184	358.285	32.567	0.015	0.000	On Peak Load
02/10/2024 13:00	15.518	318.680	41.558	0.014	0.000	Off Peak Load
02/10/2024 14:00	15.190	364.352	31.954	0.012	0.000	On Peak Load
02/10/2024 15:00	15.198	355.057	31.824	0.011	0.000	On Peak Load
02/10/2024 16:00	15.206	361.135	31.942	0.010	0.000	On Peak Load
02/10/2024 17:00	15.184	357.481	32.068	0.009	0.000	On Peak Load
02/10/2024 18:00	15.166	359.677	32.250	0.009	0.000	On Peak Load
02/10/2024 19:00	15.133	358.738	31.892	0.011	0.000	On Peak Load
02/10/2024 20:00	15.142	356.218	29.944	0.012	0.000	On Peak Load
02/10/2024 21:00	15.097	354.464	29.465	0.013	0.000	On Peak Load
02/10/2024 22:00	15.186	356.538	28.967	0.014	0.000	On Peak Load
02/10/2024 23:00	15.140	360.951	30.717	0.015	0.000	On Peak Load
03/10/2024 00:00	15.009	344.833	29.319	0.016	0.000	Off Peak Load
03/10/2024 01:00	14.989	342.680	28.752	0.015	0.000	Off Peak Load
03/10/2024 02:00	14.993	337.230	30.270	0.015	0.000	Off Peak Load
03/10/2024 03:00	14.977	336.173	29.236	0.015	0.000	Off Peak Load
03/10/2024 04:00	15.021	328.695	27.390	0.015	0.000	Off Peak Load
03/10/2024 05:00	15.012	326.263	27.968	0.015	0.000	Off Peak Load
03/10/2024 06:00	14.988	337.517	30.539	0.015	0.000	Off Peak Load
03/10/2024 07:00	15.011	327.594	27.764	0.014	0.000	Off Peak Load
03/10/2024 08:00	15.093	325.972	35.669	0.014	0.000	Off Peak Load
03/10/2024 09:00	15.236	317.294	33.447	0.015	0.000	Off Peak Load
03/10/2024 10:00	15.066	358.219	33.602	0.016	0.000	On Peak Load
03/10/2024 11:00	15.095	361.999	35.105	0.017	0.000	On Peak Load
03/10/2024 12:00	15.072	349.546	34.411	0.018	0.000	On Peak Load
03/10/2024 13:00	15.528	307.948	38.979	0.017	0.000	Off Peak Load
03/10/2024 14:00	15.072	356.230	34.133	0.016	0.000	On Peak Load
03/10/2024 15:00	15.125	354.908	35.470	0.016	0.000	On Peak Load
03/10/2024 16:00	15.168	363.863	35.132	0.016	0.000	On Peak Load
03/10/2024 17:00	15.179	362.683	36.184	0.016	0.000	On Peak Load
03/10/2024 18:00	15.108	358.454	36.190	0.015	0.000	On Peak Load
03/10/2024 19:00	15.088	356.195	33.993	0.015	0.000	On Peak Load
03/10/2024 20:00	15.070	355.564	32.975	0.015	0.000	On Peak Load
03/10/2024 21:00	15.072	354.026	31.701	0.015	0.000	On Peak Load
03/10/2024 22:00	15.049	358.036	35.440	0.015	0.000	On Peak Load
03/10/2024 23:00	15.020	357.821	31.042	0.015	0.000	On Peak Load
04/10/2024 00:00	15.021	327.885	28.809	0.015	0.000	Off Peak Load
04/10/2024 01:00	15.067	333.203	33.574	0.015	0.000	Off Peak Load
04/10/2024 02:00	15.036	330.060	29.248	0.015	0.000	Off Peak Load
04/10/2024 03:00	15.071	326.513	30.872	0.015	0.000	Off Peak Load
04/10/2024 04:00	15.067	325.017	33.458	0.016	0.000	Off Peak Load
04/10/2024 05:00	15.108	318.384	33.818	0.016	0.000	Off Peak Load
04/10/2024 06:00	15.095	323.287	31.693	0.016	0.000	Off Peak Load
04/10/2024 07:00	15.029	316.045	27.380	0.016	0.000	Off Peak Load
04/10/2024 08:00	15.256	311.894	32.723	0.016	0.000	Off Peak Load
04/10/2024 09:00	15.372	303.956	41.397	0.016	0.000	Off Peak Load
04/10/2024 10:00	14.994	336.350	32.453	0.016	0.000	On Peak Load

Site Name: GNL12  
Stack Name: HRS012  
Periodically: 1/06/24 00:00 - 31/06/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/10/2024 11:00	15.060	347.886	33.148	0.016	0.000	On Peak Load
04/10/2024 12:00	15.046	343.618	35.450	0.016	0.000	On Peak Load
04/10/2024 13:00	15.667	296.098	31.693	0.016	0.000	Off Peak Load
04/10/2024 14:00	15.047	341.814	32.930	0.016	0.000	On Peak Load
04/10/2024 15:00	15.054	341.832	35.116	0.016	0.000	On Peak Load
04/10/2024 16:00	15.041	341.662	34.355	0.016	0.000	On Peak Load
04/10/2024 17:00	15.025	339.827	31.455	0.016	0.000	On Peak Load
04/10/2024 18:00	15.014	341.721	31.335	0.016	0.000	On Peak Load
04/10/2024 19:00	15.009	341.958	30.942	0.016	0.000	On Peak Load
04/10/2024 20:00	15.015	337.797	30.830	0.016	0.000	On Peak Load
04/10/2024 21:00	14.982	344.511	35.729	0.016	0.000	On Peak Load
04/10/2024 22:00	14.963	333.601	34.028	0.016	0.000	On Peak Load
04/10/2024 23:00	14.984	339.014	31.410	0.016	0.000	On Peak Load
05/10/2024 00:00	15.129	318.691	34.472	0.015	0.000	Off Peak Load
05/10/2024 01:00	15.098	318.435	35.689	0.015	0.000	Off Peak Load
05/10/2024 02:00	15.084	318.896	37.421	0.015	1.359	Off Peak Load
05/10/2024 03:00	14.978	318.336	29.916	0.015	0.000	Off Peak Load
05/10/2024 04:00	15.090	311.287	37.002	0.015	0.000	Off Peak Load
05/10/2024 05:00	15.137	306.411	39.614	0.015	1.500	Off Peak Load
05/10/2024 06:00	15.126	304.435	35.997	0.016	0.000	Off Peak Load
05/10/2024 07:00	15.089	304.916	35.096	0.017	0.000	Off Peak Load
05/10/2024 08:00	15.300	311.640	33.574	0.017	0.000	Off Peak Load
05/10/2024 09:00	15.339	300.844	33.798	0.018	0.000	Off Peak Load
05/10/2024 10:00	15.070	337.791	33.986	0.019	0.000	On Peak Load
05/10/2024 11:00	15.099	345.042	35.845	0.019	0.000	On Peak Load
05/10/2024 12:00	15.162	357.756	33.566	0.020	0.000	On Peak Load
05/10/2024 13:00	15.493	294.717	52.247	0.020	0.000	Off Peak Load
05/10/2024 14:00	15.159	371.421	37.256	0.019	0.000	On Peak Load
05/10/2024 15:00	15.132	364.944	34.785	0.019	0.000	On Peak Load
05/10/2024 16:00	15.085	394.083	35.118	0.018	0.000	On Peak Load
05/10/2024 17:00	15.093	358.474	35.167	0.017	15.310	On Peak Load
05/10/2024 18:00	15.057	352.106	36.857	0.017	0.000	On Peak Load
05/10/2024 19:00	15.052	367.563	36.808	0.016	0.000	On Peak Load
05/10/2024 20:00	15.039	356.308	37.403	0.016	0.000	On Peak Load
05/10/2024 21:00	15.057	354.147	37.637	0.015	0.000	On Peak Load
05/10/2024 22:00	15.065	382.881	36.670	0.014	0.000	On Peak Load
05/10/2024 23:00	15.075	377.695	34.815	0.012	0.000	On Peak Load
06/10/2024 00:00	14.963	333.367	29.129	0.011	0.000	Off Peak Load
06/10/2024 01:00	14.986	345.353	30.639	0.010	0.000	Off Peak Load
06/10/2024 02:00	14.996	348.121	30.415	0.009	0.000	Off Peak Load
06/10/2024 03:00	14.942	335.001	30.805	0.008	0.000	Off Peak Load
06/10/2024 04:00	14.980	329.500	29.543	0.007	0.000	Off Peak Load
06/10/2024 05:00	15.015	327.463	28.040	0.014	2.855	Off Peak Load
06/10/2024 06:00	15.027	330.328	31.062	0.012	1.933	Off Peak Load
06/10/2024 07:00	15.128	322.658	38.695	0.011	0.000	Off Peak Load
06/10/2024 08:00	15.114	314.334	35.138	0.009	0.000	Off Peak Load
06/10/2024 09:00	15.164	319.210	36.582	0.010	0.000	Off Peak Load
06/10/2024 10:00	15.297	305.291	37.612	0.011	0.000	Off Peak Load
06/10/2024 11:00	15.233	316.350	40.967	0.012	0.000	Off Peak Load
06/10/2024 12:00	15.157	321.814	30.932	0.013	0.000	Off Peak Load
06/10/2024 13:00	15.212	319.558	34.643	0.014	0.000	Off Peak Load
06/10/2024 14:00	15.341	321.915	38.496	0.014	0.000	Off Peak Load
06/10/2024 15:00	15.163	335.242	27.840	0.015	0.000	Off Peak Load
06/10/2024 16:00	16.260	288.553	30.932	0.016	0.000	Off Peak Load GT11 SD Half Block
06/10/2024 17:00	15.359	302.990	40.661	0.013	0.000	Off Peak Load
06/10/2024 18:00	15.275	311.023	32.514	0.013	0.000	Off Peak Load
06/10/2024 19:00	14.954	341.903	32.050	0.013	0.000	On Peak Load
06/10/2024 20:00	14.999	342.535	33.024	0.014	0.000	On Peak Load
06/10/2024 21:00	15.034	367.280	35.068	0.014	0.000	On Peak Load
06/10/2024 22:00	15.162	411.369	37.228	0.014	0.000	Off Peak Load
06/10/2024 23:00	15.148	386.594	36.113	0.015	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 00:00	15.148	386.863	33.178	0.015	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 01:00	15.148	388.847	32.958	0.015	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 02:00	15.148	384.408	32.973	0.014	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 03:00	15.148	391.114	33.520	0.013	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 04:00	15.148	376.758	36.636	0.012	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 05:00	15.147	378.714	34.828	0.011	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 06:00	15.147	380.771	31.784	0.010	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 07:00	15.166	386.382	34.381	0.009	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 08:00	15.195	391.932	34.126	0.008	0.000	Off Peak Load GT11 SD Half Block
07/10/2024 09:00	15.242	403.787	40.734	0.007	0.000	Off Peak Load
07/10/2024 10:00	15.124	359.228	35.703	0.010	0.000	On Peak Load
07/10/2024 11:00	15.167	356.187	37.820	0.013	0.000	On Peak Load
07/10/2024 12:00	15.134	349.728	34.667	0.015	0.000	On Peak Load
07/10/2024 13:00	15.498	305.296	48.416	0.018	0.000	Off Peak Load
07/10/2024 14:00	15.160	369.722	37.862	0.015	0.000	On Peak Load
07/10/2024 15:00	15.210	380.403	35.597	0.016	0.000	On Peak Load
07/10/2024 16:00	15.151	367.636	37.334	0.016	0.000	On Peak Load
07/10/2024 17:00	15.128	362.766	36.099	0.016	0.000	On Peak Load
07/10/2024 18:00	15.064	357.616	35.335	0.016	0.000	On Peak Load
07/10/2024 19:00	15.082	360.677	37.714	0.016	0.000	On Peak Load
07/10/2024 20:00	15.060	357.525	35.340	0.016	0.000	On Peak Load
07/10/2024 21:00	15.064	355.199	33.663	0.016	0.000	On Peak Load



Site Name: GULL2  
Stack Name: HRS612  
Periodically: 1-Oct/24 00:00 - 31-Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust@7%O2	
			ppm	ppm	mg/m3	
07/10/2024 22:00	15.121	356.073	35.500	0.016	0.000	On Peak Load
07/10/2024 23:00	15.064	369.815	35.419	0.017	0.000	On Peak Load
08/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
08/10/2024 10:00	15.087	348.039	37.441	0.019	0.000	On Peak Load
08/10/2024 11:00	15.100	340.570	34.983	0.015	0.000	On Peak Load
08/10/2024 12:00	15.085	340.677	38.451	0.015	0.000	On Peak Load
08/10/2024 13:00	15.510	295.144	37.441	0.014	0.000	Off Peak Load
08/10/2024 14:00	15.146	376.634	37.463	0.014	0.000	On Peak Load
08/10/2024 15:00	15.124	356.496	38.872	0.014	0.000	On Peak Load
08/10/2024 16:00	15.173	360.197	40.338	0.013	0.000	On Peak Load
08/10/2024 17:00	15.194	366.784	38.300	0.013	0.000	On Peak Load
08/10/2024 18:00	15.079	349.758	41.279	0.012	0.000	On Peak Load
08/10/2024 19:00	15.086	360.213	36.979	0.012	0.000	On Peak Load
08/10/2024 20:00	15.042	358.655	35.339	0.013	0.000	On Peak Load
08/10/2024 21:00	15.043	357.352	37.979	0.013	0.000	On Peak Load
08/10/2024 22:00	14.999	346.728	37.905	0.013	0.000	On Peak Load
08/10/2024 23:00	15.065	355.717	36.763	0.014	0.000	On Peak Load
09/10/2024 00:00	15.131	390.267	36.520	0.014	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 01:00	15.124	391.443	36.658	0.014	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 02:00	15.118	381.391	36.101	0.014	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 03:00	15.121	386.945	36.618	0.015	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 04:00	15.143	386.077	38.968	0.014	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 05:00	15.164	376.507	37.389	0.014	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 06:00	15.180	375.442	38.206	0.014	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 07:00	15.180	386.135	41.261	0.013	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 08:00	15.198	393.870	37.108	0.013	0.000	Off Peak Load GT11 SD Half Block
09/10/2024 09:00	15.237	417.597	43.796	0.013	0.000	Off Peak Load
09/10/2024 10:00	15.107	360.347.406	38.090	0.012	0.000	On Peak Load
09/10/2024 11:00	15.061	356.216.938	34.455	0.012	0.000	On Peak Load
09/10/2024 12:00	15.068	355.759.281	35.086	0.012	0.000	On Peak Load
09/10/2024 13:00	15.490	307016.969	56.917	0.012	0.000	Off Peak Load
09/10/2024 14:00	15.129	369.939.281	38.360	0.012	0.000	On Peak Load
09/10/2024 15:00	15.210	382061.688	36.062	0.013	0.000	On Peak Load
09/10/2024 16:00	15.182	364922.438	34.507	0.013	0.000	On Peak Load
09/10/2024 17:00	15.182	361661.000	38.777	0.013	0.000	On Peak Load
09/10/2024 18:00	15.147	373334.919	33.947	0.013	0.000	On Peak Load
09/10/2024 19:00	15.152	375146.906	36.470	0.014	0.000	On Peak Load
09/10/2024 20:00	15.079	360179.344	34.774	0.016	0.000	On Peak Load
09/10/2024 21:00	15.084	333187.531	30.231	0.018	0.000	On Peak Load
09/10/2024 22:00	15.060	356813.188	35.502	0.019	0.000	On Peak Load
09/10/2024 23:00	15.038	351400.531	36.212	0.021	0.000	On Peak Load
10/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
10/10/2024 10:00	15.089	368194.531	36.333	0.015	0.000	On Peak Load
10/10/2024 11:00	15.113	363758.250	34.531	0.013	0.000	On Peak Load
10/10/2024 12:00	15.167	365037.719	38.110	0.010	0.000	On Peak Load
10/10/2024 13:00	15.566	308450.688	36.333	0.008	0.000	Off Peak Load
10/10/2024 14:00	15.098	371533.500	36.874	0.006	0.000	On Peak Load
10/10/2024 15:00	15.079	367015.875	30.162	0.015	0.000	On Peak Load
10/10/2024 16:00	15.063	360997.000	33.772	0.016	0.000	On Peak Load
10/10/2024 17:00	15.082	350987.960	27.418	0.017	0.000	On Peak Load
10/10/2024 18:00	15.059	374564.656	27.287	0.016	2.286	On Peak Load
10/10/2024 19:00	15.075	369984.125	26.732	0.015	0.000	On Peak Load
10/10/2024 20:00	15.062	368506.188	26.412	0.014	0.000	On Peak Load
10/10/2024 21:00	15.099	379989.781	26.279	0.013	0.000	On Peak Load
10/10/2024 22:00	15.073	366770.125	30.895	0.012	0.000	On Peak Load
10/10/2024 23:00	15.036	367939.563	29.104	0.012	0.000	On Peak Load
11/10/2024 00:00	15.137	412792.375	31.964	0.011	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 01:00	15.097	394760.281	27.382	0.011	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 02:00	15.100	389459.438	26.716	0.011	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 03:00	15.103	390903.906	30.579	0.012	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 04:00	15.106	385816.719	27.563	0.012	0.299	Off Peak Load GT11 SD Half Block
11/10/2024 05:00	15.110	387251.406	26.675	0.013	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 06:00	15.113	394220.469	30.105	0.013	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 07:00	15.116	391923.469	27.482	0.014	0.000	Off Peak Load GT11 SD Half Block
11/10/2024 08:00	15.119	400365.438	25.456	0.014	0.000	Off Peak Load GT11 SD Half Block

Site Name: GULL2  
Stack Name: HRS612  
Periodically: 1-Oct/24 00:00 - 31-Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/10/2024 09:00	15.141	416515.063	33.900	0.015	0.000	Off Peak Load
11/10/2024 10:00	15.091	370505.063	24.550	0.016	0.000	On Peak Load
11/10/2024 11:00	15.127	370548.063	29.100	0.016	0.000	On Peak Load
11/10/2024 12:00	15.113	376640.063	26.899	0.017	0.000	On Peak Load
11/10/2024 13:00	15.427	313041.938	38.087	0.018	0.000	Off Peak Load
11/10/2024 14:00	15.185	382815.688	28.183	0.019	0.000	On Peak Load
11/10/2024 15:00	15.147	375612.500	24.877	0.020	0.000	On Peak Load
11/10/2024 16:00	15.189	390285.188	29.448	0.020	0.000	On Peak Load
11/10/2024 17:00	15.133	383694.156	24.016	0.020	0.000	On Peak Load
11/10/2024 18:00	15.117	365128.813	26.060	0.020	0.000	On Peak Load
11/10/2024 19:00	15.077	369715.750	24.667	0.020	0.000	On Peak Load
11/10/2024 20:00	15.093	382422.969	23.252	0.019	0.000	On Peak Load
11/10/2024 21:00	15.113	392278.938	28.435	0.019	0.000	On Peak Load
11/10/2024 22:00	15.047	388139.500	25.965	0.019	0.000	On Peak Load
11/10/2024 23:00	15.061	374375.188	22.406	0.019	0.000	On Peak Load
12/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
12/10/2024 10:00	15.098	390059.500	20.416	0.012	0.000	On Peak Load
12/10/2024 11:00	15.136	386416.469	25.337	0.013	0.000	On Peak Load
12/10/2024 12:00	15.092	369249.938	23.082	0.015	0.000	On Peak Load
12/10/2024 13:00	15.382	314898.531	19.077	0.016	0.000	Off Peak Load
12/10/2024 14:00	15.129	390518.719	21.235	0.018	0.000	On Peak Load
12/10/2024 15:00	22.368	214443.875	0.000	0.000	0.000	Off Peak Load
12/10/2024 16:00	22.369	208763.391	0.000	0.000	0.105	Off Peak Load
12/10/2024 17:00	22.371	203172.859	0.031	0.000	0.076	Off Peak Load
12/10/2024 18:00	22.372	204460.078	0.121	0.000	0.148	Off Peak Load
12/10/2024 19:00	22.373	204767.594	0.000	0.000	0.060	Off Peak Load
12/10/2024 20:00	22.375	202987.859	0.120	0.000	0.145	Off Peak Load
12/10/2024 21:00	22.376	199463.734	0.000	0.000	0.060	Off Peak Load
12/10/2024 22:00	22.377	205816.391	0.033	0.000	0.069	Off Peak Load
12/10/2024 23:00	22.378	206677.797	0.106	0.000	0.142	Off Peak Load
13/10/2024 00:00	22.379	206774.281	0.006	0.000	0.074	Off Peak Load
13/10/2024 01:00	22.380	208317.719	0.000	0.000	0.098	Off Peak Load
13/10/2024 02:00	22.381	209408.891	0.000	0.000	0.000	Off Peak Load
13/10/2024 03:00	22.382	208281.844	0.009	0.000	0.000	Off Peak Load
13/10/2024 04:00	22.383	211856.875	0.004	0.000	0.000	Off Peak Load
13/10/2024 05:00	22.384	212725.797	0.000	0.000	0.000	Off Peak Load
13/10/2024 06:00	22.385	215736.813	0.095	0.000	0.000	Off Peak Load
13/10/2024 07:00	22.383	214429.000	0.000	0.000	0.000	Off Peak Load
13/10/2024 08:00	22.381	219820.656	0.000	0.000	0.000	Off Peak Load
13/10/2024 09:00	22.379	234021.156	0.100	0.000	0.173	Off Peak Load
13/10/2024 10:00	22.377	233942.844	0.026	0.000	0.099	Off Peak Load
13/10/2024 11:00	22.375	234262.672	0.000	0.000	0.095	Off Peak Load
13/10/2024 12:00	22.373	236157.953	0.013	0.000	0.093	Off Peak Load
13/10/2024 13:00	22.371	235347.547	0.000	0.000	0.073	Off Peak Load
13/10/2024 14:00	22.386	233247.234	0.110	0.000	0.156	Off Peak Load
13/10/2024 15:00	22.406	235635.875	0.000	0.000	0.089	Off Peak Load
13/10/2024 16:00	22.425	231530.875	0.019	0.000	0.080	Off Peak Load
13/10/2024 17:00	22.439	230318.281	0.000	0.000	0.049	Off Peak Load
13/10/2024 18:00	22.419	230826.141	0.028	0.000	0.058	Off Peak Load
13/10/2024 19:00	22.398	230267.172	0.000	0.000	0.083	Off Peak Load
13/10/2024 20:00	22.378	227529.984	0.000	0.000	0.142	Off Peak Load
13/10/2024 21:00	17.189	276826.938	0.095	0.025	0.000	Off Peak Load GT11 SD Half Block
13/10/2024 22:00	15.092	412542.400	37.990	0.021	0.000	Off Peak Load GT11 SD Half Block
13/10/2024 23:00	15.115	397719.125	25.445	0.018	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 00:00	15.113	402363.563	26.082	0.015	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 01:00	15.110	395084.781	28.301	0.012	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 02:00	15.108	394241.594	29.360	0.009	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 03:00	15.105	391356.735	27.410	0.010	1.299	Off Peak Load GT11 SD Half Block
14/10/2024 04:00	15.103	391061.313	27.256	0.011	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 05:00	15.101	391549.511	26.699	0.013	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 06:00	15.098	391643.608	23.349	0.014	2.168	Off Peak Load GT11 SD Half Block
14/10/2024 07:00	15.101	393141.344	23.331	0.015	0.906	Off Peak Load GT11 SD Half Block
14/10/2024 08:00	15.110	398913.938	21.902	0.016	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 09:00	15.134	406246.688	24.753	0.018	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 10:00	15.201	413042.938	28.230	0.019	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 11:00	15.220	413905.563	25.473	0.019	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 12:00	15.239	406583.719	26.965	0.018	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 13:00	15.228	399772.813	24.563	0.018	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 14:00	15.194	398561.625	25.840	0.017	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 15:00	15.160	393390.344	26.459	0.017	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 16:00	15.149	396144.400	29.200	0.016	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 17:00	15.150	400864.469	25.598	0.016	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 18:00	15.037	381195.656	26.881	0.015	0.000	Off Peak Load GT11 SD Half Block
14/10/2024 19:00	15.009	383135.875	33.432	0.016	0.000	On Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRS G12  
10Oct24 00:00 - 31Oct24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/10/2024 20:00	15.040	367954.531	21.398	0.016	0.000	On Peak Load
14/10/2024 21:00	15.040	373384.906	22.415	0.016	0.000	On Peak Load
14/10/2024 22:00	15.010	379697.719	21.790	0.016	0.000	On Peak Load
14/10/2024 23:00	14.914	353253.719	19.229	0.016	0.000	Off Peak Load
15/10/2024 00:00	14.928	349746.719	17.727	0.016	0.000	Off Peak Load
15/10/2024 01:00	14.921	355289.750	17.761	0.016	0.000	Off Peak Load
15/10/2024 02:00	14.926	349885.906	17.584	0.016	0.000	Off Peak Load
15/10/2024 03:00	14.900	346915.625	18.747	0.016	0.000	Off Peak Load
15/10/2024 04:00	14.955	342791.061	17.823	0.016	0.000	Off Peak Load
15/10/2024 05:00	14.914	342690.219	16.605	0.015	1.806	Off Peak Load
15/10/2024 06:00	14.935	341868.906	18.475	0.015	5.548	Off Peak Load
15/10/2024 07:00	14.927	337727.750	16.519	0.015	1.189	Off Peak Load
15/10/2024 08:00	14.997	340207.281	13.451	0.015	0.000	Off Peak Load
15/10/2024 09:00	15.142	330861.438	21.491	0.015	0.000	Off Peak Load
15/10/2024 10:00	15.085	379055.563	22.042	0.015	0.000	On Peak Load
15/10/2024 11:00	15.105	365636.563	22.720	0.015	0.000	On Peak Load
15/10/2024 12:00	15.155	381942.469	20.307	0.015	0.000	On Peak Load
15/10/2024 13:00	15.303	321445.938	21.739	0.015	0.000	On Peak Load
15/10/2024 14:00	15.081	379323.750	22.315	0.016	0.000	On Peak Load
15/10/2024 15:00	15.097	388181.594	22.672	0.016	0.000	On Peak Load
15/10/2024 16:00	15.072	392411.638	20.061	0.016	0.000	On Peak Load
15/10/2024 17:00	15.048	375763.906	21.544	0.016	0.000	On Peak Load
15/10/2024 18:00	15.095	390599.625	20.143	0.016	0.000	On Peak Load
15/10/2024 19:00	15.089	384206.219	22.318	0.016	0.000	On Peak Load
15/10/2024 20:00	15.096	381908.844	25.481	0.016	0.000	On Peak Load
15/10/2024 21:00	15.100	381292.875	26.191	0.016	0.000	On Peak Load
15/10/2024 22:00	15.064	386675.563	24.783	0.016	0.000	On Peak Load
15/10/2024 23:00	15.064	389521.469	24.786	0.016	0.000	On Peak Load
16/10/2024 00:00	14.871	354318.250	21.249	0.016	0.000	Off Peak Load
16/10/2024 01:00	14.947	365280.750	22.658	0.016	0.000	Off Peak Load
16/10/2024 02:00	14.939	366126.875	23.088	0.015	0.000	Off Peak Load
16/10/2024 03:00	14.989	364906.813	24.241	0.015	0.000	Off Peak Load
16/10/2024 04:00	14.967	357429.781	22.221	0.015	0.000	Off Peak Load
16/10/2024 05:00	15.000	372705.500	21.840	0.014	0.000	Off Peak Load
16/10/2024 06:00	14.969	364225.314	23.755	0.014	0.000	Off Peak Load
16/10/2024 07:00	14.756	357775.156	25.421	0.014	0.000	Off Peak Load
16/10/2024 08:00	15.026	336837.375	17.864	0.013	0.000	Off Peak Load
16/10/2024 09:00	15.089	340408.594	18.243	0.013	0.000	Off Peak Load
16/10/2024 10:00	15.107	396384.969	27.487	0.013	0.000	On Peak Load
16/10/2024 11:00	15.144	402120.219	24.643	0.013	0.000	On Peak Load
16/10/2024 12:00	15.081	389904.219	30.714	0.013	0.000	On Peak Load
16/10/2024 13:00	14.976	365172.438	25.699	0.013	13.102	Off Peak Load
16/10/2024 14:00	15.042	412648.563	34.913	0.013	8.465	Off Peak Load
16/10/2024 15:00	15.141	417584.344	32.155	0.013	5.148	On Peak Load
16/10/2024 16:00	15.042	380343.156	25.812	0.013	0.000	On Peak Load
16/10/2024 17:00	15.072	381647.469	27.452	0.013	0.000	On Peak Load
16/10/2024 18:00	15.088	382734.531	28.805	0.013	0.000	On Peak Load
16/10/2024 19:00	15.089	383976.750	27.303	0.013	0.000	On Peak Load
16/10/2024 20:00	15.067	379047.469	25.505	0.013	0.000	On Peak Load
16/10/2024 21:00	15.076	391878.781	24.801	0.013	0.000	On Peak Load
16/10/2024 22:00	15.046	385873.250	27.657	0.013	0.000	On Peak Load
16/10/2024 23:00	15.062	387506.313	27.509	0.013	0.000	On Peak Load
17/10/2024 00:00	14.921	356636.969	22.503	0.012	0.000	Off Peak Load
17/10/2024 01:00	14.945	364381.625	21.382	0.012	0.000	Off Peak Load
17/10/2024 02:00	14.977	357918.031	26.910	0.012	0.000	Off Peak Load
17/10/2024 03:00	14.980	359850.719	24.287	0.013	0.000	Off Peak Load
17/10/2024 04:00	14.959	356106.125	27.172	0.013	0.000	Off Peak Load
17/10/2024 05:00	14.976	351376.281	22.309	0.013	0.000	Off Peak Load
17/10/2024 06:00	14.947	364226.688	27.009	0.013	0.000	Off Peak Load
17/10/2024 07:00	14.969	345123.844	23.286	0.013	0.000	Off Peak Load
17/10/2024 08:00	14.955	340582.813	20.344	0.013	0.000	Off Peak Load
17/10/2024 09:00	15.114	335598.344	25.530	0.014	0.000	Off Peak Load
17/10/2024 10:00	15.024	371874.750	23.365	0.013	0.000	On Peak Load
17/10/2024 11:00	15.070	379743.188	25.498	0.013	0.000	On Peak Load
17/10/2024 12:00	15.112	378452.750	27.751	0.012	0.000	On Peak Load
17/10/2024 13:00	15.406	323567.375	21.640	0.012	0.000	Off Peak Load
17/10/2024 14:00	15.039	383168.375	25.844	0.011	0.000	On Peak Load
17/10/2024 15:00	15.057	375841.906	26.354	0.010	0.000	On Peak Load
17/10/2024 16:00	15.123	384843.188	28.963	0.010	0.000	On Peak Load
17/10/2024 17:00	15.153	387436.511	28.124	0.009	0.000	On Peak Load
17/10/2024 18:00	15.116	380835.938	26.693	0.009	0.000	On Peak Load
17/10/2024 19:00	15.065	381625.750	25.933	0.010	0.000	On Peak Load
17/10/2024 20:00	15.067	382448.938	26.864	0.011	0.000	On Peak Load
17/10/2024 21:00	15.097	392109.500	24.618	0.012	0.000	On Peak Load
17/10/2024 22:00	15.062	398425.375	24.198	0.013	0.000	On Peak Load
17/10/2024 23:00	15.045	387558.875	25.364	0.014	0.000	On Peak Load
18/10/2024 00:00	14.838	355051.375	24.078	0.015	0.000	On Peak Load
18/10/2024 01:00	14.947	368587.781	22.145	0.015	0.000	Off Peak Load
18/10/2024 02:00	14.938	365488.875	21.693	0.016	0.000	Off Peak Load
18/10/2024 03:00	14.996	365338.750	22.680	0.016	0.000	Off Peak Load
18/10/2024 04:00	14.991	362986.188	23.914	0.016	0.000	Off Peak Load
18/10/2024 05:00	14.982	360716.813	25.401	0.016	0.000	Off Peak Load
18/10/2024 06:00	14.989	360695.344	24.551	0.016	0.000	Off Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRS G12  
10Oct24 00:00 - 31Oct24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/10/2024 07:00	14.947	342357.406	21.438	0.016	0.000	Off Peak Load
18/10/2024 08:00	14.965	342388.656	23.317	0.016	0.000	Off Peak Load
18/10/2024 09:00	15.148	331517.156	27.771	0.016	0.000	Off Peak Load
18/10/2024 10:00	15.069	379412.688	25.687	0.016	0.000	On Peak Load
18/10/2024 11:00	15.068	372597.094	25.737	0.016	0.000	On Peak Load
18/10/2024 12:00	15.104	391720.250	24.284	0.015	0.000	On Peak Load
18/10/2024 13:00	15.250	304165.125	23.102	0.015	0.000	Off Peak Load
18/10/2024 14:00	15.005	381142.000	26.004	0.015	6.532	On Peak Load
18/10/2024 15:00	15.095	392475.656	26.548	0.014	0.000	On Peak Load
18/10/2024 16:00	15.080	391365.500	26.659	0.014	0.000	On Peak Load
18/10/2024 17:00	15.061	384405.500	27.524	0.014	0.000	On Peak Load
18/10/2024 18:00	15.031	371268.156	24.811	0.014	0.000	On Peak Load
18/10/2024 19:00	15.017	381837.094	23.887	0.014	8.555	On Peak Load
18/10/2024 20:00	15.015	379400.563	25.642	0.014	0.000	On Peak Load
18/10/2024 21:00	15.021	383102.125	26.013	0.014	0.000	On Peak Load
18/10/2024 22:00	15.042	385027.156	23.607	0.014	0.000	On Peak Load
18/10/2024 23:00	15.033	392911.906	24.132	0.014	0.000	On Peak Load
19/10/2024 00:00	14.891	348080.750	24.252	0.014	0.000	Off Peak Load
19/10/2024 01:00	14.980	374495.531	23.623	0.014	0.000	Off Peak Load
19/10/2024 02:00	14.995	379717.156	23.753	0.014	0.000	Off Peak Load
19/10/2024 03:00	14.943	355500.188	25.893	0.014	0.000	Off Peak Load
19/10/2024 04:00	14.953	348358.938	21.469	0.014	0.000	Off Peak Load
19/10/2024 05:00	14.932	314732.594	24.211	0.014	2.707	Off Peak Load
19/10/2024 06:00	14.979	347994.813	22.449	0.014	2.634	Off Peak Load
19/10/2024 07:00	14.934	359515.594	24.592	0.014	4.385	Off Peak Load
19/10/2024 08:00	14.969	338097.813	20.617	0.014	0.050	Off Peak Load
19/10/2024 09:00	14.933	350035.406	21.327	0.014	0.000	Off Peak Load
19/10/2024 10:00	15.115	420278.906	30.963	0.014	0.000	On Peak Load
19/10/2024 11:00	15.156	425520.281	34.287	0.014	0.000	On Peak Load
19/10/2024 12:00	15.046	373569.063	29.505	0.014	0.000	On Peak Load
19/10/2024 13:00	15.374	321011.125	37.209	0.014	0.000	Off Peak Load
19/10/2024 14:00	15.068	393355.313	27.813	0.014	0.000	On Peak Load
19/10/2024 15:00	15.043	384324.906	27.941	0.014	0.000	On Peak Load
19/10/2024 16:00	15.114	386536.719	28.283	0.014	0.000	On Peak Load
19/10/2024 17:00	15.027	383960.531	25.206	0.014	0.000	On Peak Load
19/10/2024 18:00	15.038	384031.969	28.066	0.013	0.000	On Peak Load
19/10/2024 19:00	15.027	377263.063	26.426	0.013	0.000	On Peak Load
19/10/2024 20:00	15.056	387615.281	27.409	0.012	0.000	On Peak Load
19/10/2024 21:00	15.020	384300.406	27.127	0.012	0.000	On Peak Load
19/10/2024 22:00	15.016	380501.658	25.990	0.011	0.000	On Peak Load
19/10/2024 23:00	15.002	382585.281	24.947	0.011	0.000	On Peak Load
20/10/2024 00:00	14.874	343092.219	20.126	0.010	0.000	Off Peak Load
20/10/2024 01:00	14.945	357539.219	21.196	0.010	0.000	Off Peak Load
20/10/2024 02:00	14.957	356147.594	24.691	0.010	0.000	Off Peak Load
20/10/2024 03:00	14.943	360320.063	22.162	0.010	0.000	Off Peak Load
20/10/2024 04:00	14.948	356025.219	20.581	0.011	0.000	Off Peak Load
20/10/2024 05:00	14.941	352917.938	24.758	0.011	0.000	Off Peak Load
20/10/2024 06:00	14.925	349468.813	22.214	0.011	0.000	Off Peak Load
20/10/2024 07:00	14.970	344385.125	23.455	0.012	0.000	Off Peak Load
20/10/2024 08:00	15.130	334038.000	28.807	0.012	0.000	Off Peak Load
20/10/2024 09:00	15.032	350026.094	18.344	0.012	0.000	Off Peak Load
20/10/2024 10:00	15.147	348853.344	28.626	0.012	0.000	Off Peak Load
20/10/2024 11:00	15.120	348328.375	28.158	0.013	0.000	Off Peak Load
20/10/2024 12:00	15.137	343897.719	26.042	0.013	0.000	Off Peak Load
20/10/2024 13:00	15.167	343207.844	24.506	0.013	0.000	Off Peak Load
20/10/2024 14:00	15.075	353117.656	21.816	0.013	0.000	Off Peak Load
20/10/2024 15:00	15.143	351455.469	19.358	0.013	0.000	Off Peak Load
20/10/2024 16:00	15.110	347828.438	18.020	0.014	0.000	Off Peak Load
20/10/2024 17:00	15.026	348358.063	21.643	0.014	0.000	Off Peak Load
20/10/2024 18:00	15.184	335271.500	24.867	0.014	0.000	Off Peak Load
20/10/2024 19:00	15.009	380116.250	25.974	0.014	0.000	On Peak Load
20/10/2024 20:00	14.987	379406.281	26.119	0.014	0.000	On Peak Load
20/10/2024 21:00	14.991	382915.719	23.948	0.014	0.000	On Peak Load
20/10/2024 22:00	15.083	429151.688	27.685	0.014	0.000	Off Peak Load
20/10/2024 23:00	15.085	418433.344	24.856	0.014	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 00:00	15.100	417025.563	24.148	0.014	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 01:00	15.099	412186.469	25.957	0.014	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 02:00	15.098	413292.219	26.593	0.013	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 03:00	15.097	411311.938	27.229	0.012	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 04:00	15.096	407967.000	26.195	0.011	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 05:00	15.095	408090.563	25.357	0.011	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 06:00	15.097	406040.563	22.798	0.010	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 07:00	15.103	410333.906	22.945	0.009	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 08:00	15.109	412666.875	23.387	0.008	0.000	Off Peak Load GT11 SD Half Block
21/10/2024 09:00	15.146	432443.188	30.525	0.008	0.000	Off Peak Load
21/10/2024 10:00	15.106	394071.469	25.621	0.008	0.000	On Peak Load
21/10/2024 11:00	15.046	392177.969	22.381	0.009	0.000	On Peak Load
21/10/2024 12:00	15.073	387081.000	24.303	0.010	0.000	On Peak Load
21/10/2024 13:00	15.084	332432.219	22.981	0.011	0.000	Off Peak Load
21/10/2024 14:00	15.106	397455.594	22.449	0.011	0.000	On Peak Load
21/10/2024 15:00	15.148	410268.813	27.305	0.011	0.000	On Peak Load
21/10/2024 16:00	15.157	401924.375	26.238	0.013	0.000	On Peak Load
21/10/2024 17:00	15.088	385575.000	25.801	0.013	0.000	On Peak Load



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
1/Oct/24 00:00 31/Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison				Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2		HRSG1_SOx@7%O2		
			ppm	ppm	ppm	mg/m3	
21/10/2024 18:00	15.103	386160.094	26.063	0.013	0.000	On Peak Load	
21/10/2024 19:00	15.145	395020.656	23.815	0.013	0.000	On Peak Load	
21/10/2024 20:00	15.045	391279.625	19.039	0.013	0.000	On Peak Load	
21/10/2024 21:00	15.045	392609.281	20.498	0.014	0.000	On Peak Load	
21/10/2024 22:00	15.012	396281.094	23.577	0.015	0.000	On Peak Load	
21/10/2024 23:00	15.092	392926.844	24.419	0.016	0.000	On Peak Load	
22/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
22/10/2024 10:00	15.044	386185.094	22.758	0.014	0.000	On Peak Load	
22/10/2024 11:00	15.060	387622.375	26.643	0.014	0.000	On Peak Load	
22/10/2024 12:00	15.089	37664.094	27.456	0.014	0.000	On Peak Load	
22/10/2024 13:00	15.315	323380.156	25.876	0.014	0.000	Off Peak Load	
22/10/2024 14:00	15.167	417292.188	25.784	0.014	0.000	On Peak Load	
22/10/2024 15:00	15.152	395041.281	40.595	0.014	0.000	On Peak Load	
22/10/2024 16:00	15.075	380763.406	29.912	0.014	0.000	On Peak Load	
22/10/2024 17:00	15.062	384419.281	25.071	0.014	0.000	On Peak Load	
22/10/2024 18:00	15.095	400493.406	25.133	0.014	0.000	On Peak Load	
22/10/2024 19:00	15.088	411375.406	27.225	0.014	0.000	On Peak Load	
22/10/2024 20:00	15.039	384666.094	28.232	0.015	0.000	On Peak Load	
22/10/2024 21:00	15.062	402443.094	28.220	0.015	0.000	On Peak Load	
22/10/2024 22:00	15.009	386995.906	24.976	0.015	0.000	On Peak Load	
22/10/2024 23:00	14.995	392517.344	24.818	0.015	0.000	On Peak Load	
23/10/2024 00:00	15.116	41264.656	26.389	0.016	0.000	Off Peak Load GT11 SD Half Block	
23/10/2024 01:00	15.119	413254.375	28.633	0.016	0.000	Off Peak Load GT11 SD Half Block	
23/10/2024 02:00	15.121	414824.750	29.602	0.016	0.000	Off Peak Load GT11 SD Half Block	
23/10/2024 03:00	15.124	408601.969	26.744	0.016	0.000	Off Peak Load GT11 SD Half Block	
23/10/2024 04:00	15.127	398368.063	26.552	0.016	0.000	Off Peak Load GT11 SD Half Block	
23/10/2024 05:00	15.128	404165.375	26.573	0.017	3.306	Off Peak Load GT11 SD Half Block	
23/10/2024 06:00	15.128	401383.125	30.670	0.017	2.682	Off Peak Load GT11 SD Half Block	
23/10/2024 07:00	15.128	407764.938	27.902	0.017	4.589	Off Peak Load GT11 SD Half Block	
23/10/2024 08:00	15.128	399744.875	24.593	0.017	0.000	Off Peak Load GT11 SD Half Block	
23/10/2024 09:00	15.153	424762.188	33.366	0.017	0.000	Off Peak Load	
23/10/2024 10:00	15.056	373655.625	25.457	0.017	0.000	On Peak Load	
23/10/2024 11:00	15.073	388036.438	27.348	0.016	0.000	On Peak Load	
23/10/2024 12:00	15.143	399141.469	24.977	0.015	0.000	On Peak Load	
23/10/2024 13:00	15.393	334688.969	27.297	0.014	0.000	Off Peak Load	
23/10/2024 14:00	15.151	407802.469	26.401	0.013	0.000	On Peak Load	
23/10/2024 15:00	15.177	406471.938	24.786	0.012	0.000	On Peak Load	
23/10/2024 16:00	15.127	403848.938	26.111	0.012	0.000	On Peak Load	
23/10/2024 17:00	15.071	387479.250	25.158	0.013	0.000	On Peak Load	
23/10/2024 18:00	15.025	385034.125	23.142	0.013	0.000	On Peak Load	
23/10/2024 19:00	15.027	387464.938	27.204	0.014	0.000	On Peak Load	
23/10/2024 20:00	15.033	399843.000	22.605	0.014	0.000	On Peak Load	
23/10/2024 21:00	15.012	396744.375	23.970	0.015	0.000	On Peak Load	
23/10/2024 22:00	14.990	390808.156	26.944	0.015	0.000	On Peak Load	
23/10/2024 23:00	14.982	388500.031	25.635	0.016	0.000	On Peak Load	
24/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block	
24/10/2024 13:00	15.165	324935.031	48.599	0.010	0.000	Off Peak Load	
24/10/2024 14:00	14.851	397505.031	39.650	0.011	0.000	On Peak Load	
24/10/2024 15:00	14.939	404794.638	41.865	0.011	0.000	On Peak Load	
24/10/2024 16:00	14.918	406949.219	38.220	0.011	0.000	On Peak Load	
24/10/2024 17:00	14.823	406092.563	37.359	0.011	0.000	On Peak Load	
24/10/2024 18:00	14.826	406401.125	39.311	0.011	0.000	On Peak Load	
24/10/2024 19:00	14.781	398475.531	37.379	0.011	0.000	On Peak Load	
24/10/2024 20:00	14.748	409405.250	36.801	0.012	0.000	On Peak Load	
24/10/2024 21:00	14.713	402329.375	27.141	0.013	0.000	On Peak Load	
24/10/2024 22:00	14.711	421044.375	30.461	0.013	0.000	On Peak Load	
24/10/2024 23:00	14.685	396471.063	24.305	0.014	0.000	On Peak Load	
25/10/2024 00:00	14.785	419096.250	27.369	0.013	0.000	Off Peak Load GT11 SD Half Block	
25/10/2024 01:00	14.740	418017.719	26.850	0.014	0.000	Off Peak Load GT11 SD Half Block	
25/10/2024 02:00	14.718	416557.219	26.193	0.015	0.000	Off Peak Load GT11 SD Half Block	
25/10/2024 03:00	14.730	409443.094	26.875	0.016	0.000	Off Peak Load GT11 SD Half Block	
25/10/2024 04:00	14.743	408502.844	29.170	0.016	0.000	Off Peak Load GT11 SD Half Block	

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
1/Oct/24 00:00 31/Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
25/10/2024 05:00	14.755	409,128	26.020	0.015	0.000	Off Peak Load GT11 SD Half Block
25/10/2024 06:00	14.768	400,231	25.305	0.014	0.000	Off Peak Load GT11 SD Half Block
25/10/2024 07:00	14.781	410,757	28.329	0.013	0.000	Off Peak Load GT11 SD Half Block
25/10/2024 08:00	14.810	413,702	28.022	0.012	0.000	Off Peak Load GT11 SD Half Block
25/10/2024 09:00	14.803	422,971	27.317	0.011	0.000	Off Peak Load
25/10/2024 10:00	14.739	385,444	26.135	0.010	0.000	On Peak Load
25/10/2024 11:00	14.708	389,929	24.204	0.009	0.000	On Peak Load
25/10/2024 12:00	14.735	380,826	26.618	0.008	0.000	On Peak Load
25/10/2024 13:00	15.027	327,441	33,320	0.009	0.000	Off Peak Load
25/10/2024 14:00	14.816	397,843	26,594	0.010	0.000	On Peak Load
25/10/2024 15:00	14.826	402,834	25,672	0.010	0.000	On Peak Load
25/10/2024 16:00	14.890	404,266	28,407	0.011	0.000	On Peak Load
25/10/2024 17:00	14.836	403,203	24,103	0.012	0.000	On Peak Load
25/10/2024 18:00	14.817	399,560	33,949	0.012	0.000	On Peak Load
25/10/2024 19:00	14.792	394,077	35,914	0.013	0.000	On Peak Load
25/10/2024 20:00	14.754	387,094	21,685	0.014	0.000	On Peak Load
25/10/2024 21:00	14.772	416,721	25,633	0.015	0.000	On Peak Load
25/10/2024 22:00	14.725	408,072	22,170	0.016	0.000	On Peak Load
25/10/2024 23:00	14.704	398,033	23,445	0.017	0.000	On Peak Load
26/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
26/10/2024 10:00	14.793	404,297	35,066	0.020	0.000	On Peak Load
26/10/2024 11:00	14.744	385,497	33,571	0.019	0.000	Off Peak Load
26/10/2024 12:00	14.716	386,308	29,307	0.018	0.000	On Peak Load
26/10/2024 13:00	15.003	334,283	32,100	0.017	0.000	Off Peak Load
26/10/2024 14:00	14.839	412,910	19,786	0.016	0.000	On Peak Load
26/10/2024 15:00	14.763	418,560	19,216	0.015	0.000	On Peak Load
26/10/2024 16:00	14.878	417,368	19,208	0.015	0.000	On Peak Load
26/10/2024 17:00	14.858	405,199	31,688	0.015	0.000	On Peak Load
26/10/2024 18:00	14.813	402,287	22,060	0.015	0.000	On Peak Load
26/10/2024 19:00	14.793	413,968	20,959	0.015	0.000	On Peak Load
26/10/2024 20:00	14.762	390,073	18,965	0.015	0.000	On Peak Load
26/10/2024 21:00	14.745	390,902	19,211	0.015	0.000	On Peak Load
26/10/2024 22:00	14.707	411,470	18,782	0.015	0.000	On Peak Load
26/10/2024 23:00	14.730	401,803	20,820	0.015	0.000	On Peak Load
27/10/2024 00:00	14.544	377,620	18,983	0.015	0.000	Off Peak Load
27/10/2024 01:00	14.619	373,247	17,263	0.015	0.000	Off Peak Load
27/10/2024 02:00	14.610	362,782	19,761	0.015	0.000	Off Peak Load
27/10/2024 03:00	14.608	359,004	16,466	0.015	0.000	Off Peak Load
27/10/2024 04:00	14.564	369,012	18,234	0.014	0.000	Off Peak Load
27/10/2024 05:00	14.548	356,138	14,514	0.014	0.000	Off Peak Load
27/10/2024 06:00	14.603	364,180	13,956	0.014	0.000	Off Peak Load
27/10/2024 07:00	14.604	350,799	14,399	0.014	0.000	Off Peak Load
27/10/2024 08:00	14.705	344,226	18,074	0.013	0.000	Off Peak Load
27/10/2024 09:00	14.743	342,193	19,890	0.013	0.000	Off Peak Load
27/10/2024 10:00	14.810	352,114	22,780	0.013	0.000	Off Peak Load
27/10/2024 11:00	14.790	353,228	19,693	0.013	0.000	Off Peak Load
27/10/2024 12:00	14.807	338,370	22,224	0.013	0.000	Off Peak Load
27/10/2024 13:00	14.815	353,565	13,782	0.014	0.000	Off Peak Load
27/10/2024 14:00	14.787	383,616	11,240	0.014	0.000	Off Peak Load
27/10/2024 15:00	14.770	372,581	11,633	0.014	0.000	Off Peak Load
27/10/2024 16:00	14.733	369,265	17,978	0.014	0.000	Off Peak Load
27/10/2024 17:00	14.713	360,036	12,907	0.014	0.000	Off Peak Load
27/10/2024 18:00	14.673	357,463	15,548	0.014	0.000	Off Peak Load
27/10/2024 19:00	14.781	422,852	16,636	0.013	0.000	On Peak Load
27/10/2024 20:00	14.751	437,916	23,593	0.013	0.000	On Peak Load
27/10/2024 21:00	14.735	416,518	17,235	0.013	0.000	On Peak Load
27/10/2024 22:00	14.759	440,657	23,170	0.013	0.000	Off Peak Load
27/10/2024 23:00	14.778	422,918	21,004	0.012	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 00:00	14.766	425,063	22,916	0.012	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 01:00	14.754	404,255	21,865	0.012	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 02:00	14.742	413,522	18,682	0.012	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 03:00	14.734	419,577	21,583	0.012	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 04:00	14.731	399,400	21,654	0.012	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 05:00	14.728	417,764	21,656	0.013	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 06:00	14.725	416,750	19,877	0.013	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 07:00	14.722	417,942	19,114	0.014	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 08:00	14.775	412,985	19,143	0.013	0.000	Off Peak Load GT11 SD Half Block
28/10/2024 09:00	14.752	429,264	23,030	0.013	0.000	Off Peak Load
28/10/2024 10:00	14.654	398,092	21,525	0.013	0.000	On Peak Load
28/10/2024 11:00	14.707	387,547	22,494	0.013	0.000	On Peak Load
28/10/2024 12:00	14.743	384,696	21,170	0.014	0.000	On Peak Load
28/10/2024 13:00	14.961	332,087	17,714	0.014	0.000	Off Peak Load
28/10/2024 14:00	14.697	392,235	17,056	0.014	0.000	On Peak Load
28/10/2024 15:00	14.763	407,926	18,553	0.014	0.000	On Peak Load



Site Name: GNLL2  
Stack Name: HRS012  
Periodically: 1/Oct/24 00:00 - 31/Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
28/10/2024 16:00	14.778	403,151	21.674	0.014	0.000	On Peak Load
28/10/2024 17:00	14.834	396,798	21.330	0.015	0.000	On Peak Load
28/10/2024 18:00	14.821	401,966	21.224	0.015	0.000	On Peak Load
28/10/2024 19:00	14.726	392,352	20.977	0.015	0.000	On Peak Load
28/10/2024 20:00	14.707	385,921	21.914	0.015	0.000	On Peak Load
28/10/2024 21:00	14.680	397,762	17.709	0.015	0.000	On Peak Load
28/10/2024 22:00	14.673	402,857	16.677	0.016	0.000	On Peak Load
28/10/2024 23:00	14.711	400275.719	19.092	0.016	0.000	On Peak Load
29/10/2024 00:00	14.769	416673.313	23.198	0.016	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 01:00	14.718	421798.719	22.873	0.016	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 02:00	14.718	428152.938	20.042	0.016	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 03:00	14.721	428864.375	18.925	0.016	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 04:00	14.727	418715.281	20.241	0.016	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 05:00	14.732	419495.156	19.977	0.015	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 06:00	14.738	408113.813	23.407	0.015	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 07:00	14.744	411952.750	19.709	0.015	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 08:00	14.750	422276.781	17.758	0.015	0.000	Off Peak Load GT11 SD Half Block
29/10/2024 09:00	14.830	440562.813	24.538	0.015	0.000	Off Peak Load
29/10/2024 10:00	14.749	408112.125	21.656	0.015	0.000	On Peak Load
29/10/2024 11:00	14.782	390,201	23.452	0.015	0.000	On Peak Load
29/10/2024 12:00	14.798	386,651	23.284	0.016	0.000	On Peak Load
29/10/2024 13:00	15.073	331,026	29.441	0.016	0.000	Off Peak Load
29/10/2024 14:00	14.800	401,395	20.473	0.016	0.000	On Peak Load
29/10/2024 15:00	14.777	404,609	18.826	0.016	0.000	On Peak Load
29/10/2024 16:00	14.843	416,695	23.917	0.017	0.000	On Peak Load
29/10/2024 17:00	14.799	413,746	20.506	0.017	0.000	On Peak Load
29/10/2024 18:00	14.758	401,003	20.018	0.017	0.000	On Peak Load
29/10/2024 19:00	14.776	397,942	18.471	0.018	0.000	On Peak Load
29/10/2024 20:00	14.722	402,211	22.434	0.018	0.000	On Peak Load
29/10/2024 21:00	14.721	404,236	19.498	0.019	0.000	On Peak Load
29/10/2024 22:00	14.663	407,457	19.562	0.020	0.000	On Peak Load
29/10/2024 23:00	14.669	410011.344	21.774	0.020	0.000	On Peak Load
30/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/10/2024 10:00	14.652	374,193	30.994	0.014	0.000	On Peak Load
30/10/2024 11:00	14.644	374,496	20.793	0.006	0.000	On Peak Load
30/10/2024 12:00	14.642	377,730	17.288	0.007	0.000	On Peak Load
30/10/2024 13:00	15.191	323,200	44.428	0.010	0.000	Off Peak Load
30/10/2024 14:00	14.659	375,027	17.212	0.012	0.000	On Peak Load
30/10/2024 15:00	14.743	381,468	17.647	0.015	0.000	On Peak Load
30/10/2024 16:00	14.749	384,676	20.062	0.011	0.000	On Peak Load
30/10/2024 17:00	14.638	352,926	18.819	0.010	0.000	On Peak Load
30/10/2024 18:00	14.621	365,224	17.372	0.009	0.000	On Peak Load
30/10/2024 19:00	14.588	360,005	17.739	0.009	0.000	On Peak Load
30/10/2024 20:00	14.605	361,963	21.601	0.008	0.000	On Peak Load
30/10/2024 21:00	14.622	370,647	19.792	0.007	0.000	On Peak Load
30/10/2024 22:00	14.572	383,848	17.162	0.006	0.000	On Peak Load
30/10/2024 23:00	14.585	367,400	16.814	0.005	0.000	On Peak Load
31/10/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
31/10/2024 10:00	14.624	374,064	19.476	0.017	0.000	On Peak Load
31/10/2024 11:00	14.681	369,067	17.772	0.015	0.000	On Peak Load
31/10/2024 12:00	14.663	366,524	21.096	0.015	0.000	On Peak Load
31/10/2024 13:00	15.208	324,991	55.314	0.015	0.000	Off Peak Load
31/10/2024 14:00	14.678	376,451	30.981	0.015	0.000	On Peak Load
31/10/2024 15:00	14.654	372,893	21.918	0.015	0.000	On Peak Load
31/10/2024 16:00	14.629	369,557	17.710	0.015	0.000	On Peak Load
31/10/2024 17:00	14.586	371,606	18.872	0.015	0.000	On Peak Load
31/10/2024 18:00	14.654	374,992	17.353	0.015	0.000	On Peak Load
31/10/2024 19:00	14.640	394,283	18.516	0.015	0.000	On Peak Load
31/10/2024 20:00	14.627	378,746	17.157	0.015	0.000	On Peak Load
31/10/2024 21:00	14.623	395,113	17.094	0.015	0.000	On Peak Load
31/10/2024 22:00	14.614	383,962	18.137	0.015	0.000	On Peak Load
31/10/2024 23:00	14.574	383386	17.081	0.015	0.000	On Peak Load
Minimum	14.54	199,464	0.00	0.00	0.00	
Maximum	22.44	440,563	58.98	0.02	15.31	
Avg	15.35	364,564	26.43	0.01	0.16	

Site Name: GNLL2  
Stack Name: HRS012  
Periodically: 1/Oct/24 00:00 - 31/Oct/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust@7%O2	
	%	m3/hr	ppm	ppm	mg/m3	
SUM			60	0	0	



Site Name:  
Stack Name:  
Periodicity:

GNL12  
HRSG11  
1/Nov/24 00:00 - 30/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
01/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
01/11/2024 14:00	14.411	341,689	25.630	0.004	2.093	On Peak Load
01/11/2024 15:00	14.433	331,740	19.683	0.003	1.454	On Peak Load
01/11/2024 16:00	14.423	341,225	23.103	0.003	1.417	On Peak Load
01/11/2024 17:00	14.374	334,628	15.024	0.002	1.520	On Peak Load
01/11/2024 18:00	14.378	326,453	10.372	0.002	1.203	On Peak Load
01/11/2024 19:00	14.345	328,300	14.289	0.001	1.078	On Peak Load
01/11/2024 20:00	14.355	333,531	16.260	0.000	1.156	On Peak Load
01/11/2024 21:00	14.349	335,858	9.206	0.000	1.308	On Peak Load
01/11/2024 22:00	14.383	342,722	6.509	0.000	1.308	On Peak Load
01/11/2024 23:00	14.398	257761.094	16.022	0.001	1.541	Off Peak Load
02/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
02/11/2024 14:00	14.518	317,960	22.770	0.002	1.547	On Peak Load
02/11/2024 15:00	14.560	331,700	22.641	0.002	1.463	On Peak Load
02/11/2024 16:00	14.515	323,334	20.867	0.002	1.304	On Peak Load
02/11/2024 17:00	14.489	333,982	22.485	0.002	1.652	On Peak Load
02/11/2024 18:00	14.454	324,473	21.100	0.001	1.426	On Peak Load
02/11/2024 19:00	14.458	322,408	20.714	0.001	1.593	On Peak Load
02/11/2024 20:00	14.420	329,650	24.753	0.001	1.756	On Peak Load
02/11/2024 21:00	14.411	341,294	6.522	0.001	1.823	On Peak Load
02/11/2024 22:00	14.441	350,102	16.677	0.001	1.836	On Peak Load
02/11/2024 23:00	14.383	333811.406	16.004	0.001	1.661	On Peak Load
03/11/2024 00:00	14.258	270903.219	16.930	0.000	1.463	Off Peak Load
03/11/2024 01:00	14.320	304867.813	10.660	0.000	1.089	Off Peak Load
03/11/2024 02:00	14.411	324224.250	17.585	0.000	1.341	Off Peak Load
03/11/2024 03:00	14.333	307179.250	22.124	0.000	1.731	Off Peak Load
03/11/2024 04:00	14.334	305222.644	13.031	0.000	1.792	Off Peak Load
03/11/2024 05:00	14.316	299118.219	13.736	0.000	1.634	Off Peak Load
03/11/2024 06:00	14.326	301709.125	18.277	0.000	1.756	Off Peak Load
03/11/2024 07:00	14.313	300892.375	7.704	0.000	1.667	Off Peak Load
03/11/2024 08:00	14.372	270344.219	18.268	0.000	1.740	Off Peak Load
03/11/2024 09:00	14.403	272793.625	22.739	0.000	1.796	Off Peak Load
03/11/2024 10:00	14.390	269259.094	27.896	0.000	1.819	Off Peak Load
03/11/2024 11:00	14.416	274953.281	25.441	0.001	1.705	Off Peak Load
03/11/2024 12:00	14.481	267026.281	34.930	0.001	1.911	Off Peak Load
03/11/2024 13:00	14.495	266,384	37.122	0.001	1.706	Off Peak Load
03/11/2024 14:00	14.445	268,793	28.317	0.001	1.454	Off Peak Load
03/11/2024 15:00	14.439	286,720	29.114	0.001	1.246	Off Peak Load
03/11/2024 16:00	14.393	270,936	29.440	0.001	1.062	Off Peak Load
03/11/2024 17:00	14.431	273,777	31.858	0.001	1.512	Off Peak Load
03/11/2024 18:00	14.409	328,668	30.176	0.001	1.478	On Peak Load
03/11/2024 19:00	14.492	336,922	29.308	0.001	1.757	On Peak Load
03/11/2024 20:00	14.433	330,390	23.375	0.001	1.771	On Peak Load
03/11/2024 21:00	14.431	341,204	22.365	0.001	1.873	On Peak Load
03/11/2024 22:00	14.450	366,491	25.465	0.001	1.684	Off Peak Load GT12 SD Half Block
03/11/2024 23:00	14.462	358,274	19.613	0.001	1.869	Off Peak Load GT12 SD Half Block
04/11/2024 00:00	14.445	355,192	24.431	0.001	1.443	Off Peak Load GT12 SD Half Block
04/11/2024 01:00	14.428	356,223	21.944	0.001	1.822	Off Peak Load GT12 SD Half Block
04/11/2024 02:00	14.435	354,195	12.493	0.000	1.736	Off Peak Load GT12 SD Half Block
04/11/2024 03:00	14.451	357,940	14.687	0.000	1.821	Off Peak Load GT12 SD Half Block
04/11/2024 04:00	14.436	358,056	16.486	0.000	1.634	Off Peak Load GT12 SD Half Block
04/11/2024 05:00	14.425	358,072	10.478	0.000	1.813	Off Peak Load GT12 SD Half Block
04/11/2024 06:00	14.453	353,894	23.366	0.000	1.915	Off Peak Load GT12 SD Half Block
04/11/2024 07:00	14.450	354,154	10.254	0.000	1.759	Off Peak Load GT12 SD Half Block
04/11/2024 08:00	14.490	357,425	10.247	0.000	1.826	Off Peak Load GT12 SD Half Block
04/11/2024 09:00	14.524	358,461	13.362	0.000	1.978	Off Peak Load GT12 SD Half Block
04/11/2024 10:00	14.522	356,656	13.660	0.000	1.818	Off Peak Load GT12 SD Half Block

Site Name:  
Stack Name:  
Periodicity:

GNL12  
HRSG11  
1/Nov/24 00:00 - 30/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/11/2024 11:00	14.525	359,169	13.735	0.000	1.846	Off Peak Load GT12 SD Half Block
04/11/2024 12:00	14.554	358,385	15.914	0.000	1.549	Off Peak Load GT12 SD Half Block
04/11/2024 13:00	14.455	362,404	18.992	0.000	1.865	Off Peak Load
04/11/2024 14:00	14.482	355,872	11.213	0.000	1.750	On Peak Load
04/11/2024 15:00	14.477	331,660	15.601	0.000	1.751	On Peak Load
04/11/2024 16:00	14.482	358,146	14.548	0.000	1.610	On Peak Load
04/11/2024 17:00	14.444	339,698	18.667	0.000	1.591	On Peak Load
04/11/2024 18:00	14.425	330,015	12.338	0.000	1.494	On Peak Load
04/11/2024 19:00	14.429	337,720	19.201	0.000	1.641	On Peak Load
04/11/2024 20:00	14.387	342,268	13.881	0.000	1.384	On Peak Load
04/11/2024 21:00	14.359	334,818	17.429	0.000	1.378	On Peak Load
04/11/2024 22:00	14.371	336,160	10.648	0.000	0.181	On Peak Load
04/11/2024 23:00	14.350	330,380	18.040	0.000	1.401	On Peak Load
05/11/2024 00:00	14.214	301,749	11.344	0.000	1.646	Off Peak Load
05/11/2024 01:00	14.294	312,783	12.057	0.000	2.420	Off Peak Load
05/11/2024 02:00	14.328	332,055	7.432	0.000	2.165	Off Peak Load
05/11/2024 03:00	14.272	301,066	10.813	0.000	1.747	Off Peak Load
05/11/2024 04:00	14.262	301,634	1.168	0.000	1.286	Off Peak Load
05/11/2024 05:00	14.296	306,185	5.324	0.000	1.571	Off Peak Load
05/11/2024 06:00	14.312	305,094	14.184	0.000	1.231	Off Peak Load
05/11/2024 07:00	14.296	293,742	18.486	0.000	1.717	Off Peak Load
05/11/2024 08:00	14.223	288,769	7.788	0.000	1.875	Off Peak Load
05/11/2024 09:00	14.312	300,283	16.258	0.000	2.059	Off Peak Load
05/11/2024 10:00	14.298	281,905	17.526	0.000	1.760	Off Peak Load
05/11/2024 11:00	14.349	281,154	16.861	0.000	1.782	Off Peak Load
05/11/2024 12:00	14.331	275,821	2.820	0.000	1.585	Off Peak Load
05/11/2024 13:00	14.620	246,874	37.417	0.000	1.697	Off Peak Load
05/11/2024 14:00	14.513	340,358	19.487	0.000	1.285	On Peak Load
05/11/2024 15:00	14.460	348,839	16.132	0.000	0.918	On Peak Load
05/11/2024 16:00	14.399	347,308	9.629	0.000	1.111	On Peak Load
05/11/2024 17:00	14.375	339,860	16.233	0.000	1.279	On Peak Load
05/11/2024 18:00	14.366	341,688	6.345	0.000	1.759	On Peak Load
05/11/2024 19:00	14.374	338,464	18.360	0.000	1.932	On Peak Load
05/11/2024 20:00	14.400	333,659	10.834	0.000	1.739	On Peak Load
05/11/2024 21:00	14.366	321,908	2.337	0.001	1.846	On Peak Load
05/11/2024 22:00	14.407	340,534.000	20.636	0.002	1.392	On Peak Load
05/11/2024 23:00	14.664	237567.594	33.717	0.004	1.725	Off Peak Load
06/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
06/11/2024 14:00	14.501	337,813	22.547	0.000	1.120	On Peak Load
06/11/2024 15:00	14.508	351,020	22.755	0.000	1.601	On Peak Load
06/11/2024 16:00	14.490	341,766	19.908	0.000	1.561	On Peak Load
06/11/2024 17:00	14.461	334,309	19.306	0.000	1.291	On Peak Load
06/11/2024 18:00	14.430	333,683	21.699	0.000	1.291	On Peak Load
06/11/2024 19:00	14.397	335,666	20.348	0.000	1.584	On Peak Load
06/11/2024 20:00	14.423	332,085	20.320	0.000	1.707	On Peak Load
06/11/2024 21:00	14.408	340,669	16.928	0.000	1.799	On Peak Load
06/11/2024 22:00	14.410	333,732	11.145	0.000	1.750	On Peak Load
06/11/2024 23:00	14.377	341,805	13.293	0.000	1.720	On Peak Load
07/11/2024 00:00	14.344	325,485	12.202	0.000	1.583	Off Peak Load
07/11/2024 01:00	14.385	311,676	19.318	0.000	1.531	Off Peak Load
07/11/2024 02:00	14.354	313,285	11.690	0.000	1.396	Off Peak Load
07/11/2024 03:00	14.401	318,923	19.042	0.000	1.448	Off Peak Load
07/11/2024 04:00	14.335	309,509	15.371	0.000	1.567	Off Peak Load
07/11/2024 05:00	14.328	314,184	9.579	0.000	1.512	Off Peak Load
07/11/2024 06:00	14.328	298,332	13.499	0.001	1.640	Off Peak Load
07/11/2024 07:00	14.353	312,103	14.109	0.001	1.733	Off Peak Load
07/11/2024 08:00	14.334	296,239	16.691	0.001	1.698	Off Peak Load
07/11/2024 09:00	14.354	288,688	15.895	0.001	1.664	Off Peak Load
07/11/2024 10:00	14.325	295,194	7.506	0.001	1.598	Off Peak Load
07/11/2024 11:00	14.368	300,967	13.471	0.001	1.697	Off Peak Load
07/11/2024 12:00	14.404	282,635	13.214	0.001	1.564	Off Peak Load
07/11/2024 13:00	14.628	249,194	34.963	0.001	1.302	Off Peak Load
07/11/2024 14:00	14.475	320,672	12.919	0.000	0.952	On Peak Load
07/11/2024 15:00	14.182	331,524	9.957	0.000	1.086	On Peak Load
07/11/2024 16:00	14.506	331,724	14.425	0.000	1.179	On Peak Load
07/11/2024 17:00	14.474	335,143	13.293	0.000	1.434	On Peak Load
07/11/2024 18:00	14.435	339,818	12.198	0.000	1.418	On Peak Load
07/11/2024 19:00	14.426	337,558	15.903	0.000	1.672	On Peak Load
07/11/2024 20:00	14.410	333,300	9.231	0.000	1.785	On Peak Load
07/11/2024 21:00	14.403	334,137	11.609	0.000	1.657	On Peak Load



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG11  
1/Nov/24 00:00 - 30/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/11/2024 22:00	14.419	331,688	6.187	0.000	1.635	On Peak Load
07/11/2024 23:00	14.374	337,801	10.736	0.000	1.754	On Peak Load
08/11/2024 00:00	14.313	302,861	11.476	0.000	1.433	Off Peak Load
08/11/2024 01:00	14.392	316,988	14.061	0.000	1.521	Off Peak Load
08/11/2024 02:00	14.362	310,050	16.035	0.000	1.583	Off Peak Load
08/11/2024 03:00	14.301	299,630	11.302	0.000	1.581	Off Peak Load
08/11/2024 04:00	14.300	297,780	3.408	0.000	1.522	Off Peak Load
08/11/2024 05:00	14.420	322,305	10.752	0.000	1.697	Off Peak Load
08/11/2024 06:00	14.319	293,659	15.489	0.000	1.609	Off Peak Load
08/11/2024 07:00	14.298	302,419	11.877	0.000	1.679	Off Peak Load
08/11/2024 08:00	14.333	285,175	10.978	0.000	1.635	Off Peak Load
08/11/2024 09:00	14.330	278,971	3.854	0.000	1.605	Off Peak Load
08/11/2024 10:00	14.368	286,462	9.962	0.000	1.505	Off Peak Load
08/11/2024 11:00	14.346	285,846	8.922	0.000	1.544	Off Peak Load
08/11/2024 12:00	14.410	278,424	5.170	0.000	1.511	Off Peak Load
08/11/2024 13:00	14.681	245,400	39.757	0.000	1.808	Off Peak Load
08/11/2024 14:00	14.496	333,851	11.727	0.000	1.458	On Peak Load
08/11/2024 15:00	14.553	346,536	12.255	0.000	1.479	On Peak Load
08/11/2024 16:00	14.496	348,900	15.481	0.000	1.568	On Peak Load
08/11/2024 17:00	14.465	342,159	18.886	0.000	1.194	On Peak Load
08/11/2024 18:00	14.425	339,575	11.650	0.000	1.145	On Peak Load
08/11/2024 19:00	14.404	339,853	4.748	0.000	1.305	On Peak Load
08/11/2024 20:00	14.387	337,085	14.259	0.000	1.469	On Peak Load
08/11/2024 21:00	14.478	340,147	12.763	0.000	1.428	On Peak Load
08/11/2024 22:00	14.410	341,711	14.555	0.000	1.598	On Peak Load
08/11/2024 23:00	14.395	339,735	13.304	0.000	1.758	On Peak Load
09/11/2024 00:00	14.318	315,896	10.402	0.000	1.477	Off Peak Load
09/11/2024 01:00	14.385	321,447	16.341	0.000	1.550	Off Peak Load
09/11/2024 02:00	14.369	325,656	16.539	0.001	1.579	Off Peak Load
09/11/2024 03:00	14.348	314,151	11.322	0.001	1.778	Off Peak Load
09/11/2024 04:00	14.328	312,826	11.301	0.002	1.658	Off Peak Load
09/11/2024 05:00	14.343	307,052	15.011	0.002	1.697	Off Peak Load
09/11/2024 06:00	14.354	312,033	13.461	0.002	1.447	Off Peak Load
09/11/2024 07:00	14.317	306,973	10.683	0.002	1.476	Off Peak Load
09/11/2024 08:00	14.306	280,251	10.416	0.003	1.656	Off Peak Load
09/11/2024 09:00	14.374	302,957	11.528	0.003	1.824	Off Peak Load
09/11/2024 10:00	14.325	287,479	4.107	0.003	1.854	Off Peak Load
09/11/2024 11:00	14.358	287,224	6.599	0.001	1.722	Off Peak Load
09/11/2024 12:00	14.402	275,566	4.714	0.001	1.689	Off Peak Load
09/11/2024 13:00	14.711	241,714	44.497	0.001	1.964	Off Peak Load
09/11/2024 14:00	14.499	334,890	0.001	0.001	1.568	On Peak Load
09/11/2024 15:00	14.538	335,702	18.182	0.001	1.828	On Peak Load
09/11/2024 16:00	14.557	339,987	11.299	0.002	1.699	On Peak Load
09/11/2024 17:00	14.497	343,415	14.855	0.002	1.669	On Peak Load
09/11/2024 18:00	14.502	344,772	13.511	0.002	1.750	On Peak Load
09/11/2024 19:00	14.463	331,049	14.772	0.002	1.529	On Peak Load
09/11/2024 20:00	14.521	334,558	14.454	0.002	1.547	On Peak Load
09/11/2024 21:00	14.431	352,830	16.466	0.003	1.588	On Peak Load
09/11/2024 22:00	14.417	341,626	16.914	0.002	1.806	On Peak Load
09/11/2024 23:00	14.444	341,890	19.583	0.002	1.731	On Peak Load
10/11/2024 00:00	14.294	300,768	6.496	0.002	1.614	Off Peak Load
10/11/2024 01:00	14.347	323,482	7.993	0.002	1.454	Off Peak Load
10/11/2024 02:00	14.329	315,020	10.905	0.002	1.482	Off Peak Load
10/11/2024 03:00	14.324	313,459	7.924	0.002	1.637	Off Peak Load
10/11/2024 04:00	14.317	316,725	3.133	0.001	1.451	Off Peak Load
10/11/2024 05:00	14.289	288,147	4.453	0.001	1.621	Off Peak Load
10/11/2024 06:00	14.266	286,764	11.636	0.001	1.415	Off Peak Load
10/11/2024 07:00	14.291	287,565	7.796	0.000	1.527	Off Peak Load
10/11/2024 08:00	14.403	272,853	16.665	0.000	1.573	Off Peak Load
10/11/2024 09:00	14.400	284,023	12.892	0.000	1.623	Off Peak Load
10/11/2024 10:00	14.402	274,518	5.797	0.000	1.767	Off Peak Load
10/11/2024 11:00	14.430	292,010	4.806	0.000	1.476	Off Peak Load
10/11/2024 12:00	14.497	270,305	6.047	0.000	1.394	Off Peak Load
10/11/2024 13:00	14.476	276,493	13.049	0.000	0.954	Off Peak Load
10/11/2024 14:00	14.466	274,771	9.571	0.000	1.186	Off Peak Load
10/11/2024 15:00	12.405	283,130	0.016	0.000	1.050	Off Peak Load
10/11/2024 16:00	14.431	281,479	13.481	0.000	1.156	Off Peak Load
10/11/2024 17:00	14.471	272,343	8.584	0.000	1.035	Off Peak Load
10/11/2024 18:00	14.430	328,179	13.328	0.000	1.616	On Peak Load
10/11/2024 19:00	14.469	329,473	11.536	0.001	1.751	On Peak Load
10/11/2024 20:00	14.423	331,712	14.867	0.001	1.580	On Peak Load
10/11/2024 21:00	14.372	329,619	9.522	0.002	1.587	On Peak Load
10/11/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
10/11/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG11  
1/Nov/24 00:00 - 30/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
11/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/11/2024 14:00	14.586	333,771	21.527	0.001	1.431	On Peak Load
11/11/2024 15:00	14.562	332,723	18.265	0.000	0.925	On Peak Load
11/11/2024 16:00	14.515	336,521	18.974	0.000	1.417	On Peak Load
11/11/2024 17:00	14.491	326,777	18.076	0.000	1.606	On Peak Load
11/11/2024 18:00	14.455	331,621	18.969	0.000	0.963	On Peak Load
11/11/2024 19:00	14.456	319,434	14.368	0.000	0.245	On Peak Load
11/11/2024 20:00	14.445	322,217	17.640	0.000	0.767	On Peak Load
11/11/2024 21:00	14.389	325,605	13.879	0.000	0.846	On Peak Load
11/11/2024 22:00	14.409	330,283	12.799	0.000	1.196	On Peak Load
11/11/2024 23:00	14.390	337,699	9.545	0.000	1.155	On Peak Load
12/11/2024 00:00	14.729	281,594	8.644	0.000	1.116	Off Peak Load
12/11/2024 01:00	14.790	294,780	12.063	0.000	1.350	Off Peak Load
12/11/2024 02:00	14.782	300,753	10.668	0.001	1.389	Off Peak Load
12/11/2024 03:00	14.775	308,827	0.010	0.001	1.283	Off Peak Load
12/11/2024 04:00	14.289	290,386	13.013	0.002	1.447	Off Peak Load
12/11/2024 05:00	14.323	298,864	1.468	0.002	1.452	Off Peak Load
12/11/2024 06:00	14.289	295,331	4.834	0.002	1.515	Off Peak Load
12/11/2024 07:00	14.287	282,740	10.749	0.002	1.609	Off Peak Load
12/11/2024 08:00	14.342	272,373	17.772	0.002	1.906	Off Peak Load
12/11/2024 09:00	14.375	274,485	13.863	0.002	1.904	Off Peak Load
12/11/2024 10:00	14.473	263,680	22.537	0.002	1.755	Off Peak Load
12/11/2024 11:00	14.479	266,288	17.698	0.002	1.788	Off Peak Load
12/11/2024 12:00	14.514	266,040	28.598	0.002	1.778	Off Peak Load
12/11/2024 13:00	14.859	230,395	46.925	0.001	2.103	Off Peak Load
12/11/2024 14:00	14.470	317,105	4.411	0.001	1.753	On Peak Load
12/11/2024 15:00	14.497	315,841	15.099	0.001	1.471	On Peak Load
12/11/2024 16:00	14.490	321,209	4.755	0.000	1.202	On Peak Load
12/11/2024 17:00	14.474	315,675	13.423	0.000	1.437	On Peak Load
12/11/2024 18:00	14.408	323,553	7.035	0.000	1.479	On Peak Load
12/11/2024 19:00	14.389	310,401	13.581	0.000	1.567	On Peak Load
12/11/2024 20:00	14.367	320,563	4.247	0.000	1.534	On Peak Load
12/11/2024 21:00	14.342	315,764	8.756	0.000	1.234	On Peak Load
12/11/2024 22:00	14.336	309,717	8.543	0.000	0.666	On Peak Load
12/11/2024 23:00	14.263	315,414	3.705	0.000	1.287	On Peak Load
13/11/2024 00:00	14.314	307,182	11.465	0.000	1.306	Off Peak Load
13/11/2024 01:00	14.273	296,267	10.033	0.000	1.012	Off Peak Load
13/11/2024 02:00	14.273	293,650	1.328	0.000	1.384	Off Peak Load
13/11/2024 03:00	14.337	303,192	13.792	0.000	1.667	Off Peak Load
13/11/2024 04:00	14.236	285,580	7.444	0.000	1.282	Off Peak Load
13/11/2024 05:00	14.280	294,968	12.527	0.000	1.439	Off Peak Load
13/11/2024 06:00	14.283	296,893	0.000	0.001	1.680	Off Peak Load
13/11/2024 07:00	14.254	290,352	12.195	0.002	1.604	Off Peak Load
13/11/2024 08:00	14.303	272,757	6.010	0.002	1.611	Off Peak Load
13/11/2024 09:00	14.351	274,005	10.854	0.003	1.841	Off Peak Load
13/11/2024 10:00	14.416	270,254	15.823	0.003	1.786	Off Peak Load
13/11/2024 11:00	14.455	271,823	15.423	0.004	1.709	Off Peak Load
13/11/2024 12:00	14.507	264,093	20.864	0.004	1.784	Off Peak Load
13/11/2024 13:00	14.679	242,681	37.692	0.003	1.426	Off Peak Load
13/11/2024 14:00	14.507	325,723	9.887	0.002	1.445	On Peak Load
13/11/2024 15:00	14.496	325,357	13.429	0.001	1.109	On Peak Load
13/11/2024 16:00	14.503	327,773	30.827	0.007	1.543	On Peak Load
13/11/2024 17:00	14.459	323,528	37.054	0.006	1.408	On Peak Load
13/11/2024 18:00	14.451	316,497	30.705	0.006	1.414	On Peak Load
13/11/2024 19:00	14.386	319,548	30.103	0.004	1.294	On Peak Load
13/11/2024 20:00	14.387	315,793	29.193	0.004	0.914	On Peak Load
13/11/2024 21:00	14.399	318,389	29.819	0.003	1.105	On Peak Load
13/11/2024 22:00	14.411	326,151	29.115	0.002	1.293	On Peak Load
14/11/2024 00:00	14.261	290,173	26.590	0.001	1.083	Off Peak Load
14/11/2024 01:00	14.350	302,706	27.256	0.001	1.350	Off Peak Load
14/11/2024 02:00	14.400	307,265	26.075	0.001	1.184	Off Peak Load
14/11/2024 03:00	14.272	306,341	20.573	0.000	1.172	Off Peak Load
14/11/2024 04:00	14.244	299,277	19.607	0.000	1.265	Off Peak Load
14/11/2024 05:00	14.268	296,478	15.468	0.000	1.284	Off Peak Load
14/11/2024 06:00	14.233	287,965	14.624	0.000	1.279	Off Peak Load
14/11/2024 07:00	14.271	307,662	8.163	0.000	1.335	Off Peak Load
14/11/2024 08:00	14.243	271,519	9.130	0.000	1.534	Off Peak Load
14/11/2024 09:00	14.243	287,186	14.015	0.000	1.441	Off Peak Load
14/11/2024 10:00	14.279	282,683	9.800	0.000	1.311	Off Peak Load
14/11/2024 11:00	14.301	285,044	15.005	0.001	1.177	Off Peak Load
14/11/2024 12:00	14.473	260,478	25.142	0.002	1.776	Off Peak Load
14/11/2024 13:00	14.494	238,361	38.489	0.002	1.689	Off Peak Load
14/11/2024 14:00	14.408	317,956	8.501	0.001	1.053	On Peak Load
14/11/2024 15:00	14.311	320,451	10.242	0.003	1.655	On Peak Load
14/11/2024 16:00	14.323	314,003	9.717	0.004	2.101	On Peak Load
14/11/2024 17:00	14.313	321,529	9.488	0.003	1.252	On Peak Load
14/11/2024 18:00	14.310	327,864	6.205	0.003	1.008	On Peak Load
14/11/2024 19:00	14.295	311,203	0.024	0.002	1.800	On Peak Load
14/11/2024 20:00	14.274	317,886	3.964	0.001	0.883	On Peak Load



Site Name: GNLL2  
Stack Name: HRS011  
Periodically: 17 Nov 24 00:00 - 30 Nov 24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
14/11/2024 21:00	14.318	319.105	11.932	0.001	1.320	On Peak Load
14/11/2024 22:00	14.304	320.006	13.446	0.000	1.100	On Peak Load
14/11/2024 23:00	14.273	31519.250	9.688	0.000	0.967	On Peak Load
15/11/2024 00:00	14.193	28181.625	0.004	0.000	1.051	On Peak Load
15/11/2024 01:00	14.226	288921.531	6.633	0.000	1.718	Off Peak Load
15/11/2024 02:00	14.246	285550.031	12.449	0.000	1.058	Off Peak Load
15/11/2024 03:00	14.248	290769.094	8.751	0.000	0.649	Off Peak Load
15/11/2024 04:00	14.213	286292.844	3.306	0.000	0.808	Off Peak Load
15/11/2024 05:00	14.251	279459.750	10.479	0.000	1.015	Off Peak Load
15/11/2024 06:00	14.239	285303.031	0.000	0.001	1.111	Off Peak Load
15/11/2024 07:00	14.257	278629.814	13.094	0.001	1.251	Off Peak Load
15/11/2024 08:00	14.301	274103.188	16.587	0.001	1.149	Off Peak Load
15/11/2024 09:00	14.304	276021.375	11.636	0.001	1.140	Off Peak Load
15/11/2024 10:00	14.367	272.387	7.999	0.001	1.258	Off Peak Load
15/11/2024 11:00	14.277	286.948	3.779	0.001	0.691	Off Peak Load
15/11/2024 12:00	14.399	279.676	11.485	0.001	1.177	Off Peak Load
15/11/2024 13:00	14.675	239.607	39.206	0.001	1.746	Off Peak Load
15/11/2024 14:00	14.367	303.994	10.512	0.000	1.476	On Peak Load
15/11/2024 15:00	14.370	310.912	8.839	0.000	1.525	On Peak Load
15/11/2024 16:00	14.358	329.467	17.414	0.000	1.105	On Peak Load
15/11/2024 17:00	14.317	313.580	14.930	0.000	1.251	On Peak Load
15/11/2024 18:00	14.311	317.272	0.799	0.000	1.307	On Peak Load
15/11/2024 19:00	14.267	307.216	1.264	0.000	1.285	On Peak Load
15/11/2024 20:00	14.339	313.240	8.164	0.000	1.772	On Peak Load
15/11/2024 21:00	14.274	312.608	5.953	0.000	1.073	On Peak Load
15/11/2024 22:00	14.278	307.138	13.322	0.000	1.268	On Peak Load
15/11/2024 23:00	14.248	309.136	1.905	0.000	1.157	On Peak Load
16/11/2024 00:00	14.196	279.945	3.163	0.000	1.098	Off Peak Load
16/11/2024 01:00	14.173	283.752	13.071	0.000	0.978	Off Peak Load
16/11/2024 02:00	14.202	284.264	2.030	0.000	1.141	Off Peak Load
16/11/2024 03:00	14.223	294.208	11.118	0.000	1.198	Off Peak Load
16/11/2024 04:00	14.282	278.590	7.218	0.000	1.217	Off Peak Load
16/11/2024 05:00	14.233	277.288	5.466	0.000	1.196	Off Peak Load
16/11/2024 06:00	14.267	278.517	15.067	0.000	0.860	Off Peak Load
16/11/2024 07:00	14.261	292.601	7.857	0.000	1.594	Off Peak Load
16/11/2024 08:00	14.333	264.637	25.605	0.000	2.067	Off Peak Load
16/11/2024 09:00	14.287	274.580	5.212	0.000	1.550	Off Peak Load
16/11/2024 10:00	14.355	274.816	14.009	0.000	1.566	Off Peak Load
16/11/2024 11:00	14.385	265.887	16.878	0.000	1.485	Off Peak Load
16/11/2024 12:00	14.467	264.036	27.837	0.000	1.678	Off Peak Load
16/11/2024 13:00	14.739	236.146	40.020	0.000	1.702	Off Peak Load
16/11/2024 14:00	14.523	315.573	14.480	0.000	1.047	On Peak Load
16/11/2024 15:00	14.385	311.980	9.004	0.000	1.092	On Peak Load
16/11/2024 16:00	14.415	314.993	9.589	0.000	1.184	On Peak Load
16/11/2024 17:00	14.437	332.085	14.818	0.000	1.078	On Peak Load
16/11/2024 18:00	14.391	315.279	11.568	0.000	1.096	On Peak Load
16/11/2024 19:00	14.380	327.559	9.233	0.000	1.176	On Peak Load
16/11/2024 20:00	14.331	316.196	14.882	0.000	0.890	On Peak Load
16/11/2024 21:00	14.334	318.691	14.565	0.001	1.307	On Peak Load
16/11/2024 22:00	14.360	333.564	14.305	0.003	1.308	On Peak Load
16/11/2024 23:00	14.340	261738.141	18.584	0.004	1.014	On Peak Load
17/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
17/11/2024 18:00	14.257	308.410	20.207	0.000	7.548	On Peak Load
17/11/2024 19:00	14.304	311.891	16.112	0.000	5.516	On Peak Load
17/11/2024 20:00	14.307	307.971	16.133	0.000	5.136	On Peak Load
17/11/2024 21:00	14.295	300.982	20.169	0.000	4.758	On Peak Load
17/11/2024 22:00	14.343	264.601	28.913	0.001	5.127	Off Peak Load
17/11/2024 23:00	14.333	264.261	18.058	0.001	5.134	Off Peak Load
18/11/2024 00:00	14.309	272.547	13.261	0.002	3.770	Off Peak Load
18/11/2024 01:00	14.277	272.227	14.096	0.003	3.122	Off Peak Load
18/11/2024 02:00	14.266	274.559	12.165	0.002	3.016	Off Peak Load
18/11/2024 03:00	14.344	273.600	19.145	0.002	3.793	Off Peak Load
18/11/2024 04:00	14.323	266.267	19.643	0.002	3.373	Off Peak Load
18/11/2024 05:00	14.296	272.250	19.102	0.002	4.003	Off Peak Load
18/11/2024 06:00	14.278	282.572	17.405	0.002	3.214	Off Peak Load
18/11/2024 07:00	14.316	284.565	25.890	0.001	2.638	Off Peak Load

Site Name: GNLL2  
Stack Name: HRS011  
Periodically: 17 Nov 24 00:00 - 30 Nov 24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/11/2024 08:00	14.398	268.231	41.248	0.001	2.649	Off Peak Load
18/11/2024 09:00	14.381	281.327	27.162	0.001	2.362	Off Peak Load
18/11/2024 10:00	14.458	266.298	40.939	0.001	2.288	Off Peak Load
18/11/2024 11:00	14.469	265.945	39.507	0.001	2.381	Off Peak Load
18/11/2024 12:00	14.507	267.659	38.925	0.001	2.338	Off Peak Load
18/11/2024 13:00	14.753	326.717	31.979	0.001	2.464	Off Peak Load
18/11/2024 14:00	14.514	325.760	31.739	0.001	1.449	On Peak Load
18/11/2024 15:00	14.543	322.778	31.389	0.001	1.777	On Peak Load
18/11/2024 16:00	14.534	326.717	31.979	0.002	1.983	On Peak Load
18/11/2024 17:00	14.505	318.627	32.325	0.002	1.957	On Peak Load
18/11/2024 18:00	14.456	319.507	31.794	0.001	2.002	On Peak Load
18/11/2024 19:00	14.460	313.527	30.009	0.001	2.060	On Peak Load
18/11/2024 20:00	14.389	310.715	24.689	0.001	2.033	On Peak Load
18/11/2024 21:00	14.430	321.429	23.334	0.000	2.116	On Peak Load
18/11/2024 22:00	14.441	317.089	28.860	0.000	1.996	On Peak Load
18/11/2024 23:00	14.379	320.017	29.692	0.000	1.901	On Peak Load
19/11/2024 00:00	14.340	282.916	28.018	0.000	1.329	Off Peak Load
19/11/2024 01:00	14.369	293.865	28.443	0.000	1.816	Off Peak Load
19/11/2024 02:00	14.299	278.678	28.117	0.000	1.407	Off Peak Load
19/11/2024 03:00	14.312	284.587	28.098	0.000	2.020	Off Peak Load
19/11/2024 04:00	14.337	272.394	32.421	0.000	2.038	Off Peak Load
19/11/2024 05:00	14.298	280.639	27.710	0.000	2.277	Off Peak Load
19/11/2024 06:00	14.334	287.721	28.652	0.000	2.149	Off Peak Load
19/11/2024 07:00	14.343	294.878	28.319	0.000	2.155	Off Peak Load
19/11/2024 08:00	14.432	263.725	42.452	0.000	2.333	Off Peak Load
19/11/2024 09:00	14.406	270.123	40.486	0.000	2.358	Off Peak Load
19/11/2024 10:00	14.459	270.573	34.621	0.000	2.204	Off Peak Load
19/11/2024 11:00	14.438	268.300	35.238	0.000	2.169	Off Peak Load
19/11/2024 12:00	14.479	268.052	40.554	0.000	2.271	Off Peak Load
19/11/2024 13:00	14.744	313.518	15.984	0.000	2.384	Off Peak Load
19/11/2024 14:00	14.496	315.284	30.608	0.000	1.867	On Peak Load
19/11/2024 15:00	14.551	313.428	31.596	0.000	1.825	On Peak Load
19/11/2024 16:00	14.567	321.732	32.406	0.000	1.761	On Peak Load
19/11/2024 17:00	14.540	325.960	31.347	0.000	1.660	On Peak Load
19/11/2024 18:00	14.480	317.353	26.607	0.000	1.545	On Peak Load
19/11/2024 19:00	14.405	320.809	22.558	0.000	1.776	On Peak Load
19/11/2024 20:00	14.401	313.218	18.045	0.000	1.658	On Peak Load
19/11/2024 21:00	14.374	314.345	18.559	0.000	1.594	On Peak Load
19/11/2024 22:00	14.377	313.961	11.897	0.000	1.917	On Peak Load
19/11/2024 23:00	14.353	313530.250	14.664	0.000	1.896	On Peak Load
20/11/2024 00:00	14.308	291146.561	11.230	0.000	1.898	Off Peak Load
20/11/2024 01:00	14.295	301597.000	4.637	0.000	1.857	Off Peak Load
20/11/2024 02:00	14.256	293262.438	4.372	0.000	1.710	Off Peak Load
20/11/2024 03:00	14.303	297172.969	14.540	0.000	2.140	Off Peak Load
20/11/2024 04:00	14.245	278486.000	5.358	0.000	2.115	Off Peak Load
20/11/2024 05:00	14.281	287101.688	8.182	0.000	2.056	Off Peak Load
20/11/2024 06:00	14.285	298954.094	6.010	0.000	2.079	Off Peak Load
20/11/2024 07:00	11.295	274620.250	13.887	0.000	2.071	Off Peak Load
20/11/2024 08:00	14.322	273918.250	16.767	0.000	2.161	Off Peak Load
20/11/2024 09:00	14.329	275760.094	13.170	0.000	2.171	Off Peak Load
20/11/2024 10:00	14.380	271.200	9.585	0.000	2.240	Off Peak Load
20/11/2024 11:00	14.379	272.384	12.730	0.001	2.045	Off Peak Load
20/11/2024 12:00	14.377	269.323	12.480	0.001	2.085	Off Peak Load
20/11/2024 13:00	14.698	237.600	32.952	0.001	2.512	Off Peak Load
20/11/2024 14:00	14.433	321.572	7.991	0.001	2.032	On Peak Load
20/11/2024 15:00	14.441	313.318	15.984	0.001	1.892	On Peak Load
20/11/2024 16:00	14.467	327.648	15.457	0.002	1.761	On Peak Load
20/11/2024 17:00	14.412	322.235	14.801	0.002	1.931	On Peak Load
20/11/2024 18:00	14.383	315.213	15.072	0.002	1.818	On Peak Load
20/11/2024 19:00	14.361	318.165	14.969	0.002	1.950	On Peak Load
20/11/2024 20:00	14.365	314.997	11.802	0.002	1.895	On Peak Load
20/11/2024 21:00	14.358	315.532	14.105	0.002	1.951	On Peak Load
20/11/2024 22:00	14.344	318.079	11.629	0.002	2.047	On Peak Load
20/11/2024 23:00	14.286	314.794	7.462	0.002	1.756	On Peak Load
21/11/2024 00:00	14.730	283.458	8.565	0.002	1.764	Off Peak Load
21/11/2024 01:00	14.299	294.949	12.758	0.002	1.872	Off Peak Load
21/11/2024 02:00	14.201	286.723	14.113	0.001	2.082	Off Peak Load
21/11/2024 03:00	14.287	293.949	0.018	0.001	2.082	Off Peak Load
21/11/2024 04:00	14.280	283.168	8.533	0.001	2.005	Off Peak Load
21/11/2024 05:00	14.335	307.062	13.946	0.001	1.988	Off Peak Load
21/11/2024 06:00	14.262	274.403	7.458	0.001	1.917	Off Peak Load
21/11/2024 07:00	14.310	287.233	14.149	0.001	1.959	Off Peak Load
21/11/2024 08:00	14.382	266.152	12.888	0.001	2.207	Off Peak Load
21/11/2024 09:00	14.388	271.167	18.743	0.001	2.257	Off Peak Load
21/11/2024 10:00	14.429	272.347	22.017	0.000	2.335	Off Peak Load
21/11/2024 11:00	14.348	280.328	7.428	0.000	2.011	Off Peak Load
21/11/2024 12:00	14.473	260.749	22.417	0.000	2.255	Off Peak Load
21/11/2024 13:00	14.297	279.532	40.256	0.000	2.482	Off Peak Load
21/11/2024 14:00	14.448	366.393	10.853	0.000	2.590	On Peak Load
21/11/2024 15:00	14.486	366.558	14.892	0.000	2.262	On Peak Load
21/11/2024 16:00	14.485	364.424	19.210	0.000	2.301	On Peak Load
21/11/2024 17:00	14.485	364.779	13.735	0.000	2.298	On Peak Load
21/11/2024 18:00	14.388	321.316	12.895	0.001	1.916	On Peak Load



GNLL2  
HRS G11  
11 Nov 24 00:00 - 30 Nov 24 23:59

[illegible]

GNLL2  
HRSG11  
1/Nov/24 00:00 - 30/Nov/24 23:59

[illegible]



Site Name: GNLL2  
Stack Name: HRSGL1  
Periodically: 31Nov/24 00:00 - 30Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
			ppm	ppm	mg/m3	
28/11/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/11/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/11/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/11/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/11/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/11/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
28/11/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
29/11/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/11/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
Minimum	14.17	229.532	0.00	0.00	0.05	
Maximum	14.86	366.556	48.93	0.01	7.55	
Avg	14.39	306.623	15.96	0.00	1.68	
SUM			60	6	26	

Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 31Nov/24 00:00 - 31Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
			ppm	ppm	mg/m3	
01/11/2024 00:00	14.714	426,410	20.313	0.015	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 01:00	14.718	425,222	23,450	0.015	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 02:00	14.722	425,753	21,172	0.015	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 03:00	14.726	424,559	20,068	0.014	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 04:00	14.731	422,252	24,910	0.013	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 05:00	14.735	421,312	21,327	0.012	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 06:00	14.739	421,114	20,754	0.011	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 07:00	14.743	418,110	22,888	0.010	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 08:00	14.752	426,876	19,877	0.009	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 09:00	14.784	432,325	19,679	0.008	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 10:00	14.816	437,255	22,795	0.007	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 11:00	14.837	441,581	22,535	0.006	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 12:00	14.828	435,946	25,127	0.007	0.000	Off Peak Load GT11 SD Half Block
01/11/2024 13:00	14.741	438,536	28,806	0.008	1.197	Off Peak Load
01/11/2024 14:00	14.679	401,259	21,095	0.009	0.000	On Peak Load
01/11/2024 15:00	14.678	393,011	19,672	0.010	0.000	On Peak Load
01/11/2024 16:00	14.687	401,855	18,647	0.011	0.000	On Peak Load
01/11/2024 17:00	14.659	396,187	17,138	0.012	0.000	On Peak Load
01/11/2024 18:00	14.658	393,241	18,507	0.013	0.000	On Peak Load
01/11/2024 19:00	14.679	388,928	21,017	0.014	0.000	On Peak Load
01/11/2024 20:00	14.671	395,101	18,526	0.014	0.000	On Peak Load
01/11/2024 21:00	14.666	401,800	18,730	0.014	0.000	On Peak Load
01/11/2024 22:00	14.688	401,822	19,341	0.014	0.000	On Peak Load
01/11/2024 23:00	14.723	440,972	28,727	0.014	0.000	Off Peak Load
02/11/2024 00:00	14.732	426,100	23,984	0.014	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 01:00	14.734	423,810	23,534	0.014	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 02:00	14.736	424,291	23,563	0.014	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 03:00	14.738	421,051	27,902	0.014	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 04:00	14.740	425,378	23,325	0.013	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 05:00	14.762	421,267	21,746	0.012	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 06:00	14.744	419,558	26,147	0.011	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 07:00	14.747	419,543	24,673	0.011	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 08:00	14.786	419,293	24,311	0.010	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 09:00	14.852	421,749	28,629	0.009	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 10:00	14.934	418,151	32,008	0.009	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 11:00	14.926	420,709	33,688	0.009	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 12:00	14.919	427,861	36,872	0.010	0.000	Off Peak Load GT11 SD Half Block
02/11/2024 13:00	14.903	432,403	31,432	0.010	0.000	Off Peak Load
02/11/2024 14:00	14.822	379,865	27,315	0.011	0.000	On Peak Load
02/11/2024 15:00	14.807	397,783	29,008	0.012	0.000	On Peak Load
02/11/2024 16:00	14.849	378,761	27,305	0.013	0.000	On Peak Load
02/11/2024 17:00	14.830	393,445	26,322	0.014	0.000	On Peak Load
02/11/2024 18:00	14.743	381,332	25,516	0.014	0.000	On Peak Load
02/11/2024 19:00	14.759	380,684	28,162	0.015	0.000	On Peak Load
02/11/2024 20:00	14.719	382,536	25,994	0.015	0.000	On Peak Load
02/11/2024 21:00	14.751	393,273	27,592	0.014	0.000	On Peak Load
02/11/2024 22:00	14.751	401,769	29,640	0.014	0.000	On Peak Load
02/11/2024 23:00	14.715	395,551	25,125	0.014	0.000	On Peak Load
03/11/2024 00:00	14.587	355,720	21,484	0.014	0.000	Off Peak Load
03/11/2024 01:00	14.639	367,152	23,353	0.014	0.000	Off Peak Load
03/11/2024 02:00	14.670	371,963	22,218	0.013	0.000	Off Peak Load
03/11/2024 03:00	14.633	355,021	23,923	0.014	0.000	Off Peak Load
03/11/2024 04:00	14.641	357,961	26,185	0.015	0.000	Off Peak Load
03/11/2024 05:00	14.639	349,751	23,855	0.015	0.000	Off Peak Load
03/11/2024 06:00	14.669	357,160	23,793	0.016	0.000	Off Peak Load
03/11/2024 07:00	14.746	351,517	18,918	0.016	0.000	Off Peak Load
03/11/2024 08:00	14.754	336,223	28,988	0.016	0.000	Off Peak Load
03/11/2024 09:00	14.785	339,568	26,901	0.016	0.000	Off Peak Load
03/11/2024 10:00	14.752	338,209	27,484	0.016	0.000	Off Peak Load
03/11/2024 11:00	14.720	348,398	19,859	0.015	0.000	Off Peak Load
03/11/2024 12:00	14.831	337,423	28,813	0.015	0.000	Off Peak Load
03/11/2024 13:00	14.854	345,616	27,061	0.015	0.000	Off Peak Load
03/11/2024 14:00	14.795	353,956	18,019	0.015	0.000	Off Peak Load
03/11/2024 15:00	14.778	363,895	24,160	0.016	0.000	Off Peak Load
03/11/2024 16:00	14.809	346,018	19,096	0.016	0.000	Off Peak Load
03/11/2024 17:00	14.840	343,939	21,008	0.017	0.000	Off Peak Load
03/11/2024 18:00	14.683	384,277	23,234	0.017	0.000	On Peak Load
03/11/2024 19:00	14.806	394,711	27,269	0.018	0.000	On Peak Load
03/11/2024 20:00	14.730	388,532	25,135	0.018	0.000	On Peak Load
03/11/2024 21:00	14.755	402,500	28,770	0.019	0.000	On Peak Load
03/11/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
03/11/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRS012  
1-Nov-24 07:00 - 31-Nov-24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_Nox@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
04/11/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
04/11/2024 14:00	14.850	422,246	40.629	0.012	0.000	On Peak Load
04/11/2024 15:00	14.815	402,985	38.608	0.013	0.000	On Peak Load
04/11/2024 16:00	14.866	423,669	42.315	0.013	0.000	On Peak Load
04/11/2024 17:00	14.832	397,956	40.213	0.013	0.000	On Peak Load
04/11/2024 18:00	14.753	396,554	38.988	0.013	0.000	On Peak Load
04/11/2024 19:00	14.771	411,518	38.894	0.013	0.000	On Peak Load
04/11/2024 20:00	14.760	410,917	38.443	0.013	0.000	On Peak Load
04/11/2024 21:00	14.678	404,071	27.527	0.013	0.000	On Peak Load
04/11/2024 22:00	14.727	404,845	28.746	0.014	0.000	On Peak Load
04/11/2024 23:00	14.674	405,201	29.359	0.014	0.000	On Peak Load
05/11/2024 00:00	14.578	367,732	26.329	0.014	0.000	Off Peak Load
05/11/2024 01:00	14.607	376,006	25.666	0.013	0.000	Off Peak Load
05/11/2024 02:00	14.627	370,101	24.543	0.013	0.000	Off Peak Load
05/11/2024 03:00	14.593	365,070	21.887	0.012	0.000	Off Peak Load
05/11/2024 04:00	14.585	367,211	21.969	0.011	0.000	Off Peak Load
05/11/2024 05:00	14.598	367,969	26.626	0.011	0.000	Off Peak Load
05/11/2024 06:00	14.634	365,267	23.214	0.010	0.000	Off Peak Load
05/11/2024 07:00	14.608	350,290	24.048	0.010	0.000	Off Peak Load
05/11/2024 08:00	14.624	350,233	21.941	0.010	0.000	Off Peak Load
05/11/2024 09:00	14.638	352,485	23.625	0.010	0.000	Off Peak Load
05/11/2024 10:00	14.675	345,736	20.039	0.010	0.000	Off Peak Load
05/11/2024 11:00	14.674	353,856	22.077	0.009	0.000	Off Peak Load
05/11/2024 12:00	14.714	356,215	17.603	0.009	0.000	Off Peak Load
05/11/2024 13:00	15.030	337,293	33.552	0.009	0.000	Off Peak Load
05/11/2024 14:00	14.828	414,035	27.822	0.009	0.000	On Peak Load
05/11/2024 15:00	14.822	423,169	29.072	0.009	0.000	On Peak Load
05/11/2024 16:00	14.757	414,914	27.917	0.009	0.000	On Peak Load
05/11/2024 17:00	14.712	404,702	25.879	0.009	0.000	On Peak Load
05/11/2024 18:00	14.684	401,474	23.203	0.009	0.000	On Peak Load
05/11/2024 19:00	14.686	394,787	22.796	0.008	0.000	On Peak Load
05/11/2024 20:00	14.679	392,038	22.682	0.008	0.000	On Peak Load
05/11/2024 21:00	14.714	391,376	23.738	0.008	0.000	On Peak Load
05/11/2024 22:00	14.701	402,935	23.250	0.007	0.000	On Peak Load
05/11/2024 23:00	14.783	446,544	29.332	0.007	0.000	Off Peak Load
06/11/2024 00:00	14.796	418,672	25.839	0.008	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 01:00	14.780	424,921	25.192	0.009	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 02:00	14.770	416,473	26.565	0.009	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 03:00	14.760	417,490	29.243	0.010	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 04:00	14.750	420,235	25.897	0.010	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 05:00	14.747	416,759	25.846	0.011	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 06:00	14.755	411,286	24.691	0.012	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 07:00	14.763	419,369	24.755	0.012	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 08:00	14.771	424,791	25.611	0.012	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 09:00	14.783	424,507	28.347	0.013	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 10:00	14.797	444,257	26.785	0.013	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 11:00	14.812	421,658	29.516	0.013	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 12:00	14.806	429,195	26.598	0.013	0.000	Off Peak Load GT11 SD Half Block
06/11/2024 13:00	14.847	450,600	33.842	0.012	0.000	Off Peak Load
06/11/2024 14:00	14.799	409,114	25.858	0.012	0.000	On Peak Load
06/11/2024 15:00	14.789	416,655	25.330	0.012	0.000	On Peak Load
06/11/2024 16:00	14.758	414,386	26.469	0.012	0.000	On Peak Load
06/11/2024 17:00	14.757	405,711	28.503	0.012	0.000	On Peak Load
06/11/2024 18:00	14.763	403,243	28.309	0.012	0.000	On Peak Load
06/11/2024 19:00	14.727	395,124	24.350	0.012	0.000	On Peak Load
06/11/2024 20:00	14.731	392,449	28.108	0.012	0.000	On Peak Load
06/11/2024 21:00	14.735	405,639	24.511	0.012	0.000	On Peak Load
06/11/2024 22:00	14.722	398,381	24.716	0.012	0.000	On Peak Load
06/11/2024 23:00	14.662	398,595	27.263	0.013	0.000	On Peak Load
07/11/2024 00:00	14.703	385,371	22.199	0.013	0.000	Off Peak Load
07/11/2024 01:00	14.679	379,846	23.034	0.013	0.000	Off Peak Load
07/11/2024 02:00	14.664	375,230	24.824	0.013	0.000	Off Peak Load
07/11/2024 03:00	14.709	383,929	22.826	0.013	0.000	Off Peak Load
07/11/2024 04:00	14.637	374,219	22.312	0.013	0.000	Off Peak Load
07/11/2024 05:00	14.635	369,828	27.188	0.012	0.000	Off Peak Load
07/11/2024 06:00	14.625	358,807	23.012	0.012	0.000	Off Peak Load
07/11/2024 07:00	14.674	375,842	22.183	0.012	0.000	Off Peak Load
07/11/2024 08:00	14.630	361,597	26.031	0.012	0.000	Off Peak Load
07/11/2024 09:00	14.676	361,345	22.479	0.012	0.000	Off Peak Load
07/11/2024 10:00	14.668	371,085	21.124	0.012	0.000	Off Peak Load
07/11/2024 11:00	14.669	374,666	24.912	0.011	0.000	Off Peak Load
07/11/2024 12:00	14.730	364,210	18.285	0.011	0.000	Off Peak Load
07/11/2024 13:00	15.038	336,653	35.887	0.010	0.000	Off Peak Load
07/11/2024 14:00	14.765	398,032	27.207	0.010	0.000	On Peak Load
07/11/2024 15:00	14.803	407,253	23.933	0.010	0.000	On Peak Load
07/11/2024 16:00	14.813	406,577	28.265	0.009	0.000	On Peak Load
07/11/2024 17:00	14.813	403,945	28.378	0.009	0.000	On Peak Load
07/11/2024 18:00	14.757	407,979	26.247	0.009	0.000	On Peak Load
07/11/2024 19:00	14.740	401,101	28.037	0.009	0.000	On Peak Load
07/11/2024 20:00	14.722	398,653	25.151	0.009	0.000	On Peak Load
07/11/2024 21:00	14.708	399,904	23.850	0.010	0.000	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRS012  
1-Nov-24 00:00 - 31-Nov-24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/11/2024 22:00	14.737	395,694	25.973	0.010	0.000	On Peak Load
07/11/2024 23:00	14.702	401,768	25.279	0.010	0.000	On Peak Load
08/11/2024 00:00	14.623	372,533	22.050	0.011	0.000	Off Peak Load
08/11/2024 01:00	14.640	382,769	25.218	0.011	0.000	Off Peak Load
08/11/2024 02:00	14.647	378,710	24.013	0.011	0.000	Off Peak Load
08/11/2024 03:00	14.625	363,546	21.370	0.010	0.000	Off Peak Load
08/11/2024 04:00	14.627	367,314	21.002	0.009	0.000	Off Peak Load
08/11/2024 05:00	14.720	379,148	23.012	0.009	0.000	Off Peak Load
08/11/2024 06:00	14.618	358,018	22.885	0.008	0.000	Off Peak Load
08/11/2024 07:00	14.630	367,516	23.522	0.008	0.000	Off Peak Load
08/11/2024 08:00	14.678	357,661	18.201	0.007	0.000	Off Peak Load
08/11/2024 09:00	14.719	356,527	18.610	0.006	0.000	Off Peak Load
08/11/2024 10:00	14.733	380,440	22.400	0.007	0.000	Off Peak Load
08/11/2024 11:00	14.686	367,299	21.512	0.008	0.000	Off Peak Load
08/11/2024 12:00	14.764	361,631	21.371	0.009	0.000	Off Peak Load
08/11/2024 13:00	15.075	344,797	40.203	0.010	0.000	Off Peak Load
08/11/2024 14:00	14.836	407,185	24.563	0.011	0.000	On Peak Load
08/11/2024 15:00	14.859	426,532	29.039	0.013	0.000	On Peak Load
08/11/2024 16:00	14.851	423,497	27.172	0.014	0.000	On Peak Load
08/11/2024 17:00	14.775	431,354	25.928	0.015	0.000	On Peak Load
08/11/2024 18:00	14.763	418,232	25.494	0.015	0.000	On Peak Load
08/11/2024 19:00	14.727	425,590	23.375	0.015	0.000	On Peak Load
08/11/2024 20:00	14.690	411,670	25.055	0.015	0.000	On Peak Load
08/11/2024 21:00	14.738	411,578	25.855	0.015	0.000	On Peak Load
08/11/2024 22:00	14.707	412,607	24.167	0.015	0.000	On Peak Load
08/11/2024 23:00	14.666	411,406	21.450	0.015	0.000	On Peak Load
09/11/2024 00:00	14.663	382,857	23.274	0.015	0.000	Off Peak Load
09/11/2024 01:00	14.646	384,023	23.213	0.015	0.000	Off Peak Load
09/11/2024 02:00	14.653	386,928	24.266	0.015	0.000	Off Peak Load
09/11/2024 03:00	14.658	379,366	23.163	0.015	0.000	Off Peak Load
09/11/2024 04:00	14.609	376,759	23.191	0.015	0.000	Off Peak Load
09/11/2024 05:00	14.624	374,484	24.406	0.014	0.000	Off Peak Load
09/11/2024 06:00	14.646	377,912	22.685	0.014	0.000	Off Peak Load
09/11/2024 07:00	14.634	373,649	21.051	0.014	0.000	Off Peak Load
09/11/2024 08:00	14.671	356,592	17.015	0.014	0.000	Off Peak Load
09/11/2024 09:00	14.666	376,078	20.940	0.013	0.000	Off Peak Load
09/11/2024 10:00	14.705	365,106	25.048	0.013	0.000	Off Peak Load
09/11/2024 11:00	14.713	369,242	23.152	0.013	0.000	Off Peak Load
09/11/2024 12:00	14.774	366,380	18.771	0.013	0.000	Off Peak Load
09/11/2024 13:00	15.134	335,627	44.648	0.013	0.000	Off Peak Load
09/11/2024 14:00	14.825	410,921	27.661	0.013	0.000	On Peak Load
09/11/2024 15:00	14.863	410,163	28.092	0.013	0.000	On Peak Load
09/11/2024 16:00	14.920	415,816	25.924	0.013	0.000	On Peak Load
09/11/2024 17:00	14.863	414,421	25.989	0.013	0.000	On Peak Load
09/11/2024 18:00	14.831	421,956	29.423	0.013	0.000	On Peak Load
09/11/2024 19:00	14.772	406,899	29.461	0.013	0.000	On Peak Load
09/11/2024 20:00	14.759	411,110	25.422	0.013	0.000	On Peak Load
09/11/2024 21:00	14.759	423,485	27.234	0.013	0.000	On Peak Load
09/11/2024 22:00	14.759	416,079	28.203	0.013	0.000	On Peak Load
09/11/2024 23:00	14.724	412,114	25.586	0.013	0.000	On Peak Load
10/11/2024 00:00	14.626	382,372	21.852	0.013	0.000	Off Peak Load
10/11/2024 01:00	14.651	393,304	22.335	0.014	0.000	Off Peak Load
10/11/2024 02:00	14.617	387,613	23.131	0.013	0.000	Off Peak Load
10/11/2024 03:00	14.638	381,831	22.602	0.013	0.000	Off Peak Load
10/11/2024 04:00	14.651	388,719	24.923	0.013	0.000	Off Peak Load
10/11/2024 05:00	14.646	363,401	24.096	0.013	0.000	Off Peak Load
10/11/2024 06:00	14.625	360,205	23.194	0.013	0.000	Off Peak Load
10/11/2024 07:00	14.670	361,855	22.003	0.013	0.000	Off Peak Load
10/11/2024 08:00	14.797	354,727	30.487	0.012	0.000	Off Peak Load
10/11/2024 09:00	14.780	365,464	36.492	0.012	0.000	Off Peak Load
10/11/2024 10:00	14.780	365,209	31.923	0.013	0.000	Off Peak Load
10/11/2024 11:00	14.702	377,979	23.165	0.013	0.000	Off Peak Load
10/11/2024 12:00	14.894	362,410	30.543	0.013	0.000	Off Peak Load
10/11/2024 13:00	14.867	374,561	22.059	0.013	0.000	Off Peak Load
10/11/2024 14:00	14.848	360,316	21.943	0.014	0.000	Off Peak Load
10/11/2024 15:00	14.827	374,672	19.625	0.014	0.000	Off Peak Load
10/11/2024 16:00	14.802	369,883	23.902	0.014	0.000	Off Peak Load
10/11/2024 17:00	14.879	360,281	25.754	0.014	0.000	Off Peak Load
10/11/2024 18:00	14.753	407,773	26.967	0.013	0.000	On Peak Load
10/11/2024 19:00	14.794	405,935	26.426	0.013	0.000	On Peak Load
10/11/2024 20:00	14.764	411,619	26.411	0.012	0.000	On Peak Load
10/11/2024 21:00	14.699	420,289	23.907	0.011	0.000	On Peak Load
10/11/2024 22:00	14.753	442,356	26.834	0.010	0.000	Off Peak Load GT11 SO Half Block
10/11/2024 23:00	14.764	434,335	26.244	0.010	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 00:00	14.764	439,711	25.318	0.009	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 01:00	14.763	441,381	24.822	0.008	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 02:00	14.763	434,780	24.763	0.009	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 03:00	14.783	437,048	29.190	0.010	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 04:00	14.782	429,308	26.427	0.010	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 05:00	14.788	433,459	28.695	0.011	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 06:00	14.796	428,483	27.084	0.011	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 07:00	14.805	435,281	26.537	0.012	0.000	Off Peak Load GT11 SO Half Block
11/11/2024 08:00	14.814	442,710	30.145	0.012	0.000	Off Peak Load GT11 SO Half Block



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
11Nov/24 00:00 - 31/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/11/2024 09:00	14.831	443,521	30.997	0.013	0.000	Off Peak Load GT11 SD Half Block
11/11/2024 10:00	14.851	446,101	28.813	0.012	0.000	Off Peak Load GT11 SD Half Block
11/11/2024 11:00	14.871	459,478	29.552	0.012	0.000	Off Peak Load GT11 SD Half Block
11/11/2024 12:00	14.891	462,117	31.207	0.012	0.000	Off Peak Load GT11 SD Half Block
11/11/2024 13:00	14.872	454,669	29.468	0.012	0.000	Off Peak Load
11/11/2024 14:00	14.836	421,003	25.551	0.011	0.000	On Peak Load
11/11/2024 15:00	14.877	419,224	29.104	0.011	0.000	On Peak Load
11/11/2024 16:00	14.840	430,807	25.738	0.011	0.000	On Peak Load
11/11/2024 17:00	14.773	410,174	24.036	0.011	0.000	On Peak Load
11/11/2024 18:00	14.799	418,173	24.516	0.011	0.000	On Peak Load
11/11/2024 19:00	14.731	408,227	23.698	0.011	0.000	On Peak Load
11/11/2024 20:00	14.704	406,574	26.358	0.012	0.000	On Peak Load
11/11/2024 21:00	14.708	415,712	24.445	0.012	0.000	On Peak Load
11/11/2024 22:00	14.565	415,389	26.575	0.012	0.000	On Peak Load
11/11/2024 23:00	14.666	418,698	27.553	0.013	0.000	On Peak Load
12/11/2024 00:00	14.582	370,212	20.206	0.013	0.000	Off Peak Load
12/11/2024 01:00	14.590	378,057	19.576	0.013	0.000	Off Peak Load
12/11/2024 02:00	14.591	376,834	20.426	0.013	0.000	Off Peak Load
12/11/2024 03:00	14.600	390,516	20.108	0.013	0.000	Off Peak Load
12/11/2024 04:00	14.607	370,926	23.621	0.013	0.000	Off Peak Load
12/11/2024 05:00	14.631	380,771	23.147	0.013	0.000	Off Peak Load
12/11/2024 06:00	14.602	373,199	20.783	0.012	0.000	Off Peak Load
12/11/2024 07:00	14.706	363,538	24.886	0.012	0.000	Off Peak Load
12/11/2024 08:00	14.726	356,648	27.660	0.012	0.000	Off Peak Load
12/11/2024 09:00	14.776	365,338	22.226	0.012	0.000	Off Peak Load
12/11/2024 10:00	14.857	356,017	31.511	0.012	0.000	Off Peak Load
12/11/2024 11:00	14.840	362,351	29.022	0.012	0.000	Off Peak Load
12/11/2024 12:00	14.875	360,742	28.084	0.012	0.000	Off Peak Load
12/11/2024 13:00	15.263	332,781	54.644	0.012	0.000	On Peak Load
12/11/2024 14:00	14.712	403,951	23.547	0.012	0.000	On Peak Load
12/11/2024 15:00	14.807	404,978	23.751	0.013	0.000	On Peak Load
12/11/2024 16:00	14.798	406,530	24.633	0.013	0.000	On Peak Load
12/11/2024 17:00	14.414	407,089	21.594	0.013	0.000	On Peak Load
12/11/2024 18:00	14.736	412,571	24.909	0.013	0.000	On Peak Load
12/11/2024 19:00	14.687	403,389	26.450	0.013	0.000	On Peak Load
12/11/2024 20:00	14.679	411,544	22.369	0.013	0.000	On Peak Load
12/11/2024 21:00	14.634	409,360	23.787	0.013	0.000	On Peak Load
12/11/2024 22:00	14.628	398,361	24.740	0.012	0.000	On Peak Load
12/11/2024 23:00	14.647	400,781	25.242	0.012	0.000	On Peak Load
13/11/2024 00:00	14.585	392,164	22.840	0.012	0.000	Off Peak Load
13/11/2024 01:00	14.587	380,601	21.395	0.012	0.000	Off Peak Load
13/11/2024 02:00	14.604	378,956	20.161	0.012	0.000	Off Peak Load
13/11/2024 03:00	14.605	381,657	20.732	0.012	0.000	Off Peak Load
13/11/2024 04:00	14.601	375,141	20.720	0.012	0.000	Off Peak Load
13/11/2024 05:00	14.577	381,120	20.978	0.012	0.000	Off Peak Load
13/11/2024 06:00	14.582	379,902	22.345	0.012	0.000	Off Peak Load
13/11/2024 07:00	14.606	372,492	19.846	0.012	0.000	Off Peak Load
13/11/2024 08:00	14.688	364,402	19.500	0.012	0.000	Off Peak Load
13/11/2024 09:00	14.739	368,833	21.006	0.012	0.000	Off Peak Load
13/11/2024 10:00	14.809	365,512	25.698	0.011	0.000	Off Peak Load
13/11/2024 11:00	14.836	367,141	26.545	0.011	0.000	Off Peak Load
13/11/2024 12:00	14.920	362,410	26.559	0.010	0.000	Off Peak Load
13/11/2024 13:00	15.115	353,335	30.813	0.009	0.000	Off Peak Load
13/11/2024 14:00	14.817	428,707	24.740	0.009	0.000	On Peak Load
13/11/2024 15:00	14.860	423,059	26.716	0.008	0.000	On Peak Load
13/11/2024 16:00	14.705	425,662	0.000	0.007	0.000	On Peak Load
13/11/2024 17:00	14.797	424,575	24.079	0.020	0.000	On Peak Load
13/11/2024 18:00	14.761	414,602	23.609	0.019	0.000	On Peak Load
13/11/2024 19:00	14.733	430,292	22.861	0.018	0.000	On Peak Load
13/11/2024 20:00	14.654	408,619	25.071	0.017	0.000	On Peak Load
13/11/2024 21:00	14.645	407,899	23.720	0.016	0.000	On Peak Load
13/11/2024 22:00	14.643	404,305	23.325	0.015	0.000	On Peak Load
13/11/2024 23:00	14.645	415,440	23.329	0.014	0.000	On Peak Load
14/11/2024 00:00	14.575	380,635	81.3	0.014	0.000	Off Peak Load
14/11/2024 01:00	14.588	393,748	71.9	0.014	0.000	Off Peak Load
14/11/2024 02:00	14.624	398,424	4.38	0.014	0.000	Off Peak Load
14/11/2024 03:00	14.594	399,059	0.63	0.014	0.000	Off Peak Load
14/11/2024 04:00	14.572	387,053	6.25	0.014	0.000	Off Peak Load
14/11/2024 05:00	14.618	389,114	0.63	0.013	0.000	Off Peak Load
14/11/2024 06:00	14.607	382,811	6.25	0.013	0.000	Off Peak Load
14/11/2024 07:00	14.580	401,627	71.9	0.013	0.000	Off Peak Load
14/11/2024 08:00	14.665	369,199	5.11	0.014	0.000	Off Peak Load
14/11/2024 09:00	14.649	384,765	0.94	0.014	0.000	Off Peak Load
14/11/2024 10:00	14.664	380,482	1.25	0.014	0.000	Off Peak Load
14/11/2024 11:00	14.682	385,642	3.44	0.014	0.000	Off Peak Load
14/11/2024 12:00	14.641	369,613	6.25	0.014	0.000	Off Peak Load
14/11/2024 13:00	15.093	344*15.906	43.296	0.015	0.000	Off Peak Load
14/11/2024 14:00	14.726	418,183	8.44	0.015	0.000	On Peak Load
14/11/2024 15:00	14.692	414,607	6.25	0.015	0.000	On Peak Load
14/11/2024 16:00	14.648	406,691	6.25	0.014	0.000	On Peak Load
14/11/2024 17:00	14.652	411,444	9.06	0.014	0.000	On Peak Load
14/11/2024 18:00	14.638	421,461	5.94	0.013	0.000	On Peak Load
14/11/2024 19:00	14.609	405,051	22.716	0.013	0.000	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
11Nov/24 00:00 - 31/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/11/2024 20:00	14.619	410,190	24.795	0.012	0.000	On Peak Load
14/11/2024 21:00	14.616	409,422	21.652	0.012	0.000	On Peak Load
14/11/2024 22:00	14.605	410,678	20.107	0.011	0.000	On Peak Load
14/11/2024 23:00	14.593	413,901	18.8	0.011	0.000	On Peak Load
15/11/2024 00:00	14.610	3770*1.906	14.774	0.010	0.000	Off Peak Load
15/11/2024 01:00	14.587	384,984	7.81	0.010	0.000	Off Peak Load
15/11/2024 02:00	14.606	380,577	1.56	0.009	0.000	Off Peak Load
15/11/2024 03:00	14.607	390,097	1.88	0.008	0.000	Off Peak Load
15/11/2024 04:00	14.618	388,340	7.50	0.008	0.000	Off Peak Load
15/11/2024 05:00	14.596	381,664	1.88	0.007	0.000	Off Peak Load
15/11/2024 06:00	14.597	385,613	3.44	0.007	0.000	Off Peak Load
15/11/2024 07:00	14.613	380,512	6.88	0.007	0.000	Off Peak Load
15/11/2024 08:00	14.730	385,170	8.75	0.008	0.000	Off Peak Load
15/11/2024 09:00	14.689	382,276	0.63	0.009	0.000	Off Peak Load
15/11/2024 10:00	14.754	378,680	0.00	0.010	0.000	Off Peak Load
15/11/2024 11:00	14.656	397,079	23.159	0.011	0.000	Off Peak Load
15/11/2024 12:00	14.746	383,983	14.350	0.012	0.000	Off Peak Load
15/11/2024 13:00	15.131	351,686	45.692	0.013	0.000	Off Peak Load
15/11/2024 14:00	14.647	407,350	24.072	0.014	0.000	On Peak Load
15/11/2024 15:00	14.682	412,000	24.338	0.014	0.000	On Peak Load
15/11/2024 16:00	14.690	424,294	23.819	0.013	0.000	On Peak Load
15/11/2024 17:00	14.618	402,335	20.802	0.012	0.000	On Peak Load
15/11/2024 18:00	14.621	408,290	23.664	0.011	0.000	On Peak Load
15/11/2024 19:00	14.612	397,123	20.047	0.010	0.000	On Peak Load
15/11/2024 20:00	14.617	403,804	21.244	0.009	0.000	On Peak Load
15/11/2024 21:00	14.623	406,987	20.322	0.008	0.000	On Peak Load
15/11/2024 22:00	14.622	405,682	21.636	0.008	0.000	On Peak Load
15/11/2024 23:00	14.558	406,597	20.168	0.008	0.000	On Peak Load
16/11/2024 00:00	14.580	380,723	19.484	0.009	0.000	Off Peak Load
16/11/2024 01:00	14.585	381,757	20.036	0.010	0.000	Off Peak Load
16/11/2024 02:00	14.541	381,380	22.870	0.010	0.000	Off Peak Load
16/11/2024 03:00	14.578	388,116	22.994	0.011	0.000	Off Peak Load
16/11/2024 04:00	14.647	375,357	18.025	0.012	0.000	Off Peak Load
16/11/2024 05:00	14.641	380,351	21.875	0.013	0.000	Off Peak Load
16/11/2024 06:00	14.678	374,363	21.877	0.014	0.000	Off Peak Load
16/11/2024 07:00	14.587	384,094	17.295	0.014	0.000	Off Peak Load
16/11/2024 08:00	14.746	360,972	26.627	0.012	0.000	Off Peak Load
16/11/2024 09:00	14.682	378,602	19.608	0.010	0.000	Off Peak Load
16/11/2024 10:00	14.744	375,430	21.266	0.008	0.000	Off Peak Load
16/11/2024 11:00	14.783	375,127	24.796	0.006	0.000	Off Peak Load
16/11/2024 12:00	14.647	373,607	29.453	0.004	0.000	Off Peak Load
16/11/2024 13:00	15.200	346,557	52.087	0.002	0.000	Off Peak Load
16/11/2024 14:00	14.813	423,956	25.145	0.000	0.000	On Peak Load
16/11/2024 15:00	14.707	419,521	21.070	0.001	0.000	On Peak Load
16/11/2024 16:00	14.705	422,904	26.333	0.003	0.000	On Peak Load
16/11/2024 17:00	14.788	441,530	22.482	0.004	0.000	On Peak Load
16/11/2024 18:00	14.697	419,752	25.468	0.006	0.000	On Peak Load
16/11/2024 19:00	14.691	433,115	24.208	0.007	0.000	On Peak Load
16/11/2024 20:00	14.657	409,035	21.471	0.009	0.000	On Peak Load
16/11/2024 21:00	14.638	413,290	25.798	0.010	0.000	On Peak Load
16/11/2024 22:00	14.664	428,962	22.117	0.012	0.000	On Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
1/Nov/24 00:00 - 31/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/11/2024 07:00	14.688	320,837	22.808	0.013	0.000	Off Peak Load
18/11/2024 08:00	14.769	316,752	28.079	0.013	0.000	Off Peak Load
18/11/2024 09:00	14.732	325,180	18.773	0.013	0.000	Off Peak Load
18/11/2024 10:00	14.797	320,747	31.906	0.013	0.000	Off Peak Load
18/11/2024 11:00	14.810	324,068	28.946	0.013	0.000	Off Peak Load
18/11/2024 12:00	14.831	333,638	25.633	0.013	0.000	Off Peak Load
18/11/2024 13:00	15.120	309,994	51.274	0.013	0.000	Off Peak Load
18/11/2024 14:00	14.768	317,329	24.918	0.013	0.000	On Peak Load
18/11/2024 15:00	14.792	360,137	27.050	0.013	0.000	On Peak Load
18/11/2024 16:00	14.812	363,203	27.780	0.013	0.000	On Peak Load
18/11/2024 17:00	14.823	356,045	24.335	0.013	0.000	On Peak Load
18/11/2024 18:00	14.753	359,614	26.443	0.013	0.000	On Peak Load
18/11/2024 19:00	14.707	352,818	24.690	0.013	0.000	On Peak Load
18/11/2024 20:00	14.682	347,408	27.099	0.013	0.000	On Peak Load
18/11/2024 21:00	14.692	361,304	29.786	0.013	0.000	On Peak Load
18/11/2024 22:00	14.692	358,928	28.406	0.013	0.000	On Peak Load
18/11/2024 23:00	14.685	368,398	29.102	0.013	0.000	On Peak Load
19/11/2024 00:00	14.676	342,690	22.369	0.013	0.000	On Peak Load
19/11/2024 01:00	14.642	351,320	23.209	0.012	0.000	On Peak Load
19/11/2024 02:00	14.623	329,550	20.841	0.012	0.000	Off Peak Load
19/11/2024 03:00	14.620	329,407	23.474	0.012	0.000	Off Peak Load
19/11/2024 04:00	14.705	316,510	24.424	0.012	0.000	Off Peak Load
19/11/2024 05:00	14.643	321,332	23.529	0.013	0.000	Off Peak Load
19/11/2024 06:00	14.607	325,441	22.905	0.013	0.000	Off Peak Load
19/11/2024 07:00	14.676	330,300	20.924	0.013	0.000	Off Peak Load
19/11/2024 08:00	14.766	317,818	28.366	0.013	0.000	Off Peak Load
19/11/2024 09:00	14.778	318,717	30.144	0.013	0.000	Off Peak Load
19/11/2024 10:00	14.791	329,902	24.387	0.013	0.000	Off Peak Load
19/11/2024 11:00	14.753	335,700	26.552	0.013	0.000	Off Peak Load
19/11/2024 12:00	14.860	331,439	29.474	0.013	0.000	Off Peak Load
19/11/2024 13:00	15.157	311,796	44.959	0.014	0.000	Off Peak Load
19/11/2024 14:00	14.789	354,868	26.367	0.014	0.000	On Peak Load
19/11/2024 15:00	14.809	363,446	25.462	0.014	0.000	On Peak Load
19/11/2024 16:00	14.805	378,799	29.100	0.014	0.000	On Peak Load
19/11/2024 17:00	14.852	379,332	25.534	0.014	0.000	On Peak Load
19/11/2024 18:00	14.783	368,935	27.377	0.014	0.000	On Peak Load
19/11/2024 19:00	14.717	365,075	24.992	0.014	0.000	On Peak Load
19/11/2024 20:00	14.658	382,275	25.345	0.014	0.000	On Peak Load
19/11/2024 21:00	14.685	354,183	23.816	0.014	0.000	On Peak Load
19/11/2024 22:00	14.667	366,828	25.204	0.014	0.000	On Peak Load
19/11/2024 23:00	14.633	365,886.094	27.506	0.014	0.000	On Peak Load
20/11/2024 00:00	14.617	340160.031	22.685	0.014	0.000	Off Peak Load
20/11/2024 01:00	14.632	35902.969	24.018	0.014	0.000	Off Peak Load
20/11/2024 02:00	14.610	331755.594	24.211	0.014	0.000	Off Peak Load
20/11/2024 03:00	14.630	331599.563	25.719	0.014	0.000	Off Peak Load
20/11/2024 04:00	14.650	319839.344	22.295	0.013	0.000	Off Peak Load
20/11/2024 05:00	14.623	326829.719	23.323	0.013	0.000	Off Peak Load
20/11/2024 06:00	14.655	333887.563	19.461	0.013	0.000	Off Peak Load
20/11/2024 07:00	14.696	316597.719	24.211	0.013	0.000	Off Peak Load
20/11/2024 08:00	14.740	319281.531	23.457	0.013	0.000	Off Peak Load
20/11/2024 09:00	14.736	321413.938	20.120	0.013	0.000	Off Peak Load
20/11/2024 10:00	14.791	316,615	26.363	0.012	0.000	Off Peak Load
20/11/2024 11:00	14.758	324,383	21.206	0.012	0.000	Off Peak Load
20/11/2024 12:00	14.749	323,349	21.704	0.012	0.000	Off Peak Load
20/11/2024 13:00	15.109	309,027	51.233	0.012	0.000	Off Peak Load
20/11/2024 14:00	14.704	362,218	23.467	0.012	0.000	On Peak Load
20/11/2024 15:00	14.720	353,657	24.390	0.011	0.000	On Peak Load
20/11/2024 16:00	14.785	370,676	27.694	0.011	0.000	On Peak Load
20/11/2024 17:00	14.784	361,655	26.511	0.011	0.000	On Peak Load
20/11/2024 18:00	14.719	357,658	27.081	0.011	0.000	On Peak Load
20/11/2024 19:00	14.705	362,204	24.350	0.011	0.000	On Peak Load
20/11/2024 20:00	14.674	356,769	25.164	0.011	0.000	On Peak Load
20/11/2024 21:00	14.663	351,996	22.350	0.011	0.000	On Peak Load
20/11/2024 22:00	14.646	354,580	23.306	0.012	0.000	On Peak Load
20/11/2024 23:00	14.609	350,692	21.848	0.012	0.000	On Peak Load
21/11/2024 00:00	14.625	323,628	19.978	0.012	0.000	Off Peak Load
21/11/2024 01:00	14.622	337,680	21.086	0.013	0.000	Off Peak Load
21/11/2024 02:00	14.587	325,559	18.921	0.013	0.000	Off Peak Load
21/11/2024 03:00	14.639	333,743	19.244	0.013	0.000	Off Peak Load
21/11/2024 04:00	14.678	328,542	17.827	0.014	0.000	Off Peak Load
21/11/2024 05:00	14.636	341,720	21.303	0.014	0.000	Off Peak Load
21/11/2024 06:00	14.672	317,404	24.110	0.014	0.000	Off Peak Load
21/11/2024 07:00	14.639	320,072	24.428	0.014	0.000	Off Peak Load
21/11/2024 08:00	14.803	317,478	27.489	0.014	0.000	Off Peak Load
21/11/2024 09:00	14.705	316,435	26.501	0.014	0.000	Off Peak Load
21/11/2024 10:00	14.813	320,657	31.918	0.015	0.000	Off Peak Load
21/11/2024 11:00	14.686	325,421	20.086	0.015	0.000	Off Peak Load
21/11/2024 12:00	14.908	319,181	29.222	0.015	0.000	Off Peak Load
21/11/2024 13:00	15.190	300,068	48.988	0.015	0.000	Off Peak Load
21/11/2024 14:00	14.927	327,457	29.336	0.015	0.000	On Peak Load
21/11/2024 15:00	14.843	324,995	27.131	0.015	0.000	On Peak Load
21/11/2024 16:00	14.757	341,648	23.830	0.016	0.000	On Peak Load
21/11/2024 17:00	14.836	331,481	27.399	0.016	0.000	On Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG12  
1/Nov/24 00:00 - 31/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remarks
	O2	FLOW @1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
21/11/2024 18:00	14.755	362,001	26.333	0.016	0.000	On Peak Load
21/11/2024 19:00	14.710	347,980	26.789	0.016	0.000	On Peak Load
21/11/2024 20:00	14.711	345,125	23.014	0.016	0.000	On Peak Load
21/11/2024 21:00	14.687	345,151	27.372	0.015	0.000	On Peak Load
21/11/2024 22:00	14.667	352,595	24.391	0.015	0.000	On Peak Load
21/11/2024 23:00	14.722	410913.375	28.122	0.015	0.000	Off Peak Load
22/11/2024 00:00	14.764	38765.156	27.159	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 01:00	14.772	384006.719	26.497	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 02:00	14.781	389128.281	26.852	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 03:00	14.789	383555.969	27.535	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 04:00	14.798	384932.906	27.120	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 05:00	14.799	378266.125	26.486	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 06:00	14.800	385906.750	30.445	0.015	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 07:00	14.800	380849.656	26.657	0.015	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 08:00	14.811	391364.375	27.660	0.008	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 09:00	14.833	384541.938	30.647	0.009	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 10:00	14.856	386,121	27.375	0.010	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 11:00	14.878	402,474	30.779	0.011	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 12:00	14.894	402,364	31.121	0.012	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 13:00	14.877	412,026	28.103	0.013	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 14:00	14.851	422,513	34.531	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 15:00	14.749	409,851	34.172	0.015	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 16:00	14.867	438,686	31.492	0.015	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 17:00	14.866	428,267	34.081	0.015	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 18:00	14.877	415,750	34.671	0.015	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 19:00	14.863	413,745	30.546	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 20:00	14.848	410,959	35.000	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 21:00	14.833	405,967	34.601	0.014	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 22:00	14.818	414,223	30.829	0.013	0.000	Off Peak Load GT11 SD Half Block
22/11/2024 23:00	14.803	413,499	32.181	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 00:00	14.801	383,454	27.048	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 01:00	14.801	380,751	27.337	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 02:00	14.800	380,819	27.617	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 03:00	14.799	383,111	27.355	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 04:00	14.798	379,311	27.764	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 05:00	14.801	385,392	26.929	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 06:00	14.804	379,529	30.799	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 07:00	14.807	386,325	25.838	0.012	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 08:00	14.810	380,772	26.989	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 09:00	14.814	390,913	30.091	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 10:00	14.828	398,780	25.867	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 11:00	14.843	396,591	30.515	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 12:00	14.868	406,527	30.253	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 13:00	14.857	416,039	28.614	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 14:00	14.844	420,764	33.962	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 15:00	14.877	418,117	35.064	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 16:00	14.894	408,269	30.545	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 17:00	14.870	415,467	30.951	0.013	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 18:00	14.857	414,548	30.766	0.012	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 19:00	14.843	417,567	32.627	0.012	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 20:00	14.830	413,434	31.379	0.012	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 21:00	14.816	414,260	35.314	0.012	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 22:00	14.803	404,775	30.924	0.011	0.000	Off Peak Load GT11 SD Half Block
23/11/2024 23:00	14.789	408,582	30.171	0.011	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 00:00	14.781	390,899	26.358	0.012	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 01:00	14.781	387,881	26.604	0.012	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 02:00	14.782	377,008	27.513	0.012	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 03:00	14.783	383,350	30.630	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 04:00	14.783	383,575	31.118	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 05:00	14.784	386,806	26.392	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 06:00	14.784	390,101	27.216	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 07:00	14.790	381,787	25.527	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 08:00	14.797	391,190	27.762	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 09:00	14.803	399,114	29.739	0.012	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 10:00	14.809	397,449	30.091	0.012	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 11:00	14.816	402,204	29.384	0.011	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 12:00	14.862	403,916	26.816	0.011	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 13:00	14.861	421,454	30.931	0.010	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 14:00	14.935	417,988	27.635	0.009	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 15:00	14.931	422,307	31.696	0.010	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 16:00	14.948	415,262	31.561	0.011	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 17:00	14.936	409,620	32.992	0.011	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 18:00	14.863	415,083	32.118	0.012	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 19:00	14.841	420,410	36.306	0.013	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 20:00	14.820	425,321	31.668	0.014	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 21:00	14.798	415,161	32.449	0.014	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 22:00	14.804	396,860	31.304	0.014	0.000	Off Peak Load GT11 SD Half Block
24/11/2024 23:00	14.794	394,913	27.780	0.014	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 00:00	14.783	390,785	25.122	0.013	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 01:00	14.773	383,507	25.377	0.013	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 02:00	14.762	389,638	25.911	0.013	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 03:00	14.774	392,939	26.035	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 04:00	14.768	385,806	25.915	0.012	0.000	Off Peak Load GT11 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
11/Nov/24 00:00 - 31/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	Q2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
25/11/2024 05:00	14.794	383,427	27.466	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 06:00	14.801	388,578	31.540	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 07:00	14.807	392,367	29.898	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 08:00	14.813	397,462	28.741	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 09:00	14.819	389,442	25.760	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 10:00	14.826	402,254	27.514	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 11:00	14.836	411,999	25.877	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 12:00	14.854	420,467	30.996	0.012	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 13:00	14.834	418,878	31.227	0.011	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 14:00	14.816	416,654	33.368	0.011	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 15:00	14.809	417,582	33.443	0.011	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 16:00	14.801	410,528	30.100	0.010	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 17:00	14.794	423,991	33.713	0.010	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 18:00	14.787	417,575	32.523	0.010	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 19:00	14.780	411,409	29.660	0.009	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 20:00	14.772	411,939	30.383	0.009	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 21:00	14.765	420,391	32.481	0.009	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 22:00	14.766	414,339	30.638	0.009	0.000	Off Peak Load GT11 SD Half Block
25/11/2024 23:00	14.766	419,264	33.126	0.010	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 00:00	14.774	399,520	28.586	0.010	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 01:00	14.776	391,964	27.374	0.010	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 02:00	14.778	387,108	26.605	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 03:00	14.780	393,977	26.004	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 04:00	14.782	395,877	25.617	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 05:00	14.783	384,969	25.063	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 06:00	14.785	394,590	29.846	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 07:00	14.787	392,586	27.157	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 08:00	14.815	394,991	23.507	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 09:00	14.814	400,291	26.552	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 10:00	14.873	408,645	27.887	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 11:00	14.903	421,424	31.616	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 12:00	14.925	418,696	29.561	0.011	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 13:00	14.945	415,832	29.769	0.010	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 14:00	14.873	420,810	34.494	0.009	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 15:00	14.913	412,316	32.182	0.009	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 16:00	14.918	420,877	35.699	0.008	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 17:00	14.923	426,673	31.746	0.007	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 18:00	14.910	424,718	36.064	0.006	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 19:00	14.889	424,138	32.937	0.006	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 20:00	14.867	427,147	36.422	0.005	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 21:00	14.845	427,325	32.122	0.006	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 22:00	14.823	434,251	32.308	0.006	0.000	Off Peak Load GT11 SD Half Block
26/11/2024 23:00	14.801	420,407	31.665	0.007	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 00:00	14.815	401,933	28.726	0.008	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 01:00	14.795	409,815	27.128	0.009	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 02:00	14.774	404,961	26.558	0.010	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 03:00	14.775	388,837	25.272	0.011	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 04:00	14.779	387,808	29.725	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 05:00	14.782	386,018	26.611	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 06:00	14.786	385,485	25.093	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 07:00	14.792	387,237	30.819	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 08:00	14.811	401,218	25.184	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 09:00	14.874	406,405	30.216	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 10:00	14.836	403,972	26.716	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 11:00	14.847	412,177	28.153	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 12:00	14.864	408,811	30.605	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 13:00	14.892	418,399	28.826	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 14:00	14.868	419,544	33.033	0.012	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 15:00	14.889	425,578	34.590	0.013	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 16:00	14.930	428,524	31.318	0.013	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 17:00	14.913	425,781	32.755	0.013	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 18:00	14.895	422,092	34.087	0.014	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 19:00	14.878	427,795	31.237	0.014	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 20:00	14.860	430,441	35.098	0.015	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 21:00	14.843	421,591	36.367	0.014	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 22:00	14.825	416,065	35.238	0.014	0.000	Off Peak Load GT11 SD Half Block
27/11/2024 23:00	14.808	421,623	35.449	0.014	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 00:00	14.790	391,384	28.577	0.014	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 01:00	14.782	391,656	29.940	0.014	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 02:00	14.767	382,893	28.707	0.014	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 03:00	14.770	387,158	28.427	0.014	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 04:00	14.778	389,283	28.380	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 05:00	14.785	383,709	26.602	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 06:00	14.793	379,853	31.411	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 07:00	14.805	386,522	27.094	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 08:00	14.819	383,600	31.726	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 09:00	14.833	390,492	26.860	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 10:00	14.846	396,177	27.821	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 11:00	14.860	394,925	27.802	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 12:00	14.874	415,579	30.832	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 13:00	14.871	412,672	27.315	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 14:00	14.873	422,746	33.093	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 15:00	14.882	421,114	33.397	0.012	0.000	Off Peak Load GT11 SD Half Block

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
11/Nov/24 00:00 - 31/Nov/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_dust (7%O2)	
			ppm	ppm	mg/m3	
28/11/2024 16:00	14.891	419,682	30.150	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 17:00	14.905	424,675	32.456	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 18:00	14.905	409,677	32.981	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 19:00	14.890	416,893	30.718	0.012	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 20:00	14.875	415,409	31.606	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 21:00	14.860	411,226	34.787	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 22:00	14.845	406,546	35.195	0.013	0.000	Off Peak Load GT11 SD Half Block
28/11/2024 23:00	14.830	409,753.406	35.781	0.014	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 00:00	14.792	388197.438	29.389	0.014	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 01:00	14.795	388556.000	27.149	0.014	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 02:00	14.797	380977.000	22.463	0.015	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 03:00	14.800	380315.375	32.984	0.015	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 04:00	14.802	376544.656	28.918	0.014	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 05:00	14.805	378899.188	29.708	0.013	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 06:00	14.808	380411.313	34.247	0.012	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 07:00	14.811	381737.344	29.661	0.011	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 08:00	14.816	376789.344	30.161	0.010	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 09:00	14.822	392080.844	29.425	0.010	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 10:00	14.818	384823.625	32.820	0.011	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 11:00	14.835	417.841	32.753	0.011	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 12:00	14.841	414.382	31.394	0.012	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 13:00	14.848	398.820	29.940	0.012	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 14:00	14.870	405.750	37.350	0.013	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 15:00	14.882	422.559	34.626	0.013	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 16:00	14.894	412.368	34.727	0.014	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 17:00	14.907	413.519	33.979	0.013	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 18:00	14.906	419.667	38.948	0.013	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 19:00	14.889	416.803	39.269	0.013	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 20:00	14.871	407.436	39.883	0.012	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 21:00	14.854	410.707	36.562	0.012	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 22:00	14.848	409.187	35.926	0.011	0.000	Off Peak Load GT11 SD Half Block
29/11/2024 23:00	14.817	407284.031	40.194	0.011	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 00:00	14.834	383627.469	29.088	0.010	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 01:00	14.828	386666.406	34.366	0.010	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 02:00	14.816	387790.469	29.509	0.010	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 03:00	14.803	385892.531	30.164	0.010	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 04:00	14.791	383685.906	29.918	0.009	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 05:00	14.778	390972.219	29.431	0.009	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 06:00	14.779	381865.969	29.876	0.009	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 07:00	14.796	385163.656	28.794	0.009	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 08:00	14.817	380936.156	30.502	0.008	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 09:00	14.829	381534.813	32.222	0.009	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 10:00	14.845	396.675	30.257	0.010	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 11:00	14.862	395.476	33.351	0.011	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 12:00	14.878	409.321	29.227	0.012	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 13:00	14.883	421.351	32.183	0.013	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 14:00	14.888	419.928	36.475	0.013	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 15:00	14.902	424.485	33.119	0.014	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 16:00	14.916	422.806	36.158	0.014	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 17:00	14.930	413.855	37.832	0.013	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 18:00	14.915	426.358	38.112	0.013	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 19:00	14.886	414.241	33.508	0.012	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 20:00	14.856	415.305	33.455	0.011	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 21:00	14.834	421.983	37.844	0.011	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 22:00	14.817	421.606	35.435	0.010	0.000	Off Peak Load GT11 SD Half Block
30/11/2024 23:00	14.799	421.796	33.814	0.010	0.000	Off Peak Load GT11 SD Half Block
Minimum	14.54	300.066	0.00	0.00	0.00	
Maximum	15.26	484.702	54.64	0.02	16.57	
Avg	14.76	391.446	26.70	0.01	0.04	
SUM						



Site Name:	GNLL2
Slack Name:	HRSG11
Periodically:	1/Dec/24 00:00 - 31/Dec/24 23:59

[illegible]

Site Name:	GNLL2
Stack Name:	HRSG11
Periodically:	1/Dec/24 00:00 - 31/Dec/24 23:59

[illegible]



GNLL2  
HRSG11  
1/Dec/24 00 00 31/Dec/24 23 59

[illegible]

GNLL2  
HRSG11  
1/Dec/24 00 00 31/Dec/24 23 59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	%	FLOW @ 1 ATM 25°C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2		
				ppm	mg/m3	
11/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
11/12/2024 14:00	14.153	264,814	22.778	0.003	1.778	On Peak Load
11/12/2024 15:00	14.265	364,365	24.030	0.002	2.028	On Peak Load
11/12/2024 16:00	14.271	362,172	22.761	0.002	1.961	On Peak Load
11/12/2024 17:00	14.276	365,763	21.867	0.002	1.936	On Peak Load
11/12/2024 18:00	14.266	366,301	21.414	0.001	1.875	On Peak Load
11/12/2024 19:00	14.242	367,613	20.442	0.001	2.016	On Peak Load
11/12/2024 20:00	14.210	368,822	20.066	0.001	2.096	On Peak Load
11/12/2024 21:00	14.276	370,409	17.383	0.000	2.101	On Peak Load
11/12/2024 22:00	14.238	374,480	18.150	0.002	2.098	On Peak Load
11/12/2024 23:00	14.468	230,380	35.701	0.004	1.983	Off Peak Load
12/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
12/12/2024 12:00	14.253	251,067	39.536	0.003	1.850	Off Peak Load
12/12/2024 13:00	14.159	307,027	12.559	0.003	1.247	Off Peak Load
12/12/2024 14:00	14.279	368,653	16.710	0.002	2.297	On Peak Load
12/12/2024 15:00	14.297	368,787	16.672	0.002	2.304	On Peak Load
12/12/2024 16:00	14.267	366,552	14.144	0.001	2.219	On Peak Load
12/12/2024 17:00	14.243	379,673	13.360	0.001	1.820	On Peak Load
12/12/2024 18:00	14.196	370,798	13.172	0.001	1.823	On Peak Load
12/12/2024 19:00	14.206	332,439	11.729	0.000	2.002	On Peak Load
12/12/2024 20:00	14.192	319,501	12.563	0.000	1.828	On Peak Load
12/12/2024 21:00	14.207	321,723	12.058	0.000	1.826	On Peak Load
12/12/2024 22:00	14.210	345,587	11.725	0.001	1.884	On Peak Load
12/12/2024 23:00	14.208	343,345	12.500	0.001	1.826	On Peak Load
13/12/2024 00:00	14.117	307,497	11.110	0.001	1.809	Off Peak Load
13/12/2024 01:00	14.116	305,939	11.066	0.001	1.708	Off Peak Load
13/12/2024 02:00	14.104	311,426	10.741	0.001	1.836	Off Peak Load
13/12/2024 03:00	14.110	300,938	10.249	0.001	1.572	Off Peak Load
13/12/2024 04:00	14.094	301,578	10.933	0.001	1.701	Off Peak Load
13/12/2024 05:00	14.088	307,679	10.717	0.001	1.776	Off Peak Load
13/12/2024 06:00	14.113	313,709	11.267	0.001	1.661	Off Peak Load
13/12/2024 07:00	14.080	296,932	12.507	0.000	1.676	Off Peak Load
13/12/2024 08:00	14.014	280,380	11.337	0.000	1.873	Off Peak Load
13/12/2024 09:00	14.070	286,601	10.829	0.000	1.952	Off Peak Load
13/12/2024 10:00	14.097	292,635	10.908	0.000	2.014	Off Peak Load
13/12/2024 11:00	14.089	290,055	10.816	0.000	1.875	Off Peak Load
13/12/2024 12:00	14.107	277,334	10.086	0.000	1.758	Off Peak Load
13/12/2024 13:00	14.308	250,351	31.491	0.000	1.925	Off Peak Load
13/12/2024 14:00	14.193	315,683	12.215	0.000	1.971	On Peak Load
13/12/2024 15:00	14.211	345,937	12.485	0.000	2.168	On Peak Load
13/12/2024 16:00	14.212	342,345	12.966	0.000	1.986	On Peak Load
13/12/2024 17:00	14.206	338,089	12.496	0.000	1.990	On Peak Load
13/12/2024 18:00	14.186	332,657	12.175	0.000	2.116	On Peak Load
13/12/2024 19:00	14.146	325,389	11.719	0.000	2.101	On Peak Load
13/12/2024 20:00	14.178	332,431	12.210	0.000	1.816	On Peak Load
13/12/2024 21:00	14.160	339,091	11.805	0.000	2.009	On Peak Load
13/12/2024 22:00	14.175	336,669	12.109	0.000	2.027	On Peak Load
13/12/2024 23:00	14.167	338,687	12.578	0.000	2.154	On Peak Load
14/12/2024 00:00	14.041	299,807	10.666	0.000	1.868	Off Peak Load
14/12/2024 01:00	14.126	310,842	11.514	0.000	1.934	Off Peak Load
14/12/2024 02:00	14.097	301,735	11.762	0.001	2.062	Off Peak Load
14/12/2024 03:00	14.094	290,776	11.339	0.001	1.931	Off Peak Load
14/12/2024 04:00	14.088	286,669	10.610	0.001	1.864	Off Peak Load
14/12/2024 05:00	14.121	297,418	11.151	0.001	1.811	Off Peak Load
14/12/2024 06:00	14.053	285,646	10.859	0.001	1.790	Off Peak Load
14/12/2024 07:00	14.118	294,858	11.522	0.000	1.918	Off Peak Load
14/12/2024 08:00	14.094	270,345	11.116	0.000	2.035	Off Peak Load
14/12/2024 09:00	14.128	282,247	11.845	0.000	1.962	Off Peak Load
14/12/2024 10:00	14.101	286,728	10.327	0.000	1.839	Off Peak Load
14/12/2024 11:00	14.124	278,027	12.730	0.000	1.782	Off Peak Load
14/12/2024 12:00	14.159	269,859	16.012	0.000	1.841	Off Peak Load
14/12/2024 13:00	14.414	242,276	38.590	0.000	2.187	Off Peak Load
14/12/2024 14:00	14.206	334,148	13.457	0.000	2.025	On Peak Load
14/12/2024 15:00	14.178	337,667	13.392	0.000	2.096	On Peak Load
14/12/2024 16:00	14.257	331,755	13.567	0.000	2.085	On Peak Load
14/12/2024 17:00	14.194	323,958	12.943	0.001	2.025	On Peak Load
14/12/2024 18:00	14.201	321,393	13.025	0.001	2.079	On Peak Load
14/12/2024 19:00	14.193	327,585	12.839	0.001	2.091	On Peak Load



Site Name: GMLL2  
Stack Name: HRSGL1  
Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
14/12/2024 20:00	14.174	322,562	13.234	0.001	2.107	On Peak Load
14/12/2024 21:00	14.192	330,672	11.814	0.001	2.200	On Peak Load
14/12/2024 22:00	14.203	341,462	13.866	0.001	2.157	On Peak Load
14/12/2024 23:00	14.206	338,982	13.571	0.000	2.226	On Peak Load
15/12/2024 00:00	14.097	276189.500	10.563	0.000	1.817	Off Peak Load
15/12/2024 01:00	14.168	299870.188	12.874	0.000	1.862	Off Peak Load
15/12/2024 02:00	14.125	302223.625	12.617	0.000	1.902	Off Peak Load
15/12/2024 03:00	14.141	299012.031	12.006	0.000	1.828	Off Peak Load
15/12/2024 04:00	14.155	286987.281	10.896	0.000	1.916	Off Peak Load
15/12/2024 05:00	14.097	281598.406	6.525	0.000	1.824	Off Peak Load
15/12/2024 06:00	14.117	282581.688	11.374	0.000	1.930	Off Peak Load
15/12/2024 07:00	14.093	285019.031	12.616	0.001	1.938	Off Peak Load
15/12/2024 08:00	14.179	268743.500	28.835	0.001	2.309	Off Peak Load
15/12/2024 09:00	14.184	267785.719	27.546	0.001	2.171	Off Peak Load
15/12/2024 10:00	14.201	266,228	26.581	0.001	2.195	Off Peak Load
15/12/2024 11:00	14.147	271,567	14.638	0.001	1.965	Off Peak Load
15/12/2024 12:00	14.307	257,963	31.119	0.001	2.327	Off Peak Load
15/12/2024 13:00	14.290	255,080	30.137	0.001	2.297	Off Peak Load
15/12/2024 14:00	14.232	264,208	23.362	0.001	2.091	Off Peak Load
15/12/2024 15:00	14.217	269,297	20.161	0.001	1.855	Off Peak Load
15/12/2024 16:00	14.222	270,383	11.721	0.001	1.811	Off Peak Load
15/12/2024 17:00	14.197	275,564	11.019	0.001	1.700	Off Peak Load
15/12/2024 18:00	14.117	306,513	14.793	0.001	1.932	Off Peak Load
15/12/2024 19:00	14.226	327,560	13.768	0.000	1.872	On Peak Load
15/12/2024 20:00	14.190	311,737	14.165	0.000	1.819	On Peak Load
15/12/2024 21:00	14.218	322,237	13.738	0.000	2.138	On Peak Load
15/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
15/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
16/12/2024 14:00	14.329	331,436	15.463	0.000	2.219	On Peak Load
16/12/2024 15:00	14.345	342,024	13.747	0.000	2.250	On Peak Load
16/12/2024 16:00	14.277	334,795	13.840	0.000	2.045	On Peak Load
16/12/2024 17:00	14.310	331,960	14.836	0.000	1.991	On Peak Load
16/12/2024 18:00	14.293	330,816	13.280	0.000	1.692	On Peak Load
16/12/2024 19:00	14.266	326,184	13.772	0.000	1.992	On Peak Load
16/12/2024 20:00	14.251	324,562	14.029	0.000	2.073	On Peak Load
16/12/2024 21:00	14.251	325,604	13.773	0.000	2.157	On Peak Load
16/12/2024 22:00	14.256	337,302	14.006	0.000	2.168	On Peak Load
16/12/2024 23:00	14.182	332,385.188	14.549	0.000	2.235	On Peak Load
17/12/2024 00:00	14.101	285140.688	12.810	0.000	1.902	Off Peak Load
17/12/2024 01:00	14.165	299159.063	12.594	0.000	1.910	Off Peak Load
17/12/2024 02:00	14.179	303742.688	14.031	0.000	1.988	Off Peak Load
17/12/2024 03:00	14.147	304325.625	13.800	0.001	2.054	Off Peak Load
17/12/2024 04:00	14.130	295497.583	12.975	0.001	1.899	Off Peak Load
17/12/2024 05:00	14.144	288610.656	11.552	0.001	1.965	Off Peak Load
17/12/2024 06:00	14.159	292770.094	12.328	0.001	2.087	Off Peak Load
17/12/2024 07:00	14.114	290816.813	12.694	0.001	1.856	Off Peak Load
17/12/2024 08:00	14.082	274301.563	12.190	0.001	1.856	Off Peak Load
17/12/2024 09:00	14.136	272461.438	11.448	0.001	2.048	Off Peak Load
17/12/2024 10:00	14.177	269,803	14.178	0.002	2.142	Off Peak Load
17/12/2024 11:00	14.199	272,448	11.458	0.002	2.115	Off Peak Load
17/12/2024 12:00	14.299	266,215	24.862	0.002	2.280	Off Peak Load
17/12/2024 13:00	14.582	233,409	15.559	0.002	2.320	Off Peak Load
17/12/2024 14:00	14.268	305,175	12.925	0.002	1.945	On Peak Load
17/12/2024 15:00	14.263	301,422	12.801	0.001	1.830	On Peak Load
17/12/2024 16:00	14.258	301,006	12.254	0.001	1.602	On Peak Load
17/12/2024 17:00	14.241	309,136	13.481	0.001	1.716	On Peak Load
17/12/2024 18:00	14.187	297,234	12.590	0.001	1.524	On Peak Load
17/12/2024 19:00	14.191	298,515	11.907	0.000	1.556	On Peak Load
17/12/2024 20:00	14.149	296,214	11.769	0.000	1.679	On Peak Load
17/12/2024 21:00	14.160	297,099	5.250	0.000	1.638	On Peak Load
17/12/2024 22:00	14.178	303,796	12.143	0.000	1.677	On Peak Load
17/12/2024 23:00	14.122	297,594	13.125	0.000	1.659	On Peak Load
18/12/2024 00:00	14.135	269,799	17.748	0.000	1.938	Off Peak Load
18/12/2024 01:00	14.105	286,632	11.533	0.000	1.820	Off Peak Load
18/12/2024 02:00	14.079	278,458	11.074	0.000	1.635	Off Peak Load
18/12/2024 03:00	14.098	271,970	10.820	0.000	1.644	Off Peak Load
18/12/2024 04:00	14.101	269,191	13.658	0.000	1.991	Off Peak Load
18/12/2024 05:00	14.059	271,965	11.804	0.000	1.810	Off Peak Load
18/12/2024 06:00	14.131	261,438	18.126	0.000	1.775	Off Peak Load

Site Name: GMLL2  
Stack Name: HRSGL1  
Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
18/12/2024 07:00	14.117	270,384	15.344	0.000	1.872	Off Peak Load
18/12/2024 08:00	14.167	261,229	25.988	0.000	2.212	Off Peak Load
18/12/2024 09:00	14.214	268,279	21.725	0.000	2.206	Off Peak Load
18/12/2024 10:00	14.188	270,033	12.234	0.000	2.072	Off Peak Load
18/12/2024 11:00	14.242	267,201	21.394	0.000	2.174	Off Peak Load
18/12/2024 12:00	14.307	259,587	26.572	0.001	2.207	Off Peak Load
18/12/2024 13:00	14.571	232,419	43.592	0.001	2.424	Off Peak Load
18/12/2024 14:00	14.291	311,198	13.081	0.001	1.875	On Peak Load
18/12/2024 15:00	14.276	310,118	13.224	0.001	1.889	On Peak Load
18/12/2024 16:00	14.292	317,550	12.804	0.001	1.790	On Peak Load
18/12/2024 17:00	14.306	313,843	13.538	0.001	1.267	On Peak Load
18/12/2024 18:00	14.241	320,103	13.633	0.001	1.639	On Peak Load
18/12/2024 19:00	14.225	315,754	13.931	0.001	1.657	On Peak Load
18/12/2024 20:00	14.224	313,358	13.704	0.001	1.744	On Peak Load
18/12/2024 21:00	14.173	315,372	13.077	0.001	1.684	On Peak Load
18/12/2024 22:00	14.214	319,406	13.469	0.001	1.771	On Peak Load
18/12/2024 23:00	14.184	325,682	13.677	0.001	1.738	On Peak Load
19/12/2024 00:00	14.071	282,431	11.607	0.001	1.667	Off Peak Load
19/12/2024 01:00	14.148	300,510	10.468	0.001	1.827	Off Peak Load
19/12/2024 02:00	14.119	300,964	12.016	0.001	1.936	Off Peak Load
19/12/2024 03:00	14.127	282,710	12.096	0.001	1.934	Off Peak Load
19/12/2024 04:00	14.157	300,901	10.651	0.001	1.980	Off Peak Load
19/12/2024 05:00	14.110	289,395	11.845	0.001	2.071	Off Peak Load
19/12/2024 06:00	14.162	296,804	12.156	0.002	2.057	Off Peak Load
19/12/2024 07:00	14.160	299,462	12.465	0.002	2.138	Off Peak Load
19/12/2024 08:00	14.090	275,009	11.971	0.002	2.079	Off Peak Load
19/12/2024 09:00	14.135	274,362	11.200	0.002	2.246	Off Peak Load
19/12/2024 10:00	14.185	272,430	11.449	0.003	2.130	Off Peak Load
19/12/2024 11:00	14.207	271,696	14.917	0.003	2.120	Off Peak Load
19/12/2024 12:00	14.322	261,668	26.906	0.003	2.322	Off Peak Load
19/12/2024 13:00	14.596	231,310	46.457	0.002	2.168	Off Peak Load
19/12/2024 14:00	14.282	310,101	13.739	0.002	1.819	On Peak Load
19/12/2024 15:00	14.291	318,910	14.813	0.002	1.578	On Peak Load
19/12/2024 16:00	14.332	321,509	14.817	0.002	1.582	On Peak Load
19/12/2024 17:00	14.312	325,417	14.369	0.001	1.530	On Peak Load
19/12/2024 18:00	14.273	321,415	15.055	0.001	1.602	On Peak Load
19/12/2024 19:00	14.227	315,378	14.694	0.001	1.639	On Peak Load
19/12/2024 20:00	14.231	317,753	14.201	0.001	1.878	On Peak Load
19/12/2024 21:00	14.249	331,855	13.234	0.001	2.083	On Peak Load
19/12/2024 22:00	14.202	318,377	12.792	0.002	2.024	On Peak Load
19/12/2024 23:00	14.210	326,843,406	13.606	0.002	2.081	On Peak Load
20/12/2024 00:00	14.168	296,590,250	12.346	0.002	1.804	Off Peak Load
20/12/2024 01:00	14.179	313,627,906	12.148	0.003	2.067	Off Peak Load
20/12/2024 02:00	14.118	290,737,250	13.478	0.003	2.111	Off Peak Load
20/12/2024 03:00	14.146	298,713,063	12.283	0.004	1.971	Off Peak Load
20/12/2024 04:00	14.119	283,729,563	11.461	0.003	1.883	Off Peak Load
20/12/2024 05:00	14.123	294,901,406	12.122	0.003	1.869	Off Peak Load
20/12/2024 06:00	14.179	308,624,094	12.505	0.002	1.848	Off Peak Load
20/12/2024 07:00	14.124	286,837,219	11.076	0.002	1.963	Off Peak Load
20/12/2024 08:00	14.084	277,889,781	11.465	0.002	1.995	Off Peak Load
20/12/2024 09:00	14.148	274,140,656	12.637	0.001	2.329	Off Peak Load
20/12/2024 10:00	14.170	268,763	18.436	0.001	2.218	Off Peak Load
20/12/2024 11:00	14.236	265,791	25.719	0.000	2.266	Off Peak Load
20/12/2024 12:00	14.302	264,046	28.210	0.001	2.295	Off Peak Load
20/12/2024 13:00	14.550	234,285	45.366	0.001	2.399	Off Peak Load
20/12/2024 14:00	14.285	312,567	12.817	0.001	2.014	On Peak Load
20/12/2024 15:00	14.267	317,210	12.804	0.002	1.905	On Peak Load
20/12/2024 16:00	14.245	309,310	12.565	0.002	1.954	On Peak Load
20/12/2024 17:00	14.289	319,376	12.780	0.002	1.851	On Peak Load
20/12/2024 18:00	14.263	316,444	12.787	0.003	1.793	On Peak Load
20/12/2024 19:00	14.218	307,447	12.585	0.003	1.835	On Peak Load
20/12/2024 20:00	14.235	313,195	12.803	0.003	1.697	On Peak Load
20/12/2024 21:00	14.262	324,442	12.598	0.002	1.944	On Peak Load
20/12/2024 22:00	14.216	323,853	12.467	0.003	1.843	On Peak Load
20/12/2024 23:00	14.145	319,094	13.031	0.002	2.045	On Peak Load
21/12/2024 00:00	14.129	284,796	11.318	0.002	1.828	Off Peak Load
21/12/2024 01:00	14.142	293,423	11.301	0.002	1.850	Off Peak Load
21/12/2024 02:00	14.102	296,477	11.156	0.007	1.663	Off Peak Load
21/12/2024 03:00	14.153	307,170	10.809	0.001	1.891	Off Peak Load
21/12/2024 04:00	14.127	288,758	10.327	0.001	1.761	Off Peak Load
21/12/2024 05:00	14.092	280,162	10.450	0.001	1.784	Off Peak Load
21/12/2024 06:00	14.072	275,476	11.439	0.001	1.944	Off Peak Load
21/12/2024 07:00	14.099	286,284	11.057	0.001	1.845	Off Peak Load
21/12/2024 08:00	14.133	267,407	20.513	0.001	2.047	Off Peak Load
21/12/2024 09:00	14.107	280,273	9.732	0.001	2.111	Off Peak Load
21/12/2024 10:00	14.176	270,716	9.608	0.001	2.062	Off Peak Load
21/12/2024 11:00	14.266	290,685	10.471	0.001	1.974	Off Peak Load
21/12/2024 12:00	14.286	278,623	10.364	0.002	1.774	Off Peak Load
21/12/2024 13:00	14.612	231,522	45.613	0.002	2.348	Off Peak Load
21/12/2024 14:00	14.293	321,605	12.096	0.002	1.695	On Peak Load
21/12/2024 15:00	14.327	320,246	13.755	0.002	1.858	On Peak Load
21/12/2024 16:00	14.306	320,302	12.999	0.002	1.557	On Peak Load
21/12/2024 17:00	14.260	312,317	11.141	0.001	1.595	On Peak Load



Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG11  
1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O <sub>2</sub>	FLOW @ 1 ATM ZSC	HRSG1_NOx@7%O <sub>2</sub>	HRSG1_SOx@7%O <sub>2</sub>	HRSG1_Dust (7%O <sub>2</sub> )	
	%	m <sup>3</sup> /hr	ppm	ppm	mg/m <sup>3</sup>	
21/12/2024 18:00	14.226	313.355	13.311	0.003	1.633	On Peak Load
21/12/2024 19:00	14.166	321.270	12.922	0.003	1.210	On Peak Load
21/12/2024 20:00	14.146	305.105	11.550	0.003	1.140	On Peak Load
21/12/2024 21:00	14.202	326.414	11.707	0.002	1.636	On Peak Load
21/12/2024 22:00	14.152	312.554	11.929	0.002	1.918	On Peak Load
21/12/2024 23:00	14.233	358.879	15.260	0.002	2.376	On Peak Load
22/12/2024 00:00	14.258	347.195	13.499	0.001	1.952	Off Peak Load G12 SD Half Block
22/12/2024 01:00	14.248	341922.250	12.718	0.001	1.933	Off Peak Load G12 SD Half Block
22/12/2024 02:00	14.249	345242.688	13.214	0.001	1.998	Off Peak Load G12 SD Half Block
22/12/2024 03:00	14.250	343938.500	8.715	0.000	2.032	Off Peak Load G12 SD Half Block
22/12/2024 04:00	14.252	344203.469	13.554	0.000	2.169	Off Peak Load G12 SD Half Block
22/12/2024 05:00	14.253	341881.031	13.443	0.000	2.164	Off Peak Load G12 SD Half Block
22/12/2024 06:00	14.254	343685.969	13.008	0.000	2.049	Off Peak Load G12 SD Half Block
22/12/2024 07:00	14.266	340536.063	13.725	0.000	2.060	Off Peak Load G12 SD Half Block
22/12/2024 08:00	14.287	346010.656	13.692	0.000	2.146	Off Peak Load G12 SD Half Block
22/12/2024 09:00	14.309	343931.719	13.793	0.000	2.269	Off Peak Load G12 SD Half Block
22/12/2024 10:00	14.330	342.348	13.659	0.000	2.351	Off Peak Load G12 SD Half Block
22/12/2024 11:00	14.351	347.418	14.387	0.000	2.354	Off Peak Load G12 SD Half Block
22/12/2024 12:00	14.374	350.107	14.561	0.001	2.346	Off Peak Load G12 SD Half Block
22/12/2024 13:00	14.397	350.042	14.401	0.001	2.331	Off Peak Load G12 SD Half Block
22/12/2024 14:00	14.383	350.218	14.741	0.001	2.150	Off Peak Load G12 SD Half Block
22/12/2024 15:00	14.345	349.258	14.632	0.002	2.111	Off Peak Load G12 SD Half Block
22/12/2024 16:00	14.371	351.127	14.666	0.002	1.998	Off Peak Load G12 SD Half Block
22/12/2024 17:00	14.370	346.237	14.841	0.002	1.760	Off Peak Load G12 SD Half Block
22/12/2024 18:00	14.313	370.848	18.349	0.002	2.092	Off Peak Load G12 SD Half Block
22/12/2024 19:00	14.328	376.792	17.348	0.002	2.117	Off Peak Load G12 SD Half Block
22/12/2024 20:00	14.346	372.689	16.402	0.002	2.314	Off Peak Load G12 SD Half Block
22/12/2024 21:00	14.310	371.401	17.436	0.002	2.156	Off Peak Load G12 SD Half Block
22/12/2024 22:00	14.168	300.216	12.027	0.002	1.761	Off Peak Load G12 SD Half Block
22/12/2024 23:00	14.256	344.475	12.903	0.001	2.064	Off Peak Load G12 SD Half Block
23/12/2024 00:00	14.238	343.771	13.284	0.001	1.951	Off Peak Load G12 SD Half Block
23/12/2024 01:00	14.229	342.742	13.310	0.001	2.166	Off Peak Load G12 SD Half Block
23/12/2024 02:00	14.235	342.101	13.259	0.001	2.102	Off Peak Load G12 SD Half Block
23/12/2024 03:00	14.241	342.018	12.832	0.000	2.190	Off Peak Load G12 SD Half Block
23/12/2024 04:00	14.247	340.470	12.503	0.000	2.192	Off Peak Load G12 SD Half Block
23/12/2024 05:00	14.299	374.986	15.419	0.000	2.587	Off Peak Load
23/12/2024 06:00	14.109	274.511	12.832	0.000	1.990	Off Peak Load
23/12/2024 07:00	14.080	270.752	23.389	0.000	2.056	Off Peak Load
23/12/2024 08:00	14.142	264.062	24.063	0.000	2.087	Off Peak Load
23/12/2024 09:00	14.124	274.446	11.013	0.000	2.182	Off Peak Load
23/12/2024 10:00	14.175	264.374	14.063	0.000	2.286	Off Peak Load
23/12/2024 11:00	14.170	280.046	10.207	0.000	2.119	Off Peak Load
23/12/2024 12:00	14.262	262.916	23.731	0.000	2.251	Off Peak Load
23/12/2024 13:00	14.519	238.696	42.349	0.000	1.769	Off Peak Load
23/12/2024 14:00	14.356	325.579	13.353	0.000	1.482	On Peak Load
23/12/2024 15:00	14.376	339.874	12.871	0.000	1.700	On Peak Load
23/12/2024 16:00	14.359	343.871	13.939	0.000	1.198	On Peak Load
23/12/2024 17:00	14.305	334.188	12.036	0.000	1.544	On Peak Load
23/12/2024 18:00	14.274	326.979	12.875	0.000	1.641	On Peak Load
23/12/2024 19:00	14.242	322.645	11.072	0.000	1.748	On Peak Load
23/12/2024 20:00	14.204	329.609	6.774	0.000	1.413	On Peak Load
23/12/2024 21:00	14.148	315.713	2.459	0.000	1.487	On Peak Load
23/12/2024 22:00	14.147	312.314	9.473	0.000	1.503	On Peak Load
23/12/2024 23:00	14.116	321.203	11.304	0.001	1.126	On Peak Load
24/12/2024 00:00	14.112	293.934	8.791	0.001	1.635	Off Peak Load
24/12/2024 01:00	14.140	304.155	9.836	0.001	1.771	Off Peak Load
24/12/2024 02:00	14.151	299.654	10.214	0.001	1.794	Off Peak Load
24/12/2024 03:00	14.121	286.802	11.086	0.001	1.860	Off Peak Load
24/12/2024 04:00	14.117	294.666	9.681	0.002	1.919	Off Peak Load
24/12/2024 05:00	14.182	291.110	10.288	0.002	1.744	Off Peak Load
24/12/2024 06:00	14.133	282.494	9.647	0.002	1.906	Off Peak Load
24/12/2024 07:00	14.100	279.479	10.169	0.002	1.835	Off Peak Load
24/12/2024 08:00	14.094	274.381	13.006	0.002	1.871	Off Peak Load
24/12/2024 09:00	14.149	273.167	9.776	0.002	2.219	Off Peak Load
24/12/2024 10:00	14.205	266.220	24.756	0.002	2.311	Off Peak Load
24/12/2024 11:00	14.172	274.393	10.486	0.002	1.976	Off Peak Load
24/12/2024 12:00	14.274	262.154	24.557	0.002	2.170	Off Peak Load
24/12/2024 13:00	14.505	233.636	40.730	0.002	2.367	Off Peak Load
24/12/2024 14:00	14.272	306.052	10.952	0.002	2.008	On Peak Load
24/12/2024 15:00	14.267	309.104	11.532	0.002	1.727	On Peak Load
24/12/2024 16:00	14.268	312.691	9.224	0.002	1.651	On Peak Load
24/12/2024 17:00	14.243	324.792	10.801	0.002	1.755	On Peak Load
24/12/2024 18:00	14.267	312.818	5.406	0.002	1.453	On Peak Load
24/12/2024 19:00	14.241	319.534	5.461	0.001	1.603	On Peak Load
24/12/2024 20:00	14.229	313.406	10.218	0.001	1.515	On Peak Load
24/12/2024 21:00	14.235	326.766	12.658	0.001	1.816	On Peak Load
24/12/2024 22:00	14.237	336.515	11.267	0.001	1.589	On Peak Load
24/12/2024 23:00	14.226	323.576	11.780	0.001	1.761	On Peak Load
25/12/2024 00:00	14.182	294.197	7.900	0.001	1.593	Off Peak Load
25/12/2024 01:00	14.168	299.836	10.223	0.001	1.928	Off Peak Load
25/12/2024 02:00	14.177	286.723	10.545	0.000	1.777	Off Peak Load
25/12/2024 03:00	14.135	290.890	9.189	0.000	1.800	Off Peak Load
25/12/2024 04:00	14.144	292.766	9.750	0.000	1.908	Off Peak Load

Site Name:  
Stack Name:  
Periodically:

GNL12  
HRSG11  
1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O <sub>2</sub>	FLOW @1 ATM ZSC	HRSG1_NO <sub>x</sub> @7%O <sub>2</sub>	HRSG1_SO <sub>x</sub> @7%O <sub>2</sub>	HRSG1_Dust (7%O <sub>2</sub> )	
			ppm	ppm	mg/m3	
25/12/2024 05:00	14.084	283.260	10.426	0.000	1.653	Off Peak Load
25/12/2024 06:00	14.122	291.717	6.383	0.000	1.796	Off Peak Load
25/12/2024 07:00	14.107	288.747	3.251	0.000	1.948	Off Peak Load
25/12/2024 08:00	14.125	271.570	12.615	0.000	1.872	Off Peak Load
25/12/2024 09:00	14.081	274.415	9.542	0.000	2.039	Off Peak Load
25/12/2024 10:00	14.205	267.629	15.347	0.000	2.108	Off Peak Load
25/12/2024 11:00	14.232	262.913	23.079	0.000	2.279	Off Peak Load
25/12/2024 12:00	14.261	264.050	23.660	0.000	2.145	Off Peak Load
25/12/2024 13:00	14.541	234.548	41.597	0.000	2.294	Off Peak Load
25/12/2024 14:00	14.266	309.140	10.261	0.000	1.993	On Peak Load
25/12/2024 15:00	14.266	311.111	10.751	0.000	1.882	On Peak Load
25/12/2024 16:00	14.287	318.890	6.634	0.000	1.961	On Peak Load
25/12/2024 17:00	14.285	316.264	10.610	0.000	1.842	On Peak Load
25/12/2024 18:00	14.261	315.284	10.651	0.000	1.876	On Peak Load
25/12/2024 19:00	14.239	311.401	11.730	0.000	1.833	On Peak Load
25/12/2024 20:00	14.227	317.860	12.009	0.000	1.799	On Peak Load
25/12/2024 21:00	14.229	325.576	11.956	0.000	1.860	On Peak Load
25/12/2024 22:00	14.188	325.186	11.235	0.000	1.971	On Peak Load
25/12/2024 23:00	14.141	319.487	11.941	0.000	2.025	On Peak Load
26/12/2024 00:00	14.135	266.551	9.482	0.000	1.706	Off Peak Load
26/12/2024 01:00	14.098	270.427	9.877	0.000	1.748	Off Peak Load
26/12/2024 02:00	14.098	276.627	10.820	0.000	1.805	Off Peak Load
26/12/2024 03:00	14.189	261.632	23.835	0.000	1.956	Off Peak Load
26/12/2024 04:00	14.219	262.950	26.869	0.000	1.967	Off Peak Load
26/12/2024 05:00	14.155	268.687	11.870	0.000	1.880	Off Peak Load
26/12/2024 06:00	14.174	272.247	23.083	0.000	1.825	Off Peak Load
26/12/2024 07:00	14.212	261.644	26.163	0.000	1.963	Off Peak Load
26/12/2024 08:00	14.284	256.507	29.267	0.000	1.923	Off Peak Load
26/12/2024 09:00	14.345	249.075	35.829	0.000	2.182	Off Peak Load
26/12/2024 10:00	14.303	253.512	30.002	0.000	2.101	Off Peak Load
26/12/2024 11:00	14.337	249.001	32.909	0.000	2.141	Off Peak Load
26/12/2024 12:00	14.334	248.109	31.814	0.000	2.068	Off Peak Load
26/12/2024 13:00	14.604	225.458	39.117	0.000	2.272	Off Peak Load
26/12/2024 14:00	14.177	301.985	9.566	0.000	1.916	On Peak Load
26/12/2024 15:00	14.186	305.059	10.301	0.000	1.709	On Peak Load
26/12/2024 16:00	14.206	300.878	9.595	0.001	1.681	On Peak Load
26/12/2024 17:00	14.178	301.115	9.630	0.001	1.480	On Peak Load
26/12/2024 18:00	14.169	300.895	9.743	0.002	1.594	On Peak Load
26/12/2024 19:00	14.194	300.919	10.006	0.003	1.795	On Peak Load
26/12/2024 20:00	14.163	295.634	10.246	0.004	1.480	On Peak Load
26/12/2024 21:00	14.144	301.077	10.607	0.005	1.551	On Peak Load
26/12/2024 22:00	14.140	301.834	10.653	0.007	1.537	On Peak Load
26/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block



Site Name: GNLL2  
 Stack Name: HRS011  
 Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
28/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 05:00	14.090	294,050	12.272	0.004	1.758	Off Peak Load GT12 SD Half Block
30/12/2024 06:00	14.189	374,701	19.798	0.004	2.376	Off Peak Load GT12 SD Half Block
30/12/2024 07:00	14.340	374,736	16.886	0.004	2.409	Off Peak Load GT12 SD Half Block
30/12/2024 08:00	14.341	374,043	16.395	0.004	2.301	Off Peak Load GT12 SD Half Block
30/12/2024 09:00	14.343	371,299	18.261	0.003	2.478	Off Peak Load GT12 SD Half Block
30/12/2024 10:00	14.347	368,791	18.311	0.003	2.258	Off Peak Load GT12 SD Half Block
30/12/2024 11:00	14.353	367,735	18.836	0.003	2.281	Off Peak Load GT12 SD Half Block
30/12/2024 12:00	14.359	364,981	18.578	0.003	2.304	Off Peak Load GT12 SD Half Block
30/12/2024 13:00	14.365	364,827	18.089	0.003	2.218	Off Peak Load GT12 SD Half Block
30/12/2024 14:00	14.372	363,241	18.530	0.002	1.917	Off Peak Load GT12 SD Half Block
30/12/2024 15:00	14.378	363,833	18.858	0.002	2.018	Off Peak Load GT12 SD Half Block
30/12/2024 16:00	14.384	362,618	18.507	0.002	1.846	Off Peak Load GT12 SD Half Block
30/12/2024 17:00	14.324	364,460	16.954	0.002	1.504	Off Peak Load GT12 SD Half Block
30/12/2024 18:00	14.292	365,581	16.941	0.002	2.165	Off Peak Load
30/12/2024 19:00	14.205	317,955	11.902	0.001	1.702	On Peak Load
30/12/2024 20:00	14.162	310,612	12.032	0.001	1.321	On Peak Load
30/12/2024 21:00	14.132	299,870	10.490	0.001	1.109	On Peak Load
30/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
30/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT11 SD Half Block
31/12/2024 18:00	14.107	292,636	14.187	0.000	1.584	Off Peak Load
31/12/2024 19:00	14.181	296,178	12.081	0.000	1.205	Off Peak Load
31/12/2024 20:00	14.151	299,169	12.079	0.000	1.251	Off Peak Load
31/12/2024 21:00	14.149	291,448	10.925	0.000	1.403	Off Peak Load
31/12/2024 22:00	14.219	377,363	16.177	0.000	2.159	Off Peak Load GT12 SD Half Block
31/12/2024 23:00	14.301	373,510.344	16.201	0.000	2.101	Off Peak Load GT12 SD Half Block
Minimum	14.01	225,458	2.46	0.00	1.11	
Maximum	14.61	377,363	46.46	0.01	2.59	
Avg	14.21	305,844	14.84	0.00	1.93	

Site Name: GNLL2  
 Stack Name: HRS011  
 Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRS01_NOx@7%O2	HRS01_SOx@7%O2	HRS01_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
SUM			60	0	0	



Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
01/12/2024 00:00	14.744	390.318	29.823	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 01:00	14.801	391.785	31.265	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 02:00	14.807	391.861	28.332	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 03:00	14.803	391.801	29.831	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 04:00	14.800	389.151	29.674	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 05:00	14.797	389.719	28.978	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 06:00	14.794	384.530	29.068	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 07:00	14.791	387.085	28.552	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 08:00	14.798	398.759	27.351	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 09:00	14.821	396.701	31.949	0.009	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 10:00	14.844	395.123	29.943	0.008	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 11:00	14.866	400.248	33.227	0.008	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 12:00	14.804	420.259	29.969	0.007	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 13:00	14.927	416.506	32.320	0.007	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 14:00	14.945	420.850	32.904	0.006	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 15:00	14.949	416.307	33.963	0.006	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 16:00	14.985	419.218	29.920	0.007	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 17:00	15.005	428.995	33.667	0.008	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 18:00	14.921	431.155	35.885	0.009	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 19:00	14.863	436.651	32.197	0.010	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 20:00	14.805	446.408	45.521	0.011	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 21:00	14.804	441.156	32.276	0.012	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 22:00	14.813	402.700	31.959	0.013	0.000	Off Peak Load GT11 SD Half Block
01/12/2024 23:00	14.810	403.029	28.233	0.014	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 00:00	14.807	401.534	32.184	0.013	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 01:00	14.804	395.919	27.816	0.013	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 02:00	14.800	395.129	28.697	0.013	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 03:00	14.793	388.953	32.117	0.012	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 04:00	14.785	393.817	29.451	0.012	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 05:00	14.786	397.668	27.700	0.012	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 06:00	14.791	398.800	28.267	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 07:00	14.796	391.053	28.211	0.017	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 08:00	14.801	403.235	27.286	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 09:00	14.823	418.982	32.182	0.012	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 10:00	14.851	421.215	27.834	0.012	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 11:00	14.879	431.348	32.479	0.013	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 12:00	14.910	427.431	33.349	0.013	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 13:00	14.928	438.755	32.211	0.014	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 14:00	14.934	438.693	36.346	0.014	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 15:00	14.924	431.005	33.189	0.012	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 16:00	14.930	436.516	35.057	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 17:00	14.930	436.055	35.112	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 18:00	14.896	438.497	33.596	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 19:00	14.861	443.934	34.391	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 20:00	14.827	451.167	46.241	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 21:00	14.793	439.580	32.440	0.011	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 22:00	14.791	438.413	31.748	0.010	0.000	Off Peak Load GT11 SD Half Block
02/12/2024 23:00	14.780	427.584	34.133	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 00:00	14.791	395090.469	29.260	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 01:00	14.793	401281.156	26.626	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 02:00	14.798	406649.063	28.592	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 03:00	14.751	405519.656	26.740	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 04:00	14.761	405651.281	28.912	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 05:00	14.777	411157.844	31.399	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 06:00	14.791	408255.813	27.831	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 07:00	14.800	410345.675	27.869	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 08:00	14.810	412808.125	26.724	0.012	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 09:00	14.840	427824.469	31.392	0.012	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 10:00	14.887	420.618	31.474	0.013	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 11:00	14.894	443.153	33.227	0.013	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 12:00	14.891	447.243	37.399	0.014	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 13:00	14.889	430.767	34.377	0.014	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 14:00	14.950	438.823	35.125	0.017	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 15:00	14.945	438.727	36.949	0.008	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 16:00	14.944	440.137	33.991	0.008	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 17:00	14.934	444.659	32.124	0.009	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 18:00	14.865	445.631	31.427	0.010	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 19:00	14.838	445.916	35.993	0.010	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 20:00	14.812	418.494	32.269	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 21:00	14.785	449.902	32.742	0.011	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 22:00	14.770	443271.000	34.802	0.012	0.000	Off Peak Load GT11 SD Half Block
03/12/2024 23:00	14.748	444350.219	30.813	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 00:00	14.747	417411.969	24.531	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 01:00	14.727	416837.625	25.228	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 02:00	14.709	410978.500	28.646	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 03:00	14.720	413824.969	24.048	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 04:00	14.731	408188.094	25.477	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 05:00	14.743	410216.375	29.446	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 06:00	14.754	399336.156	25.325	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 07:00	14.765	403325.219	26.676	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 08:00	14.777	412241.031	25.626	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 09:00	14.809	418541.688	30.615	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 10:00	14.851	413698.094	30.436	0.013	0.000	Off Peak Load GT11 SD Half Block

Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @ 1 ATM 25C	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
04/12/2024 11:00	14.892	417503.469	28.216	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 12:00	14.895	421514.750	30.516	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 13:00	14.898	418740.719	33.638	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 14:00	14.914	423826.875	32.737	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 15:00	14.942	426865.563	33.626	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 16:00	14.940	446683.281	33.783	0.012	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 17:00	14.945	443442.094	37.395	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 18:00	14.941	440718.031	34.023	0.013	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 19:00	14.916	442605.156	37.771	0.014	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 20:00	14.891	444391.156	33.970	0.014	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 21:00	14.866	446288.000	37.323	0.015	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 22:00	14.811	442808.438	35.230	0.016	0.000	Off Peak Load GT11 SD Half Block
04/12/2024 23:00	14.771	444367.281	33.028	0.015	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 00:00	14.810	420842.031	29.172	0.015	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 01:00	14.798	427733.313	30.776	0.015	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 02:00	14.787	420756.719	28.959	0.015	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 03:00	14.781	411526.188	26.729	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 04:00	14.779	412668.750	25.697	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 05:00	14.786	408163.156	30.412	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 06:00	14.793	406592.156	26.845	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 07:00	14.791	405069.875	30.733	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 08:00	14.795	422826.094	29.660	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 09:00	14.818	422105.844	26.529	0.014	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 10:00	14.897	431966.750	30.654	0.013	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 11:00	14.764	384492.531	18.249	0.017	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 12:00	14.849	454560.156	32.897	0.017	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 13:00	14.809	442661.313	28.574	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 14:00	14.931	440948.344	27.362	0.010	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 15:00	14.799	361064.906	18.525	0.010	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 16:00	14.804	364758.438	15.749	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 17:00	14.889	440662.469	28.500	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 18:00	14.859	451841.906	32.024	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 19:00	14.813	451779.156	30.700	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 20:00	14.768	456714.750	31.646	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 21:00	14.778	447596.688	28.039	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 22:00	14.784	428333.625	27.353	0.011	0.000	Off Peak Load GT11 SD Half Block
05/12/2024 23:00	14.794	413810.969	28.249	0.012	0.000	Off Peak Load GT11 SD Half Block
06/12/2024 00:00	14.804	411171.469	26.583	0.012	0.000	Off Peak Load GT11 SD Half Block
06/12/2024 01:00	14.815	415471.031	30.349	0.012	0.000	Off Peak Load GT11 SD Half Block
06/12/2024 02:00	14.809	410571.813	28.532	0.012	0.000	Off Peak Load GT11 SD Half Block



Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
07/12/2024 22:00	14.776	453541.563	25.422	0.011	0.000	Off Peak Load GT11 SD Half Block
07/12/2024 23:00	14.718	453790.281	23.785	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 00:00	14.755	434125.563	21.013	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 01:00	14.760	434753.314	19.452	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 02:00	14.766	431891.344	19.105	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 03:00	14.771	425535.656	18.729	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 04:00	14.776	431082.938	17.878	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 05:00	14.781	421680.875	19.647	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 06:00	14.787	413869.375	20.313	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 07:00	14.790	424981.406	20.396	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 08:00	14.789	431820.250	21.067	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 09:00	14.784	433007.125	20.388	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 10:00	14.789	431182.406	20.796	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 11:00	14.795	433017.063	19.706	0.008	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 12:00	14.800	426400.500	22.033	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 13:00	14.806	424089.656	19.681	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 14:00	14.792	430404.656	20.132	0.009	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 15:00	14.844	438836.031	21.866	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 16:00	14.854	442346.375	21.516	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 17:00	14.863	439172.000	21.878	0.011	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 18:00	14.837	456490.969	23.816	0.011	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 19:00	14.832	453030.375	23.225	0.011	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 20:00	14.826	452199.699	25.290	0.012	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 21:00	14.840	452766.156	24.228	0.010	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 22:00	14.837	431174.875	21.838	0.013	0.000	Off Peak Load GT11 SD Half Block
08/12/2024 23:00	14.823	422326.906	20.035	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 00:00	14.813	433977.875	22.371	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 01:00	14.808	418817.156	22.515	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 02:00	14.804	419251.250	22.770	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 03:00	14.799	416778.563	22.609	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 04:00	14.795	420127.313	22.261	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 05:00	14.791	411379.125	22.232	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 06:00	14.786	409469.813	20.924	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 07:00	14.782	407707.331	21.036	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 08:00	14.791	413719.375	21.583	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 09:00	14.817	418820.219	21.203	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 10:00	14.842	416878.250	21.639	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 11:00	14.868	431993.906	21.717	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 12:00	14.893	431547.125	22.702	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 13:00	14.879	427101.594	21.750	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 14:00	14.852	435934.406	24.856	0.027	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 15:00	14.860	445822.563	26.402	0.011	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 16:00	14.852	436407.750	25.626	0.011	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 17:00	14.845	447036.844	25.808	0.012	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 18:00	14.837	449217.969	26.754	0.012	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 19:00	14.829	442953.656	26.035	0.013	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 20:00	14.821	439442.698	27.225	0.014	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 21:00	14.814	440016.938	27.331	0.014	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 22:00	14.795	441904.563	28.354	0.015	0.000	Off Peak Load GT11 SD Half Block
09/12/2024 23:00	14.795	445465.031	27.126	0.015	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 00:00	14.782	420487.625	21.501	0.014	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 01:00	14.784	417604.484	22.518	0.014	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 02:00	14.785	417005.813	21.501	0.013	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 03:00	14.786	413370.656	21.800	0.013	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 04:00	14.787	410091.094	20.750	0.012	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 05:00	14.788	418790.781	21.761	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 06:00	14.789	412806.344	22.316	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 07:00	14.795	411619.500	20.805	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 08:00	14.812	415061.000	20.553	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 09:00	14.831	420516.750	22.783	0.012	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 10:00	14.860	426207.188	23.331	0.012	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 11:00	14.818	429554.000	24.342	0.013	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 12:00	14.916	431140.688	25.931	0.013	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 13:00	14.915	436620.188	25.673	0.013	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 14:00	14.914	443254.875	29.382	0.010	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 15:00	14.913	450817.531	28.416	0.010	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 16:00	14.917	454004.250	29.068	0.010	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 17:00	14.916	457050.906	29.983	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 18:00	14.826	461417.938	42.164	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 19:00	14.793	459963.219	43.557	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 20:00	14.798	468422.344	40.800	0.011	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 21:00	14.788	468078.750	25.831	0.012	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 22:00	14.777	452152.375	28.001	0.012	0.000	Off Peak Load GT11 SD Half Block
10/12/2024 23:00	14.767	443871.281	26.420	0.012	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 00:00	14.773	426660.969	20.795	0.013	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 01:00	14.773	420579.438	20.979	0.013	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 02:00	14.773	422035.188	20.145	0.014	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 03:00	14.772	420161.625	21.107	0.014	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 04:00	14.772	419480.813	20.535	0.014	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 05:00	14.772	422070.719	20.700	0.015	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 06:00	14.772	417251.688	20.155	0.015	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 07:00	14.772	420856.063	19.284	0.013	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 08:00	14.807	430539.844	21.859	0.012	0.000	Off Peak Load GT11 SD Half Block

Site Name:  
Stack Name:  
Periodically:

GNL2  
HRSG12  
1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
11/12/2024 09:00	14.441	429278.906	22.314	0.010	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 10:00	14.876	436008.313	22.213	0.009	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 11:00	14.910	434001.625	23.558	0.007	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 12:00	14.902	439474.500	27.918	0.005	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 13:00	14.911	441261.750	28.005	0.004	0.000	Off Peak Load GT11 SD Half Block
11/12/2024 14:00	14.745	381273.969	19.537	0.005	0.000	Off Peak Load
11/12/2024 15:00	14.811	402636.688	21.539	0.019	0.000	On Peak Load
11/12/2024 16:00	14.839	407943.625	20.999	0.018	0.000	On Peak Load
11/12/2024 17:00	14.793	394168.094	20.669	0.017	0.000	On Peak Load
11/12/2024 18:00	14.801	408466.781	38.205	0.017	0.000	On Peak Load
11/12/2024 19:00	14.887	386722.313	36.511	0.016	0.000	On Peak Load
11/12/2024 20:00	14.676	385979.656	35.538	0.015	0.000	On Peak Load
11/12/2024 21:00	14.632	379926.656	35.744	0.014	0.000	On Peak Load
11/12/2024 22:00	14.633	395299.094	35.728	0.014	0.000	On Peak Load
11/12/2024 23:00	14.751	450973.125	42.285	0.013	0.000	On Peak Load
12/12/2024 00:00	14.767	433235.281	39.094	0.012	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 01:00	14.772	431998.281	17.293	0.011	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 02:00	14.762	431075.938	17.213	0.010	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 03:00	14.755	429038.125	25.485	0.010	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 04:00	14.759	427219.219	13.470	0.009	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 05:00	14.764	426080.125	14.774	0.008	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 06:00	14.768	436237.875	11.795	0.008	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 07:00	14.772	425898.219	14.035	0.008	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 08:00	14.777	427703.000	12.102	0.009	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 09:00	14.781	429919.781	11.190	0.009	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 10:00	14.811	429105.156	14.232	0.010	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 11:00	14.792	439429.781	14.733	0.010	0.000	Off Peak Load GT11 SD Half Block
12/12/2024 12:00	15.067	323393.906	22.771	0.011	0.000	Off Peak Load
12/12/2024 13:00	15.344	309919.219	58.852	0.021	0.000	Off Peak Load
12/12/2024 14:00	14.695	395665.500	10.694	0.021	0.000	On Peak Load
12/12/2024 15:00	14.814	420.384	18.116	0.019	0.000	On Peak Load
12/12/2024 16:00	14.827	459.355	23.355	0.016	0.000	On Peak Load
12/12/2024 17:00	14.794	413.671	20.267	0.013	0.000	On Peak Load
12/12/2024 18:00	14.740	402.498	18.792	0.013	0.000	On Peak Load
12/12/2024 19:00	14.770	405.756	18.074	0.012	0.000	On Peak Load
12/12/2024 20:00	14.765	407.292	19.030	0.011	0.000	On Peak Load
12/12/2024 21:00	14.756	405.541	19.768	0.011	0.000	On Peak Load
12/12/2024 22:00	14.788	430.209	19.231	0.012	0.000	On Peak Load
12/12/2024 23:00	14.749	426.443	20.073	0.012	0.000	On Peak Load
13/12/2024 00:00	14.667	390.969	16.632	0.012	0.000	Off Peak Load
13/12/2024 01:00	14.669	386.478	15.561	0.012	0.000	Off Peak Load
13/12/2024 02:00	14.676	397.071	17.057	0.012	0.000	Off Peak Load
13/12/2024 03:00	14.667	382.746	15.499	0.013	0.000	Off Peak Load
13/12/2024 04:00	14.644	379.820	17.237	0.013	0.000	Off Peak Load
13/12/2024 05:00	14.640	390.128	15.031	0.013	0.000	Off Peak Load
13/12/2024 06:00	14.652	394.442	17.943	0.013	0.000	Off Peak Load
13/12/2024 07:00	14.678	377.633	17.210	0.012	0.000	Off Peak Load
13/12/2024 08:00	14.609	359.125	14.912	0.012	0.000	Off Peak Load
13/12/2024 09:00	14.619	361.965	16.397	0.012	0.000	Off Peak Load
13/12/2024 10:00	14.608	374.371	13.889	0.012	0.000	Off Peak Load
13/12/2024 11:00	14.640	372.874	16.507	0.012	0.000	Off Peak Load
13/12/2024 12:00	14.633	364.434	13.817	0.012	0.000	Off Peak Load
13/12/2024 13:00	14.921	339.524	16.516	0.013	0.000	Off Peak Load
13/12/2024 14:00	14.785	422.441	17.876	0.014	0.000	On Peak Load
13/12/2024 15:00	14.772	431.227	19.086	0.016	0.000	On Peak Load
13/12/2024 16:00	14.759	430.330	19.645	0.016	0.000	On Peak Load
13/12/2024 17:00	14.763	426.643	18.790	0.015	0.000	On Peak Load
13/12/2024 18:00	14.775	407.851	18.439	0.015	0.000	On Peak Load
13/12/2024 19:00	14.732	402.746	18.100	0.015	0.000	On Peak Load
13/12/2024 20:00	14.734	406.169	18.595	0.014	0.000	On Peak Load
13/12/2024 21:00	14.740	417.960	17.397	0.014	0.000	On Peak Load
13/12/2024 22:00	14.739	414.343	19.023	0.014	0.000	On Peak Load
13/12/2024 23:00	14.726	421050.250	18.579	0.014	0.000	On Peak Load
14/12/2024 00:00	14.584	369623.438	16.596	0.014	0.000	Off Peak Load
14/12/2024 01:00	14.633	383564.938	17.925	0.014	0.000	Off Peak Load
14/12/2024 02:00	14.655	377988.625	16.276	0.014	0.000	Off Peak Load
14/12/2024 03:00	14.648	367091.375	15.825	0.013	0.000	Off Peak Load
14/12/2024 04:00	14.619	364427.625	16.964	0.013	0.000	Off Peak Load
14/12/2024 05:00	14.645	372572.750	16.937	0.013	0.000	Off Peak Load
14/12/2024 06:00	14.628	359237.438	13.880	0.013	0.000	Off Peak Load
14/12/2024 07:00	14.664	369014.281	16.182	0.012	0.000	Off Peak Load
14/12/2024 08:00	14.676	354024.719	13.643	0.011	0.000	Off Peak Load
14/12/2024 09:00	14.648	360254.188	16.772	0.010	0.000	Off Peak Load
14/12/2024 10:00	14.639	369181.625	17.196	0.009	0.000	Off Peak Load
14/12/2024 11:00	14.727	366363.844	17.410	0.008	0.000	Off Peak Load
14/12/2024 12:00	14.701	360418.844	17.700	0.007	0.000	Off Peak Load
14/12/2024 13:00	14.947	333668.000	27.632	0.006	0.000	Off Peak Load
14/12/2024 14:00	14.769	413742.375	19.293	0.006	0.000	On Peak Load
14/12/2024 15:00	14.758	405091.875	20.794	0.015	0.000	On Peak Load
14/12/2024 16:00	14.792	413102.313	19.059	0.014	0.000	On Peak Load
14/12/2024 17:00	14.795	404229.063	20.758	0.014	0.000	On Peak Load
14/12/2024 18:00	14.742	395641.219	19.108	0.013	0.000	On Peak Load
14/12/2024 19:00	14.751	4078.78	19.774	0.013	0.000	On Peak Load



Site Name: GMLL2  
Stack Name: HRSGL2  
Periodicity: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
14/12/2024 20:00	14.759	404,244	19.600	0.013	0.000	On Peak Load
14/12/2024 21:00	14.742	409,744	18.654	0.012	0.000	On Peak Load
14/12/2024 22:00	14.781	416,586	21.350	0.012	0.000	On Peak Load
14/12/2024 23:00	14.746	410430.344	22.339	0.012	0.000	On Peak Load
15/12/2024 00:00	14.649	359825.406	15.944	0.013	0.000	Off Peak Load
15/12/2024 01:00	14.729	384489.281	18.964	0.013	0.000	Off Peak Load
15/12/2024 02:00	14.663	382792.344	19.367	0.013	0.000	Off Peak Load
15/12/2024 03:00	14.673	368480.938	21.237	0.014	0.000	Off Peak Load
15/12/2024 04:00	14.691	363246.969	20.027	0.014	0.000	Off Peak Load
15/12/2024 05:00	14.662	363000.219	17.938	0.015	0.000	Off Peak Load
15/12/2024 06:00	14.666	362097.313	16.533	0.015	0.000	Off Peak Load
15/12/2024 07:00	14.647	364171.188	18.175	0.014	0.000	Off Peak Load
15/12/2024 08:00	14.751	347485.469	25.478	0.014	0.000	Off Peak Load
15/12/2024 09:00	14.739	349832.313	26.220	0.013	0.000	Off Peak Load
15/12/2024 10:00	14.794	349,794	27.453	0.012	0.000	Off Peak Load
15/12/2024 11:00	14.737	356,177	16.382	0.011	0.000	Off Peak Load
15/12/2024 12:00	14.854	345,686	24.574	0.011	0.000	Off Peak Load
15/12/2024 13:00	14.850	350,080	24.381	0.010	0.000	Off Peak Load
15/12/2024 14:00	14.839	355,266	23.636	0.012	0.000	Off Peak Load
15/12/2024 15:00	14.814	352,832	21.190	0.013	0.000	Off Peak Load
15/12/2024 16:00	14.783	363,719	15.420	0.013	0.000	Off Peak Load
15/12/2024 17:00	14.793	366,266	16.005	0.012	0.000	Off Peak Load
15/12/2024 18:00	14.732	391,700	21.630	0.012	0.000	Off Peak Load
15/12/2024 19:00	14.796	412,295	22.388	0.012	0.000	On Peak Load
15/12/2024 20:00	14.761	398,225	21.250	0.012	0.000	On Peak Load
15/12/2024 21:00	14.778	408,766	22.865	0.012	0.000	On Peak Load
15/12/2024 22:00	14.860	451,999	29.650	0.012	0.000	Off Peak Load GT11 SD Half Block
15/12/2024 23:00	14.854	435,870	24.032	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 00:00	14.850	421,723	23.831	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 01:00	14.846	429,230	24.653	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 02:00	14.842	424,573	25.205	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 03:00	14.839	422,127	25.653	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 04:00	14.835	425,901	24.852	0.013	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 05:00	14.742	429,383	23.491	0.013	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 06:00	14.839	431,009	23.170	0.013	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 07:00	14.834	422,038	24.742	0.013	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 08:00	14.829	418,152	24.833	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 09:00	14.823	423,719	24.886	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 10:00	14.844	417,850	25.102	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 11:00	14.866	428,699	24.717	0.012	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 12:00	14.889	433,147	23.073	0.011	0.000	Off Peak Load GT11 SD Half Block
16/12/2024 13:00	14.897	456,398	28.083	0.011	0.000	Off Peak Load
16/12/2024 14:00	14.861	413,345	22.085	0.020	0.000	On Peak Load
16/12/2024 15:00	14.840	427,256	22.738	0.017	0.000	On Peak Load
16/12/2024 16:00	14.818	425,256	23.915	0.015	0.000	On Peak Load
16/12/2024 17:00	14.856	422,306	24.087	0.013	0.000	On Peak Load
16/12/2024 18:00	14.743	423,530	21.042	0.011	0.000	On Peak Load
16/12/2024 19:00	14.828	411,662	21.428	0.009	0.000	On Peak Load
16/12/2024 20:00	14.800	408,882	21.975	0.008	0.000	On Peak Load
16/12/2024 21:00	14.818	409,362	23.330	0.006	0.000	On Peak Load
16/12/2024 22:00	14.795	420,484	23.771	0.004	0.000	On Peak Load
16/12/2024 23:00	14.744	409980.031	23.661	0.005	0.000	On Peak Load
17/12/2024 00:00	14.673	369342.313	20.052	0.006	0.000	Off Peak Load
17/12/2024 01:00	14.692	380191.125	21.234	0.007	0.000	Off Peak Load
17/12/2024 02:00	14.679	383485.688	22.303	0.008	0.000	Off Peak Load
17/12/2024 03:00	14.684	385721.000	20.803	0.010	0.000	Off Peak Load
17/12/2024 04:00	14.680	373230.406	20.978	0.011	0.000	Off Peak Load
17/12/2024 05:00	14.678	368665.313	18.457	0.012	0.000	Off Peak Load
17/12/2024 06:00	14.662	372391.188	19.679	0.013	0.000	Off Peak Load
17/12/2024 07:00	14.636	370149.314	19.282	0.013	0.000	Off Peak Load
17/12/2024 08:00	14.676	359555.188	16.336	0.013	0.000	Off Peak Load
17/12/2024 09:00	14.708	359690.063	18.505	0.013	0.000	Off Peak Load
17/12/2024 10:00	14.744	356,131	17.448	0.013	0.000	Off Peak Load
17/12/2024 11:00	14.780	361,667	15.852	0.013	0.000	Off Peak Load
17/12/2024 12:00	14.849	358,586	26.394	0.013	0.000	Off Peak Load
17/12/2024 13:00	15.164	333,397	49.130	0.013	0.000	Off Peak Load
17/12/2024 14:00	14.791	404,432	21.073	0.013	0.000	On Peak Load
17/12/2024 15:00	14.801	397,841	19.815	0.014	0.000	On Peak Load
17/12/2024 16:00	14.787	403,288	20.052	0.014	0.000	On Peak Load
17/12/2024 17:00	14.839	401,635	20.581	0.014	0.000	On Peak Load
17/12/2024 18:00	14.779	394,079	19.541	0.014	0.000	On Peak Load
17/12/2024 19:00	14.753	387,332	19.097	0.014	0.000	On Peak Load
17/12/2024 20:00	14.716	386,838	20.807	0.014	0.000	On Peak Load
17/12/2024 21:00	14.705	386,897	19.344	0.014	0.000	On Peak Load
17/12/2024 22:00	14.678	393,021	19.408	0.014	0.000	On Peak Load
17/12/2024 23:00	14.669	383,810	19.635	0.014	0.000	On Peak Load
18/12/2024 00:00	14.663	356,411	18.683	0.013	0.000	Off Peak Load
18/12/2024 01:00	14.662	373,426	18.868	0.013	0.000	Off Peak Load
18/12/2024 02:00	14.634	364,595	16.469	0.012	0.000	Off Peak Load
18/12/2024 03:00	14.646	358,862	16.023	0.011	0.000	Off Peak Load
18/12/2024 04:00	14.677	355,302	17.165	0.011	0.000	Off Peak Load
18/12/2024 05:00	14.660	355,846	18.354	0.010	0.000	Off Peak Load
18/12/2024 06:00	14.710	352,954	19.816	0.010	0.000	Off Peak Load

Site Name: GMLL2  
Stack Name: HRSGL2  
Periodicity: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C m3/hr	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dust (7%O2)	
			ppm	ppm	mg/m3	
18/12/2024 07:00	14.695	354,611	19.901	0.010	0.000	Off Peak Load
18/12/2024 08:00	14.763	350,386	25.442	0.011	0.000	Off Peak Load
18/12/2024 09:00	14.746	352,467	22.710	0.011	0.000	Off Peak Load
18/12/2024 10:00	14.769	360,763	14.656	0.012	0.000	Off Peak Load
18/12/2024 11:00	14.825	362,985	22.027	0.012	0.000	Off Peak Load
18/12/2024 12:00	14.902	364,321	25.350	0.013	0.000	Off Peak Load
18/12/2024 13:00	15.144	334,084	46.250	0.013	0.000	Off Peak Load
18/12/2024 14:00	14.818	404,937	20.147	0.015	0.000	On Peak Load
18/12/2024 15:00	14.820	404,183	21.841	0.015	0.000	On Peak Load
18/12/2024 16:00	14.840	409,377	21.367	0.015	0.000	On Peak Load
18/12/2024 17:00	14.818	409,831	21.535	0.015	0.000	On Peak Load
18/12/2024 18:00	14.834	417,573	21.422	0.014	0.000	On Peak Load
18/12/2024 19:00	14.808	404,666	22.059	0.014	0.000	On Peak Load
18/12/2024 20:00	14.786	398,111	21.627	0.014	0.000	On Peak Load
18/12/2024 21:00	14.757	407,045	22.114	0.013	0.000	On Peak Load
18/12/2024 22:00	14.747	412,364	21.861	0.013	0.000	On Peak Load
18/12/2024 23:00	14.721	419,741	22.348	0.013	0.000	On Peak Load
19/12/2024 00:00	14.585	371,674	18.422	0.013	0.000	Off Peak Load
19/12/2024 01:00	14.658	381,526	18.078	0.012	0.000	Off Peak Load
19/12/2024 02:00	14.654	383,842	18.815	0.012	0.000	Off Peak Load
19/12/2024 03:00	14.634	365,434	18.487	0.012	0.000	Off Peak Load
19/12/2024 04:00	14.674	382,151	17.173	0.012	0.000	Off Peak Load
19/12/2024 05:00	14.645	367,972	17.792	0.012	0.000	Off Peak Load
19/12/2024 06:00	14.686	373,883	17.003	0.011	0.000	Off Peak Load
19/12/2024 07:00	14.704	381,465	18.550	0.010	0.000	Off Peak Load
19/12/2024 08:00	14.659	362,327	15.240	0.010	0.000	Off Peak Load
19/12/2024 09:00	14.678	365,071	14.550	0.009	0.000	Off Peak Load
19/12/2024 10:00	14.731	355,545	12.698	0.008	0.000	Off Peak Load
19/12/2024 11:00	14.748	362,290	11.779	0.008	0.000	Off Peak Load
19/12/2024 12:00	14.870	362,743	20.357	0.007	0.000	Off Peak Load
19/12/2024 13:00	15.124	325,330	45.140	0.006	0.000	Off Peak Load
19/12/2024 14:00	14.806	407,640	13.729	0.008	0.000	On Peak Load
19/12/2024 15:00	14.847	415,427	21.859	0.013	0.000	On Peak Load
19/12/2024 16:00	14.896	426,516	23.074	0.013	0.000	On Peak Load
19/12/2024 17:00	14.885	422,963	24.053	0.013	0.000	On Peak Load
19/12/2024 18:00	14.836	418,312	22.602	0.013	0.000	On Peak Load
19/12/2024 19:00	14.801	408,767	23.039	0.013	0.000	On Peak Load
19/12/2024 20:00	14.824	408,339	22.516	0.014	0.000	On Peak Load
19/12/2024 21:00	14.838	420,308	22.017	0.014	0.000	On Peak Load
19/12/2024 22:00	14.774	407,237	21.131	0.014	0.000	On Peak Load
19/12/2024 23:00	14.754	414983.125	21.720	0.014	0.000	On Peak Load
20/12/2024 00:00	14.696	383526.969	20.684	0.014	0.000	Off Peak Load
20/12/2024 01:00	14.702	394605.938	21.000	0.014	0.000	Off Peak Load
20/12/2024 02:00	14.650	369636.875	21.508	0.014	0.000	Off Peak Load
20/12/2024 03:00	14.697	383894.406	20.047	0.014	0.000	Off Peak Load
20/12/2024 04:00	14.663	366672.031	20.183	0.014	0.000	Off Peak Load
20/12/2024 05:00	14.660	375178.531	20.823	0.014	0.000	Off Peak Load
20/12/2024 06:00	14.681	385452.500	19.377	0.014	0.000	Off Peak Load
20/12/2024 07:00	14.623	368023.438	18.410	0.013	0.000	Off Peak Load
20/12/2024 08:00	14.641	359601.563	17.446	0.012	0.000	Off Peak Load
20/12/2024 09:00	14.673	360217.688	18.549	0.011	0.000	Off Peak Load
20/12/2024 10:00	14.722	361,293	20.928	0.010	0.000	Off Peak Load
20/12/2024 11:00	14.789	357,772	24.034	0.009	0.000	Off Peak Load
20/12/2024 12:00	14.880	351,734	26.538	0.008	0.000	Off Peak Load
20/12/2024 13:00	15.136	333,682	50.048	0.007	0.000	Off Peak Load
20/12/2024 14:00	14.787	404,643	21.290	0.008	0.000	On Peak Load
20/12/2024 15:00	14.831	411,550	22.496	0.006	0.000	On Peak Load
20/12/2024 16:00	14.813	401,252	22.540	0.007	0.000	On Peak Load
20/12/2024 17:00	14.823	410,430	22.441	0.008	0.000	On Peak Load
20/12/2024 18:00	14.830	409,305	23.187	0.009	0.000	On Peak Load
20/12/2024 19:00	14.822	396,001	23.033	0.010	0.000	On Peak Load
20/12/2024 20:00	14.785	401,043	22.050	0.010	0.000	On Peak Load
20/12/2024 21:00	14.796	412,307	23.473	0.011	0.000	On Peak Load
20/12/2024 22:00	14.736	415,300	22.698	0.012	0.000	On Peak Load
20/12/2024 23:00	14.707	396,672	23.288	0.012	0.000	On Peak Load
21/12/2024 00:00	14.662	371,080	17.181	0.012	0.000	Off Peak Load
21/12/2024 01:00	14.691	381,271	20.420	0.012	0.000	Off Peak Load
21/12/2024 02:00	14.657	380,166	18.754	0.012	0.000	Off Peak Load
21/12/2024 03:00	14.650	392,324	18.297	0.013	0.000	Off Peak Load
21/12/2024 04:00	14.637	372,749	16.895	0.013	0.000	Off Peak Load
21/12/2024 05:00	14.629	363,790	16.569	0.013	0.000	Off Peak Load
21/12/2024 06:00	14.612	358,535	16.980	0.013	0.000	Off Peak Load
21/12/2024 07:00	14.591	368,337	16.376	0.013	0.000	Off Peak Load
21/12/2024 08:00	14.701	356,223	19.758	0.013	0.000	Off Peak Load
21/12/2024 09:00	14.742	371,313	13.062	0.013	0.000	Off Peak Load
21/12/2024 10:00	14.705	367,299	13.034	0.013	0.000	Off Peak Load
21/12/2024 11:00	14.718	393,900	17.653	0.014	0.000	Off Peak Load
21/12/2024 12:00	14.761	376,647	18.750	0.014	0.000	Off Peak Load
21/12/2024 13:00	15.188	343,401	51.240	0.014	0.000	Off Peak Load
21/12/2024 14:00	14.818	424,797	22.404	0.014	0.000	On Peak Load
21/12/2024 15:00	14.896	430,377	23.602	0.013	0.000	On Peak Load
21/12/2024 16:00	14.879	426,270	23.796	0.012	0.000	On Peak Load
21/12/2024 17:00	14.777	424,067	20.306	0.011	0.000	On Peak Load



Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
21/12/2024 18:00	14.772	417.733	21.553	0.010	0.000	On Peak Load
21/12/2024 19:00	14.778	422.802	20.775	0.009	0.000	On Peak Load
21/12/2024 20:00	14.701	406.591	20.133	0.008	0.000	On Peak Load
21/12/2024 21:00	14.760	420.323	20.727	0.007	0.000	On Peak Load
21/12/2024 22:00	14.705	404.464	20.112	0.009	0.000	On Peak Load
21/12/2024 23:00	14.630	382.708 938	19.932	0.017	0.000	On Peak Load
22/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
22/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
23/12/2024 06:00	14.589	360.546	13.110	0.016	0.000	Off Peak Load
23/12/2024 07:00	14.689	355.755	26.157	0.013	0.000	Off Peak Load
23/12/2024 08:00	14.689	354.041	24.831	0.012	0.000	Off Peak Load
23/12/2024 09:00	14.658	368.266	15.759	0.011	0.000	Off Peak Load
23/12/2024 10:00	14.689	358.304	14.831	0.010	0.000	Off Peak Load
23/12/2024 11:00	14.722	368.602	12.794	0.009	0.000	Off Peak Load
23/12/2024 12:00	14.832	364.718	22.423	0.009	0.299	Off Peak Load
23/12/2024 13:00	15.112	345.600	34.822	0.008	0.000	Off Peak Load
23/12/2024 14:00	14.344	434.462	16.994	0.007	0.000	On Peak Load
23/12/2024 15:00	14.931	452.108	26.286	0.008	0.000	On Peak Load
23/12/2024 16:00	14.920	455.208	26.634	0.009	0.000	On Peak Load
23/12/2024 17:00	14.898	442.266	23.702	0.009	0.000	On Peak Load
23/12/2024 18:00	14.853	435.813	21.002	0.010	0.000	On Peak Load
23/12/2024 19:00	14.819	427.323	23.398	0.011	0.000	On Peak Load
23/12/2024 20:00	14.799	436.087	22.122	0.012	0.000	On Peak Load
23/12/2024 21:00	14.725	418.775	22.587	0.013	0.000	On Peak Load
23/12/2024 22:00	14.586	413.537	21.075	0.013	0.000	On Peak Load
23/12/2024 23:00	14.642	421.660	22.949	0.014	0.000	On Peak Load
24/12/2024 00:00	14.613	385.134	17.580	0.014	0.000	Off Peak Load
24/12/2024 01:00	14.680	390.973	20.249	0.014	0.000	Off Peak Load
24/12/2024 02:00	14.658	382.049	18.751	0.014	0.000	Off Peak Load
24/12/2024 03:00	14.661	370.488	20.949	0.014	0.000	Off Peak Load
24/12/2024 04:00	14.657	366.450	18.774	0.014	0.000	Off Peak Load
24/12/2024 05:00	14.635	376.870	19.672	0.014	0.000	Off Peak Load
24/12/2024 06:00	14.653	371.762	19.152	0.015	0.000	Off Peak Load
24/12/2024 07:00	14.622	366.161	17.794	0.014	0.000	Off Peak Load
24/12/2024 08:00	14.693	367.228	19.439	0.014	0.000	Off Peak Load
24/12/2024 09:00	14.676	359.705	16.873	0.014	0.000	Off Peak Load
24/12/2024 10:00	14.776	362.590	25.099	0.014	0.041	Off Peak Load
24/12/2024 11:00	14.722	370.534	15.708	0.014	0.000	Off Peak Load
24/12/2024 12:00	14.849	359.584	26.026	0.013	0.000	Off Peak Load
24/12/2024 13:00	15.091	342.881	47.290	0.013	0.106	Off Peak Load
24/12/2024 14:00	14.736	404.225	19.526	0.019	0.000	On Peak Load
24/12/2024 15:00	14.804	408.494	20.066	0.007	0.000	On Peak Load
24/12/2024 16:00	14.836	421.980	19.843	0.008	0.000	On Peak Load
24/12/2024 17:00	14.820	429.145	20.898	0.008	0.000	On Peak Load
24/12/2024 18:00	14.812	423.892	21.585	0.009	0.000	On Peak Load
24/12/2024 19:00	14.788	416.905	21.491	0.010	0.000	On Peak Load
24/12/2024 20:00	14.765	407.178	21.862	0.010	0.000	On Peak Load
24/12/2024 21:00	14.820	428.478	21.723	0.011	0.000	On Peak Load
24/12/2024 22:00	14.816	434.004	22.113	0.012	0.000	On Peak Load
24/12/2024 23:00	14.760	420.067	21.795	0.012	0.000	On Peak Load
25/12/2024 00:00	14.631	391.623	15.902	0.013	0.000	Off Peak Load
25/12/2024 01:00	14.658	392.666	19.428	0.014	0.000	Off Peak Load
25/12/2024 02:00	14.695	381.758	19.607	0.014	0.000	Off Peak Load
25/12/2024 03:00	14.685	383.110	18.855	0.015	0.000	Off Peak Load
25/12/2024 04:00	14.662	378.866	17.738	0.016	0.000	Off Peak Load

Site Name: GNLL2  
Stack Name: HRSGL2  
Periodically: 1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM 25C	HRSGL1_NOx@7%O2	HRSGL1_SOx@7%O2	HRSGL1_Dust(7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
25/12/2024 05:00	14.611	172.787	18.762	0.016	0.000	Off Peak Load
25/12/2024 06:00	14.620	178.095	18.353	0.017	0.000	Off Peak Load
25/12/2024 07:00	14.612	172.812	18.016	0.017	0.000	Off Peak Load
25/12/2024 08:00	14.667	162.164	17.095	0.016	0.000	Off Peak Load
25/12/2024 09:00	14.657	169.212	16.701	0.016	0.000	Off Peak Load
25/12/2024 10:00	14.768	163.678	18.950	0.016	0.000	Off Peak Load
25/12/2024 11:00	14.801	159.043	25.008	0.015	0.000	Off Peak Load
25/12/2024 12:00	14.839	163.385	25.893	0.015	0.000	Off Peak Load
25/12/2024 13:00	15.097	135.850	48.894	0.015	0.139	Off Peak Load
25/12/2024 14:00	14.774	406.400	18.986	0.021	0.000	On Peak Load
25/12/2024 15:00	14.814	409.147	20.655	0.019	0.000	On Peak Load
25/12/2024 16:00	14.823	420.249	21.015	0.015	0.000	On Peak Load
25/12/2024 17:00	14.815	413.612	20.387	0.013	0.000	On Peak Load
25/12/2024 18:00	14.833	411.634	20.359	0.013	0.000	On Peak Load
25/12/2024 19:00	14.803	405.963	21.646	0.012	0.000	On Peak Load
25/12/2024 20:00	14.806	418.393	22.040	0.012	0.000	On Peak Load
25/12/2024 21:00	14.730	425.753	32.304	0.011	0.000	On Peak Load
25/12/2024 22:00	14.738	421.635	21.534	0.011	0.000	On Peak Load
25/12/2024 23:00	14.683	412.245	21.668	0.010	0.000	On Peak Load
26/12/2024 00:00	14.709	364.498	16.620	0.010	0.000	Off Peak Load
26/12/2024 01:00	14.675	366.730	16.458	0.010	0.000	Off Peak Load
26/12/2024 02:00	14.635	367.272	17.575	0.010	0.000	Off Peak Load
26/12/2024 03:00	14.762	359.348	25.151	0.011	0.000	Off Peak Load
26/12/2024 04:00	14.772	354.099	24.703	0.011	0.000	Off Peak Load
26/12/2024 05:00	14.705	364.942	15.115	0.012	0.000	Off Peak Load
26/12/2024 06:00	14.734	363.831	24.493	0.013	0.000	Off Peak Load
26/12/2024 07:00	14.763	358.454	25.096	0.013	0.000	Off Peak Load
26/12/2024 08:00	14.857	354.016	24.209	0.013	0.000	Off Peak Load
26/12/2024 09:00	14.941	349.443	22.525	0.011	0.000	Off Peak Load
26/12/2024 10:00	14.875	350.444	19.474	0.008	0.000	Off Peak Load
26/12/2024 11:00	14.905	352.110	18.277	0.006	0.000	Off Peak Load
26/12/2024 12:00	14.912	350.533	19.402	0.004	0.000	Off Peak Load
26/12/2024 13:00	15.180	332.300	45.222	0.004	0.335	Off Peak Load
26/12/2024 14:00	14.492	402.477	17.111	0.011	0.000	On Peak Load
26/12/2024 15:00	14.738	408.073	18.635	0.015	0.000	On Peak Load
26/12/2024 16:00	14.723	399.257	17.636	0.015	0.000	On Peak Load
26/12/2024 17:00	14.731	401.527	18.109	0.014	0.000	On Peak Load
26/12/2024 18:00	14.735	398.354	18.168	0.014	0.000	On Peak Load
26/12/2024 19:00	14.707	397.256	16.609	0.013	0.000	On Peak Load
26/12/2024 20:00	14.683	397.186	18.299	0.013	0.000	On Peak Load
26/12/2024 21:00	14.692	395.768	17.516	0.012	0.000	On Peak Load
26/12/2024 22:00	14.711	402.788	18.789	0.012	0.000	On Peak Load
26/12/2024 23:00	14.829	472.977	23.585	0.011	0.000	Off Peak Load
27/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
27/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block



Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dual (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
28/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
28/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 19:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 20:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 21:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 22:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
29/12/2024 23:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 00:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 01:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 02:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	SD Full Block
30/12/2024 03:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 04:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 05:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 06:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 07:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 08:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 09:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 10:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 11:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 12:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 13:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 14:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 15:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 16:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 17:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 18:00	Shutdown	Shutdown	Shutdown	Shutdown	Shutdown	Off Peak Load GT12 SD Half Block
30/12/2024 19:00	14.609	426,917	28.632	0.019	0.000	On Peak Load
30/12/2024 20:00	14.630	421,603	23.452	0.019	0.000	On Peak Load
30/12/2024 21:00	14.623	408,673	9.203	0.018	0.000	On Peak Load
30/12/2024 22:00	14.718	488,775	17.324	0.017	0.000	Off Peak Load GT11 SD Half Block
30/12/2024 23:00	14.732	479,654	13.522	0.017	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 00:00	14.745	490,118	18.240	0.016	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 01:00	14.759	481,083	16.927	0.015	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 02:00	14.768	478,261	18.269	0.015	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 03:00	14.776	476,685	18.330	0.015	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 04:00	14.784	475,891	21.117	0.014	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 05:00	14.792	472,278	23.046	0.014	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 06:00	14.799	478,013	23.578	0.014	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 07:00	14.808	475,840	23.148	0.013	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 08:00	14.818	461,448	23.404	0.013	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 09:00	14.827	478,375	23.155	0.013	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 10:00	14.849	477,780	22.775	0.013	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 11:00	14.864	473,039	22.742	0.014	0.146	Off Peak Load GT11 SD Half Block
31/12/2024 12:00	14.877	479,572	23.168	0.014	0.160	Off Peak Load GT11 SD Half Block
31/12/2024 13:00	14.888	480,193	23.237	0.015	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 14:00	14.898	468,531	23.269	0.015	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 15:00	14.918	474,966	30.515	0.015	0.075	Off Peak Load GT11 SD Half Block
31/12/2024 16:00	14.917	477,016	31.913	0.015	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 17:00	14.797	480,270	43.043	0.014	0.000	Off Peak Load GT11 SD Half Block
31/12/2024 18:00	14.602	393,980	39.650	0.014	0.000	Off Peak Load
31/12/2024 19:00	14.666	402,138	36.116	0.014	0.000	Off Peak Load
31/12/2024 20:00	14.599	401,237	36.926	0.014	0.000	Off Peak Load
31/12/2024 21:00	14.691	397,804	20.643	0.014	0.000	Off Peak Load
31/12/2024 22:00	21.757	221,544	0.000	0.000	0.091	Off Peak Load GT12 SD Half Block
31/12/2024 23:00	21.754	217,749.234	0.000	0.000	0.179	Off Peak Load GT12 SD Half Block
Minimum	14.58	217,749	0.00	0.00	0.00	
Maximum	21.76	490,118	58.85	0.03	0.13	
Avg	14.84	407,940	23.59	0.01	0.00	

Site Name:  
Stack Name:  
Periodically:

GNLL2  
HRSG12  
1/Dec/24 00:00 - 31/Dec/24 23:59

Date & Time	Actual Operation Condition		Emission Concentration for Standardization Comparison			Remark
	O2	FLOW @1 ATM ZSC	HRSG1_NOx@7%O2	HRSG1_SOx@7%O2	HRSG1_Dual (7%O2)	
	%	m3/hr	ppm	ppm	mg/m3	
SUM			60	6	3	



## ภาคผนวก ค-3

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ผลการตรวจสอบความถูกต้องของ CEMS

ประจำปี พ.ศ. 2567



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443407  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969192-1

Page 1 of 4

Sample Number : 2443407-1  
Sampled Date : Oct 24, 2024  
Sample Description : Emission from Stationary Source  
Location : HRS611  
Parameter : NOx

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	24 Oct 24	12:20	12:40	20.49	21.98	46.35	47.21	0.87
2	24 Oct 24	12:41	13:01	18.24	18.99	40.57	40.13	-0.44
3	24 Oct 24	13:02	13:22	16.13	18.02	35.59	37.89	2.30
4*	24 Oct 24	13:23	13:43	6.94	10.00	14.99	20.63	5.64
5	24 Oct 24	13:44	14:04	7.59	9.35	16.41	19.34	2.93
6	24 Oct 24	14:05	14:25	6.60	9.56	14.38	19.91	5.53
7*	24 Oct 24	14:26	14:46	6.59	10.13	14.40	21.24	6.84
8	24 Oct 24	14:47	15:07	8.11	10.08	17.68	21.07	3.39
9*	24 Oct 24	15:08	15:28	6.40	9.88	13.94	20.56	6.62
10	24 Oct 24	15:29	15:49	7.38	10.07	16.10	21.05	4.95
11	24 Oct 24	15:50	16:10	7.43	9.70	16.06	20.14	4.08
12	24 Oct 24	16:11	16:31	8.89	9.69	19.19	20.09	0.91
Average						24.70	27.43	2.72
Confidence Coefficient (CC)								1.54
Relative Accuracy (Compared with Emission Standard : 60 ppm) (%)								7.11
Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)								≤ 10%

Reference Method : US EPA Method 7E

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

<sup>1/</sup> Relative Accuracy Criteria of NOx is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with

Emission Standard 60 ppm at 7%O2

RA Result is within Criteria



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443407  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969192-1

Page 2 of 4

Sample Number : 2443407-1  
Sampled Date : Oct 24, 2024  
Sample Description : Emission from Stationary Source  
Location : HRS611  
Parameter : SO2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	24 Oct 24	12:20	12:40	0.01	0.06	0.01	0.12	0.11
2	24 Oct 24	12:41	13:01	0.01	0.04	0.01	0.09	0.08
3	24 Oct 24	13:02	13:22	0.00	0.07	0.01	0.14	0.13
4	24 Oct 24	13:23	13:43	0.00	0.05	0.01	0.11	0.10
5	24 Oct 24	13:44	14:04	0.00	0.06	0.01	0.12	0.11
6	24 Oct 24	14:05	14:25	0.00	0.07	0.01	0.15	0.14
7*	24 Oct 24	14:26	14:46	0.00	0.08	0.01	0.16	0.16
8	24 Oct 24	14:47	15:07	0.00	0.07	0.01	0.15	0.15
9*	24 Oct 24	15:08	15:28	0.00	0.08	0.01	0.16	0.15
10	24 Oct 24	15:29	15:49	0.00	0.07	0.01	0.15	0.15
11	24 Oct 24	15:50	16:10	0.00	0.07	0.01	0.15	0.14
12*	24 Oct 24	16:11	16:31	0.00	0.09	0.01	0.18	0.18
Average						0.01	0.13	0.12
Confidence Coefficient (CC)								0.02
Relative Accuracy (Compared with Emission Standard : 6 ppm) (%)								2.38
Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)								≤ 10%

Reference Method : US EPA Method 6C

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

<sup>1/</sup> Relative Accuracy Criteria of SO2 is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with

Emission Standard 6 ppm at 7%O2

RA Result is within Criteria

Technical Management

*Wichan Choonharat*  
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ก-0006

Approved by

*Sarayuth Jitranont*  
Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ก-0003

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Technical Management

*Wichan Choonharat*  
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ก-0006

Approved by

*Sarayuth Jitranont*  
Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ก-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443407  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969192-1

Sample Number 2443407-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG11  
Parameter CO

Page 3 of 4

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	24 Oct 24	12:20	12:40	0.37	0.29	0.85	0.62	-0.22
2	24 Oct 24	12:41	13:01	0.36	0.29	0.81	0.62	-0.19
3	24 Oct 24	13:02	13:22	0.35	0.45	0.77	0.94	0.17
4	24 Oct 24	13:23	13:43	0.34	0.40	0.73	0.83	0.09
5	24 Oct 24	13:44	14:04	0.33	0.34	0.71	0.71	0.00
6	24 Oct 24	14:05	14:25	0.31	0.40	0.69	0.84	0.15
7	24 Oct 24	14:26	14:46	0.30	0.25	0.66	0.52	-0.14
8	24 Oct 24	14:47	15:07	0.29	0.36	0.63	0.75	0.11
9	24 Oct 24	15:08	15:28	0.28	0.35	0.61	0.72	0.11
10*	24 Oct 24	15:29	15:49	0.27	0.45	0.58	0.94	0.35
11*	24 Oct 24	15:50	16:10	0.25	0.43	0.55	0.90	0.35
12*	24 Oct 24	16:11	16:31	0.24	0.53	0.52	1.11	0.58
Average						0.72	0.73	0.01
Confidence Coefficient (CC)								0.12
Relative Accuracy (Compared with Emission Standard : 690 ppm) (%)								0.02
Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)								≤ 5%

Reference Method : US EPA Method 10

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

<sup>1/</sup> Relative Accuracy Criteria of CO is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 4 (PS-4) compared with Emission Standard 690 ppm at 7%O2

RA Result is within Criteria



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443407  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969192-1

Sample Number 2443407-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG11  
Parameter O2

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### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual		Difference
		Start	Stop	CEMs (%)	RM (%)	
1*	24 Oct 24	12:20	12:40	14.75	14.43	-0.33
2*	24 Oct 24	12:41	13:01	14.65	14.32	-0.33
3*	24 Oct 24	13:02	13:22	14.60	14.29	-0.31
4	24 Oct 24	13:23	13:43	14.47	14.16	-0.30
5	24 Oct 24	13:44	14:04	14.47	14.18	-0.30
6	24 Oct 24	14:05	14:25	14.52	14.23	-0.29
7	24 Oct 24	14:26	14:46	14.54	14.27	-0.27
8	24 Oct 24	14:47	15:07	14.52	14.25	-0.27
9	24 Oct 24	15:08	15:28	14.51	14.22	-0.29
10	24 Oct 24	15:29	15:49	14.53	14.25	-0.27
11	24 Oct 24	15:50	16:10	14.47	14.21	-0.27
12	24 Oct 24	16:11	16:31	14.46	14.20	-0.27
Average				14.50	14.22	-0.28
Confidence Coefficient (CC)						-
Relative Accuracy (Compared in Actual) (%)						0.28
Relative Accuracy Criteria (%)						≤ 1%

Reference Method : US EPA Method 3A

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

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

RA Result is within Criteria

Sampled By : Saksit Phaisanphisut

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ๖-204-๓-0006

Approved by

Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ ๖-204-๓-0003

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Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ๖-204-๓-0006

Approved by

Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ ๖-204-๓-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443409  
Date Received: Oct 24, 2024  
Date Reported: Nov 12, 2024  
Report Number: 3149623-1

Page 1 of 2

Sample Number 2443409-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG11  
Parameter Relative Response Audit

### Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m <sup>3</sup> at 7%O <sub>2</sub> )	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m <sup>3</sup> at 7%O <sub>2</sub> )		Minimum	Maximum	
1	24-Oct-24	12:00	12:54	0.79	2.01	0.44	-4.99	9.01	Pass
2	24-Oct-24	13:00	13:54	0.73	1.61	0.46	-5.39	8.61	Pass
3	24-Oct-24	14:00	14:54	0.66	1.25	0.20	-5.75	8.25	Pass
4	24-Oct-24	15:00	15:54	0.60	1.12	0.22	-5.88	8.12	Pass
5	24-Oct-24	16:00	16:54	0.53	0.90	0.40	-6.10	7.90	Pass

Remark: - Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)  
- K Factor = 354  
- Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 7-204-ก-0006

Approved by

Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ 7-204-ก-0003

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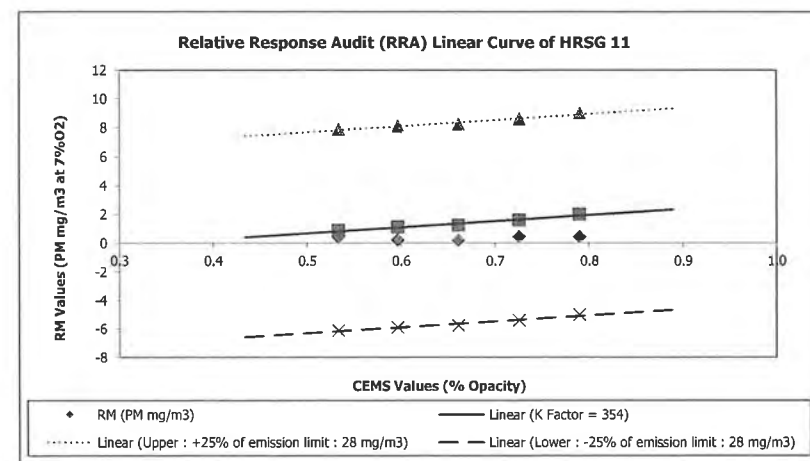
## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443409  
Date Received: Oct 24, 2024  
Date Reported: Nov 12, 2024  
Report Number: 3149623-1

Page 2 of 2

Sample Number 2443409-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG11  
Parameter Relative Response Audit



Sampled By : Natthapon Jiengwareewong

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 7-204-ก-0006

Approved by

Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ 7-204-ก-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2447734  
Date Received : Oct 25, 2024  
Date Reported : Nov 14, 2024  
Report Number : 3149607-1

Sample Number 2447734-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG11  
Parameter Flowrate

Page 1 of 2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Flowrate Data		Difference
		Start	Stop	CEMs (Nm3/Hr)	RM (Nm3/Hr)	
1	24 Oct 24	12:00	12:20	312,098	334,584	22,486
2	24 Oct 24	12:21	12:41	240,667	249,001	8,334
3	24 Oct 24	12:42	13:02	247,488	276,365	28,877
4	24 Oct 24	13:03	13:23	273,771	274,238	467
5*	24 Oct 24	13:24	13:44	340,440	377,973	37,533
6	24 Oct 24	13:45	14:05	329,986	357,599	27,613
7	24 Oct 24	14:06	14:26	338,063	359,221	21,158
8*	24 Oct 24	14:27	14:47	347,538	380,030	32,492
9*	24 Oct 24	14:48	15:08	345,515	379,079	33,564
10	24 Oct 24	15:09	15:29	336,077	363,401	27,324
11	24 Oct 24	15:30	15:50	343,157	365,516	22,359
12	24 Oct 24	15:51	16:11	346,243	371,402	25,159
Average				307,506	327,925	20,419
Confidence Coefficient (CC)						7,423
Relative Accuracy <sup>1/</sup> (Compared with RM) (%)						8.49
Relative Accuracy Criteria (Compared with RM)						≤ 20 %

Reference Method : US EPA Method 2

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

<sup>1/</sup> Relative Accuracy Criteria of Flowrate is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 6 (PS-6)

RA Result is within Criteria



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2447734  
Date Received : Oct 25, 2024  
Date Reported : Nov 14, 2024  
Report Number : 3149607-1

Sample Number 2447734-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG11  
Parameter Stack Temperature

Page 2 of 2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Temperature Data		Difference
		Start	Stop	CEMs (°C)	RM (°C)	
1	24 Oct 24	12:00	12:20	108.3	107.5	-0.8
2*	24 Oct 24	12:21	12:41	103.0	99.5	-3.5
3	24 Oct 24	12:42	13:02	102.3	100.5	-1.8
4	24 Oct 24	13:03	13:23	102.7	100.8	-2.0
5*	24 Oct 24	13:24	13:44	110.7	113.4	2.7
6	24 Oct 24	13:45	14:05	111.9	109.5	-2.4
7*	24 Oct 24	14:06	14:26	111.2	108.5	-2.7
8	24 Oct 24	14:27	14:47	111.8	109.5	-2.3
9	24 Oct 24	14:48	15:08	112.1	110.0	-2.1
10	24 Oct 24	15:09	15:29	111.2	109.3	-1.9
11	24 Oct 24	15:30	15:50	111.8	110.4	-1.4
12	24 Oct 24	15:51	16:11	112.1	109.5	-2.6
Average				109.3	107.4	-1.9
Confidence Coefficient (CC)						0.4
Relative Accuracy <sup>1/</sup> (Compared with RM) (%)						2.2
Relative Accuracy Criteria (Compared with RM)						≤ 20 %

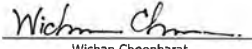
Reference Method : US EPA Method 2

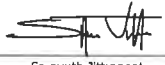
Remark: \* Sample with \* is a rejected data

<sup>1/</sup> Relative Accuracy Criteria of Stack Temperature is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 6 (PS-6)

RA Result is within Criteria

Sampled By : Saksit Phaisanphisut

Technical Management   
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 2-204-ก-0006

Approved by   
Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ 2-204-ก-0003

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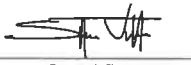
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Technical Management   
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 2-204-ก-0006

Approved by   
Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ 2-204-ก-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443408  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969190-1

Page 1 of 4

Sample Number 2443408-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRS612  
Parameter NOx

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	24 Oct 24	12:10	12:30	21.85	23.87	52.16	53.42	1.26
2*	24 Oct 24	12:31	12:51	18.47	18.55	44.59	41.61	-2.97
3*	24 Oct 24	12:52	13:12	20.24	19.96	49.02	44.78	-4.24
4	24 Oct 24	13:13	13:33	18.18	18.46	42.27	40.04	-2.24
5	24 Oct 24	13:34	13:54	17.22	17.27	39.55	36.92	-2.63
6	24 Oct 24	13:55	14:15	17.36	17.43	40.02	37.37	-2.65
7	24 Oct 24	14:16	14:36	17.79	17.97	41.56	38.90	-2.66
8	24 Oct 24	14:37	14:57	18.04	18.35	42.21	39.71	-2.50
9	24 Oct 24	14:58	15:18	17.77	18.06	41.44	38.88	-2.56
10	24 Oct 24	15:19	15:39	17.92	18.09	41.78	38.93	-2.85
11	24 Oct 24	15:40	16:00	17.56	17.81	40.86	38.30	-2.56
12*	24 Oct 24	16:01	16:21	17.36	17.37	40.28	37.20	-3.08
Average						42.43	40.27	-2.16
Confidence Coefficient (CC)								0.99
Relative Accuracy (Compared with RM) (%)								7.82
Relative Accuracy Criteria <sup>1/</sup> (Compared with RM)								≤ 20%

Reference Method : US EPA Method 7E

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

<sup>1/</sup> Relative Accuracy Criteria of NOx is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2)

RA Result is within Criteria



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443408  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969190-1

Page 2 of 4

Sample Number 2443408-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRS612  
Parameter SO2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	24 Oct 24	12:10	12:30	0.01	0.05	0.02	0.11	0.08
2*	24 Oct 24	12:31	12:51	0.00	0.05	0.01	0.11	0.10
3*	24 Oct 24	12:52	13:12	0.00	0.05	0.01	0.11	0.10
4	24 Oct 24	13:13	13:33	0.00	0.05	0.01	0.10	0.09
5	24 Oct 24	13:34	13:54	0.00	0.05	0.01	0.10	0.09
6	24 Oct 24	13:55	14:15	0.01	0.05	0.01	0.10	0.09
7*	24 Oct 24	14:16	14:36	0.01	0.05	0.01	0.11	0.09
8	24 Oct 24	14:37	14:57	0.01	0.05	0.01	0.10	0.09
9	24 Oct 24	14:58	15:18	0.01	0.05	0.01	0.10	0.09
10	24 Oct 24	15:19	15:39	0.01	0.05	0.01	0.10	0.09
11	24 Oct 24	15:40	16:00	0.01	0.05	0.01	0.10	0.09
12	24 Oct 24	16:01	16:21	0.01	0.04	0.01	0.10	0.08
Average						0.01	0.10	0.09
Confidence Coefficient (CC)								0.00
Relative Accuracy (Compared with Emission Standard : 6 ppm) (%)								1.50
Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)								≤ 10%

Reference Method : US EPA Method 6C

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

<sup>1/</sup> Relative Accuracy Criteria of SO2 is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with

Emission Standard 6 ppm at 7%O2

RA Result is within Criteria

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ก-0006

Approved by

Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ก-0003

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-ก-0006

Approved by

Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-ก-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443408  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969190-1

Sample Number 2443408-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG12  
Parameter CO

Page 3 of 4

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1*	24 Oct 24	12:10	12:30	0.01	2.58	0.02	5.77	5.75
2*	24 Oct 24	12:31	12:51	0.00	2.31	0.00	5.19	5.19
3*	24 Oct 24	12:52	13:12	0.00	2.25	0.00	5.04	5.04
4	24 Oct 24	13:13	13:33	0.00	2.32	0.00	5.03	5.03
5	24 Oct 24	13:34	13:54	0.00	2.30	0.00	4.93	4.93
6	24 Oct 24	13:55	14:15	0.00	2.25	0.00	4.82	4.82
7	24 Oct 24	14:16	14:36	0.00	2.15	0.01	4.65	4.65
8	24 Oct 24	14:37	14:57	0.01	2.09	0.02	4.53	4.51
9	24 Oct 24	14:58	15:18	0.02	2.03	0.04	4.36	4.32
10	24 Oct 24	15:19	15:39	0.03	2.02	0.06	4.34	4.28
11	24 Oct 24	15:40	16:00	0.03	1.85	0.08	3.98	3.90
12	24 Oct 24	16:01	16:21	0.04	1.93	0.10	4.13	4.03
Average						0.03	4.53	4.50
Confidence Coefficient (CC)								0.30
Relative Accuracy (Compared with Emission Standard : 690 ppm) (%)								0.70
Relative Accuracy Criteria <sup>1/</sup> (Compared with Emission Standard)								≤ 5%

Reference Method : US EPA Method 10

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

<sup>1/</sup> Relative Accuracy Criteria of CO is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 4 (PS-4) compared with Emission Standard 690 ppm at 7%O2

RA Result is within Criteria



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443408  
Date Received : Oct 25, 2024  
Date Reported : Nov 12, 2024  
Report Number : 2969190-1

Sample Number 2443408-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG12  
Parameter O2

Page 4 of 4

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual		Difference
		Start	Stop	CEMs (%)	RM (%)	
1	24 Oct 24	12:10	12:30	15.08	14.69	-0.39
2	24 Oct 24	12:31	12:51	15.14	14.70	-0.44
3	24 Oct 24	12:52	13:12	15.16	14.71	-0.46
4	24 Oct 24	13:13	13:33	14.92	14.49	-0.43
5	24 Oct 24	13:34	13:54	14.85	14.40	-0.45
6	24 Oct 24	13:55	14:15	14.87	14.41	-0.46
7	24 Oct 24	14:16	14:36	14.95	14.48	-0.47
8	24 Oct 24	14:37	14:57	14.96	14.48	-0.48
9*	24 Oct 24	14:58	15:18	14.94	14.44	-0.50
10*	24 Oct 24	15:19	15:39	14.94	14.44	-0.50
11	24 Oct 24	15:40	16:00	14.93	14.44	-0.49
12*	24 Oct 24	16:01	16:21	14.91	14.41	-0.50
Average				14.98	14.53	-0.45
Confidence Coefficient (CC)						-
Relative Accuracy (Compared in Actual) (%)						0.45
Relative Accuracy Criteria (%)						≤ 1%

Reference Method : US EPA Method 3A

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

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

RA Result is within Criteria

Sampled By : Saksit Phaisanphisut

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-น-0006

Approved by

Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-น-0003

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Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ ว-204-น-0006

Approved by

Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ ว-204-น-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443410  
Date Received: Oct 25, 2024  
Date Reported: Nov 12, 2024  
Report Number: 3149609-1

Page 1 of 2

Sample Number 2443410-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG12  
Parameter Relative Response Audit

### Relative Response Audit Test Report

No Sample	Date	Time		CEMS Values		RM Values (mg/m <sup>3</sup> at 7%O <sub>2</sub> )	Allowable Range		Criterion
		Start	Stop	(%Opacity)	(mg/m <sup>3</sup> at 7%O <sub>2</sub> )		Minimum	Maximum	
1	24-Oct-24	11:45	12:45	0.08	0.00	0.44	-7.00	7.00	Pass
2	24-Oct-24	12:55	13:55	0.04	0.00	0.24	-7.00	7.00	Pass
3	24-Oct-24	14:05	15:05	0.00	0.00	0.43	-7.00	7.00	Pass
4	24-Oct-24	15:15	16:15	0.00	0.00	0.22	-7.00	7.00	Pass
5	24-Oct-24	16:25	17:25	0.00	0.00	0.41	-7.00	7.00	Pass

Remark: - Relative Response Audit is refer to 40 CFR Part 60 Appendix B : Performance Specification 11 : Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Source (PS-11)  
- K Factor = 451  
- Emission limit 28 mg/m3 from Environmental Impact Assessment Report of Gulf NLL2 Co., Ltd.

Technical Management   
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 7-204-ก-0006

Approved by   
Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ 7-204-ก-0003

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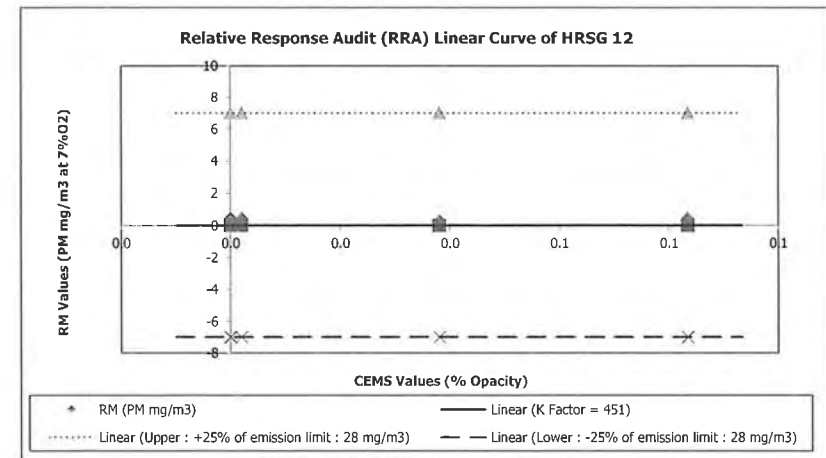
## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2443410  
Date Received: Oct 25, 2024  
Date Reported: Nov 12, 2024  
Report Number: 3149609-1

Page 2 of 2

Sample Number 2443410-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG12  
Parameter Relative Response Audit



Sampled By : Thitipong Buadaeng

Technical Management   
Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 7-204-ก-0006

Approved by   
Sarayuth Jitranont  
Assistant General Manager  
ทะเบียนเลขที่ 7-204-ก-0003

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2447735  
Date Received : Oct 25, 2024  
Date Reported : Nov 14, 2024  
Report Number : 3149604-1

Sample Number 2447735-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG12  
Parameter Flowrate

Page 1 of 2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Flowrate Data		Difference
		Start	Stop	CEMs (Nm3/Hr)	RM (Nm3/Hr)	
1	24 Oct 24	11:45	12:05	383,361	339,314	-44,047
2	24 Oct 24	12:06	12:26	350,874	338,802	-12,072
3	24 Oct 24	12:27	12:47	329,813	276,721	-53,092
4	24 Oct 24	12:48	13:08	327,977	277,266	-50,711
5*	24 Oct 24	13:09	13:29	378,491	311,215	-67,276
6	24 Oct 24	13:30	13:50	395,176	341,222	-53,954
7	24 Oct 24	13:51	14:11	395,207	343,110	-52,097
8*	24 Oct 24	14:12	14:32	402,160	343,777	-58,383
9*	24 Oct 24	14:33	14:53	414,257	346,892	-67,365
10	24 Oct 24	14:54	15:14	405,044	354,361	-50,683
11	24 Oct 24	15:15	15:35	405,909	355,372	-50,537
12	24 Oct 24	15:36	15:56	410,403	356,440	-53,963
Average				378,196	331,401	-46,795
Confidence Coefficient (CC)						10,270
Relative Accuracy <sup>1/</sup> (Compared with RM) (%)						17.22
Relative Accuracy Criteria (Compared with RM)						≤ 20 %

Reference Method : US EPA Method 2

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

<sup>1/</sup> Relative Accuracy Criteria of Flowrate is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 6 (PS-6)

RA Result is within Criteria



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
339 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O :  
Project Name : Monitoring EIA  
Project Location : GNLL2

Lot ID: 2447735  
Date Received : Oct 25, 2024  
Date Reported : Nov 14, 2024  
Report Number : 3149604-1

Sample Number 2447735-1  
Sampled Date Oct 24, 2024  
Sample Description Emission from Stationary Source  
Location HRSG12  
Parameter Stack Temperature

Page 2 of 2

### Relative Accuracy Test Audit Report

Run No.	Date	Time		Temperature Data		Difference
		Start	Stop	CEMs (°C)	RM (°C)	
1	24 Oct 24	11:45	12:05	107.2	107.5	0.3
2	24 Oct 24	12:06	12:26	106.5	107.3	0.7
3*	24 Oct 24	12:27	12:47	102.3	98.1	-4.2
4*	24 Oct 24	12:48	13:08	102.2	97.9	-4.3
5*	24 Oct 24	13:09	13:29	104.2	97.2	-7.0
6	24 Oct 24	13:30	13:50	110.6	107.6	-3.0
7	24 Oct 24	13:51	14:11	110.6	107.8	-2.8
8	24 Oct 24	14:12	14:32	110.0	106.8	-3.2
9	24 Oct 24	14:33	14:53	110.8	108.3	-2.5
10	24 Oct 24	14:54	15:14	110.8	108.9	-1.9
11	24 Oct 24	15:15	15:35	110.2	110.7	0.5
12	24 Oct 24	15:36	15:56	110.9	110.8	-0.1
Average				109.7	108.4	-1.3
Confidence Coefficient (CC)						1.3
Relative Accuracy <sup>1/</sup> (Compared with RM) (%)						2.4
Relative Accuracy Criteria (Compared with RM)						≤ 20 %

Reference Method : US EPA Method 2

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

<sup>1/</sup> Relative Accuracy Criteria of Stack Temperature is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 6 (PS-6)

RA Result is within Criteria

Sampled By : Navaphut Sirivriya

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 7-204-ก-0006

Approved by

Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ 7-204-ก-0003

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14289-41/EMAIL

Technical Management

Wichan Choonharat  
Manager  
ทะเบียนเลขที่ 7-204-ก-0006

Approved by

Sarayuth Jittranont  
Assistant General Manager  
ทะเบียนเลขที่ 7-204-ก-0003

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## ภาคผนวก ค-4

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รายงานการหาอุณหภูมิพื้นผิว

(Land Surface Temperature)

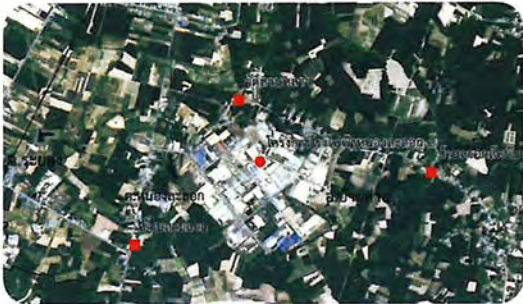
โดยใช้ข้อมูลจากดาวเทียม LANDSAT-8 ระบบ TIRS

บริเวณโครงการโรงไฟฟ้าหนองละลอก 2 ประจำปี พ.ศ. 2565



## รายงาน

การหาอุณหภูมิพื้นผิว (Land Surface Temperature)  
โดยใช้ข้อมูลจากดาวเทียม LANDSAT-8 ระบบ TIRS  
บริเวณโครงการโรงไฟฟ้าหนองละลอก2  
ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง  
6 เมษายน 2565



โดย

ฝ่ายทรัพยากรธรรมชาติ สิ่งแวดล้อม และภัยพิบัติ

สำนักประยุกต์และบริหารภูมิสารสนเทศ

สำนักงานพัฒนาเทคโนโลยีอวกาศและภูมิสารสนเทศ (องค์การมหาชน)

## อุณหภูมิพื้นผิว (Land Surface Temperature)

### 1. ความเป็นมาของการศึกษา

เนื่องจากสำนักงานพัฒนาเทคโนโลยีอวกาศและภูมิสารสนเทศ (องค์การมหาชน) สทอภ. ได้รับการติดต่อจากบริษัท เอแอลเอส แลบบราทอรี (ประเทศไทย) จำกัด ให้ดำเนินการวิเคราะห์และประมวลผลข้อมูลคลื่นความร้อน โดยแสดงเป็นอุณหภูมิพื้นผิว (Land surface temperature) หน่วยเป็นองศาเซลเซียส บริเวณโครงการโรงไฟฟ้าหนองละลอก2 เพื่อแสดงความแตกต่างระหว่างอุณหภูมิพื้นผิวบริเวณโครงการโรงไฟฟ้าและพื้นที่ใกล้เคียงโดยรอบ ซึ่งส่วนใหญ่เป็นพื้นที่เขตประกอบการอุตสาหกรรม พื้นที่เกษตรกรรม และแหล่งชุมชน ทั้งนี้เพื่อใช้เป็นข้อมูลพื้นฐานของอุณหภูมิพื้นผิวช่วงฤดูร้อน (ต้นเดือนเมษายน)

### 2. โครงการโรงไฟฟ้าหนองละลอก2

โครงการโรงไฟฟ้าหนองละลอก2 เป็นโรงไฟฟ้าระบบ (Co-generation system) โดยโครงการมีกำลังการผลิตไฟฟ้า สูงสุดประมาณ 137 เมกะวัตต์ ไอน้ำสูงสุดประมาณ 30 ตันต่อชั่วโมง หรือน้ำเย็นสูงสุดประมาณ 5,500 ตันความเย็น โดยไฟฟ้าที่ผลิตได้จะส่งจำหน่ายให้กับการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) ประมาณ 90 เมกะวัตต์ ส่วนที่เหลืออีกประมาณ 4 เมกะวัตต์ จะนำมาใช้ภายในโครงการฯ นอกจากนี้โครงการฯ ยังสามารถผลิตไอน้ำได้ประมาณ 30 ตันต่อชั่วโมง และ/หรือ ผลิตน้ำเย็นประมาณ 5,500 ตันความเย็น สำหรับไอน้ำหรือน้ำเย็นที่ผลิตได้ จะจำหน่ายให้กับโรงงานอุตสาหกรรมในเขตประกอบการฯ

### 2.1 ความเป็นมา

โครงการโรงไฟฟ้าหนองละลอก2 ดำเนินการโดยบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด (มหาชน) เพื่อผลิตกระแสไฟฟ้าเพิ่มเติมรองรับความต้องการใช้กระแสไฟฟ้าในพื้นที่เขตประกอบการอุตสาหกรรมดับลิวเฮอ ระยะเวลาให้เพียงพอ โดยการจำหน่ายให้กับการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) และโรงงานอุตสาหกรรมต่างๆ ภายในเขตประกอบการอุตสาหกรรมฯ นอกจากนี้ผลิตไอน้ำในรูปของไอน้ำ (Steam) ที่ได้จากโครงการจะมีการส่งจำหน่ายให้กับโรงงานภายในเขตอุตสาหกรรมดับลิวเฮอ ระยะเวลา เช่นกัน

ทั้งนี้โครงการมีการผลิตแบบพลังงานร่วม หรือ โคเจนเนอเรชัน ซึ่งประกอบด้วยเครื่องกำเนิดไฟฟ้าแบบกังหันก๊าซ (Combustion Turbine Generators: CTGs) ขนาดกำลังการผลิตไฟฟ้าสูงสุด 48.46 เมกะวัตต์ จำนวน 2 ชุด และเครื่องกำเนิดไฟฟ้าแบบกังหันไอน้ำ (Steam Turbine Generator: STG) ขนาดกำลังการผลิตไฟฟ้าสูงสุด 40.09 เมกะวัตต์ จำนวน 1 ชุด โดยเชื้อเพลิงที่ใช้ในการผลิตกระแสไฟฟ้า คือ ก๊าซธรรมชาติ โดยรับจากบริษัท ปตท. จำกัด (มหาชน) และส่งไปตามท่อส่งก๊าซธรรมชาติเพื่อป้อนเข้าสู่เครื่องกังหันก๊าซ (Combustion Turbine) โดยผ่านเข้าไปในถังเผาไหม้ สำหรับการผลิตไฟฟ้าของโครงการฯ จะเปลี่ยนกำลังการผลิตขึ้นลงตามการสั่งการจากศูนย์ควบคุมการจ่ายไฟฟ้า (Dispatching Center) ของ กฟผ. สำหรับไอน้ำสามารถผลิตได้ประมาณ 30 ตันต่อชั่วโมง

### 3.3 ระบบโคเจนเนอเรชันชนิดเครื่องยนต์แก๊สภายใน

ระบบนี้สามารถแบ่งได้ตามประเภทเครื่องยนต์เป็น 2 ชนิด คือ เครื่องยนต์ Spark-Ignition Engine จะใช้เชื้อเพลิงเหลวหรือก๊าซธรรมชาติเป็นเชื้อเพลิง และเครื่องยนต์ Compression-Ignition Engines จะใช้น้ำมันดีเซลหรือน้ำมันเตาเป็นเชื้อเพลิง หลังจากผลิตได้ไอน้ำช่วง 100 KW ถึง 10 MW. พลังงานความร้อนที่ออกมาอยู่ในรูปของก๊าซไอเสีย น้ำหล่อเย็นเสียและน้ำทิ้งหล่อเย็น ซึ่งการนำพลังงานความร้อนไปใช้อาจใช้กับ Waste Heat Boiler ในการผลิตไอน้ำหรือร้อน

### 4. การคำนวณค่าอุณหภูมิพื้นผิว (Surface Temperature) จากข้อมูลดาวเทียม LANDSAT-8

#### 4.1 พื้นที่ดินศึกษา

โครงการโรงไฟฟ้าหนองละลอก2 ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง ตั้งอยู่ในเขตประกอบการอุตสาหกรรมดับลิวเฮอ ระยะเวลา สภาพพื้นที่โดยส่วนใหญ่เป็นที่ราบลุ่มที่ดอนเป็นลูกคลื่น ทิศเหนือติดต่อกับบริษัท ฟูเบอร์ อินดัสทรี จำกัด และตำบลแม่ไม้ อำเภอบางละมุง ตำบลหนองบัว อำเภอบ้านค่าย ทิศตะวันออกติดต่อกับบริษัท ยูนิค อินดัสทรี จำกัด และตำบลหนองบัว ตำบลบางบุตร และตำบลบ้านค่าย อำเภอบ้านค่าย ทิศใต้ติดต่อกับบริษัท การเคหะ อินดัสทรี จำกัด และตำบลบ้านค่าย และตำบลหนองตะพาน อำเภอบ้านค่าย ทิศตะวันตกติดต่อกับบริษัท สยามสตีลคอร์ป จำกัด และตำบลมาบตาพุด และตำบลนิคมพัฒนา อำเภอนิคมพัฒนา สาขานิคมพัฒนา อยู่ภายใต้อิทธิพลของลมมรสุมตะวันออกเฉียงเหนือ และลมมรสุมตะวันตกเฉียงใต้ ทำให้อากาศชุ่มชื้นและมีฝนตกโดยทั่วไป มี 3 ฤดู คือ ฤดูหนาวเริ่มตั้งแต่กลางเดือนตุลาคมถึงกลางเดือนกุมภาพันธ์ ฤดูร้อนประมาณกลางเดือนกุมภาพันธ์ถึงประมาณกลางเดือนพฤษภาคม ฤดูฝน เริ่มกลางเดือนพฤษภาคมถึงกลางเดือนตุลาคม ประชากรส่วนใหญ่ ประกอบอาชีพเกษตรกรรมในพื้นที่ราบ ดัชนีภาพ 1-2 และภาพถ่ายพื้นที่บริเวณโครงการโรงไฟฟ้าและพื้นที่โดยรอบโครงการโรงไฟฟ้า ดังภาพที่ 3-4

ต่อชั่วโมง หรือผลิตน้ำเย็นประมาณ 5,500 ตันความเย็น เชื้อเพลิงที่ใช้ในโครงการโรงไฟฟ้าหนองละลอก 2 มีเพียงชนิดเดียว คือ ก๊าซธรรมชาติ โดยรับจากบริษัท ปตท. จำกัด (มหาชน) ปริมาณการใช้เชื้อเพลิงก๊าซธรรมชาติสูงสุดประมาณ 23.3 ล้านลูกบาศก์ฟุตต่อวัน ส่วนน้ำใช้ของโครงการมีความต้องการใช้น้ำประมาณ 5,916 ลูกบาศก์เมตรต่อวัน โดยรับน้ำมาจากเขตประกอบการอุตสาหกรรมดับลิวเฮอ ระยะเวลา

#### 2.2 ที่ตั้ง

โครงการโรงไฟฟ้าหนองละลอก 2 ตั้งอยู่บนพื้นที่ประมาณ 30 ไร่ ในเขตประกอบการอุตสาหกรรมดับลิวเฮอ ระยะเวลา ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง

#### 3. ระบบผลิตไฟฟ้าและความร้อนร่วม (Cogeneration System)

ระบบโคเจนเนอเรชัน (Cogeneration) คือระบบที่ใช้กำเนิดพลังงานไฟฟ้าหรือพลังงานกล และมีการใช้ประโยชน์จากพลังงานความร้อนในขณะเดียวกัน โดยอาศัยเชื้อเพลิงแหล่งเดียวกัน ซึ่งจะทำให้ต้นทุนการผลิตพลังงานในราคาที่ถูกกว่าระบบการผลิตอื่นๆ

เทคโนโลยีระบบผลิตพลังงานความร้อนร่วม แบ่งเป็น 2 รูปแบบ ตามลักษณะการทำงาน ที่จริงแล้วได้จากการนำพลังงานความร้อนไปใช้ประโยชน์ ระบบโคเจนเนอเรชันวัฏจักรบน (Topping Cycle Cogeneration) คือระบบที่ผลิตพลังงานกลก่อน แล้วนำพลังงานความร้อนที่เหลือไปใช้ประโยชน์ ส่วนระบบโคเจนเนอเรชันวัฏจักรล่าง (Bottoming Cycle Cogeneration) จะมีการนำพลังงานความร้อนไปใช้ประโยชน์ก่อนที่จะผลิตพลังงานไฟฟ้าหรือพลังงานกล

ซึ่งการนำเทคโนโลยีนี้มาประยุกต์ใช้กับโรงงานนี้ ขึ้นอยู่กับความเหมาะสมของแต่ละสถานประกอบการ โดยพิจารณาจากชนิดของเชื้อเพลิงที่ได้ คุณภาพของพลังงานความร้อนที่ต้องการ ลักษณะการใช้ความร้อนและไฟฟ้าของโรงงาน เวลาการใช้งาน ต้นทุนการก่อสร้าง และเงื่อนไขด้านสิ่งแวดล้อม เป็นต้น

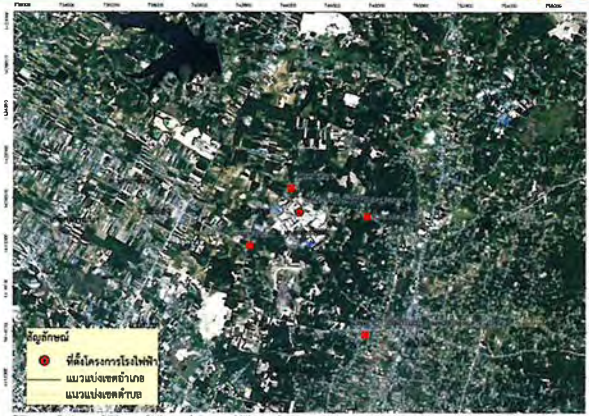
#### 3.1 ระบบโคเจนเนอเรชันชนิดกังหันไอน้ำ

ระบบชนิดนี้ประกอบด้วย เครื่องกำเนิดไอน้ำ เครื่องกังหันไอน้ำ โดยใช้เชื้อเพลิงเหลว ก๊าซหรือเชื้อเพลิงแข็ง หลักการทำงานคือ เชื้อเพลิงจะถูกป้อนเข้าสู่ห้องเผาไหม้เพื่อให้ความร้อนแก่น้ำในเครื่อง กังหันไอน้ำ ซึ่งได้น้ำยวดยิ่ง (Superheat Steam) ที่อุณหภูมิและความดันสูง ไอน้ำจะไปขับเคลื่อนกังหันไอน้ำได้กำลังพล ซึ่งสามารถนำไปขับเคลื่อนกังหันต่างๆ เช่น ปั๊ม คอมเพรสเซอร์ หรือเปลี่ยนรูปเป็นไฟฟ้าโดยขับเคลื่อนกังหันไอน้ำ ส่วนไอน้ำที่ออกจากเครื่องสามารถนำไปใช้ในกระบวนการผลิตต่อไป

#### 3.2 ระบบโคเจนเนอเรชันชนิดกังหันก๊าซ

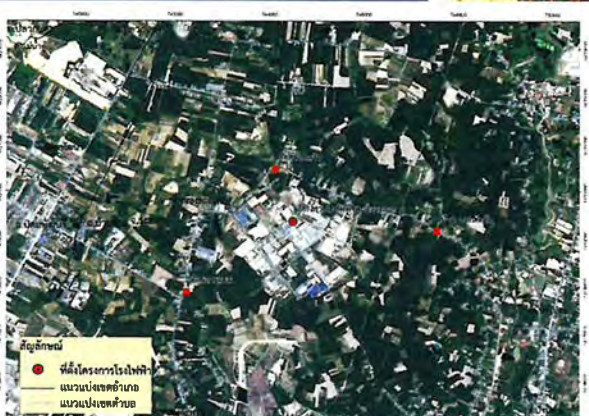
มีหลักการทำงานคือ คอมเพรสเซอร์จะอัดอากาศจากภายนอก และนำเข้าสู่ห้องเผาไหม้ เชื้อเพลิงจะถูกฉีดเข้ามาผสมกับอากาศและจุดระเบิด เกิดก๊าซร้อนจากห้องเผาไหม้ขึ้น ซึ่งจะขยายตัวผ่านเครื่องกังหันก๊าซ แกนของเครื่องกังหันก๊าซจะต่อกับเครื่องปั่นไฟฟ้า เพื่อผลิตกระแสไฟฟ้า ส่วนก๊าซร้อนที่ปล่อยจากกังหันก๊าซจะมีอุณหภูมิประมาณ 450-550 องศาเซลเซียส ก๊าซร้อนนี้สามารถนำไปใช้ปั่นแก๊สให้ความร้อน เพื่อผลิตไอน้ำที่ความดันต่ำ หรือนำไปใช้โดยตรงเพื่อใช้ในกระบวนการผลิต





ภาพที่ 1 แสดงสภาพพื้นที่ด้านหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง และพื้นที่ใกล้เคียง (ข้อมูลจากดาวเทียม LANDSAT-8 OLI, band 432 บันทึกภาพวันที่ 6 เมษายน 2565)

ในการศึกษา ได้กำหนดพื้นที่ศึกษาโดยรอบโครงการโรงไฟฟ้าหนองละลอก 2 รัศมี 5 กิโลเมตร ดังภาพที่ 2 ซึ่งจะครอบคลุมพื้นที่การใช้ประโยชน์ที่ดินและสิ่งปกคลุมดินหลายประเภท เช่น พื้นที่การเกษตร พื้นที่ชุมชนเมือง และพื้นที่ประกอบอุตสาหกรรม ซึ่งจะช่วยให้สามารถเปรียบเทียบความแตกต่างของอุณหภูมิพื้นผิวดินในพื้นที่ที่มีลักษณะแตกต่างกันได้อย่างชัดเจน



ภาพที่ 2 ภาพขยายบริเวณโครงการโรงไฟฟ้าหนองละลอก2 ด้านหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง และพื้นที่โดยรอบโครงการโรงไฟฟ้า (ข้อมูลจากดาวเทียม LANDSAT-8 OLI, band 432 บันทึกภาพ วันที่ 6 เมษายน 2565)

4.2 ขั้นตอนการศึกษา  
4.2.1 ข้อมูลดาวเทียมที่ใช้ในการศึกษา

ข้อมูลจากดาวเทียม LANDSAT-8 TIRS, Band 10 (ความยาวคลื่น 10.60 - 11.19 ไมโครเมตร) หรือช่วงคลื่นอินฟราเรดความร้อน (Thermal Infrared) Path/Row ที่ 128/51, เวลาถ่ายภาพประมาณ 10:31:45 นาฬิกา (เวลาประเทศไทย) มีความละเอียดของภาพ (Spatial resolution) ที่ 100 เมตร (ในขณะที่ Band อื่นๆ ได้แก่ band1-7 และ band 9 จะมีความละเอียดภาพที่ 30 เมตร รายละเอียดดังตารางที่ 1) ซึ่งเป็นช่วงคลื่นที่นำมาใช้ในการหาค่าอุณหภูมิผิวดิน (Land Surface Temperature : LST) บริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง โดยเลือกข้อมูลจากดาวเทียม LANDSAT-8 ในวันที่ 6 เมษายน 2565 เวลาถ่ายภาพประมาณ 10:31:45 นาฬิกา (เวลาประเทศไทย)

ตารางที่ 1 แสดงรายละเอียด Satellite Sensors ของ LANDSAT-7,8

Landsat-7 ETM+ Bands (µm)			Landsat-8 OLI and TIRS Bands (µm)		
			30 m Coastal/Aerosol	0.435 - 0.451	Band 1
Band 1	30 m Blue	0.411 - 0.514	30 m Blue	0.452 - 0.512	Band 2
Band 2	30 m Green	0.519 - 0.601	30 m Green	0.533 - 0.590	Band 3
Band 3	30 m Red	0.631 - 0.692	30 m Red	0.636 - 0.673	Band 4
Band 4	30 m NIR	0.772 - 0.898	30 m NIR	0.851 - 0.879	Band 5
Band 5	30 m SWIR-1	1.547 - 1.749	30 m SWIR-1	1.566 - 1.651	Band 6
Band 6	60 m TIR	10.31 - 12.36	100 m TIR-1	10.60 - 11.19	Band 10
			100 m TIR-2	11.50 - 12.51	Band 11
Band 7	30 m SWIR-2	2.064 - 2.345	30 m SWIR-2	2.107 - 2.294	Band 7
Band 8	15 m Pans	0.515 - 0.896	15 m Pans	0.503 - 0.676	Band 8
			30 m Citrus	1.363 - 1.384	Band 9

ข้อมูลจากดาวเทียม LANDSAT-8 ที่ได้รับข้อมูลจากสถานีรับสัญญาณดาวเทียมที่นำมารีเคราะห์ เป็นข้อมูล level 1 ซึ่งผ่านกระบวนการปรับแก้ทาง Radiometric และ Geometric Correction อยู่ในลักษณะข้อมูล GeoTIFF Format

4.2.2 วิธีการคำนวณค่าอุณหภูมิพื้นผิวดิน (Land Surface Temperature)

ข้อมูลดาวเทียม LANDSAT-8 TM, Path/Row ที่ 128/51 เลือกเฉพาะช่วง band 10 ที่ถูกปรับแก้ความคลาดเคลื่อนทางภูมิศาสตร์แล้ว จะถูกนำมาคำนวณ เพื่อหาค่าอุณหภูมิพื้นผิวบริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง ดังมีรายละเอียดตามขั้นตอนดังนี้

- เปลี่ยนค่า Digital Number (DN) ของข้อมูลจากดาวเทียม LANDSAT-8 TIRS, Thermal Infrared Sensor (band 10) ไปเป็นค่า Spectral Radiance ดังสมการที่ 1 (USGS, 2013):

สมการที่ 1 
$$L_\lambda = 0.00033422 \times DN + 0.1$$

เมื่อ  $L_\lambda$  คือ ค่า Spectral Radiance มีหน่วยเป็น  $W/(m^2 \cdot \text{ster} \cdot \mu m)$   
DN คือ ค่า Digital Number ของข้อมูล band 10 มีหน่วยเป็น  $W/(m^2 \cdot \text{ster} \cdot \mu m)$

- เปลี่ยนค่า Spectral Radiance ไปเป็นค่า Brightness Temperature,  $T_b$  (หรือ Black Body Temperature) ตามความสัมพันธ์ ดังสมการที่ 2 (LANDSAT Project Science Office, 2002)

สมการที่ 2 
$$T_b = \frac{K_2}{\ln\left(\frac{K_1}{L_\lambda} + 1\right)}$$

เมื่อ  $T_b$  คือ ค่า Effective at-Satellite Temperature หน่วย Kelvin, K  
 $L_\lambda$  คือ ค่า Spectral Radiance มีหน่วยเป็น  $W/(m^2 \cdot \text{ster} \cdot \mu m)$   
 $K_2$  และ  $K_1$  คือ ค่า Pre-launch Calibration Constant ซึ่งกำหนดสำหรับข้อมูลจากดาวเทียม LANDSAT-8 TIRS ดังนี้

ตารางที่ 2 รายละเอียดข้อมูล (metadata) สำหรับ TIRS Thermal Band Calibration Constants (U.S. Geological Survey, 2013)

Constant (Unit)	Band 10	Band 11
Radiance Multiplier	0.0003342	0.0003342
Radiance Add	0.1	0.1
$K_1$ (watts/(meter squared * ster * $\mu m$ ))	774.89	480.89
$K_2$ (Kelvin)	1321.08	1201.14

- ค่าอุณหภูมิในสมการข้างบนจะเป็นค่าที่อ้างอิงจาก back body ดังนั้นเพื่อหาค่าอุณหภูมิพื้นผิวดินที่แท้จริง จะต้องคำนึงถึงการแผ่รังสีจากสิ่งปกคลุมพื้นผิว (spectral emissivity according to the natural of land cover) จาก Snyder et al. (1998) ได้เสนอการคำนวณหาค่า เพื่อปรับแก้อุณหภูมิการปลดปล่อยที่พื้นผิว (emissivity corrected land surface temperature;  $S_t$ ) ซึ่งคำนวณตามความสัมพันธ์ ดังสมการที่ 3 (Artis & Carnahan, 1982)

สมการที่ 3 
$$S_t = \frac{T_b}{1 + \left(\frac{T_b}{\lambda \times \epsilon}\right) \ln \epsilon}$$

เมื่อ  $S_t$  คือ ค่าอุณหภูมิพื้นผิว หน่วย Kelvin, K  
 $T_b$  คือ ค่า Effective at-Satellite Temperature หน่วย Kelvin, K  
 $\lambda$  คือ ความยาวคลื่นของ Emitted Radiance ซึ่งเลือกใช้ค่ากลางที่  $\lambda = 10.6 \mu m$   
 $\epsilon$  คือ ค่าการแผ่รังสีจากพื้นผิว (Spectral Emissivity) จากพื้นผิวแบบต่างๆ ซึ่งค่าที่เลือกใช้ในสมการ สามารถดูได้จากตารางที่ 3 ซึ่งค่าที่ใช้ในการคำนวณ จะใช้  $\epsilon = 0.969$  (Arid bare soil/Urban)  
 $\rho$  มีค่าเท่ากับ  $1.438 \times 10^{-2} m \cdot K$  เป็นค่าที่ได้มาจากความสัมพันธ์  $\rho = h \times c / \sigma$   
เมื่อ  $h$  = ค่าคงที่ของ Planck ( $6.626 \times 10^{-34} J \cdot s$ )  
 $c$  = ความเร็วของแสง (Velocity of Light) ( $2.998 \times 10^8 m/s$ )  
 $\sigma$  = ค่าคงที่ของ Stefan Boltzmann ( $1.38 \times 10^{-23} J/K$ )





ตารางที่ 3 ค่าเฉลี่ยตามฤดูกาลของการแผ่รังสีจากสิ่งปกคลุมพื้นผิวแต่ละชนิด สำหรับข้อมูลดาวเทียม MODIS band 31 and 32 (Snyder et al., 1998)

Emissivity Classes	Mean Emissivity ( $\epsilon$ )					
	Green Season			Senescent Season		
	10.8-11.3 $\mu\text{m}$	11.8-12.3 $\mu\text{m}$	Average	10.8-11.3 $\mu\text{m}$	11.8-12.3 $\mu\text{m}$	Average
NeedleForest	0.989	0.991	0.990	0.986	0.988	0.987
Broadleaf Forest	0.987	0.990	0.989	0.968	0.971	0.970
Woody Savanna	0.988	0.991	0.990	0.975	0.978	0.977
Grass Savanna	0.987	0.991	0.989	0.973	0.975	0.974
Sparse Shrubs	0.972	0.975	0.974	0.970	0.976	0.973
Water/Wetland	0.991	0.986	0.989	0.991	0.986	0.989
Organic Bare Soil	0.977	0.982	0.980	0.977	0.982	0.980
Arid Bare Soil/ Urban	0.966	0.972	0.969	0.966	0.972	0.969

4) คำนวณค่าอุณหภูมิในหน่วยเซลเซียส จากความสัมพันธ์  
Centigrade Temperature ( $^{\circ}\text{C}$ ) = Absolute Temperature ( $^{\circ}\text{K}$ ) - 273.15

## 5. ผลการศึกษาค่าอุณหภูมิพื้นผิวดิน (Land Surface Temperature)

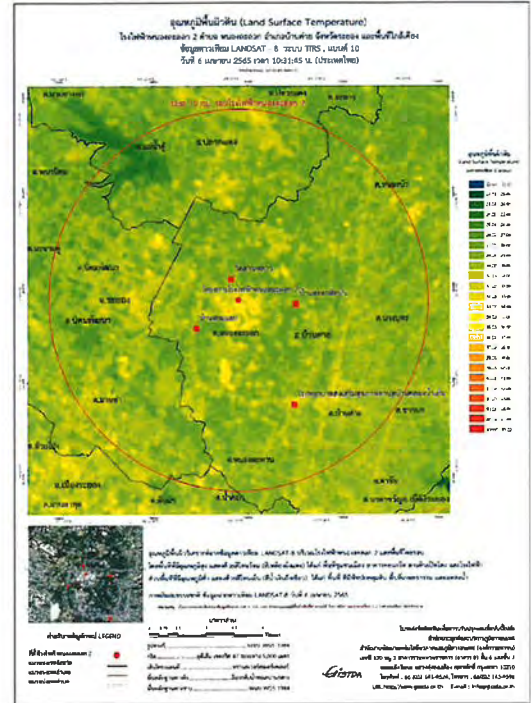
### 5.1 ข้อมูลอุณหภูมิพื้นผิวดิน จาก LANDSAT-8

ข้อมูลอุณหภูมิพื้นผิวดินที่มีหน่วยเป็นองศาเซลเซียส ซึ่งได้จากการคำนวณในช่วงต้น จะถูกนำมากำหนดค่าสีของแต่ละช่วงอุณหภูมิ โดยกำหนดค่าอินตรัวชั้น (Class Interval) ของอุณหภูมิแต่ละช่วงให้เท่ากับ 1 องศาเซลเซียส ดังแสดงในภาพที่ 3

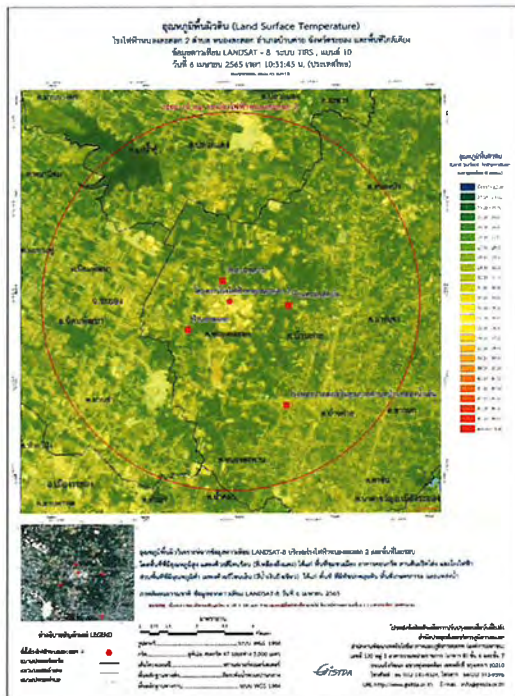
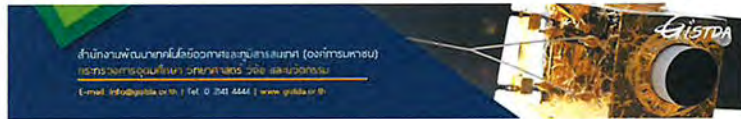


ภาพที่ 3 แสดงช่วงอินตรัวชั้น (Class Interval) และสีที่แทนค่าของค่าอุณหภูมิแต่ละช่วง

อุณหภูมิพื้นผิวดิน (Land Surface Temperature) บริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง วันที่ 6 เมษายน 2565 ดังภาพที่ 4-5



ภาพที่ 4 อุณหภูมิพื้นผิวดิน (Land Surface Temperature) โครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง จากข้อมูลดาวเทียม LANDSAT-8 TIRS, band 10 บันทึกภาพเมื่อวันที่ 6 เมษายน 2565 เวลา 10:31:45 น



ภาพที่ 5 อุณหภูมิพื้นผิวดิน (Land Surface Temperature) ข้อมูลจากดาวเทียม LANDSAT-8 TIRS, band 10 บันทึกภาพเมื่อวันที่ วันที่ 6 เมษายน 2565 ซ้อนทับกับภาพสีผสมธรรมชาติ ข้อมูลจากดาวเทียม LANDSAT-8 บันทึกภาพวันที่ วันที่ 6 เมษายน 2565



จากภาพอุณหภูมิพื้นผิวดิน (Land Surface Temperature) บริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง ในภาพที่ 4-5 แสดงความแตกต่างของอุณหภูมิพื้นผิวดินที่ขึ้นอยู่กับการใช้ประโยชน์ที่ดินและสิ่งปกคลุมดินได้อย่างชัดเจน จากภาพจะเห็นได้ว่า

ในวันที่ 6 เมษายน 2565 บริเวณพื้นที่ศึกษาโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง มีค่าอุณหภูมิพื้นผิวดินอยู่ระหว่าง 26.6 – 38.8 องศาเซลเซียส โดยพื้นที่เกษตรกรรม แหล่งน้ำ พื้นที่ชุ่มน้ำ จะมีค่าอุณหภูมิพื้นผิวดินจากข้อมูลดาวเทียม อยู่ระหว่าง 26.6 – 31.5 องศาเซลเซียส

ส่วนบริเวณโรงงานอุตสาหกรรม แหล่งชุมชน หรือพื้นที่ที่มีพื้นผิวสิ่งปกคลุมเป็นคอนกรีต ไม่สังเคราะห์แสง และพื้นที่เขตเศรษฐกิจทางการเกษตร จะมีค่าอุณหภูมิพื้นผิวดินสูงกว่าพื้นที่ข้างต้น คือมีค่าอยู่ประมาณ 26.7 – 38.6 องศาเซลเซียส

โดยพื้นที่โครงการโรงไฟฟ้าหนองละลอก2 มีค่าอุณหภูมิอยู่ระหว่าง 31.9 – 32.9 องศาเซลเซียส

จากผลการศึกษาดังกล่าว เมื่อป้อนค่าอุณหภูมิพื้นผิวดินที่ได้จากการวิเคราะห์โดยข้อมูลจากดาวเทียม LANDSAT-8 TIRS, แบนด์ 10 เปรียบเทียบกับค่าอุณหภูมิพื้นผิวเฉลี่ยจากสถานีตรวจวัดของ สทอภ สถานี STATIONS\_CHANTHABURI จังหวัดจันทบุรี ในวันที่เดียวกัน พบว่าค่าอุณหภูมิพื้นผิวดินที่ได้จากการวิเคราะห์โดยข้อมูลจากดาวเทียมมีค่าต่ำกว่าค่าจากสถานีตรวจวัดของ สทอภ ประมาณ 1 องศาเซลเซียส ดังตารางที่ 4

ตารางที่ 4 แสดงค่าอุณหภูมิพื้นผิวเฉลี่ยรายวัน (องศาเซลเซียส)

สถานี/จังหวัด	วัน/เดือน/ปี	อุณหภูมิพื้นผิวเฉลี่ย
STATIONS_CHANTHABURI	3/04/2022	23.2
STATIONS_CHANTHABURI	4/04/2022	26.1
STATIONS_CHANTHABURI	5/04/2022	27.5
STATIONS_CHANTHABURI	6/04/2022	28.8
STATIONS_CHANTHABURI	7/04/2022	28.1
STATIONS_CHANTHABURI	8/04/2022	26.4
STATIONS_CHANTHABURI	9/04/2022	26.9

หมายเหตุ : \* อุณหภูมิเฉลี่ยรายวันจากระบบการให้บริการข้อมูลของสถานีตรวจวัดสภาพอากาศเพื่อใช้ในการวิเคราะห์ร่วมกับการใช้ภาพดาวเทียม ของ สทอภ





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สำนักงานพัฒนาเทคโนโลยีอวกาศและภูมิสารสนเทศ (องค์การมหาชน) ระบบการให้บริการข้อมูลของสถานีตรวจวัดสภาพอากาศเพื่อใช้ในการวิเคราะห์ร่วมกับการใช้งานภาพถ่ายดาวเทียม วันที่ 6 เมษายน 2565 แหล่งที่มา : <https://sds.gistda.or.th/>

รายงาน

การหาอุณหภูมิพื้นผิว (Land Surface Temperature)  
โดยใช้ข้อมูลจากดาวเทียม LANDSAT-8 ระบบ TIRS  
บริเวณโครงการโรงไฟฟ้าหนองละลอก2  
ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง  
24 พฤษภาคม 2565 และ 3 มกราคม 2566



โดย  
ฝ่ายทรัพยากรธรรมชาติ สิ่งแวดล้อม และภัยพิบัติ

สำนักประยุกต์และบริหารภูมิสารสนเทศ

สำนักงานพัฒนาเทคโนโลยีอวกาศและภูมิสารสนเทศ (องค์การมหาชน)



อุณหภูมิพื้นผิว (Land Surface Temperature)

1. ความเป็นมาของการศึกษา

เนื่องจากสำนักงานพัฒนาเทคโนโลยีอวกาศและภูมิสารสนเทศ (องค์การมหาชน) สทอภ. ได้รับการติดต่อจากบริษัท เอนเทลอส แลบบอราทอรี (ประเทศไทย) จำกัด ให้ดำเนินการวิเคราะห์และประมวลผลข้อมูลคลื่นความร้อน โดยแสดงเป็นอุณหภูมิพื้นผิว (Land surface temperature) หน่วยงานของทางเคแอลซีเอส บริเวณโครงการโรงไฟฟ้าหนองละลอก2 เพื่อแสดงความแตกต่างระหว่างอุณหภูมิพื้นผิวบริเวณโครงการโรงไฟฟ้าและพื้นที่ใกล้เคียงโดยรอบ ซึ่งส่วนใหญ่พื้นที่เขตประกอบการอุตสาหกรรม พื้นที่เกษตรกรรม และแหล่งชุมชนพื้นที่ ทั้งนี้เพื่อใช้เป็นข้อมูลพื้นฐานของอุณหภูมิพื้นผิวช่วงฤดูฝน (ปลายเดือนพฤษภาคม) และฤดูหนาว (ต้นเดือนมกราคม)

2. โครงการโรงไฟฟ้าหนองละลอก2

โครงการโรงไฟฟ้าหนองละลอก2 เป็นโรงไฟฟ้าระบบ (Co-generation system) โดยโครงการมีกำลังการผลิตไฟฟ้า สูงสุดประมาณ 137 เมกะวัตต์ ใช้น้ำสูงสุดประมาณ 30 ตันต่อชั่วโมง หรือน้ำเย็นสูงสุดประมาณ 5,500 ตันความเย็น โดยไฟฟ้าที่ผลิตได้จะส่งจำหน่ายให้กับโรงไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) ประมาณ 90 เมกะวัตต์ ส่วนที่เหลืออีกประมาณ 4 เมกะวัตต์ จะนำมาใช้ภายในโครงการฯ นอกจากนี้โครงการฯ ยังสามารถผลิตไอน้ำได้ประมาณ 30 ตันต่อชั่วโมง และ/หรือ ผลิตน้ำเย็นประมาณ 5,500 ตันความเย็น สำหรับไอน้ำหรือน้ำเย็นที่ผลิตได้ จะจำหน่ายให้กับโรงงานอุตสาหกรรมในเขตประกอบการฯ

2.1 ความเป็นมา

โครงการโรงไฟฟ้าหนองละลอก2 ดำเนินการโดยบริษัท กัลฟ์ เอ็นเนอร์จี 2 จำกัด เพื่อผลิตกระแสไฟฟ้าเพิ่มเติมรองรับความต้องการใช้กระแสไฟฟ้าในพื้นที่เขตประกอบการอุตสาหกรรมดับบลิวเอชเอ ระยอง ให้เพียงพอโดยการจำหน่ายให้กับโรงไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) และโรงงานอุตสาหกรรมต่างๆ ภายในเขตประกอบการอุตสาหกรรมฯ นอกจากนี้ผลิตไอน้ำในรูปแบบของไอน้ำ (Steam) ที่ได้จากโครงการจะมีการส่งจำหน่ายให้กับโรงงานภายในเขตอุตสาหกรรมดับบลิวเอชเอ ระยอง เช่นกัน

ทั้งนี้โครงการมีการระบบการผลิตแบบพลังงานร่วม หรือ โคเจนเนอเรชัน ซึ่งประกอบด้วยเครื่องกำเนิดไฟฟ้าแบบกังหันก๊าซ (Combustion Turbine Generators: CTGs) ขนาดกำลังการผลิตไฟฟ้าสูงสุด 48.6 เมกะวัตต์ จำนวน 2 ชุด และเครื่องกำเนิดไฟฟ้าแบบกังหันไอน้ำ (Steam Turbine Generator: STG) ขนาดกำลังการผลิตไฟฟ้าสูงสุด 40.09 เมกะวัตต์ จำนวน 1 ชุด โดยเชื้อเพลิงที่ใช้ในการผลิตกระแสไฟฟ้า คือ ก๊าซธรรมชาติ โดยรับจากบริษัท ปตท. จำกัด (มหาชน) และส่งไปตามท่อส่งก๊าซธรรมชาติเพื่อป้อนเข้าสู่เครื่องกังหันก๊าซ (Combustion Turbine) โดยผ่านเข้าไปในท่อเผาไหม้ สำหรับการเดินเครื่องผลิตไฟฟ้าของโครงการฯ จะเปลี่ยนกำลังการผลิตขึ้นลงตามการสั่งการจากศูนย์ควบคุมการจ่ายไฟฟ้า (Dispatching Center) ของ กฟผ. สำหรับไอน้ำสามารถผลิตได้ประมาณ 30 ตัน



ต่อชั่วโมง หรือผลิตน้ำเย็นประมาณ 5,500 ตันความเย็น เชื้อเพลิงที่ใช้ในโครงการโรงไฟฟ้าหนองละลอก 2 มีเพียงชนิดเดียว คือ ก๊าซธรรมชาติ โดยรับจากบริษัท ปตท. จำกัด (มหาชน) ปริมาณการใช้เชื้อเพลิงก๊าซธรรมชาติสูงสุดประมาณ 23.3 ล้านลูกบาศก์ฟุตต่อวัน ส่วนน้ำใช้ของโครงการมีความต้องการใช้น้ำประมาณ 5,916 ลูกบาศก์เมตรต่อวัน โดยรับน้ำประปาจากเขตประกอบการอุตสาหกรรมดับบลิวเอชเอ ระยอง

2.2 ที่ตั้ง

โครงการโรงไฟฟ้าหนองละลอก 2 ตั้งอยู่บนพื้นที่ประมาณ 30 ไร่ ในเขตประกอบการอุตสาหกรรมดับบลิวเอชเอ ระยอง ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง

3. ระบบผลิตไฟฟ้าและความร้อนร่วม (Cogeneration System)

ระบบโคเจนเนอเรชัน (Cogeneration) คือระบบที่ให้กำเนิดพลังงานไฟฟ้าหรือพลังงานกล และมีการใช้ประโยชน์จากพลังงานความร้อนในขณะเดียวกัน โดยอาศัยเชื้อเพลิงแหล่งเดียวกัน ซึ่งจะทำให้ต้นทุนการผลิตพลังงานในโรงไฟฟ้าถูกกว่าระบบการผลิตอื่นๆ

เทคโนโลยีระบบผลิตพลังงานความร้อนร่วม แบ่งเป็น 2 รูปแบบ ตามลักษณะการทำงาน พิจารณาได้จากลำดับการนำพลังงานความร้อนไปใช้ประโยชน์ ระบบโคเจนเนอเรชันวัฏจักรบน (Topping Cycle Cogeneration) คือระบบที่ผลิตพลังงานกลก่อน แล้วนำพลังงานความร้อนที่เหลือไปใช้ประโยชน์ ส่วนระบบโคเจนเนอเรชันวัฏจักรล่าง (Bottoming Cycle Cogeneration) จะมีการนำพลังงานความร้อนไปใช้ประโยชน์ก่อนที่จะผลิตพลังงานไฟฟ้าหรือพลังงานกล

ซึ่งการนำเทคโนโลยีแต่ละรูปแบบข้างต้นไปใช้นั้น ขึ้นอยู่กับความเหมาะสมของแต่ละสถานประกอบการ โดยพิจารณาจากชนิดของเชื้อเพลิงที่ได้ คุณภาพของพลังงานความร้อนที่ต้องการ ลักษณะการใช้ความร้อนและไฟฟ้าของโรงงาน เวลาการใช้งาน ต้นทุนการก่อสร้าง และเงื่อนไขด้านสิ่งแวดล้อม เป็นต้น

3.1 ระบบโคเจนเนอเรชันชนิดกังหันไอน้ำ

ระบบชนิดนี้ประกอบด้วย เครื่องกำเนิดไอน้ำ เครื่องกังหันไอน้ำ โดยใช้เชื้อเพลิงเหลว ก๊าซหรือเชื้อเพลิงแข็ง หลักการทำงานคือ เชื้อเพลิงจะถูกป้อนเข้าสู่ห้องเผาไหม้เพื่อให้ความร้อนแก่น้ำในเครื่อง กำเนิดไอน้ำ ซึ่งได้อิหร่าน้อยยิ่ง (Superheat Steam) ที่อุณหภูมิและความดันสูง ไอน้ำจะไปขับเคลื่อนกังหันไอน้ำได้กำลังเพลลา ซึ่งสามารถนำไปขับเคลื่อนเครื่องต่างๆ เช่น บิ๊ม คอมเพรสเซอร์ หรือเปลี่ยนรูปเป็นไฟฟ้าโดยขับเคลื่อนเครื่องกำเนิดไฟฟ้า ส่วนไอน้ำที่ออกจากเครื่องสามารถนำไปใช้ในกระบวนการผลิตต่อไป

3.2 ระบบโคเจนเนอเรชันชนิดกังหันก๊าซ

มีหลักการทำงานคือ คอมเพรสเซอร์จะอัดอากาศจากภายนอก และนำเข้าสู่ห้องเผาไหม้ เชื้อเพลิงจะถูกฉีดเข้ามาผสมกับอากาศและจุดระเบิด เกิดก๊าซร้อนจากการเผาไหม้ขึ้น ซึ่งจะขยายตัวผ่านเครื่องกังหันก๊าซ แกนของเครื่องกังหันก๊าซจะต่อเข้ากับเครื่องปั่นไฟฟ้า เพื่อผลิตกระแสไฟฟ้า ส่วนก๊าซร้อนที่ปล่อยจากกังหันก๊าซจะมีอุณหภูมิประมาณ 450-550 องศาเซลเซียส ก๊าซร้อนนี้สามารถนำไปใช้เป็นแหล่งให้ความร้อน เพื่อผลิตไอน้ำที่ความดันต่ำ หรือนำไปใช้โดยตรงเพื่อใช้ในกระบวนการผลิต





### 3.3 ระบบโคเจนเนอเรชันชนิดเครื่องยนต์เผาไหม้ภายใน

ระบบนี้สามารถแบ่งได้ตามประเภทเครื่องยนต์เป็น 2 ชนิด คือ เครื่องยนต์ Spark-Ignition Engine จะใช้เชื้อเพลิงเหลวหรือก๊าซธรรมชาติเป็นเชื้อเพลิง และเครื่องยนต์ Compression-Ignition Engines จะใช้น้ำมันดีเซลหรือน้ำมันเตาเป็นเชื้อเพลิง หลังจาผลิตได้ออกในช่วง 100 kW ถึง 10 MW. พลังงานความร้อนที่ออกมาอยู่ในรูปของก๊าซไอเสีย น้ำหล่อเย็นเสือบและน้ำมันหล่อลื่น ซึ่งการนำพลังงานความร้อนไปใช้อาจใช้คู่กับ Waste Heat Boiler ในการผลิตไอน้ำหรือน้ำร้อน

### 4. การคำนวณค่าอุณหภูมิพื้นผิว (Surface Temperature) จากข้อมูลดาวเทียม LANDSAT-8

#### 4.1 พื้นที่ศึกษา

โครงการโรงไฟฟ้าหนองละลอก2 ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง ตั้งอยู่ในเขตประกอบการอุตสาหกรรมตำบลบัวเอชเอ ระยอง สภาพพื้นที่โดยส่วนใหญ่เป็นที่ราบสลับที่ดอนเป็นลูกคลื่น ทิศเหนือติดต่อกับบริษัท ฟูเปอร์ อีเอสทีเรียล จำกัด และตำบลแม่ไม้คู้ อำเภอลวกแดง ตำบลหนองบัว อำเภอบ้านค่าย ทิศตะวันออกติดต่อกับบริษัท ยูนิค อีเอสทีเรียล จำกัด และตำบลหนองบัว ตำบลบางบุตร และตำบลบ้านค่าย อำเภอบ้านค่าย ทิศใต้ติดต่อกับบริษัท การ์เดียน อีเอสทีเรียล จำกัด และตำบลบ้านค่าย และตำบลหนองระพาน อำเภอบ้านค่าย ทิศตะวันตกติดต่อกับบริษัท สยามสตีลคอร์ป จำกัด และตำบลมาบตาพุด และตำบลนิคมพัฒนา อำเภอนิคมพัฒนา สภาพภูมิอากาศ อยู่ภายใต้อิทธิพลของลมมรสุมตะวันออกเฉียงเหนือ และลมมรสุมตะวันตกเฉียงใต้ ทำให้อากาศชุ่มชื้นและมีฝนตกโดยทั่วไป มี 3 ฤดู คือ ฤดูหนาวเริ่มตั้งแต่กลางเดือนตุลาคมถึงกลางเดือนกุมภาพันธ์ ฤดูร้อนประมาณกลางเดือนกุมภาพันธ์ถึงประมาณกลางเดือนพฤษภาคม ฤดูฝน เริ่มกลางเดือนพฤษภาคมถึงกลางเดือนตุลาคม ประชากรส่วนใหญ่ ประกอบอาชีพเกษตรกรรมในพื้นที่ราบ ดังภาพที่ 1-2 และภาพขยายพื้นที่บริเวณโครงการโรงไฟฟ้าและพื้นที่โดยรอบโครงการโรงไฟฟ้า ดังภาพที่ 3-4



ภาพที่ 1 แสดงสภาพพื้นที่ตำบลหนองละลอก2 อำเภอบ้านค่าย จังหวัดระยอง และพื้นที่ใกล้เคียง (ข้อมูลจากดาวเทียม LANDSAT-8 OLI, band 432 บันทึกภาพวันที่ 24 พฤษภาคม 2565)



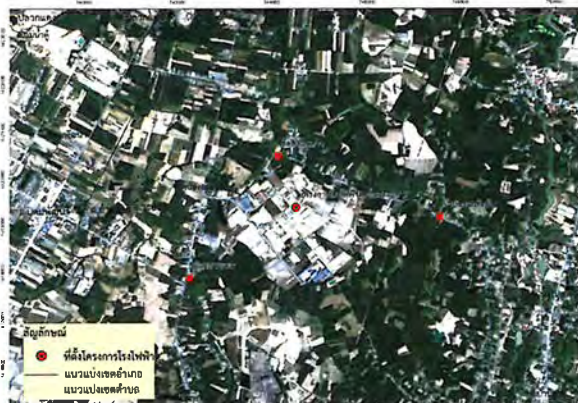
ภาพที่ 2 แสดงสภาพพื้นที่ตำบลหนองละลอก2 อำเภอบ้านค่าย จังหวัดระยอง และพื้นที่ใกล้เคียง (ข้อมูลจากดาวเทียม LANDSAT-8 OLI, band 432 บันทึกภาพวันที่ 3 มกราคม 2566)



ในการศึกษา ได้กำหนดพื้นที่ศึกษาโดยรอบโครงการโรงไฟฟ้าหนองละลอก 2 รัศมี 5 กิโลเมตร ดังภาพที่ 3-4 ซึ่งจะครอบคลุมพื้นที่การใช้ประโยชน์ที่ดินและสิ่งปลูกสร้างหลายประเภท เช่น พื้นที่การเกษตร พื้นที่ชุมชนเมือง และพื้นที่ประกอบการอุตสาหกรรม ซึ่งจะช่วยให้สามารถเปรียบเทียบความแตกต่างของอุณหภูมิพื้นผิวในพื้นที่ที่มีลักษณะแตกต่างกันได้อย่างชัดเจน



ภาพที่ 3 ภาพขยายบริเวณโครงการโรงไฟฟ้าหนองละลอก2 ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง และพื้นที่โดยรอบโครงการโรงไฟฟ้า (ข้อมูลจากดาวเทียม LANDSAT-8 OLI, band 432 บันทึกภาพ วันที่ 24 พฤษภาคม 2565)



ภาพที่ 4 ภาพขยายบริเวณโครงการโรงไฟฟ้าหนองละลอก2 ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง และพื้นที่โดยรอบโครงการโรงไฟฟ้า (ข้อมูลจากดาวเทียม LANDSAT-8 OLI, band 432 บันทึกภาพ วันที่ 3 มกราคม 2566)





4.2 ขั้นตอนการศึกษา

4.2.1 ข้อมูลดาวเทียมที่ใช้ในการศึกษา

ข้อมูลจากดาวเทียม LANDSAT-8 TIRS, Band 10 (ความยาวคลื่น 10.60 -11.19 นาโนเมตร) หรือช่วงคลื่นอินฟราเรดความร้อน (Thermal Infrared) Path/Row ที่ 128/51, เวลาถ่ายภาพประมาณ 10:30 นาฬิกา (เวลาประเทศไทย) มีความละเอียดของภาพ (Spatial resolution) ที่ 100 เมตร ในขณะที่ Band อื่นๆ ได้แก่ band 1-7 และ band 9 จะมีความละเอียดภาพที่ 30 เมตร รายละเอียดดังตารางที่ 1) ซึ่งเป็นช่วงคลื่นที่นำมาใช้ในการหาค่าอุณหภูมิพื้นผิว (Land Surface Temperature : LST) บริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง โดยเลือกข้อมูลจากดาวเทียม LANDSAT-8 ในวันที่ 24 พฤษภาคม 2565 เวลาถ่ายภาพประมาณ 10:31:55 นาฬิกา (เวลาประเทศไทย) และวันที่ 3 มกราคม 2566 เวลาถ่ายภาพประมาณ 10:32:24 นาฬิกา (เวลาประเทศไทย)

ตารางที่ 1 แสดงรายละเอียด Satellite Sensors ของ LANDSAT-7,8

Landsat-7 ETM+ Bands (µm)			Landsat-8 OLI and TIRS Bands (µm)		
			30 m Coastal/Aerosol	0.435 - 0.451	Band 1
Band 1	30 m Blue	0.441 - 0.514	30 m Blue	0.452 - 0.512	Band 2
Band 2	30 m Green	0.519 - 0.601	30 m Green	0.533 - 0.590	Band 3
Band 3	30 m Red	0.631 - 0.692	30 m Red	0.636 - 0.673	Band 4
Band 4	30 m NIR	0.772 - 0.898	30 m NIR	0.851 - 0.879	Band 5
Band 5	30 m SWIR-1	1.547 - 1.749	30 m SWIR-1	1.566 - 1.651	Band 6
Band 6	60 m TIR	10.31 - 12.36	100 m TIR-1	10.60 - 11.19	Band 10
			100 m TIR-2	11.50 - 12.51	Band 11
Band 7	30 m SWIR-2	2.064 - 2.345	30 m SWIR-2	2.107 - 2.294	Band 7
Band 8	15 m Pan	0.515 - 0.896	15 m Pan	0.503 - 0.676	Band 8
			30 m Cirrus	1.363 - 1.384	Band 9

ข้อมูลจากดาวเทียม LANDSAT-8 ที่ได้รับข้อมูลจากสถานีรับสัญญาณดาวเทียมที่นำมารีเครน เป็นข้อมูล level 1 ซึ่งผ่านกระบวนการปรับแก้ทาง Radiometric และ Geometric Correction อยู่ในลักษณะข้อมูล GeoTIFF Format



4.2.2 วิธีการคำนวณค่าอุณหภูมิพื้นผิว (Land Surface Temperature)

ข้อมูลดาวเทียม LANDSAT-8 TM, Path/Row ที่ 128/51 เลือกเฉพาะช่วง band 10 ที่ถูกปรับแก้ความคลาดเคลื่อนทางภูมิศาสตร์แล้ว จะถูกนำมาคำนวณ เพื่อหาค่าอุณหภูมิพื้นผิวบริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง ดังมีรายละเอียดตามขั้นตอนดังนี้

1). เปลี่ยนค่า Digital Number (DN) ของข้อมูลจากดาวเทียม LANDSAT-8 TIRS, Thermal Infrared Sensor (band 10) ไปเป็นค่า Spectral Radiance ดังสมการที่ 1 (USGS, 2013):

สมการที่ 1  $L_{\lambda} = 0.00033422 \times DN + 0.1$

เมื่อ  $L_{\lambda}$  คือ ค่า Spectral Radiance มีหน่วยเป็น  $W/(m^2 \cdot \mu m)$   
DN คือ ค่า Digital Number ของข้อมูล band 10 หน่วยเป็น  $W/(m^2 \cdot \mu m)$

2). เปลี่ยนค่า Spectral Radiance ไปเป็นค่า Brightness Temperature,  $T_b$  (หรือ Black Body Temperature) ตามความสัมพันธ์ ดังสมการที่ 2 (LANDSAT Project Science Office, 2002)

สมการที่ 2  $T_b = \frac{K_2}{\ln\left(\frac{K_1}{L_{\lambda}} + 1\right)}$

เมื่อ  $T_b$  คือ ค่า Effective at-Satellite Temperature หน่วย Kelvin, K  
 $L_{\lambda}$  คือ ค่า Spectral Radiance มีหน่วยเป็น  $W/(m^2 \cdot \mu m)$   
 $K_2$  และ  $K_1$  คือ ค่า Pre-launch Calibration Constant ซึ่งกำหนดสำหรับข้อมูลจากดาวเทียม LANDSAT-8 TIRS ดังนี้

ตารางที่ 2 รายละเอียดข้อมูล (metadata) สำหรับ TIRS Thermal Band Calibration Constants (U.S. Geological Survey, 2013)

Constant (Unit)	Band 10	Band 11
Radiance Multiplier	0.0003342	0.0003342
Radiance Add	0.1	0.1
K1(watts/meter squared * ster * µm)	774.89	480.89
K2(Kelvin)	1321.08	1201.14

3) ค่าอุณหภูมิในสมการข้างบนจะเป็นค่าที่อ้างอิงจาก back body ดังนั้นเพื่อหาค่าอุณหภูมิพื้นผิวที่แท้จริง จะต้องคำนึงถึงการแผ่รังสีจากสิ่งปกคลุมพื้นผิว (spectral emissivity according to the natural of land cover) จาก Snyder et al (1998) ได้เสนอการคำนวณหาค่า เพื่อปรับแก้อุณหภูมิการปลดปล่อยที่พื้นผิว



(emissivity corrected land surface temperature;  $S_t$ ) ซึ่งคำนวณตามความสัมพันธ์ ดังสมการที่ 3 (Artis & Carnahan, 1982)

สมการที่ 3  $S_t = \frac{T_b}{1 + \left(\frac{\lambda \cdot T_b^4}{\rho \cdot \epsilon}\right) \ln \epsilon}$

เมื่อ  $S_t$  คือ ค่าอุณหภูมิพื้นผิว หน่วย Kelvin, K  
 $T_b$  คือ ค่า Effective at-Satellite Temperature หน่วย Kelvin, K  
 $\lambda$  คือ ความยาวคลื่นของ Emitted Radiance ซึ่งเลือกใช้ค่ากลางที่  $\lambda = 10.6 \mu m$   
 $\epsilon$  คือ ค่าเฉลี่ยการปลดปล่อยเชิงคลื่น (Spectral Emissivity) จากพื้นผิวแบบต่างๆ ซึ่งค่าที่เลือกใช้ในสมการ สามารถดูได้จากตารางที่ 3 ซึ่งค่าที่ใช้ในการคำนวณ จะมี  $\epsilon = 0.969$  (Arid bare soil/Urban)  
 $\rho$  มีค่าเท่ากับ  $1.438 \times 10^{-2} m \cdot K$  เป็นค่าที่ได้มาจากความสัมพันธ์  $\rho = h \cdot c / \sigma$   
เมื่อ  $h$  = ค่าคงที่ของ Planck ( $6.626 \times 10^{-34} J \cdot s$ )  
 $c$  = ความเร็วของแสง (Velocity of Light) ( $2.998 \times 10^8 m/s$ )  
 $\sigma$  = ค่าคงที่ของ Stefan Boltzmann ( $1.38 \times 10^{-23} J/K$ )

ตารางที่ 3 ค่าเฉลี่ยตามฤดูกาลของการแผ่รังสีจากสิ่งปกคลุมพื้นผิวแต่ละชนิด สำหรับข้อมูลดาวเทียม MODIS band 31 and 32 (Snyder et al., 1998)

Emissivity Classes	Mean Emissivity ( $\epsilon$ )					
	Green Season			Senescent Season		
	10.8-11.3µm	11.8-12.3µm	Average	10.8-11.3µm	11.8-12.3µm	Average
NeedleForest	0.989	0.991	0.990	0.986	0.988	0.987
Broadleaf Forest	0.987	0.990	0.989	0.968	0.971	0.970
Woody Savanna	0.988	0.991	0.990	0.975	0.978	0.977
Grass Savanna	0.987	0.991	0.989	0.973	0.975	0.974
Sparse Shrubs	0.972	0.975	0.974	0.970	0.976	0.973
Water/Wetland	0.991	0.986	0.989	0.991	0.986	0.989
Organic Bare Soil	0.977	0.982	0.980	0.977	0.982	0.980
Arid Bare Soil/ Urban	0.966	0.972	0.969	0.966	0.972	0.969

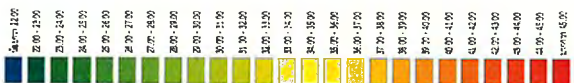
4) คำนวณหาค่าอุณหภูมิในหน่วยเซลเซียส จากความสัมพันธ์  
Centigrade Temperature (°C) = Absolute Temperature (°K) -273.15



5. ผลการศึกษาค่าอุณหภูมิพื้นผิว (Land Surface Temperature)

5.1 ข้อมูลอุณหภูมิพื้นผิวจาก LANDSAT-8

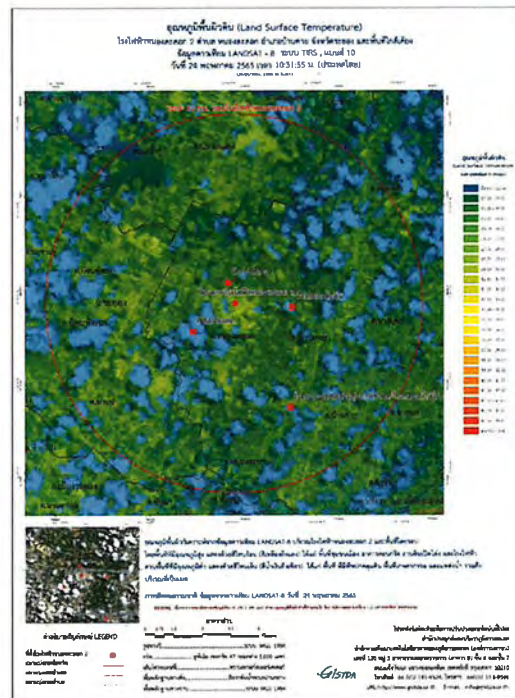
ข้อมูลอุณหภูมิพื้นผิวที่มีหน่วยเป็นองศาเซลเซียส ซึ่งได้จากการคำนวณในช่วงต้น จะถูกนำมากำหนดค่าสีของแต่ละช่วงอุณหภูมิ โดยกำหนดค่าอินตรัภาคชั้น (Class Interval) ของอุณหภูมิแต่ละช่วงให้เท่ากับ 1 องศาเซลเซียส ดังแสดงในภาพที่ 5



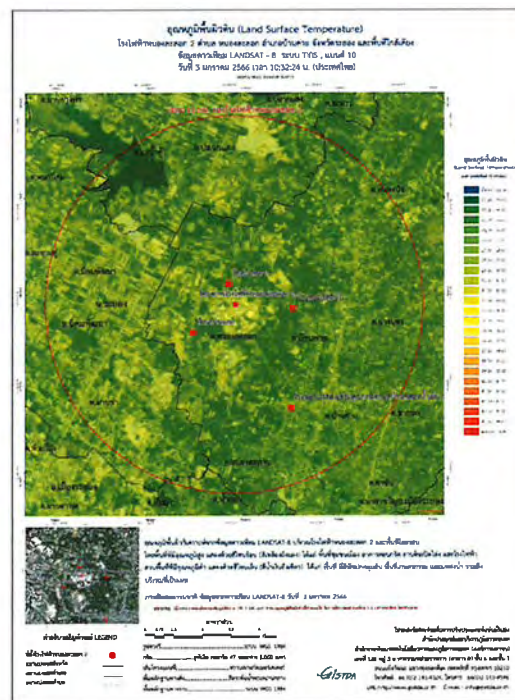
ภาพที่ 5 แสดงช่วงอินตรัภาคชั้น (Class Interval) และสีที่แทนค่าของค่าอุณหภูมิแต่ละช่วง

อุณหภูมิพื้นผิว (Land Surface Temperature) บริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง ในวันที่ 24 พฤษภาคม 2565 และ 3 มกราคม 2566 ดังภาพที่ 6-9



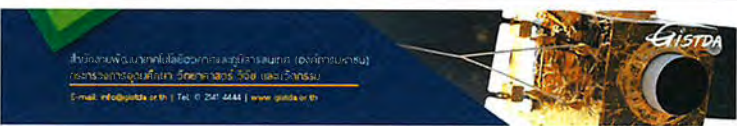


ภาพที่ 7 อุณหภูมิพื้นผิวดิน (Land Surface Temperature) ข้อมูลจากดาวเทียม LANDSAT-8 TIRS, band 10  
บันทึกภาพเมื่อวันที่ 24 พฤษภาคม 2565 ซ้อนทับกับภาพสีผสมธรรมชาติ ข้อมูลจากดาวเทียม LANDSAT-8  
บันทึกภาพวันที่ วันที่ 24 พฤษภาคม 2565



ภาพที่ 9 อุณหภูมิพื้นผิวดิน (Land Surface Temperature) ข้อมูลจากดาวเทียม LANDSAT-8 TIRS, band 10  
บันทึกภาพเมื่อวันที่ 3 มกราคม 2566 ซ้อนทับกับภาพสีผสมธรรมชาติ ข้อมูลจากดาวเทียม LANDSAT-8 บันทึกภาพ  
วันที่ วันที่ 3 มกราคม 2566





จากภาพอุณหภูมิพื้นผิวดิน (Land Surface Temperature) บริเวณโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง ในภาพที่ 6-9 แสดงความแตกต่างของอุณหภูมิพื้นผิวดินที่ขึ้นอยู่กับการใช้ประโยชน์ที่ดินและสิ่งปกคลุมดินได้อย่างชัดเจน จากภาพจะเห็นได้ว่า

ในวันที่ 24 พฤษภาคม 2565 บริเวณพื้นที่ศึกษาโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง มีค่าอุณหภูมิพื้นผิวดินอยู่ระหว่าง 22.0 – 29.7 องศาเซลเซียส (ทั้งนี้บริเวณที่เป็นเมฆจะมีค่าอุณหภูมิต่ำกว่า 22 องศาเซลเซียส) โดยพื้นที่เกษตรกรรม แหล่งน้ำ พื้นที่ชุมชนจะมีค่าอุณหภูมิพื้นผิวจากข้อมูลดาวเทียม อยู่ระหว่าง 22.0 – 24.2 องศาเซลเซียส

ส่วนบริเวณโรงงานอุตสาหกรรม แหล่งชุมชน หรือพื้นที่ที่มีพื้นผิวสิ่งปกคลุมเป็นคอนกรีต ไม้ สังกะสี พื้นดินเปิดโล่ง และพื้นที่เฝ้าเศรษฐกิจทางเกษตร จะมีค่าอุณหภูมิพื้นผิวดินสูงกว่าพื้นที่ข้างต้น คือมีค่าอยู่ที่ประมาณ 23.2 – 29.7 องศาเซลเซียส

โดยพื้นที่โครงการโรงไฟฟ้าหนองละลอก2 มีค่าอุณหภูมิอยู่ระหว่าง 24.0 – 26.7 องศาเซลเซียส

จากผลการศึกษาดังกล่าว เมื่อนำค่าอุณหภูมิพื้นผิวดินที่ได้จากการวิเคราะห์โดยข้อมูลจากดาวเทียม LANDSAT-8 TIRS, แบนด์ 10 เปรียบเทียบกับค่าอุณหภูมิพื้นผิวเฉลี่ยจากสถานีตรวจวัดของ สทอภ. สถานี STATION5\_CHANTHABURI จังหวัดจันทบุรี ในวันเดียวกัน พบว่าค่าอุณหภูมิพื้นผิวดินที่ได้จากการวิเคราะห์โดยข้อมูลจากดาวเทียมมีค่าต่ำกว่าค่าจากสถานีตรวจวัดของ สทอภ. ประมาณ 1 องศาเซลเซียส ดังตารางที่ 4

ตารางที่ 4 แสดงค่าอุณหภูมิพื้นผิวเฉลี่ยรายวัน (องศาเซลเซียส)

สถานี/จังหวัด	วัน/เดือน/ปี	อุณหภูมิพื้นผิวเฉลี่ย
STATION5_CHANTHABURI	21/05/2022	26.8
STATION5_CHANTHABURI	22/05/2022	26.6
STATION5_CHANTHABURI	23/05/2022	28.1
STATION5_CHANTHABURI	24/05/2022	28.1
STATION5_CHANTHABURI	25/05/2022	28.3
STATION5_CHANTHABURI	26/05/2022	27.8
STATION5_CHANTHABURI	27/05/2022	26.8

หมายเหตุ : \* อุณหภูมิเฉลี่ยรายวันจากระบบการให้บริการข้อมูลของสถานีตรวจวัดสภาพอากาศเพื่อใช้ในการวิเคราะห์ร่วมกับการใช้งานภาพถ่ายดาวเทียม ของ สทอภ.



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Malaret, E., Bartolucci, I.A., Lozano, D.F., Anuta, P.E., McGillem, C.D., 1985. Landsat-4 and Landsat-5 Thematic Mapper data quality analysis. Photogrammetric Engineering and Remote Sensing 51, 1407–1416.

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ในวันที่ 3 มกราคม 2566 บริเวณพื้นที่ศึกษาโครงการโรงไฟฟ้าหนองละลอก2 และพื้นที่ใกล้เคียง มีค่าอุณหภูมิพื้นผิวดินอยู่ระหว่าง 23.2 – 33.4 องศาเซลเซียส โดยพื้นที่เกษตรกรรม แหล่งน้ำ พื้นที่ชุมชน จะมีค่าอุณหภูมิพื้นผิวจากข้อมูลดาวเทียม อยู่ระหว่าง 23.2 – 28 องศาเซลเซียส

ส่วนบริเวณโรงงานอุตสาหกรรม แหล่งชุมชน หรือพื้นที่ที่มีพื้นผิวสิ่งปกคลุมเป็นคอนกรีต ไม้ สังกะสี พื้นดินเปิดโล่ง และพื้นที่เฝ้าเศรษฐกิจทางเกษตร จะมีค่าอุณหภูมิพื้นผิวดินสูงกว่าพื้นที่ข้างต้น คือมีค่าอยู่ที่ประมาณ 25.5 – 33.4 องศาเซลเซียส

โดยพื้นที่โครงการโรงไฟฟ้าหนองละลอก2 มีค่าอุณหภูมิอยู่ระหว่าง 28.7 – 29.5 องศาเซลเซียส

จากผลการศึกษาดังกล่าว เมื่อนำค่าอุณหภูมิพื้นผิวดินที่ได้จากการวิเคราะห์โดยข้อมูลจากดาวเทียม LANDSAT-8 TIRS, แบนด์ 10 เปรียบเทียบกับค่าอุณหภูมิพื้นผิวเฉลี่ยจากสถานีตรวจวัดของ สทอภ. สถานี STATION5\_CHANTHABURI จังหวัดจันทบุรี ในวันเดียวกัน พบว่าค่าอุณหภูมิพื้นผิวดินที่ได้จากการวิเคราะห์โดยข้อมูลจากดาวเทียมมีค่าต่ำกว่าค่าจากสถานีตรวจวัดของ สทอภ. ประมาณ 1 องศาเซลเซียส ดังตารางที่ 5

ตารางที่ 5 แสดงค่าอุณหภูมิพื้นผิวเฉลี่ยรายวัน (องศาเซลเซียส)

สถานี/จังหวัด	วัน/เดือน/ปี	อุณหภูมิพื้นผิวเฉลี่ย
STATION5_CHANTHABURI	31/12/2565	23.65
STATION5_CHANTHABURI	1/01/2566	24.21
STATION5_CHANTHABURI	2/01/2566	24.26
STATION5_CHANTHABURI	3/01/2566	25.78
STATION5_CHANTHABURI	4/01/2566	26.07
STATION5_CHANTHABURI	5/01/2566	26.71
STATION5_CHANTHABURI	6/01/2566	25.44

หมายเหตุ : \* อุณหภูมิเฉลี่ยรายวันจากระบบการให้บริการข้อมูลของสถานีตรวจวัดสภาพอากาศเพื่อใช้ในการวิเคราะห์ร่วมกับการใช้งานภาพถ่ายดาวเทียม ของ สทอภ.



## ภาคผนวก ค-5

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ผลการติดตามคุณภาพน้ำทิ้งแบบต่อเนื่อง  
(Online Monitoring)



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
01-Jul-24 00:00:00	26.1	6.7	3.5	32.0	7.3	2039.9	20.6	56.3
01-Jul-24 01:00:00	25.2	6.7	3.1	32.1	7.3	2040.5	20.6	56.3
01-Jul-24 02:00:00	25.0	6.7	2.6	32.1	7.3	2041.2	20.6	56.3
01-Jul-24 03:00:00	24.9	6.7	2.1	32.1	7.3	2041.8	20.6	56.3
01-Jul-24 04:00:00	24.8	6.7	1.7	32.1	7.3	2042.0	20.6	56.3
01-Jul-24 05:00:00	24.7	6.7	1.2	32.0	7.3	2041.0	20.6	56.3
01-Jul-24 06:00:00	24.7	6.7	0.8	31.9	7.3	2040.0	20.6	56.3
01-Jul-24 07:00:00	25.6	6.7	0.3	32.0	7.3	2039.0	20.6	56.3
01-Jul-24 08:00:00	30.2	6.8	0.6	32.3	7.2	2038.0	20.6	56.3
01-Jul-24 09:00:00	36.3	6.7	1.1	32.5	7.2	2037.0	20.6	56.3
01-Jul-24 11:00:00	31.8	6.9	228.2	32.5	7.4	2068.9	20.6	56.3
01-Jul-24 12:00:00	32.5	7.1	249.3	32.7	7.9	2071.9	20.6	56.3
01-Jul-24 13:00:00	33.0	7.2	270.4	32.2	8.0	2062.0	20.6	56.3
01-Jul-24 14:00:00	33.3	7.3	291.6	32.8	8.1	2052.1	20.6	56.3
01-Jul-24 15:00:00	33.7	7.3	307.4	32.4	8.1	2042.2	20.6	56.3
01-Jul-24 16:00:00	33.7	7.3	317.3	32.5	8.2	2034.8	20.6	56.3
01-Jul-24 17:00:00	33.7	7.2	327.2	32.5	8.2	2031.3	20.6	56.3
01-Jul-24 18:00:00	33.2	7.2	337.2	31.9	8.4	2027.7	20.6	56.3
01-Jul-24 19:00:00	32.7	7.2	347.1	31.8	8.4	2024.2	20.6	56.3
01-Jul-24 20:00:00	30.1	7.0	0.6	32.5	8.6	2038.8	20.6	56.3
01-Jul-24 21:00:00	28.4	7.0	0.6	32.7	8.6	2046.6	20.6	56.3
01-Jul-24 22:00:00	27.8	7.0	0.5	32.7	8.5	2054.5	20.6	56.3
01-Jul-24 23:00:00	27.4	6.9	0.5	32.8	8.5	2062.3	20.6	56.3
02-Jul-24 00:00:00	27.0	6.9	0.5	32.7	8.6	2052.8	20.6	56.3
02-Jul-24 01:00:00	26.6	6.9	0.4	28.8	8.6	2046.0	20.6	56.3
02-Jul-24 02:00:00	26.3	6.8	0.4	28.6	8.6	2046.2	20.6	56.3
02-Jul-24 03:00:00	26.1	6.8	0.4	28.6	8.4	2052.6	20.6	56.3
02-Jul-24 04:00:00	24.0	6.8	0.3	26.8	8.3	2058.9	20.6	56.3
02-Jul-24 05:00:00	23.4	6.8	0.3	26.5	8.3	2065.3	20.6	56.3
02-Jul-24 06:00:00	23.4	6.7	0.3	26.7	8.3	2071.7	20.6	56.3
02-Jul-24 07:00:00	24.5	6.7	0.3	27.1	8.3	2078.0	20.6	56.3
02-Jul-24 08:00:00	28.5	6.6	0.3	27.7	8.2	2084.4	20.6	56.3
02-Jul-24 09:00:00	38.1	6.6	0.3	32.4	8.1	2090.4	20.6	56.3
02-Jul-24 10:00:00	38.2	6.7	0.2	32.7	8.0	2088.4	20.6	56.3
02-Jul-24 18:00:00	38.1	6.6	0.4	33.0	7.9	2074.5	20.6	56.3
02-Jul-24 19:00:00	32.2	6.6	0.4	32.8	8.0	2074.4	20.6	56.3
02-Jul-24 20:00:00	29.5	6.6	0.3	32.5	8.0	2075.7	20.6	56.3
02-Jul-24 21:00:00	28.5	6.6	0.1	32.6	8.0	2078.0	20.6	56.3
02-Jul-24 22:00:00	28.2	6.5	0.0	32.7	8.0	2080.3	20.6	56.3
02-Jul-24 23:00:00	28.0	6.5	-0.1	32.8	8.0	2082.5	20.6	56.3
03-Jul-24 00:00:00	31.2	6.7	908.2	32.6	8.0	2084.8	20.6	56.3
03-Jul-24 01:00:00	31.2	6.5	1262.5	28.3	8.0	2087.0	20.6	56.3
03-Jul-24 02:00:00	31.2	6.3	1679.0	27.7	8.0	2089.3	20.6	56.3
03-Jul-24 03:00:00	31.1	6.5	2194.3	27.6	8.0	2091.6	20.6	56.3
03-Jul-24 04:00:00	31.1	6.6	2450.6	27.7	8.0	2092.0	20.6	56.3
03-Jul-24 05:00:00	31.0	6.7	2533.6	27.8	8.0	2091.1	20.6	56.3
03-Jul-24 06:00:00	31.0	6.7	2567.3	27.9	8.0	2090.3	20.6	56.3
03-Jul-24 07:00:00	30.9	6.7	2630.3	28.0	8.0	2089.4	20.6	56.3
03-Jul-24 08:00:00	30.8	6.7	2712.0	28.2	7.9	2088.5	20.6	56.3
03-Jul-24 09:00:00	30.9	6.7	2742.8	33.1	7.9	2087.7	20.6	56.3
03-Jul-24 10:00:00	31.1	6.8	2777.6	33.2	7.8	2087.3	20.6	56.3
03-Jul-24 11:00:00	31.3	6.9	2782.7	33.0	7.9	2087.5	20.6	56.3
03-Jul-24 12:00:00	31.6	6.8	2768.5	32.9	7.9	2087.7	20.6	56.3
03-Jul-24 13:00:00	31.9	6.8	2794.8	32.2	7.9	2088.0	20.6	56.3
03-Jul-24 14:00:00	32.0	6.8	2770.6	32.9	7.9	2088.2	20.6	56.3
03-Jul-24 15:00:00	32.1	6.9	2788.3	33.0	7.9	2088.5	20.6	56.3

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
03-Jul-24 16:00:00	32.2	6.9	2786.5	32.7	7.9	2088.7	20.6	56.3
03-Jul-24 17:00:00	31.8	7.0	2657.0	32.6	7.9	2089.0	20.6	56.3
03-Jul-24 18:00:00	31.4	7.0	2507.5	32.6	7.9	2090.0	20.6	56.3
03-Jul-24 19:00:00	31.1	6.9	2319.1	32.7	7.9	2092.0	20.6	56.3
03-Jul-24 20:00:00	30.7	6.9	2083.4	32.9	7.9	2094.1	20.6	56.3
03-Jul-24 21:00:00	30.4	6.9	1788.6	33.0	7.9	2096.2	20.6	56.3
03-Jul-24 22:00:00	29.4	6.9	1.7	32.9	7.9	2098.3	20.6	56.3
03-Jul-24 23:00:00	27.6	6.8	1.6	32.8	7.9	2100.3	20.6	56.3
04-Jul-24 00:00:00	27.1	6.8	1.4	32.4	7.9	2102.4	20.6	56.3
04-Jul-24 01:00:00	26.7	6.7	1.3	28.5	7.9	2104.5	20.6	56.3
04-Jul-24 02:00:00	26.5	6.7	1.1	28.6	7.9	2106.4	20.6	56.3
04-Jul-24 03:00:00	24.1	6.7	1.0	26.8	7.9	2108.1	20.6	56.3
04-Jul-24 04:00:00	24.0	6.7	0.8	27.2	7.9	2109.9	20.6	56.3
04-Jul-24 05:00:00	24.6	6.7	0.7	27.6	7.9	2111.7	20.6	56.3
04-Jul-24 06:00:00	24.7	6.6	0.7	27.6	7.9	2113.5	20.6	56.3
04-Jul-24 07:00:00	24.6	6.6	1.1	27.1	7.9	2115.3	20.6	56.3
04-Jul-24 08:00:00	29.9	7.0	843.2	27.2	7.9	2117.0	20.6	56.3
04-Jul-24 09:00:00	30.1	7.0	614.9	32.2	7.9	2118.8	20.6	56.3
04-Jul-24 10:00:00	30.2	7.0	529.5	32.4	7.9	2117.8	20.6	56.3
04-Jul-24 11:00:00	30.5	7.1	488.9	32.5	7.8	2115.8	20.6	56.3
04-Jul-24 12:00:00	30.8	6.9	473.4	31.7	7.9	2113.7	20.6	56.3
04-Jul-24 13:00:00	30.1	6.9	421.4	30.3	7.9	2113.5	20.6	56.3
04-Jul-24 14:00:00	29.6	7.0	381.5	31.3	7.9	2113.6	20.6	56.3
04-Jul-24 15:00:00	29.8	7.1	397.8	32.1	7.9	2113.7	20.6	56.3
04-Jul-24 16:00:00	30.4	7.1	482.7	32.3	7.8	2113.8	20.6	56.3
04-Jul-24 17:00:00	30.8	6.9	525.5	32.2	7.9	2113.9	20.6	56.3
04-Jul-24 18:00:00	28.6	6.7	528.2	31.9	7.9	2114.0	20.6	56.3
04-Jul-24 19:00:00	26.6	6.5	530.9	32.1	7.9	2114.1	20.6	56.3
04-Jul-24 20:00:00	25.8	6.5	533.6	32.2	7.9	2114.2	20.6	56.3
04-Jul-24 21:00:00	25.4	6.5	536.3	32.3	7.9	2118.7	20.6	56.3
04-Jul-24 22:00:00	29.6	7.0	572.9	32.1	8.0	2376.8	20.6	56.3
04-Jul-24 23:00:00	26.8	6.7	575.1	32.2	8.0	2640.4	20.6	56.3
05-Jul-24 00:00:00	25.9	6.5	577.4	31.9	8.0	2692.0	20.6	56.3
05-Jul-24 01:00:00	25.4	6.5	579.7	27.9	8.0	2639.7	20.6	56.3
05-Jul-24 02:00:00	25.3	6.4	581.4	27.3	7.9	2514.8	20.6	56.3
05-Jul-24 03:00:00	24.4	6.4	582.6	27.4	7.8	2529.6	20.6	56.3
05-Jul-24 04:00:00	24.2	6.4	583.9	27.1	7.6	2531.5	20.6	56.3
05-Jul-24 05:00:00	23.9	6.4	585.1	27.1	7.6	2534.4	20.6	56.3
05-Jul-24 06:00:00	23.8	6.3	586.3	27.2	7.5	2537.3	20.6	56.3
05-Jul-24 07:00:00	29.3	6.7	644.6	27.1	7.5	2539.5	20.6	56.3
05-Jul-24 08:00:00	29.3	6.7	543.8	27.8	7.4	2539.8	20.6	56.3
05-Jul-24 09:00:00	29.3	6.8	515.6	31.8	7.4	2540.2	20.6	56.3
05-Jul-24 10:00:00	29.6	6.8	496.4	32.2	7.4	2540.5	20.6	56.3
05-Jul-24 11:00:00	30.1	6.8	489.4	32.4	7.4	2541.2	20.6	56.3
05-Jul-24 12:00:00	31.0	6.9	482.4	32.6	7.3	2542.1	20.6	56.3
05-Jul-24 13:00:00	31.9	7.0	491.5	32.1	7.3	2543.0	20.6	56.3
05-Jul-24 14:00:00	27.7	6.9	3.7	32.1	7.4	2543.8	20.6	56.3
05-Jul-24 15:00:00	25.5	7.0	3.3	32.0	7.4	2544.7	20.6	56.3
05-Jul-24 16:00:00	26.4	7.0	2.9	32.4	7.3	2545.6	20.6	56.3
05-Jul-24 17:00:00	27.3	7.0	2.5	32.7	7.3	2546.4	20.6	56.3
05-Jul-24 18:00:00	27.2	6.9	2.1	32.9	7.3	2547.3	20.6	56.3
05-Jul-24 19:00:00	26.9	6.9	1.7	32.9	7.3	2547.7	20.6	56.3
05-Jul-24 20:00:00	26.5	6.9	1.3	32.7	7.3	2548.0	20.6	56.3
05-Jul-24 21:00:00	26.6	6.9	0.8	32.5	7.3	2548.4	20.6	56.3
05-Jul-24 22:00:00	25.7	6.8	0.7	32.7	7.4	2548.7	20.6	56.3
05-Jul-24 23:00:00	25.2	6.8	0.7	32.6	7.4	2549.1	20.6	56.3



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
06-Jul-24 00:00:00	23.6	6.9	0.7	30.9	7.4	2549.4	20.6	56.3
06-Jul-24 01:00:00	23.5	6.8	0.8	26.7	7.5	2549.8	20.6	56.3
06-Jul-24 02:00:00	23.4	6.8	0.8	26.7	7.5	2549.6	20.6	56.3
06-Jul-24 03:00:00	23.3	6.8	0.8	26.8	7.5	2544.7	20.6	56.3
06-Jul-24 04:00:00	23.3	6.8	0.9	26.8	7.6	2518.5	20.6	56.3
06-Jul-24 05:00:00	23.4	6.8	0.9	26.7	7.6	2505.5	20.6	56.3
06-Jul-24 06:00:00	23.6	6.7	0.8	26.8	7.7	2491.3	20.6	56.3
06-Jul-24 07:00:00	24.0	6.7	0.7	26.9	7.6	2493.6	20.6	56.3
06-Jul-24 08:00:00	25.8	6.7	0.6	27.5	7.6	2495.9	20.6	56.3
06-Jul-24 09:00:00	36.4	6.7	0.5	31.8	7.5	2498.2	20.6	56.3
06-Jul-24 10:00:00	38.1	6.7	0.4	32.4	7.5	2486.1	20.6	56.3
06-Jul-24 11:00:00	32.6	6.8	571.6	32.6	7.5	2473.7	20.6	56.3
06-Jul-24 12:00:00	31.2	6.9	756.3	32.6	7.5	2469.5	20.6	56.3
06-Jul-24 13:00:00	31.2	7.0	838.4	31.8	7.5	2468.1	20.6	56.3
06-Jul-24 14:00:00	32.0	6.9	855.4	33.0	7.6	2466.7	20.6	56.3
06-Jul-24 15:00:00	32.7	6.9	866.0	32.9	7.6	2465.3	20.6	56.3
06-Jul-24 16:00:00	33.5	7.0	3.6	33.1	7.6	2464.0	20.6	56.3
06-Jul-24 17:00:00	38.4	7.0	3.2	33.1	7.6	2462.6	20.6	56.3
06-Jul-24 18:00:00	33.1	6.9	2.8	32.9	7.6	2461.2	20.6	56.3
06-Jul-24 19:00:00	29.5	6.9	2.4	32.7	7.6	2460.2	20.6	56.3
06-Jul-24 20:00:00	28.4	6.8	2.1	33.0	7.7	2460.8	20.6	56.3
06-Jul-24 21:00:00	28.0	6.8	1.7	33.0	7.7	2461.3	20.6	56.3
06-Jul-24 22:00:00	27.9	6.8	1.3	33.0	7.7	2461.8	20.6	56.3
06-Jul-24 23:00:00	27.8	6.8	0.9	33.0	7.7	2462.3	20.6	56.3
07-Jul-24 00:00:00	27.0	6.7	0.8	32.5	7.7	2462.8	20.6	56.3
07-Jul-24 01:00:00	26.4	6.7	0.8	28.7	7.7	2463.3	20.6	56.3
07-Jul-24 02:00:00	26.2	6.7	0.8	28.6	7.7	2463.8	20.6	56.3
07-Jul-24 03:00:00	26.2	6.7	0.8	28.7	7.6	2484.0	20.6	56.3
07-Jul-24 04:00:00	25.6	6.7	0.8	28.6	7.7	2577.2	20.6	56.3
07-Jul-24 05:00:00	25.5	6.6	0.9	28.4	7.7	2795.7	20.6	56.3
07-Jul-24 06:00:00	25.3	6.6	0.9	28.2	7.7	2908.8	20.6	56.3
07-Jul-24 07:00:00	28.8	6.6	0.9	28.5	7.7	2913.6	20.6	56.3
07-Jul-24 08:00:00	32.7	6.6	0.9	28.6	7.6	2918.4	20.6	56.3
07-Jul-24 14:00:00	38.1	6.6	1.0	28.8	7.9	2902.6	20.6	56.3
07-Jul-24 15:00:00	34.7	6.6	1.0	28.7	7.9	2914.5	20.6	56.3
07-Jul-24 16:00:00	34.2	6.6	1.0	28.5	8.1	2904.9	20.6	56.3
07-Jul-24 17:00:00	32.8	6.5	1.1	28.4	8.1	2894.4	20.6	56.3
07-Jul-24 18:00:00	30.9	6.5	1.1	30.2	8.2	2883.9	20.6	56.3
07-Jul-24 19:00:00	28.7	6.5	1.1	32.6	7.6	2857.6	20.6	56.3
07-Jul-24 20:00:00	27.7	6.5	1.1	32.8	7.6	2869.4	20.6	56.3
07-Jul-24 21:00:00	27.2	6.4	1.1	32.8	7.5	2873.4	20.6	56.3
07-Jul-24 22:00:00	26.7	6.4	1.2	32.8	7.5	2874.8	20.6	56.3
07-Jul-24 23:00:00	26.3	6.4	1.2	32.3	7.5	2876.3	20.6	56.3
08-Jul-24 00:00:00	25.8	6.4	1.1	32.5	7.5	2877.8	20.6	56.3
08-Jul-24 01:00:00	25.6	6.4	1.1	32.4	7.5	2879.3	20.6	56.3
08-Jul-24 02:00:00	25.3	6.4	1.1	32.3	7.5	2857.8	20.6	56.3
08-Jul-24 03:00:00	25.4	6.4	1.1	32.4	7.5	2847.2	20.6	56.3
08-Jul-24 04:00:00	25.9	6.4	1.1	32.5	7.5	2851.7	20.6	56.3
08-Jul-24 05:00:00	25.2	6.4	1.0	32.2	7.5	2856.2	20.6	56.3
08-Jul-24 06:00:00	24.8	6.4	1.0	32.2	7.5	2861.8	20.6	56.3
08-Jul-24 07:00:00	26.9	6.3	1.0	32.5	7.5	2869.3	20.6	56.3
08-Jul-24 08:00:00	25.8	6.3	1.0	32.5	7.5	2870.6	20.6	56.3
08-Jul-24 09:00:00	25.9	6.3	1.0	32.7	7.5	2871.8	20.6	56.3
08-Jul-24 10:00:00	26.8	6.3	1.0	32.8	7.5	2870.7	20.6	56.3
08-Jul-24 11:00:00	27.2	6.3	1.0	32.4	7.5	2869.0	20.6	56.3
08-Jul-24 12:00:00	31.0	6.3	1.1	32.6	7.5	2867.3	20.6	56.3

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
08-Jul-24 13:00:00	37.7	6.3	1.1	32.5	7.4	2865.0	20.6	56.3
08-Jul-24 14:00:00	39.2	6.4	1.1	33.2	7.4	2861.7	20.6	56.3
08-Jul-24 17:00:00	39.2	6.4	1.1	33.2	7.4	2851.6	20.6	56.3
08-Jul-24 18:00:00	32.7	6.3	1.1	33.0	7.4	2848.2	20.6	56.3
08-Jul-24 19:00:00	29.7	6.3	1.1	33.0	7.4	2847.5	20.6	56.3
08-Jul-24 20:00:00	28.3	6.3	1.1	33.0	7.4	2848.8	20.6	56.3
08-Jul-24 21:00:00	27.7	6.2	1.1	33.0	7.4	2850.2	20.6	56.3
08-Jul-24 22:00:00	30.8	6.8	704.9	33.1	7.5	2851.5	20.6	56.3
08-Jul-24 23:00:00	30.6	6.9	533.9	33.1	7.5	2852.8	20.6	56.3
09-Jul-24 00:00:00	30.3	7.1	467.5	32.7	7.5	2854.2	20.6	56.3
09-Jul-24 01:00:00	30.1	8.5	438.3	32.8	7.5	2855.5	20.6	56.3
09-Jul-24 02:00:00	29.8	8.8	433.7	32.8	7.5	2856.8	20.6	56.3
09-Jul-24 03:00:00	29.7	8.9	429.2	32.8	7.5	2857.8	20.6	56.3
09-Jul-24 04:00:00	29.7	8.9	425.2	32.8	7.5	2858.6	20.6	56.3
09-Jul-24 05:00:00	29.6	8.9	424.9	32.7	7.5	2859.4	20.6	56.3
09-Jul-24 06:00:00	29.5	8.8	424.6	32.6	7.5	2860.2	20.6	56.3
09-Jul-24 07:00:00	29.4	8.8	424.3	32.6	7.6	2949.8	20.6	56.3
09-Jul-24 08:00:00	29.3	8.8	419.3	32.8	7.7	2891.7	20.6	56.3
09-Jul-24 09:00:00	29.3	8.7	413.2	33.1	7.7	2882.0	20.6	56.3
09-Jul-24 10:00:00	29.5	8.5	407.1	33.5	7.7	2885.1	20.6	56.3
09-Jul-24 11:00:00	29.6	8.4	406.6	33.3	7.7	2885.8	20.6	56.3
09-Jul-24 12:00:00	29.8	8.3	409.0	33.5	7.8	2886.4	20.6	56.3
09-Jul-24 13:00:00	30.0	8.4	411.4	32.6	7.8	2882.9	20.6	56.3
09-Jul-24 14:00:00	30.4	8.4	413.8	33.4	7.9	2870.8	20.6	56.3
09-Jul-24 15:00:00	31.7	8.3	416.1	33.4	8.0	2858.7	20.6	56.3
09-Jul-24 16:00:00	35.8	8.3	2.8	33.2	8.1	2843.2	20.6	56.3
09-Jul-24 17:00:00	33.9	8.2	2.5	33.1	8.2	2821.5	20.6	56.3
09-Jul-24 18:00:00	31.3	8.1	2.3	33.3	8.2	2798.2	20.6	56.3
09-Jul-24 19:00:00	29.0	8.2	2.1	33.2	8.2	2756.5	20.6	56.3
09-Jul-24 20:00:00	28.1	8.0	1.9	33.3	8.2	2734.6	20.6	56.3
09-Jul-24 21:00:00	27.8	7.9	1.6	33.1	8.1	2735.5	20.6	56.3
09-Jul-24 22:00:00	27.5	7.9	1.4	33.1	8.0	2794.1	20.6	56.3
09-Jul-24 23:00:00	27.3	7.8	1.2	33.2	7.8	2790.0	20.6	56.3
10-Jul-24 00:00:00	26.9	7.7	1.1	33.0	7.7	2798.8	20.6	56.3
10-Jul-24 01:00:00	26.7	7.9	1.1	33.1	7.7	2807.6	20.6	56.3
10-Jul-24 02:00:00	26.3	7.8	1.1	33.1	7.7	2816.4	20.6	56.3
10-Jul-24 03:00:00	29.8	7.4	709.9	33.1	7.7	2825.2	20.6	56.3
10-Jul-24 04:00:00	29.5	7.0	759.5	32.4	7.7	2834.0	20.6	56.3
10-Jul-24 05:00:00	29.4	6.9	748.8	32.4	7.6	2836.3	20.6	56.3
10-Jul-24 06:00:00	29.3	6.8	734.3	32.6	7.6	2837.7	20.6	56.3
10-Jul-24 07:00:00	29.3	6.8	760.9	32.2	7.6	2839.1	20.6	56.3
10-Jul-24 08:00:00	29.2	6.8	807.3	32.6	7.6	2840.4	20.6	56.3
10-Jul-24 09:00:00	29.2	6.8	844.3	32.4	7.6	2841.8	20.6	56.3
10-Jul-24 10:00:00	29.1	6.8	857.8	32.8	7.6	2843.2	20.6	56.3
10-Jul-24 11:00:00	30.3	6.6	7.3	33.1	7.4	2844.5	20.6	56.3
10-Jul-24 12:00:00	32.5	6.6	6.4	33.2	7.4	2846.5	20.6	56.3
10-Jul-24 13:00:00	35.0	6.5	5.5	32.5	7.3	2850.3	20.6	56.3
10-Jul-24 17:00:00	36.8	6.7	1.9	33.0	7.2	2662.1	20.6	2.7
10-Jul-24 18:00:00	32.7	6.6	1.0	33.2	7.1	2665.3	20.6	2.8
10-Jul-24 19:00:00	29.3	6.5	0.8	33.2	7.1	2668.6	20.6	2.9
10-Jul-24 20:00:00	27.9	6.5	0.8	33.3	7.1	2671.0	20.6	3.0
10-Jul-24 21:00:00	27.2	6.5	0.9	33.4	7.1	2673.0	20.6	3.0
10-Jul-24 22:00:00	27.0	6.5	0.9	33.4	7.1	2675.1	20.6	3.0
10-Jul-24 23:00:00	24.4	6.7	0.9	31.7	7.1	2677.1	20.6	3.1
11-Jul-24 00:00:00	23.0	6.5	0.9	30.6	7.1	2679.2	20.6	3.2
11-Jul-24 01:00:00	23.3	6.4	1.0	31.2	7.0	2681.2	20.6	3.2



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
11-Jul-24 02:00:00	23.4	6.5	1.0	31.1	7.0	2683.3	20.6	3.2
11-Jul-24 03:00:00	23.7	6.4	1.0	31.3	7.0	2685.3	20.6	3.2
11-Jul-24 04:00:00	24.0	6.4	0.9	31.6	7.0	2684.9	20.6	3.2
11-Jul-24 05:00:00	24.4	6.4	0.9	31.8	7.0	2684.2	20.6	3.1
11-Jul-24 06:00:00	24.6	6.3	0.9	32.0	7.0	2683.5	20.6	3.1
11-Jul-24 07:00:00	25.1	6.3	0.9	32.2	7.0	2682.8	20.6	3.1
11-Jul-24 08:00:00	25.1	6.3	0.9	31.7	7.0	2682.1	20.6	3.1
11-Jul-24 09:00:00	24.6	6.3	0.9	31.7	7.0	2681.4	20.6	3.2
11-Jul-24 10:00:00	24.7	6.3	0.8	32.0	7.0	2548.8	20.6	3.2
11-Jul-24 11:00:00	26.5	6.3	0.8	32.1	7.0	2516.1	20.6	2.9
11-Jul-24 12:00:00	35.8	6.3	0.9	32.6	7.3	2498.5	20.6	2.7
12-Jul-24 14:00:00	31.4	6.4	391.2	32.8	8.1	2152.9	20.6	56.0
12-Jul-24 15:00:00	31.6	6.4	390.0	32.9	8.2	1977.2	20.6	87.6
12-Jul-24 16:00:00	31.9	6.4	390.1	32.7	8.2	1978.3	20.6	86.9
12-Jul-24 17:00:00	32.2	6.4	390.1	32.6	8.2	2005.8	20.6	86.4
12-Jul-24 18:00:00	32.2	6.4	390.1	32.6	8.3	2000.1	20.6	87.1
12-Jul-24 19:00:00	32.1	6.4	390.1	32.6	8.3	1989.7	20.6	87.8
12-Jul-24 20:00:00	31.7	6.4	390.1	32.5	8.4	1993.5	20.6	88.1
12-Jul-24 21:00:00	31.1	6.4	390.2	32.5	8.4	1977.8	20.6	89.3
12-Jul-24 22:00:00	30.3	6.4	390.2	31.8	8.4	1947.0	20.6	87.9
12-Jul-24 23:00:00	28.8	6.4	390.1	32.0	8.4	1925.5	20.6	87.6
13-Jul-24 00:00:00	26.2	6.4	390.1	31.7	8.4	1928.1	20.6	87.9
13-Jul-24 01:00:00	25.2	6.4	390.0	31.9	8.4	1930.8	20.6	87.8
13-Jul-24 02:00:00	24.9	6.4	390.0	32.1	8.4	1935.0	20.6	87.4
13-Jul-24 03:00:00	24.8	6.4	389.9	32.1	8.4	1939.7	20.6	87.4
13-Jul-24 04:00:00	24.8	6.4	389.9	32.0	8.3	1944.3	20.6	86.5
13-Jul-24 05:00:00	24.9	6.4	389.8	32.0	8.3	1949.0	20.6	85.9
13-Jul-24 06:00:00	25.0	6.4	389.8	32.0	8.3	1953.6	20.6	86.1
13-Jul-24 07:00:00	25.9	6.4	389.8	32.1	8.3	1947.5	20.6	85.1
13-Jul-24 08:00:00	30.0	6.4	389.8	31.9	8.2	1945.5	20.6	85.6
13-Jul-24 10:00:00	38.8	6.4	389.8	32.3	8.3	1875.4	20.6	82.3
13-Jul-24 17:00:00	37.0	6.4	389.9	32.2	9.0	1715.0	20.6	78.1
13-Jul-24 18:00:00	31.8	6.4	390.0	32.3	8.9	1757.4	20.6	79.6
13-Jul-24 19:00:00	29.6	6.4	390.0	32.6	8.8	1786.4	20.6	80.6
13-Jul-24 20:00:00	29.0	6.4	390.0	32.6	8.7	1793.1	20.6	80.7
13-Jul-24 21:00:00	29.2	6.4	390.0	32.2	8.6	1799.7	20.6	81.1
13-Jul-24 22:00:00	28.9	6.4	390.0	32.1	8.5	1806.7	20.6	80.7
13-Jul-24 23:00:00	28.1	6.4	390.0	32.2	8.4	1815.8	20.6	80.8
14-Jul-24 00:00:00	27.6	6.4	390.0	32.2	8.3	1824.8	20.6	80.9
14-Jul-24 01:00:00	27.3	6.4	390.0	31.9	8.2	1833.8	20.6	80.6
14-Jul-24 02:00:00	27.4	6.4	390.1	31.6	8.2	1842.8	20.6	80.4
14-Jul-24 03:00:00	27.5	6.4	390.1	31.3	8.2	1851.0	20.6	80.3
14-Jul-24 04:00:00	27.5	6.4	390.1	31.1	8.1	1855.2	20.6	79.4
14-Jul-24 05:00:00	27.2	6.4	390.1	31.1	8.1	1859.5	20.6	79.2
14-Jul-24 06:00:00	26.9	6.4	390.1	31.4	8.1	1863.7	20.6	78.7
14-Jul-24 07:00:00	27.5	6.4	390.1	31.4	8.0	1867.9	20.6	78.3
14-Jul-24 08:00:00	32.2	6.4	390.0	31.7	7.9	1872.2	20.6	78.4
14-Jul-24 09:00:00	39.9	6.4	390.0	32.1	7.9	1876.0	20.6	78.3
14-Jul-24 10:00:00	39.7	6.4	390.0	32.3	7.9	1874.3	20.6	77.2
14-Jul-24 17:00:00	36.6	6.4	390.0	32.0	7.9	1862.7	20.6	71.4
14-Jul-24 18:00:00	32.1	6.4	390.0	32.2	7.9	1862.8	20.6	72.1
14-Jul-24 19:00:00	29.6	6.4	390.0	32.4	7.9	1862.9	20.6	73.8
14-Jul-24 20:00:00	28.9	6.4	390.0	31.9	8.0	1863.0	20.6	74.1
14-Jul-24 21:00:00	28.7	6.4	390.0	32.1	8.0	1863.0	20.6	73.8
14-Jul-24 22:00:00	28.3	6.4	390.0	31.6	8.0	1863.1	20.6	73.9
14-Jul-24 23:00:00	28.1	6.4	390.1	31.4	8.0	1863.2	20.6	73.6

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
15-Jul-24 00:00:00	28.1	6.4	390.1	31.7	8.0	1863.3	20.6	73.2
15-Jul-24 01:00:00	27.8	6.4	390.1	31.6	8.0	1862.3	20.6	73.2
15-Jul-24 02:00:00	27.4	6.4	390.1	31.5	8.1	1854.9	20.6	72.6
15-Jul-24 03:00:00	26.4	6.4	390.2	31.6	8.0	1839.5	20.6	72.4
15-Jul-24 04:00:00	25.9	6.4	390.2	31.5	8.8	1786.4	20.6	72.2
15-Jul-24 05:00:00	25.6	6.4	390.2	31.7	8.8	1723.2	20.6	72.3
15-Jul-24 06:00:00	25.7	6.4	390.2	31.6	8.9	1728.0	20.6	72.0
15-Jul-24 07:00:00	26.7	6.4	390.2	31.7	8.8	1756.7	20.6	71.7
15-Jul-24 08:00:00	30.1	6.4	390.2	31.8	8.8	1764.5	20.6	71.3
15-Jul-24 09:00:00	34.4	6.4	390.1	32.1	8.8	1759.7	20.6	71.5
15-Jul-24 10:00:00	40.0	6.4	390.1	32.3	8.9	1724.1	20.6	72.4
15-Jul-24 11:00:00	37.1	6.4	390.1	32.5	8.9	1761.2	20.6	77.7
15-Jul-24 12:00:00	26.2	6.4	390.1	32.4	8.9	1719.0	20.6	79.4
15-Jul-24 13:00:00	28.5	6.4	390.1	32.2	8.9	1715.9	20.6	79.4
15-Jul-24 14:00:00	24.4	6.4	390.0	31.6	8.9	1702.5	20.6	81.4
15-Jul-24 15:00:00	25.1	6.4	390.0	31.6	8.9	1689.3	20.6	81.6
15-Jul-24 16:00:00	26.9	6.4	390.0	32.0	8.9	1673.0	20.6	80.9
15-Jul-24 17:00:00	29.8	6.4	389.9	32.3	8.9	1641.6	20.6	80.2
15-Jul-24 18:00:00	28.9	6.4	389.9	32.5	9.0	1679.9	20.6	78.9
15-Jul-24 19:00:00	27.0	6.4	389.8	32.7	8.9	1685.7	20.6	78.4
15-Jul-24 20:00:00	26.3	6.4	389.8	32.6	8.8	1691.5	20.6	77.5
15-Jul-24 21:00:00	25.9	6.4	389.8	32.7	8.7	1697.2	20.6	76.9
15-Jul-24 22:00:00	25.8	6.4	389.8	32.8	8.6	1703.0	20.6	77.1
15-Jul-24 23:00:00	26.0	6.4	389.8	32.9	8.6	1709.5	20.6	76.9
16-Jul-24 00:00:00	25.1	6.4	389.8	32.0	8.6	1716.1	20.6	76.9
16-Jul-24 01:00:00	25.2	6.4	389.8	32.2	8.6	1722.7	20.6	76.6
16-Jul-24 02:00:00	25.0	6.4	389.8	31.9	8.6	1729.3	20.6	76.7
16-Jul-24 03:00:00	24.9	6.4	389.8	31.8	8.6	1736.0	20.6	76.7
16-Jul-24 04:00:00	25.0	6.4	389.9	31.8	8.6	1742.6	20.6	76.2
16-Jul-24 05:00:00	29.6	6.4	389.9	31.8	8.6	1749.2	20.6	75.7
16-Jul-24 06:00:00	29.5	6.4	389.9	31.9	8.6	1755.8	20.6	74.8
16-Jul-24 07:00:00	29.5	6.4	389.9	31.7	8.5	1759.7	20.6	74.6
16-Jul-24 08:00:00	29.5	6.4	390.0	31.8	8.4	1763.1	20.6	75.2
16-Jul-24 09:00:00	29.5	6.4	390.0	32.5	8.4	1766.5	20.6	74.9
16-Jul-24 10:00:00	29.7	6.4	390.0	32.7	8.4	1770.0	20.6	74.4
16-Jul-24 11:00:00	29.8	6.4	390.0	32.7	8.4	1773.4	20.6	73.9
16-Jul-24 12:00:00	29.9	6.4	390.1	32.6	8.4	1776.8	20.6	73.3
16-Jul-24 13:00:00	30.1	6.4	390.1	31.7	8.5	1780.2	20.6	73.5
16-Jul-24 14:00:00	30.4	6.4	390.1	32.2	8.5	1783.6	20.6	73.1
16-Jul-24 15:00:00	30.6	6.4	390.1	32.1	8.4	1784.8	20.6	71.3
16-Jul-24 16:00:00	30.9	6.4	390.1	32.2	8.5	1786.0	20.6	72.3
16-Jul-24 17:00:00	31.0	6.4	390.0	32.2	8.5	1787.2	20.6	73.6
16-Jul-24 18:00:00	31.0	6.4	390.0	32.2	8.5	1788.3	20.6	74.5
16-Jul-24 19:00:00	31.0	6.4	390.0	32.3	8.5	1789.5	20.6	75.2
16-Jul-24 20:00:00	30.9	7.0	407.6	32.0	8.5	1790.7	20.6	76.1
16-Jul-24 21:00:00	30.7	6.9	409.5	32.1	8.4	1791.9	20.6	76.5
16-Jul-24 22:00:00	30.6	6.9	411.4	32.1	8.4	1793.0	20.6	76.9
16-Jul-24 23:00:00	30.4	6.9	413.2	32.2	8.4	1790.2	20.6	77.0
17-Jul-24 00:00:00	30.2	6.9	415.1	32.2	8.4	1787.4	20.6	77.3
17-Jul-24 01:00:00	30.0	6.9	417.0	32.2	8.4	1784.6	20.6	77.6
17-Jul-24 02:00:00	29.8	6.9	418.9	32.1	8.4	1781.8	20.6	78.4
17-Jul-24 03:00:00	29.6	6.9	420.7	32.1	8.4	1779.0	20.6	78.4
17-Jul-24 04:00:00	29.2	6.9	426.4	32.0	8.4	1776.3	20.6	78.7
17-Jul-24 05:00:00	28.0	7.5	1.6	32.0	8.4	1773.5	20.6	79.0
17-Jul-24 06:00:00	27.0	7.3	1.2	32.1	8.4	1771.1	20.6	79.3
17-Jul-24 18:00:00	31.7	6.8	455.1	32.7	8.2	1756.3	20.6	85.1



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
17-Jul-24 19:00:00	31.6	6.2	446.1	32.6	8.2	1757.2	20.6	86.2
17-Jul-24 20:00:00	31.4	6.0	437.2	32.7	8.2	1758.2	20.6	87.4
17-Jul-24 21:00:00	31.3	6.0	430.6	32.6	8.2	1759.2	20.6	87.7
17-Jul-24 22:00:00	31.1	6.3	426.7	32.6	8.2	1760.1	20.6	88.4
17-Jul-24 23:00:00	31.0	6.3	417.0	32.2	8.2	1761.1	20.6	89.0
18-Jul-24 00:00:00	30.8	6.3	370.4	31.2	8.2	1762.1	20.6	90.4
18-Jul-24 01:00:00	30.6	6.4	327.2	27.8	8.2	1763.1	20.6	90.7
18-Jul-24 02:00:00	30.4	6.5	312.9	28.4	8.2	1764.1	20.6	91.5
18-Jul-24 03:00:00	30.2	6.5	300.7	28.3	8.2	1765.1	20.6	91.8
18-Jul-24 04:00:00	30.1	6.5	301.8	28.3	8.2	1766.0	20.6	92.6
18-Jul-24 05:00:00	29.9	6.6	303.0	28.1	8.2	1765.8	20.6	93.6
18-Jul-24 06:00:00	29.8	6.6	304.1	27.6	8.2	1765.6	20.6	94.2
18-Jul-24 07:00:00	29.7	6.7	305.3	28.0	8.2	1765.3	20.6	94.9
18-Jul-24 08:00:00	29.6	6.7	306.4	28.3	8.1	1765.1	20.6	95.0
18-Jul-24 09:00:00	29.8	6.7	307.6	32.6	8.1	1764.9	20.6	95.6
18-Jul-24 10:00:00	30.3	7.0	310.9	32.2	8.1	1764.6	20.6	95.9
18-Jul-24 11:00:00	36.0	7.0	0.7	32.6	8.1	1764.4	20.6	96.1
18-Jul-24 12:00:00	37.1	6.5	0.7	32.4	8.1	1764.3	20.6	96.2
18-Jul-24 13:00:00	33.9	6.5	0.6	32.0	8.1	1764.6	20.6	96.9
18-Jul-24 14:00:00	37.7	6.4	0.5	32.4	8.1	1765.0	20.6	96.7
18-Jul-24 15:00:00	39.4	6.5	0.4	32.2	8.1	1765.3	20.6	98.0
18-Jul-24 16:00:00	37.4	6.7	0.4	32.7	8.1	1765.7	20.6	98.4
18-Jul-24 17:00:00	33.4	6.7	0.3	32.6	8.1	1766.0	20.6	99.8
18-Jul-24 18:00:00	31.3	6.7	0.2	32.4	8.1	1766.3	20.6	101.3
18-Jul-24 19:00:00	29.0	6.8	0.2	32.2	8.1	1766.7	20.6	103.3
18-Jul-24 20:00:00	27.9	6.8	0.3	32.5	8.1	1765.8	20.6	104.8
18-Jul-24 21:00:00	27.7	6.7	0.4	32.3	8.1	1762.8	20.6	106.2
18-Jul-24 22:00:00	27.6	6.7	0.5	32.3	8.8	1993.0	20.6	98.0
18-Jul-24 23:00:00	27.6	6.7	0.6	32.4	8.9	2023.6	20.6	100.4
19-Jul-24 00:00:00	27.5	6.7	0.7	32.0	8.9	2024.2	20.6	100.7
19-Jul-24 01:00:00	27.4	6.7	0.9	28.0	8.9	2024.9	20.6	100.9
19-Jul-24 02:00:00	27.3	6.8	1.0	28.0	8.9	2050.4	20.6	100.6
19-Jul-24 03:00:00	26.4	6.8	1.0	28.0	8.9	2046.3	20.6	100.7
19-Jul-24 04:00:00	25.7	6.8	1.0	28.2	8.8	2042.2	20.6	100.7
19-Jul-24 05:00:00	26.4	6.6	1.0	28.1	8.8	2038.1	20.6	100.7
19-Jul-24 06:00:00	26.7	6.5	1.0	28.1	8.8	2034.1	20.6	100.5
19-Jul-24 07:00:00	28.1	6.5	1.0	28.3	8.8	2030.0	20.6	100.8
19-Jul-24 08:00:00	29.5	6.4	1.0	28.7	8.7	2025.9	20.6	101.1
19-Jul-24 09:00:00	31.5	6.4	1.0	32.8	8.7	2027.4	20.6	100.9
19-Jul-24 10:00:00	34.9	6.4	1.0	32.8	8.8	2028.7	20.6	101.5
19-Jul-24 11:00:00	38.3	6.4	1.0	32.9	8.6	2024.1	20.6	102.6
19-Jul-24 12:00:00	37.4	6.5	1.0	33.1	8.6	2032.8	20.6	104.7
19-Jul-24 13:00:00	36.3	6.5	1.0	32.3	8.5	2036.5	20.6	103.7
19-Jul-24 14:00:00	35.0	6.6	1.0	32.9	8.5	2040.2	20.6	103.4
19-Jul-24 15:00:00	35.8	6.6	1.0	32.7	8.5	2043.9	20.6	104.0
19-Jul-24 16:00:00	32.6	6.7	1.0	32.9	8.4	2047.6	20.6	104.2
19-Jul-24 17:00:00	30.7	6.5	1.0	33.1	8.4	2051.3	20.6	104.1
19-Jul-24 18:00:00	30.3	6.7	1.0	32.8	8.4	2055.0	20.6	105.0
19-Jul-24 19:00:00	29.0	6.7	1.0	32.6	8.3	2058.7	20.6	105.4
19-Jul-24 20:00:00	28.3	6.7	0.9	32.6	8.2	2060.4	20.6	105.4
19-Jul-24 21:00:00	28.0	6.6	0.9	32.5	8.1	2061.6	20.6	105.2
19-Jul-24 22:00:00	27.9	6.6	0.9	32.4	8.1	2062.8	20.6	105.6
19-Jul-24 23:00:00	27.8	6.5	0.9	32.5	8.0	2064.0	20.6	105.9
20-Jul-24 00:00:00	27.7	6.6	0.9	32.3	8.0	2065.2	20.6	106.2
20-Jul-24 01:00:00	27.2	6.6	0.9	32.5	8.0	2066.3	20.6	106.5
20-Jul-24 02:00:00	26.2	6.7	0.9	32.5	8.0	2067.5	20.6	106.9

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
20-Jul-24 03:00:00	26.0	6.6	0.9	32.4	7.9	2068.7	20.6	107.1
20-Jul-24 04:00:00	26.5	6.6	0.9	32.4	7.9	2069.2	20.6	107.3
20-Jul-24 05:00:00	25.6	6.7	0.9	32.2	7.9	2069.6	20.6	107.9
20-Jul-24 06:00:00	25.3	6.7	0.9	32.2	7.9	2070.0	20.6	109.0
20-Jul-24 07:00:00	25.9	6.5	0.9	32.2	7.8	2070.4	20.6	108.3
20-Jul-24 08:00:00	27.4	6.3	1.0	32.3	7.8	2070.8	20.6	107.4
20-Jul-24 09:00:00	31.6	6.2	1.0	32.7	7.7	2071.2	20.6	106.5
20-Jul-24 10:00:00	39.0	6.2	1.0	32.8	7.7	2071.4	20.6	107.8
20-Jul-24 11:00:00	35.9	6.3	1.1	32.8	7.7	2071.0	20.6	106.5
20-Jul-24 12:00:00	34.7	6.3	1.2	32.8	7.7	2070.5	20.6	106.6
20-Jul-24 13:00:00	35.1	6.3	1.4	32.8	7.7	2070.1	20.6	106.7
20-Jul-24 14:00:00	34.9	6.4	1.5	32.7	7.6	2069.6	20.6	107.0
20-Jul-24 15:00:00	35.2	6.4	1.6	32.8	7.6	2069.2	20.6	106.9
20-Jul-24 16:00:00	31.4	7.3	843.1	32.9	7.6	2068.7	20.6	106.4
20-Jul-24 17:00:00	31.1	7.5	1031.3	32.7	7.6	2068.3	20.6	106.9
20-Jul-24 18:00:00	31.0	7.7	1101.4	32.4	7.6	2068.0	20.6	107.5
20-Jul-24 19:00:00	30.6	7.8	1140.6	32.8	7.6	2068.1	20.6	108.7
20-Jul-24 20:00:00	30.4	7.8	1145.8	32.9	7.6	2068.2	20.6	108.9
20-Jul-24 21:00:00	28.8	7.6	1.8	32.9	7.6	2068.3	20.6	109.0
20-Jul-24 22:00:00	28.1	7.5	1.7	32.8	7.5	2068.4	20.6	109.5
20-Jul-24 23:00:00	28.0	7.4	1.6	32.6	7.5	2068.5	20.6	110.3
21-Jul-24 00:00:00	28.1	7.3	1.5	32.6	7.5	2068.7	20.6	110.9
21-Jul-24 01:00:00	28.1	7.2	1.4	32.6	7.6	2068.8	20.6	111.2
21-Jul-24 02:00:00	28.0	7.1	1.3	32.6	7.6	2068.5	20.6	111.7
21-Jul-24 03:00:00	27.9	7.1	1.2	32.6	7.6	2067.7	20.6	112.0
21-Jul-24 04:00:00	27.9	7.0	1.1	32.5	7.6	2066.9	20.6	112.6
21-Jul-24 05:00:00	27.9	7.0	1.0	32.6	7.6	2066.1	20.6	113.0
21-Jul-24 06:00:00	27.9	6.9	1.0	32.5	7.6	2065.2	20.6	113.4
21-Jul-24 07:00:00	28.4	6.9	1.0	32.5	7.6	2064.4	20.6	113.9
21-Jul-24 08:00:00	30.4	6.9	1.0	32.6	7.6	2063.6	20.6	114.4
21-Jul-24 09:00:00	33.6	6.8	1.0	32.7	7.5	2062.8	20.6	115.2
21-Jul-24 10:00:00	38.0	6.8	1.0	32.4	7.5	2061.0	20.6	115.0
21-Jul-24 16:00:00	36.1	6.8	1.0	33.1	9.0	1976.8	20.6	114.7
22-Jul-24 01:00:00	28.5	6.6	1.0	32.9	9.0	1949.8	20.6	114.1
22-Jul-24 02:00:00	28.2	6.6	1.0	32.7	9.0	1968.0	20.6	114.0
22-Jul-24 03:00:00	27.7	6.6	1.0	32.6	9.0	1959.0	20.6	113.5
22-Jul-24 04:00:00	26.8	6.6	1.0	32.5	9.0	1950.0	20.6	113.5
22-Jul-24 05:00:00	26.7	6.6	0.9	32.4	8.9	1947.4	20.6	113.5
22-Jul-24 06:00:00	27.1	6.6	0.9	32.5	8.9	1947.4	20.6	114.4
22-Jul-24 07:00:00	28.0	6.5	0.9	32.3	8.9	1947.5	20.6	114.9
22-Jul-24 08:00:00	31.4	6.5	0.9	32.4	8.9	1947.5	20.6	115.1
22-Jul-24 09:00:00	34.5	6.5	0.9	32.6	8.9	1947.6	20.6	115.3
22-Jul-24 10:00:00	39.9	6.5	0.9	32.4	8.9	1944.8	20.6	114.7
23-Jul-24 00:00:00	30.9	7.6	634.3	28.2	9.0	1978.9	20.6	81.1
23-Jul-24 01:00:00	30.4	7.5	1.8	28.1	9.0	1983.1	20.6	84.4
23-Jul-24 02:00:00	26.7	7.4	1.6	28.1	9.0	1987.3	20.6	80.4
23-Jul-24 03:00:00	26.1	7.4	1.5	28.3	9.0	1988.0	20.6	80.2
23-Jul-24 04:00:00	26.7	7.3	1.4	28.5	8.9	1988.3	20.6	79.8
23-Jul-24 05:00:00	26.8	7.3	1.3	28.4	8.9	1988.5	20.6	79.9
23-Jul-24 06:00:00	26.8	7.3	1.2	28.4	8.9	1988.8	20.6	80.2
23-Jul-24 07:00:00	27.8	7.3	1.0	28.6	8.9	1989.0	20.6	80.4
23-Jul-24 08:00:00	29.9	7.2	0.9	28.7	8.9	1989.3	20.6	80.9
23-Jul-24 09:00:00	33.2	7.2	0.8	32.5	8.9	1989.6	20.6	81.3
23-Jul-24 10:00:00	36.5	7.1	0.9	32.9	8.9	1989.9	20.6	81.1
23-Jul-24 11:00:00	39.3	7.1	0.9	32.6	8.9	1990.9	20.6	81.8
23-Jul-24 13:00:00	39.4	7.1	1.0	32.3	8.8	1988.2	20.6	81.9



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
23-Jul-24 15:00:00	39.7	7.0	1.0	33.1	8.8	1987.2	20.6	84.0
23-Jul-24 16:00:00	39.4	7.0	1.1	33.1	8.8	1987.0	20.6	84.0
23-Jul-24 17:00:00	35.3	7.0	1.1	32.8	8.8	1987.2	20.6	84.8
23-Jul-24 18:00:00	31.9	7.0	1.1	32.6	8.8	1987.4	20.6	84.2
23-Jul-24 19:00:00	27.3	7.0	1.1	32.2	8.8	1982.8	20.6	82.2
23-Jul-24 20:00:00	25.6	6.9	1.1	32.4	8.8	1969.4	20.6	80.8
23-Jul-24 21:00:00	26.4	6.9	1.1	32.4	8.8	1977.8	20.6	80.3
23-Jul-24 22:00:00	26.1	6.9	1.1	32.6	8.8	1989.4	20.6	80.8
23-Jul-24 23:00:00	25.8	6.9	1.1	32.3	8.8	2001.0	20.6	80.3
24-Jul-24 00:00:00	25.9	6.9	1.1	32.0	8.8	2012.6	20.6	80.7
24-Jul-24 01:00:00	29.9	7.2	356.1	27.9	8.8	2013.7	20.6	80.5
24-Jul-24 02:00:00	29.8	7.1	251.4	28.0	8.8	2013.0	20.6	79.8
24-Jul-24 03:00:00	29.8	7.0	203.8	28.2	8.8	2014.6	20.6	79.0
24-Jul-24 04:00:00	29.6	7.0	187.8	28.3	8.8	2017.2	20.6	26.9
24-Jul-24 05:00:00	29.5	7.0	176.2	28.3	8.8	2019.9	20.6	24.5
24-Jul-24 06:00:00	29.4	7.0	168.1	28.0	8.8	2022.6	20.6	25.2
24-Jul-24 07:00:00	29.3	7.0	171.0	27.9	8.8	2025.2	20.6	51.2
24-Jul-24 08:00:00	29.4	7.0	173.8	28.2	8.8	2027.9	20.6	51.9
24-Jul-24 10:00:00	34.5	7.2	1.7	32.5	8.8	2033.2	20.6	108.5
24-Jul-24 13:00:00	39.9	7.0	1.1	32.2	8.8	2035.4	20.6	107.4
24-Jul-24 16:00:00	35.7	6.8	0.6	32.9	8.8	2037.3	20.6	107.6
24-Jul-24 17:00:00	32.9	6.9	0.5	32.8	8.8	2037.9	20.6	110.1
24-Jul-24 18:00:00	32.0	6.8	0.4	32.6	8.8	2035.8	20.6	109.8
24-Jul-24 19:00:00	29.1	6.8	0.3	32.3	8.8	2031.3	20.6	115.4
24-Jul-24 20:00:00	28.4	6.8	0.3	32.0	8.8	2026.9	20.6	116.1
25-Jul-24 12:00:00	35.7	6.7	0.0	32.9	8.8	1950.6	20.6	108.2
25-Jul-24 14:00:00	38.9	6.7	-0.1	32.9	8.8	1959.1	20.6	103.4
25-Jul-24 16:00:00	31.8	6.6	-0.2	31.8	8.8	1960.5	20.6	106.5
25-Jul-24 17:00:00	29.9	6.7	-0.2	32.2	8.8	1960.2	20.6	117.7
26-Jul-24 10:00:00	34.7	7.2	1.1	33.0	7.1	1948.3	20.6	118.2
26-Jul-24 11:00:00	37.4	7.2	0.9	33.1	8.1	2082.1	20.6	76.7
26-Jul-24 12:00:00	36.9	7.1	0.8	33.1	8.1	2083.5	20.6	76.6
26-Jul-24 13:00:00	37.7	7.1	0.7	32.4	8.1	2085.0	20.6	76.6
26-Jul-24 14:00:00	36.3	7.1	0.6	33.0	8.1	2086.4	20.6	73.7
26-Jul-24 15:00:00	36.3	7.1	0.6	33.0	8.1	2087.9	20.6	74.9
26-Jul-24 16:00:00	34.6	7.1	0.5	33.1	8.1	2089.3	20.6	73.2
26-Jul-24 17:00:00	30.8	7.0	0.4	33.1	8.1	2090.8	20.6	73.7
26-Jul-24 18:00:00	28.8	7.0	0.3	33.0	8.1	2092.2	20.6	73.7
26-Jul-24 19:00:00	28.2	7.0	0.4	32.8	8.1	2092.6	20.6	74.2
26-Jul-24 20:00:00	26.6	7.0	0.5	33.0	8.0	2092.6	20.6	75.5
26-Jul-24 21:00:00	26.5	7.0	0.5	33.2	8.0	2092.6	20.6	76.6
26-Jul-24 22:00:00	26.5	7.0	0.6	33.3	8.0	2092.7	20.6	78.0
26-Jul-24 23:00:00	26.6	7.0	0.7	33.1	7.9	2092.7	20.6	79.5
27-Jul-24 00:00:00	26.5	6.9	0.8	32.6	7.9	2092.7	20.6	81.1
27-Jul-24 01:00:00	26.4	6.9	0.9	32.5	7.9	2092.7	20.6	81.8
27-Jul-24 02:00:00	28.9	7.2	708.6	32.6	8.2	2118.8	20.6	82.2
27-Jul-24 03:00:00	29.3	7.1	403.3	32.6	8.2	2172.1	20.6	81.3
27-Jul-24 04:00:00	29.4	7.0	279.3	32.6	8.1	2151.2	20.6	79.8
27-Jul-24 05:00:00	29.5	6.9	221.6	32.7	8.1	2138.0	20.6	78.8
27-Jul-24 06:00:00	29.4	6.9	195.8	32.7	8.1	2145.6	20.6	77.6
27-Jul-24 07:00:00	29.4	6.9	188.8	32.8	8.1	2182.6	20.6	77.0
27-Jul-24 08:00:00	29.3	6.9	188.8	32.8	8.0	2190.4	20.6	76.5
27-Jul-24 09:00:00	29.6	6.9	188.7	33.1	8.0	2220.2	20.6	76.7
27-Jul-24 10:00:00	34.1	7.2	1.5	33.4	8.0	2242.3	20.6	76.3
27-Jul-24 11:00:00	36.2	7.2	1.3	33.3	8.1	2263.4	20.6	76.7
27-Jul-24 12:00:00	37.5	7.1	1.2	33.1	8.1	2284.5	20.6	78.2

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
27-Jul-24 13:00:00	39.2	7.1	1.0	32.6	7.9	2293.0	20.6	79.5
27-Jul-24 14:00:00	35.1	7.1	0.8	33.3	7.6	2294.9	20.6	79.1
27-Jul-24 15:00:00	36.9	7.0	0.7	33.3	7.6	2296.9	20.6	79.0
27-Jul-24 16:00:00	26.4	6.9	0.5	32.4	7.5	2303.9	20.6	79.8
27-Jul-24 17:00:00	27.0	6.9	0.4	32.5	7.5	2309.9	20.6	78.4
27-Jul-24 18:00:00	26.1	6.9	0.3	32.8	7.5	2310.6	20.6	79.3
27-Jul-24 19:00:00	26.0	6.8	0.3	32.8	7.4	2311.4	20.6	80.2
27-Jul-24 20:00:00	26.1	6.8	0.3	32.8	7.4	2312.1	20.6	80.6
27-Jul-24 21:00:00	26.0	6.8	0.2	32.8	7.4	2312.8	20.6	80.3
27-Jul-24 22:00:00	25.5	6.8	0.2	32.6	7.4	2313.5	20.6	80.4
27-Jul-24 23:00:00	25.7	6.8	0.2	32.7	7.4	2314.3	20.6	80.3
28-Jul-24 00:00:00	25.4	6.8	0.1	32.2	7.3	2315.0	20.6	79.8
28-Jul-24 01:00:00	25.5	6.8	0.1	32.4	7.3	2315.4	20.6	79.6
28-Jul-24 02:00:00	25.3	6.7	0.1	32.3	7.3	2315.7	20.6	79.3
28-Jul-24 03:00:00	25.3	6.7	0.2	32.3	7.3	2316.1	20.6	78.5
28-Jul-24 04:00:00	25.4	6.7	0.2	32.5	7.3	2316.5	20.6	77.9
28-Jul-24 05:00:00	25.6	6.7	0.3	32.5	7.2	2316.8	20.6	77.5
28-Jul-24 06:00:00	25.8	6.7	0.3	32.5	7.3	2317.2	20.6	76.9
28-Jul-24 07:00:00	26.1	6.7	0.3	32.6	7.3	2317.6	20.6	76.5
28-Jul-24 08:00:00	26.5	6.6	0.4	32.6	7.2	2317.8	20.6	76.2
28-Jul-24 09:00:00	28.3	6.6	0.4	32.7	7.2	2317.6	20.6	76.9
28-Jul-24 10:00:00	32.9	6.6	0.4	32.8	7.2	2317.3	20.6	77.1
28-Jul-24 11:00:00	35.5	6.6	0.4	32.9	7.2	2317.1	20.6	75.3
28-Jul-24 13:00:00	37.5	6.5	0.4	32.9	7.2	2316.6	20.6	72.4
28-Jul-24 14:00:00	38.2	6.7	0.4	32.7	7.1	2316.3	20.6	72.4
28-Jul-24 16:00:00	38.9	6.7	0.3	32.6	7.1	2316.0	20.6	71.8
28-Jul-24 17:00:00	33.5	6.7	0.3	32.5	7.1	2316.2	20.6	71.2
28-Jul-24 18:00:00	30.8	6.7	0.3	32.5	7.1	2316.5	20.6	71.9
28-Jul-24 19:00:00	28.6	6.6	0.3	33.0	7.1	2316.7	20.6	72.8
28-Jul-24 20:00:00	27.9	6.6	0.3	32.7	7.1	2317.0	20.6	73.2
28-Jul-24 21:00:00	27.6	6.6	0.3	32.6	7.1	2317.2	20.6	73.8
28-Jul-24 22:00:00	27.7	6.6	0.3	32.9	7.1	2317.5	20.6	73.8
28-Jul-24 23:00:00	27.6	6.6	0.3	32.3	7.1	2317.7	20.6	73.8
29-Jul-24 00:00:00	27.6	6.6	0.3	32.5	7.0	2317.9	20.6	73.7
29-Jul-24 01:00:00	25.9	6.6	1.0	32.3	7.0	2317.9	20.6	74.4
29-Jul-24 02:00:00	25.9	6.6	2.0	32.3	7.0	2317.9	20.6	74.4
29-Jul-24 03:00:00	25.4	6.5	3.0	32.0	7.0	2317.9	20.6	74.5
29-Jul-24 04:00:00	25.7	6.5	3.9	32.4	7.0	2317.9	20.6	74.2
29-Jul-24 05:00:00	26.0	6.5	4.9	32.5	7.0	2317.9	20.6	73.6
29-Jul-24 06:00:00	26.0	6.5	5.9	31.9	7.0	2317.9	20.6	73.1
29-Jul-24 07:00:00	28.2	7.2	536.1	31.9	7.0	2317.9	20.6	73.4
29-Jul-24 08:00:00	28.7	7.4	774.8	32.3	7.0	2317.3	20.6	73.0
29-Jul-24 09:00:00	28.4	7.4	839.8	31.7	7.0	2316.1	20.6	72.9
29-Jul-24 10:00:00	28.6	7.5	968.0	32.1	7.0	2314.8	20.6	72.0
29-Jul-24 11:00:00	28.8	7.5	1058.7	32.5	7.0	2313.5	20.6	71.6
29-Jul-24 12:00:00	28.9	7.4	1106.5	32.6	7.0	2312.3	20.6	71.7
29-Jul-24 13:00:00	28.9	7.5	1098.0	31.7	7.0	2311.0	20.6	71.6
29-Jul-24 14:00:00	29.2	7.5	1075.3	31.9	7.0	2309.7	20.6	71.0
29-Jul-24 15:00:00	29.7	7.5	1077.1	32.4	7.0	2308.5	20.6	71.3
29-Jul-24 16:00:00	29.8	7.6	1078.9	31.8	7.0	2308.2	20.6	71.0
29-Jul-24 17:00:00	29.9	7.7	1073.4	32.0	7.0	2308.5	20.6	70.0
29-Jul-24 18:00:00	28.7	7.6	7.7	32.2	7.0	2308.8	20.6	70.4
29-Jul-24 19:00:00	24.9	7.3	6.8	31.8	7.0	2309.1	20.6	71.0
29-Jul-24 20:00:00	24.1	7.3	6.0	31.6	8.0	2177.1	20.6	75.7
29-Jul-24 21:00:00	24.2	7.2	5.1	31.7	8.1	2168.0	20.6	75.7
29-Jul-24 22:00:00	24.5	7.2	4.2	31.9	8.1	2177.3	20.6	75.9



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
29-Jul-24 23:00:00	24.6	7.2	3.3	31.7	8.1	2193.4	20.6	76.3
30-Jul-24 00:00:00	24.6	7.1	2.4	31.8	8.0	2220.5	20.6	77.2
30-Jul-24 01:00:00	24.7	7.1	1.5	31.8	8.0	2243.0	20.6	77.6
30-Jul-24 02:00:00	24.7	7.0	0.9	32.0	7.9	2263.6	20.6	78.1
30-Jul-24 03:00:00	24.7	7.1	0.9	32.0	7.9	2284.3	20.6	78.5
30-Jul-24 04:00:00	24.6	7.1	0.8	32.0	7.8	2298.8	20.6	78.3
30-Jul-24 05:00:00	24.6	7.0	0.8	31.9	7.8	2307.2	20.6	78.3
30-Jul-24 06:00:00	24.5	7.0	0.8	31.9	7.7	2318.9	20.6	79.3
30-Jul-24 07:00:00	25.3	7.0	0.7	32.0	7.7	2326.0	20.6	78.9
30-Jul-24 08:00:00	28.8	7.3	633.3	32.2	7.6	2320.3	20.6	77.9
30-Jul-24 09:00:00	28.7	7.2	486.8	32.5	7.5	2321.8	20.6	77.1
30-Jul-24 10:00:00	28.6	7.2	413.8	32.7	7.4	2323.3	20.6	77.6
30-Jul-24 11:00:00	29.2	7.2	375.8	33.0	7.4	2324.9	20.6	76.7
30-Jul-24 12:00:00	29.7	7.2	414.9	32.7	7.3	2325.2	20.6	77.8
30-Jul-24 13:00:00	30.3	7.3	444.3	32.2	7.3	2325.6	20.6	77.7
30-Jul-24 14:00:00	31.1	7.4	455.3	32.8	7.2	2325.9	20.6	76.5
30-Jul-24 15:00:00	31.9	7.6	449.5	32.9	7.2	2326.3	20.6	75.0
30-Jul-24 16:00:00	30.5	7.5	255.4	32.8	7.2	2326.7	20.6	74.5
30-Jul-24 17:00:00	30.0	7.3	184.2	32.5	7.2	2327.0	20.6	73.7
30-Jul-24 18:00:00	29.8	7.3	160.2	32.6	7.2	2327.4	20.6	75.4
30-Jul-24 19:00:00	29.5	7.3	325.1	32.7	7.2	2327.8	20.6	76.3
30-Jul-24 20:00:00	29.1	7.2	513.7	32.8	7.2	2328.2	20.6	76.7
30-Jul-24 21:00:00	29.1	7.1	573.6	32.9	7.1	2328.7	20.6	76.9
30-Jul-24 22:00:00	29.1	7.1	558.9	33.0	7.1	2329.1	20.6	77.0
30-Jul-24 23:00:00	28.0	7.0	554.6	33.0	7.1	2329.5	20.6	77.1
31-Jul-24 00:00:00	26.7	6.9	555.1	33.1	7.1	2330.0	20.6	77.7
31-Jul-24 01:00:00	27.0	6.8	555.7	29.4	7.1	2330.4	20.6	76.7
31-Jul-24 02:00:00	26.6	6.8	556.2	29.1	7.1	2330.9	20.6	76.9
31-Jul-24 03:00:00	26.9	6.8	556.7	28.9	7.1	2330.4	20.6	76.9
31-Jul-24 04:00:00	26.9	6.8	557.2	28.7	7.1	2329.3	20.6	77.7
31-Jul-24 05:00:00	26.9	6.7	557.7	28.5	7.1	2328.3	20.6	77.5
31-Jul-24 06:00:00	26.8	6.7	558.2	28.4	7.1	2327.3	20.6	76.9
31-Jul-24 07:00:00	27.5	6.7	558.5	28.2	7.0	2326.3	20.6	76.6
31-Jul-24 08:00:00	32.1	6.7	558.6	28.7	7.0	2325.2	20.6	76.3
31-Jul-24 09:00:00	37.4	6.7	558.7	30.5	7.0	2322.8	20.6	76.6
31-Jul-24 10:00:00	36.1	6.7	558.8	30.5	7.0	2319.1	20.6	75.7
31-Jul-24 11:00:00	37.4	6.7	558.9	32.6	7.0	2315.5	20.6	75.3
31-Jul-24 12:00:00	35.9	6.7	559.0	32.8	7.0	2311.9	20.6	74.9
31-Jul-24 13:00:00	34.1	6.7	559.1	32.1	7.0	2308.2	20.6	74.8
31-Jul-24 14:00:00	34.8	6.7	559.2	32.8	7.0	2304.6	20.6	74.3
31-Jul-24 15:00:00	37.6	6.7	559.4	32.9	7.0	2300.9	20.6	74.9
31-Jul-24 16:00:00	36.5	6.6	559.7	32.9	7.0	2297.3	20.6	75.3
31-Jul-24 17:00:00	33.6	6.6	560.0	32.8	7.0	2294.2	20.6	74.7
31-Jul-24 18:00:00	30.2	6.6	560.3	32.7	7.0	2291.4	20.6	75.5
31-Jul-24 19:00:00	28.5	6.5	560.6	32.6	6.9	2288.6	20.6	76.4
31-Jul-24 20:00:00	27.8	6.5	561.0	32.7	6.9	2285.8	20.6	76.7
31-Jul-24 21:00:00	27.7	6.5	561.3	32.7	6.9	2283.0	20.6	77.5
31-Jul-24 22:00:00	27.7	6.5	561.6	32.7	6.9	2280.2	20.6	78.6
31-Jul-24 23:00:00	27.7	6.6	561.9	33.0	6.9	2277.4	20.6	78.3
01-Aug-24 00:00:00	27.1	6.6	562.1	32.6	6.9	2274.6	20.6	78.6
01-Aug-24 01:00:00	26.6	6.6	562.3	29.2	6.9	2271.6	20.6	78.8
01-Aug-24 02:00:00	26.4	6.6	562.5	29.1	6.9	2268.6	20.6	78.9
01-Aug-24 03:00:00	26.4	6.6	562.7	29.0	6.9	2265.6	20.6	78.6
01-Aug-24 04:00:00	26.5	6.6	562.9	29.1	6.9	2262.6	20.6	79.1
01-Aug-24 05:00:00	26.2	6.6	563.1	28.8	6.9	2259.6	20.6	78.5
01-Aug-24 06:00:00	26.4	6.6	563.3	28.5	6.9	2256.6	20.6	78.2

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
01-Aug-24 07:00:00	27.9	6.6	563.5	28.5	6.9	2253.6	20.6	78.2
01-Aug-24 08:00:00	32.6	6.6	563.5	31.7	6.9	2250.6	20.6	78.8
01-Aug-24 09:00:00	35.9	6.6	563.6	32.9	6.9	2245.4	20.6	77.4
01-Aug-24 10:00:00	35.8	6.6	563.7	33.1	6.9	2239.7	20.6	77.8
01-Aug-24 11:00:00	38.2	6.6	563.7	32.9	6.9	2234.0	20.6	77.4
01-Aug-24 12:00:00	27.9	6.6	563.8	32.8	6.9	2265.7	20.6	77.6
01-Aug-24 13:00:00	29.6	6.6	563.9	32.3	6.9	2261.9	20.6	77.6
01-Aug-24 14:00:00	35.0	6.6	563.9	32.8	6.9	2258.0	20.6	77.0
01-Aug-24 15:00:00	37.0	6.5	564.1	32.8	6.9	2254.2	20.6	77.5
01-Aug-24 16:00:00	33.1	6.5	564.4	32.9	6.9	2250.3	20.6	77.5
01-Aug-24 17:00:00	31.5	6.5	564.7	32.9	6.9	2246.5	20.6	78.0
01-Aug-24 18:00:00	29.9	6.5	565.0	32.8	6.9	2242.6	20.6	78.8
01-Aug-24 19:00:00	28.2	6.5	565.4	32.8	6.9	2238.8	20.6	79.6
01-Aug-24 20:00:00	27.6	6.4	565.7	33.0	6.9	2257.6	20.6	80.3
01-Aug-24 21:00:00	27.2	6.4	566.0	32.9	6.9	2255.8	20.6	80.8
01-Aug-24 22:00:00	26.9	6.4	566.3	32.9	6.9	2254.1	20.6	81.4
01-Aug-24 23:00:00	25.7	6.4	566.8	32.7	6.9	2252.4	20.6	83.4
02-Aug-24 00:00:00	26.1	6.4	567.4	33.2	6.9	2250.7	20.6	83.1
02-Aug-24 01:00:00	29.1	7.1	542.4	29.1	6.9	2248.9	20.6	83.4
02-Aug-24 02:00:00	29.1	7.2	527.1	28.9	6.8	2247.2	20.6	82.7
02-Aug-24 03:00:00	29.2	7.3	517.4	28.9	6.8	2245.5	20.6	82.9
02-Aug-24 04:00:00	29.2	7.3	520.1	28.8	6.8	2243.5	20.6	83.0
02-Aug-24 05:00:00	29.2	7.3	522.7	28.9	6.8	2241.5	20.6	83.4
02-Aug-24 06:00:00	29.2	7.3	525.4	28.7	6.8	2239.4	20.6	83.4
02-Aug-24 07:00:00	29.2	7.3	528.0	28.5	6.8	2237.4	20.6	84.0
02-Aug-24 08:00:00	29.1	7.3	530.7	32.2	6.8	2235.3	20.6	84.8
02-Aug-24 09:00:00	29.2	7.3	533.3	32.8	6.8	2233.3	20.6	85.8
02-Aug-24 10:00:00	30.2	7.4	2.7	32.9	6.8	2225.0	20.6	86.3
02-Aug-24 11:00:00	37.9	7.2	537.8	32.8	6.8	2215.1	20.6	86.1
02-Aug-24 15:00:00	33.8	6.8	541.6	32.9	6.8	2215.5	20.6	87.1
02-Aug-24 16:00:00	31.5	6.7	542.5	32.8	6.8	2245.9	20.6	89.1
02-Aug-24 17:00:00	30.4	6.7	543.5	32.7	6.8	2275.1	20.6	90.5
02-Aug-24 18:00:00	29.3	6.7	544.3	32.6	6.8	2277.4	20.6	91.4
02-Aug-24 19:00:00	28.3	6.7	544.6	32.7	7.9	2420.8	20.6	86.4
02-Aug-24 20:00:00	27.8	6.7	544.8	32.6	8.2	2436.7	20.6	85.6
02-Aug-24 21:00:00	27.3	6.7	545.1	32.6	8.2	2437.2	20.6	85.3
02-Aug-24 22:00:00	26.8	6.6	545.3	32.7	8.2	2424.1	20.6	85.4
02-Aug-24 23:00:00	26.6	6.6	545.6	32.8	8.2	2408.6	20.6	85.5
03-Aug-24 00:00:00	26.3	6.6	545.8	32.6	8.1	2394.3	20.6	85.5
03-Aug-24 01:00:00	26.2	6.6	546.1	29.0	8.1	2386.2	20.6	84.7
03-Aug-24 02:00:00	25.9	6.6	546.3	28.6	8.0	2385.7	20.6	86.5
03-Aug-24 03:00:00	25.6	6.6	546.4	28.3	7.8	2058.5	20.6	58.4
03-Aug-24 04:00:00	25.3	6.6	546.5	28.4	7.7	2101.5	20.6	55.1
03-Aug-24 05:00:00	25.5	6.6	546.7	28.2	7.6	2078.5	20.6	55.0
03-Aug-24 06:00:00	25.3	6.6	546.8	27.8	7.5	1984.5	20.6	56.2
03-Aug-24 07:00:00	25.9	6.6	546.9	27.9	7.5	1937.8	20.6	55.9
03-Aug-24 08:00:00	29.6	6.6	547.1	31.8	7.4	1987.8	20.6	54.5
04-Aug-24 08:00:00	30.0	6.5	554.2	29.4	7.1	1993.3	20.6	119.1
06-Aug-24 21:00:00	31.7	5.5	1745.5	32.7	8.7	2305.6	20.6	88.7
06-Aug-24 22:00:00	31.6	5.8	1732.0	32.8	8.7	2308.7	20.6	89.6
06-Aug-24 23:00:00	31.5	5.9	1658.3	32.8	8.6	2311.7	20.6	90.2
07-Aug-24 00:00:00	31.4	6.0	1570.9	33.0	8.5	2314.8	20.6	90.6
07-Aug-24 01:00:00	31.2	6.1	1510.6	32.6	8.5	2317.8	20.6	90.6
07-Aug-24 02:00:00	31.1	6.1	1476.9	32.6	8.4	2320.9	20.6	90.4
07-Aug-24 03:00:00	31.0	6.1	1451.7	31.3	8.4	2323.9	20.6	90.8
07-Aug-24 04:00:00	30.9	6.2	1440.6	31.3	8.3	2326.8	20.6	91.0



Start 1-Jul-2024- End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
07-Aug-24 05:00:00	30.7	6.2	1429.4	31.2	8.3	2328.4	20.6	91.0
07-Aug-24 06:00:00	30.6	6.2	1418.3	31.2	8.2	2330.0	20.6	91.1
07-Aug-24 07:00:00	30.5	6.2	1428.1	31.4	8.2	2331.6	20.6	90.8
07-Aug-24 08:00:00	30.4	6.2	1425.1	31.5	8.1	2333.2	20.6	91.1
07-Aug-24 09:00:00	30.4	6.3	1422.0	32.8	8.0	2332.8	20.6	88.2
07-Aug-24 10:00:00	30.6	6.3	1418.9	32.9	8.0	2327.1	20.6	86.5
07-Aug-24 11:00:00	30.9	6.3	1415.9	32.9	7.9	2334.0	20.6	85.5
07-Aug-24 12:00:00	31.2	6.3	1412.8	32.9	7.9	2335.2	20.6	84.6
07-Aug-24 13:00:00	31.6	6.3	1409.7	32.4	7.8	2336.4	20.6	82.9
07-Aug-24 14:00:00	32.0	6.4	1406.7	33.0	7.8	2337.6	20.6	82.7
07-Aug-24 15:00:00	32.3	6.4	1419.1	32.7	7.8	2338.8	20.6	82.0
07-Aug-24 16:00:00	32.6	6.5	1412.9	32.6	7.8	2340.0	20.6	82.2
07-Aug-24 17:00:00	32.4	6.7	1406.8	32.6	7.7	2341.2	20.6	81.7
07-Aug-24 18:00:00	32.3	6.8	1392.0	32.6	7.7	2342.4	20.6	82.6
07-Aug-24 19:00:00	32.0	6.9	1363.4	32.6	7.7	2343.4	20.6	83.5
07-Aug-24 20:00:00	31.7	7.0	1362.3	32.6	7.7	2344.4	20.6	84.0
07-Aug-24 21:00:00	28.7	7.2	5.5	32.7	7.6	2345.4	20.6	83.6
07-Aug-24 22:00:00	27.4	7.1	4.9	32.7	7.6	2346.4	20.6	83.8
07-Aug-24 23:00:00	27.0	7.1	4.2	32.8	7.6	2347.4	20.6	83.5
08-Aug-24 00:00:00	27.1	7.1	3.5	32.9	7.6	2348.4	20.6	83.6
08-Aug-24 01:00:00	26.7	7.0	2.9	32.7	7.6	2349.4	20.6	83.5
08-Aug-24 02:00:00	26.5	7.0	2.2	32.7	7.6	2350.3	20.6	83.1
08-Aug-24 03:00:00	26.4	6.9	1.6	32.7	7.6	2350.2	20.6	83.0
08-Aug-24 04:00:00	26.3	6.9	0.9	32.8	7.6	2349.9	20.6	82.8
08-Aug-24 05:00:00	26.2	6.9	0.9	32.8	7.5	2349.6	20.6	82.6
08-Aug-24 06:00:00	26.4	6.9	0.8	33.1	7.5	2349.2	20.6	82.9
08-Aug-24 07:00:00	26.7	6.9	0.8	32.5	7.4	2348.9	20.6	83.3
08-Aug-24 08:00:00	35.2	6.9	0.8	32.3	7.4	2348.6	20.6	82.7
08-Aug-24 09:00:00	39.9	6.8	0.8	33.1	7.4	2348.3	20.6	81.7
08-Aug-24 14:00:00	38.6	6.8	0.8	33.3	7.3	2350.7	20.6	75.7
08-Aug-24 15:00:00	35.4	6.8	0.8	33.1	7.3	2351.4	20.6	76.2
08-Aug-24 16:00:00	38.9	6.8	0.8	32.9	7.3	2352.1	20.6	75.5
08-Aug-24 17:00:00	36.0	6.7	0.8	33.0	7.3	2352.9	20.6	76.4
08-Aug-24 18:00:00	32.8	6.7	0.8	33.1	7.3	2353.6	20.6	77.8
08-Aug-24 19:00:00	29.9	6.6	0.8	32.9	7.3	2354.4	20.6	78.3
08-Aug-24 20:00:00	28.8	6.6	0.8	32.8	7.2	2355.3	20.6	79.4
08-Aug-24 21:00:00	28.0	6.6	0.8	33.0	7.2	2356.1	20.6	79.8
08-Aug-24 22:00:00	27.9	6.5	0.8	32.9	7.2	2357.0	20.6	80.1
08-Aug-24 23:00:00	27.9	6.5	0.9	32.9	7.2	2357.8	20.6	80.3
09-Aug-24 00:00:00	27.2	6.5	0.9	33.0	7.2	2358.7	20.6	80.0
09-Aug-24 01:00:00	26.9	6.5	0.9	32.7	7.2	2359.5	20.6	79.7
09-Aug-24 02:00:00	26.6	6.4	0.9	32.9	7.2	2360.3	20.6	79.5
09-Aug-24 03:00:00	26.2	6.4	1.0	32.7	7.2	2360.4	20.6	79.9
09-Aug-24 04:00:00	26.1	6.4	1.0	32.7	7.2	2360.4	20.6	79.7
09-Aug-24 05:00:00	26.1	6.4	0.9	32.6	7.2	2360.5	20.6	79.9
09-Aug-24 06:00:00	25.8	6.4	0.7	32.7	7.1	2360.5	20.6	80.0
09-Aug-24 07:00:00	31.1	7.2	1056.3	32.8	7.1	2360.6	20.6	80.3
09-Aug-24 08:00:00	31.2	7.3	919.7	32.6	7.1	2360.8	20.6	79.7
09-Aug-24 09:00:00	31.3	7.5	835.3	32.8	7.1	2361.1	20.6	78.5
09-Aug-24 10:00:00	31.0	7.6	794.0	32.8	7.1	2361.4	20.6	76.7
09-Aug-24 11:00:00	31.3	7.8	768.6	33.4	7.1	2361.7	20.6	76.5
09-Aug-24 12:00:00	31.3	8.0	743.2	33.6	7.1	2361.9	20.6	75.9
09-Aug-24 13:00:00	31.0	8.1	726.4	32.1	7.1	2362.2	20.6	76.0
09-Aug-24 14:00:00	30.8	8.3	688.1	32.3	7.1	2362.6	20.6	75.8
09-Aug-24 15:00:00	30.9	8.3	663.4	32.6	7.1	2363.0	20.6	73.5
09-Aug-24 16:00:00	30.8	8.2	649.5	32.6	7.1	2363.3	20.6	71.6

Start 1-Jul-2024- End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
09-Aug-24 17:00:00	30.7	8.1	650.7	32.7	7.1	2363.7	20.6	70.1
09-Aug-24 18:00:00	30.6	8.1	667.0	33.0	7.1	2364.1	20.6	69.5
09-Aug-24 19:00:00	30.5	8.0	668.2	33.0	7.1	2364.5	20.6	69.6
09-Aug-24 20:00:00	30.4	8.0	669.4	33.1	7.1	2364.9	20.6	70.1
09-Aug-24 21:00:00	30.4	8.0	668.9	33.2	7.1	2365.3	20.6	70.3
09-Aug-24 22:00:00	30.3	8.0	668.3	33.1	7.1	2365.5	20.6	70.1
09-Aug-24 23:00:00	30.2	8.0	667.7	33.2	7.0	2365.6	20.6	69.8
10-Aug-24 00:00:00	30.1	8.0	667.1	33.1	7.0	2365.7	20.6	69.2
10-Aug-24 01:00:00	30.0	8.0	666.5	32.8	7.0	2365.8	20.6	69.1
10-Aug-24 02:00:00	29.9	7.9	666.2	32.8	7.0	2366.0	20.6	69.7
10-Aug-24 03:00:00	29.8	7.9	666.3	32.7	7.0	2366.1	20.6	69.1
10-Aug-24 04:00:00	29.7	7.9	666.5	32.6	7.0	2366.2	20.6	69.7
10-Aug-24 05:00:00	29.6	7.8	666.6	32.8	7.0	2366.3	20.6	70.0
10-Aug-24 06:00:00	29.5	7.8	666.8	32.7	7.0	2365.2	20.6	71.1
10-Aug-24 07:00:00	29.4	7.7	666.9	32.7	7.0	2363.9	20.6	70.2
10-Aug-24 08:00:00	29.5	7.7	667.1	32.9	7.6	2270.5	20.6	95.2
10-Aug-24 09:00:00	29.8	7.9	666.5	33.5	8.0	2246.8	20.6	85.5
10-Aug-24 10:00:00	30.4	8.1	665.9	33.4	8.1	2224.3	20.6	83.7
10-Aug-24 11:00:00	31.3	8.4	665.0	33.5	8.1	2213.7	20.6	83.7
10-Aug-24 12:00:00	39.6	8.3	2.9	33.4	8.1	2203.1	20.6	84.0
10-Aug-24 16:00:00	37.0	7.7	1.9	33.4	8.4	2253.9	20.6	88.8
10-Aug-24 17:00:00	32.9	7.6	1.6	33.1	8.5	2242.6	20.6	88.6
10-Aug-24 18:00:00	31.1	7.6	1.4	32.9	8.5	2283.8	20.6	88.6
10-Aug-24 19:00:00	29.4	7.5	1.1	33.0	8.4	2296.2	20.6	89.4
10-Aug-24 20:00:00	28.4	7.4	1.0	33.1	8.4	2310.1	20.6	90.8
10-Aug-24 21:00:00	28.1	7.3	1.0	33.0	8.3	2326.9	20.6	93.0
10-Aug-24 22:00:00	27.7	7.3	1.0	33.1	8.3	2335.7	20.6	92.5
10-Aug-24 23:00:00	27.9	7.3	1.0	33.1	8.2	2334.3	20.6	91.9
11-Aug-24 00:00:00	27.7	7.2	1.0	33.3	8.2	2332.9	20.6	92.3
11-Aug-24 01:00:00	27.6	7.2	1.0	33.1	8.1	2331.5	20.6	91.4
11-Aug-24 02:00:00	27.1	7.2	1.0	33.1	8.0	2336.5	20.6	90.5
11-Aug-24 03:00:00	26.6	7.1	1.0	33.0	7.9	2344.3	20.6	90.7
11-Aug-24 04:00:00	26.3	7.1	1.0	33.0	7.9	2352.1	20.6	90.9
11-Aug-24 05:00:00	26.5	7.1	1.0	32.7	7.8	2391.7	20.6	91.1
11-Aug-24 06:00:00	26.3	7.0	1.0	32.7	7.8	2390.6	20.6	91.9
11-Aug-24 07:00:00	28.9	7.0	1.0	32.8	7.7	2389.5	20.6	91.2
11-Aug-24 08:00:00	38.5	6.9	0.9	32.6	7.7	2388.4	20.6	89.7
11-Aug-24 18:00:00	36.1	6.9	0.9	32.3	7.4	2365.5	20.6	84.5
11-Aug-24 19:00:00	30.8	6.8	0.9	32.9	7.4	2363.8	20.6	86.9
11-Aug-24 20:00:00	29.3	6.8	1.0	32.9	7.4	2364.4	20.6	87.6
11-Aug-24 21:00:00	31.2	8.2	766.8	33.2	7.4	2364.9	20.6	88.3
11-Aug-24 22:00:00	30.5	6.6	507.3	33.4	7.3	2365.4	20.6	88.3
11-Aug-24 23:00:00	30.2	6.2	394.9	33.4	7.3	2366.0	20.6	87.6
12-Aug-24 00:00:00	30.1	6.1	378.5	29.8	7.3	2366.5	20.6	87.6
12-Aug-24 01:00:00	30.0	6.3	393.9	29.5	7.3	2367.0	20.6	87.0
12-Aug-24 02:00:00	29.4	6.4	395.5	27.5	7.3	2368.8	20.6	89.3
12-Aug-24 03:00:00	29.2	6.5	385.2	28.8	7.2	2426.7	20.6	92.0
12-Aug-24 04:00:00	27.5	6.5	387.1	28.6	7.2	2403.7	20.6	92.1
12-Aug-24 05:00:00	26.2	6.4	387.9	28.3	7.2	2403.8	20.6	92.0
12-Aug-24 06:00:00	26.2	6.3	388.8	28.7	7.2	2403.8	20.6	91.9
12-Aug-24 07:00:00	26.7	6.3	389.7	28.6	7.2	2403.9	20.6	91.4
12-Aug-24 08:00:00	29.7	6.3	390.5	28.6	7.2	2403.9	20.6	90.8
12-Aug-24 09:00:00	33.8	6.3	391.4	28.8	7.1	2403.7	20.6	89.8
12-Aug-24 10:00:00	36.6	6.3	392.2	28.6	7.1	2398.9	20.6	89.1
12-Aug-24 11:00:00	38.6	6.4	393.1	28.8	7.1	2394.2	20.6	88.3
12-Aug-24 12:00:00	39.5	6.4	393.0	28.7	7.1	2389.5	20.6	87.3



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
12-Aug-24 15:00:00	36.9	6.3	390.2	29.1	7.1	2374.7	20.6	84.4
12-Aug-24 16:00:00	37.9	6.3	372.8	29.1	7.1	2369.4	20.6	84.8
12-Aug-24 17:00:00	34.5	6.3	376.4	28.7	7.1	2364.0	20.6	85.0
12-Aug-24 18:00:00	31.5	6.3	380.0	31.7	7.0	9.1	20.6	86.9
12-Aug-24 19:00:00	29.1	6.2	387.6	32.9	7.0	5.6	20.6	86.5
12-Aug-24 20:00:00	28.2	6.2	398.0	33.0	7.0	2.0	20.6	89.5
12-Aug-24 21:00:00	28.0	6.2	403.7	33.1	7.0	1.2	20.6	86.3
12-Aug-24 22:00:00	27.9	6.2	405.0	33.2	7.0	1.4	20.6	86.4
12-Aug-24 23:00:00	27.8	6.2	406.2	33.2	7.0	1.5	20.6	86.9
13-Aug-24 00:00:00	27.6	6.2	407.5	29.2	7.0	1.6	20.6	87.5
13-Aug-24 01:00:00	27.0	6.2	408.7	29.1	7.0	1126.6	20.6	90.4
13-Aug-24 02:00:00	26.5	6.2	397.7	28.9	7.0	974.6	20.6	93.2
13-Aug-24 03:00:00	26.2	6.2	401.9	28.4	7.0	1192.4	20.6	94.8
13-Aug-24 04:00:00	26.0	6.2	406.1	27.8	7.0	1451.7	20.6	95.0
13-Aug-24 05:00:00	26.0	6.1	410.3	28.1	7.0	1260.4	20.6	94.4
13-Aug-24 06:00:00	26.1	6.2	414.6	28.4	7.0	1235.4	20.6	94.7
13-Aug-24 07:00:00	27.5	6.2	418.8	28.7	7.0	1274.5	20.6	94.6
13-Aug-24 08:00:00	33.5	6.2	418.3	32.4	7.0	1138.6	20.6	93.8
13-Aug-24 09:00:00	35.6	6.2	414.7	33.1	7.0	732.2	20.6	93.8
13-Aug-24 10:00:00	36.2	6.2	410.2	33.1	7.0	682.8	20.6	93.3
13-Aug-24 11:00:00	36.3	6.8	358.7	33.1	7.0	626.4	20.6	90.7
13-Aug-24 12:00:00	39.6	6.6	359.9	32.9	7.0	633.3	20.6	91.4
13-Aug-24 18:00:00	36.1	6.3	366.7	33.0	7.2	1988.0	20.6	77.1
13-Aug-24 19:00:00	30.4	6.3	368.0	33.0	7.2	1989.4	20.6	65.5
13-Aug-24 20:00:00	29.0	6.3	369.5	33.2	7.2	1990.9	20.6	66.2
13-Aug-24 21:00:00	28.3	6.2	371.1	33.2	7.2	1992.4	20.6	66.3
13-Aug-24 22:00:00	28.2	6.2	372.7	33.2	7.2	1993.8	20.6	65.5
13-Aug-24 23:00:00	28.0	6.2	374.2	33.3	7.2	1995.3	20.6	65.8
14-Aug-24 00:00:00	28.0	6.2	375.8	33.3	7.2	1996.7	20.6	66.2
14-Aug-24 01:00:00	30.4	7.1	516.9	28.3	7.9	1.7	20.6	68.5
14-Aug-24 02:00:00	30.8	7.5	642.8	28.6	7.6	1.6	20.6	67.5
14-Aug-24 03:00:00	30.9	7.6	697.7	28.5	7.5	1.4	20.6	68.2
14-Aug-24 04:00:00	30.9	7.7	721.0	28.3	8.0	1512.7	20.6	68.6
14-Aug-24 05:00:00	30.8	7.7	728.0	28.3	8.0	1447.5	20.6	69.6
14-Aug-24 06:00:00	30.6	7.7	734.9	28.2	8.0	1415.3	20.6	71.5
14-Aug-24 07:00:00	30.5	7.6	738.7	28.4	8.0	1397.2	20.6	72.6
14-Aug-24 08:00:00	30.4	7.6	741.3	32.1	8.0	1380.7	20.6	71.4
14-Aug-24 15:00:00	39.0	7.1	595.6	33.2	7.8	1405.0	20.6	70.0
14-Aug-24 17:00:00	33.4	7.0	629.9	33.0	7.5	1414.0	20.6	70.2
14-Aug-24 18:00:00	30.8	6.9	654.7	32.9	7.4	1418.5	20.6	70.0
14-Aug-24 19:00:00	29.6	6.9	671.8	32.9	7.4	1423.0	20.6	69.8
14-Aug-24 20:00:00	28.9	6.9	679.4	32.9	7.4	1426.5	20.6	69.2
14-Aug-24 21:00:00	28.7	6.8	686.8	33.0	7.4	1427.0	20.6	67.9
14-Aug-24 22:00:00	28.4	6.9	694.1	32.9	7.3	1427.5	20.6	67.6
14-Aug-24 23:00:00	31.0	7.1	776.5	33.1	7.3	1427.9	20.6	66.5
15-Aug-24 00:00:00	30.3	6.9	656.4	32.5	7.3	1428.4	20.6	66.8
15-Aug-24 01:00:00	30.1	6.8	593.6	27.9	7.3	1428.9	20.6	66.0
15-Aug-24 02:00:00	30.0	6.8	562.4	28.5	7.3	1429.3	20.6	63.1
15-Aug-24 03:00:00	29.9	6.8	561.5	28.3	7.3	1429.8	20.6	61.7
15-Aug-24 04:00:00	29.6	6.8	560.5	28.4	7.3	1429.9	20.6	60.3
15-Aug-24 05:00:00	28.0	6.7	558.2	28.8	7.3	1429.3	20.6	58.9
15-Aug-24 06:00:00	26.0	6.6	559.4	28.5	7.3	1428.8	20.6	58.7
15-Aug-24 07:00:00	29.6	6.6	560.5	28.8	7.2	1428.2	20.6	56.9
15-Aug-24 13:00:00	39.5	6.6	567.7	32.6	8.0	993.5	20.6	52.2
15-Aug-24 17:00:00	35.1	6.4	572.3	33.1	8.0	908.5	20.6	48.2
15-Aug-24 18:00:00	34.0	6.4	573.5	33.1	8.0	911.5	20.6	47.2

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
15-Aug-24 19:00:00	30.1	6.3	574.6	33.0	8.0	914.4	20.6	47.3
15-Aug-24 20:00:00	29.0	6.3	575.8	33.0	8.1	917.4	20.6	45.5
15-Aug-24 21:00:00	28.4	6.4	576.7	33.0	8.0	868.1	20.6	44.4
15-Aug-24 22:00:00	28.3	6.3	577.5	33.1	8.0	848.4	20.6	42.9
15-Aug-24 23:00:00	28.1	6.3	578.3	33.2	8.0	834.1	20.6	42.1
16-Aug-24 00:00:00	27.7	6.3	579.1	33.2	8.0	838.3	20.6	41.7
16-Aug-24 01:00:00	26.9	6.3	579.9	29.1	8.0	842.6	20.6	42.1
16-Aug-24 02:00:00	26.4	6.2	580.7	28.9	8.0	846.8	20.6	41.1
16-Aug-24 03:00:00	26.3	6.2	581.5	28.8	7.9	848.3	20.6	40.8
16-Aug-24 04:00:00	26.1	6.2	582.3	28.7	7.9	849.0	20.6	39.7
16-Aug-24 05:00:00	26.1	6.2	583.1	28.7	7.9	849.7	20.6	38.8
16-Aug-24 06:00:00	26.4	6.2	583.9	28.7	7.9	850.3	20.6	38.4
16-Aug-24 07:00:00	27.7	6.3	584.7	28.6	7.9	851.0	20.6	37.4
16-Aug-24 08:00:00	38.1	6.4	585.5	32.4	7.9	851.7	20.6	33.6
16-Aug-24 11:00:00	32.0	7.1	383.9	33.5	8.0	853.8	20.6	28.4
16-Aug-24 12:00:00	33.6	7.6	359.1	33.4	8.1	854.5	20.6	27.6
16-Aug-24 13:00:00	34.3	7.9	365.9	32.7	8.2	855.3	20.6	28.4
16-Aug-24 14:00:00	34.4	8.1	372.7	33.1	8.0	576.6	20.6	33.6
16-Aug-24 15:00:00	34.0	8.2	379.6	32.5	7.8	579.7	20.6	31.9
16-Aug-24 16:00:00	33.6	8.1	384.3	32.8	7.7	569.2	20.6	28.4
16-Aug-24 17:00:00	31.8	7.9	386.7	33.5	7.6	563.9	20.6	29.2
16-Aug-24 18:00:00	30.8	7.7	389.0	33.1	7.5	558.5	20.6	27.0
16-Aug-24 19:00:00	29.4	7.4	391.3	33.1	7.5	550.0	20.6	26.4
16-Aug-24 20:00:00	28.3	7.3	393.6	33.2	7.5	543.2	20.6	25.5
16-Aug-24 21:00:00	27.8	7.3	395.9	33.2	7.6	536.1	20.6	25.5
16-Aug-24 22:00:00	27.7	7.2	398.2	33.1	7.8	0.9	20.6	28.9
16-Aug-24 23:00:00	27.1	7.1	400.5	33.2	7.9	510.2	20.6	36.1
17-Aug-24 00:00:00	27.0	7.0	401.6	33.2	7.9	505.3	20.6	29.5
17-Aug-24 01:00:00	26.9	7.0	401.8	29.0	7.6	508.2	20.6	27.4
17-Aug-24 02:00:00	27.1	6.9	402.1	29.0	7.5	508.0	20.6	25.7
17-Aug-24 03:00:00	26.4	6.9	402.3	28.7	7.5	508.4	20.6	26.4
17-Aug-24 04:00:00	25.7	6.8	402.5	28.4	7.4	509.9	20.6	25.2
17-Aug-24 05:00:00	25.6	6.8	402.8	27.7	7.1	511.3	20.6	24.7
17-Aug-24 06:00:00	25.2	6.8	403.0	27.5	7.1	512.8	20.6	24.4
17-Aug-24 07:00:00	25.1	6.8	403.3	27.6	7.1	514.2	20.6	23.4
17-Aug-24 08:00:00	25.4	6.8	403.6	31.6	7.1	515.7	20.6	22.6
17-Aug-24 09:00:00	26.8	6.8	403.9	32.5	7.1	517.1	20.6	19.2
17-Aug-24 10:00:00	29.3	6.8	404.3	32.8	7.1	518.6	20.6	18.2
17-Aug-24 11:00:00	34.7	6.9	404.6	33.1	7.0	519.6	20.6	19.4
17-Aug-24 12:00:00	38.4	6.9	404.9	33.2	7.0	520.3	20.6	17.7
17-Aug-24 13:00:00	38.4	6.9	405.3	32.8	7.0	520.9	20.6	15.1
17-Aug-24 14:00:00	37.5	6.9	405.6	33.5	7.0	521.5	20.6	13.6
17-Aug-24 15:00:00	36.1	6.8	406.0	33.2	6.9	522.2	20.6	11.5
17-Aug-24 16:00:00	35.0	6.8	407.1	33.4	6.9	522.8	20.6	10.7
17-Aug-24 17:00:00	33.0	6.8	408.4	33.2	6.9	523.4	20.6	10.5
17-Aug-24 18:00:00	30.8	6.8	409.7	33.2	6.9	524.0	20.6	10.5
17-Aug-24 19:00:00	28.6	6.7	411.0	33.3	6.9	524.0	20.6	11.7
17-Aug-24 20:00:00	27.8	6.7	412.3	33.4	6.9	523.7	20.6	11.7
17-Aug-24 21:00:00	27.5	6.7	413.7	33.4	6.9	523.3	20.6	13.9
17-Aug-24 22:00:00	27.4	6.7	415.0	33.3	6.9	523.2	20.6	13.5
17-Aug-24 23:00:00	30.6	7.7	274.5	33.3	6.9	524.3	20.6	12.6
18-Aug-24 00:00:00	30.3	7.6	210.6	33.3	6.9	525.4	20.6	11.8
18-Aug-24 01:00:00	30.0	7.5	171.6	29.3	6.9	526.6	20.6	11.2
18-Aug-24 02:00:00	29.8	7.4	162.3	29.0	6.9	527.7	20.6	10.6
18-Aug-24 03:00:00	29.6	7.2	162.6	28.9	6.9	528.9	20.6	10.7
18-Aug-24 04:00:00	28.6	7.1	2.2	28.9	6.9	530.0	20.6	10.5



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
18-Aug-24 05:00:00	26.8	7.1	2.0	28.8	6.9	531.1	20.6	10.3
18-Aug-24 06:00:00	26.2	7.0	1.7	28.9	6.9	532.1	20.6	9.9
18-Aug-24 07:00:00	27.0	7.0	1.5	28.8	6.9	532.2	20.6	9.0
18-Aug-24 08:00:00	29.9	6.9	1.2	29.0	6.9	532.3	20.6	7.9
18-Aug-24 09:00:00	36.9	6.9	1.0	29.4	6.9	532.4	20.6	8.5
18-Aug-24 18:00:00	34.3	6.7	0.3	32.8	7.3	463.9	4.8	9.4
18-Aug-24 22:00:00	28.6	6.5	0.3	33.3	7.2	468.5	7.8	9.3
18-Aug-24 23:00:00	28.3	6.5	0.3	33.2	7.2	466.5	20.6	9.2
19-Aug-24 00:00:00	28.1	6.5	0.3	32.9	7.2	464.6	20.6	8.8
19-Aug-24 01:00:00	27.8	6.5	0.3	32.7	7.2	462.7	20.6	8.7
19-Aug-24 02:00:00	27.4	6.5	0.3	32.8	7.2	460.8	20.6	7.9
19-Aug-24 03:00:00	27.3	6.5	0.3	32.8	7.2	457.4	20.6	7.7
19-Aug-24 04:00:00	27.8	6.4	0.3	32.1	7.1	438.3	20.6	7.8
19-Aug-24 05:00:00	27.0	6.4	0.2	32.6	7.1	419.1	20.6	7.5
19-Aug-24 06:00:00	25.8	6.4	0.2	32.5	7.1	400.0	20.6	7.9
19-Aug-24 07:00:00	29.6	7.0	196.6	32.5	7.1	369.1	20.6	7.1
19-Aug-24 08:00:00	31.3	7.3	261.3	32.8	7.1	314.2	20.6	6.3
19-Aug-24 09:00:00	32.0	7.5	289.0	33.4	7.1	275.9	20.6	3.8
19-Aug-24 10:00:00	32.2	7.6	306.0	33.3	7.0	264.5	20.6	3.0
19-Aug-24 11:00:00	32.9	7.9	310.8	33.2	7.0	221.7	20.6	3.0
19-Aug-24 12:00:00	34.0	8.2	315.5	33.2	7.0	196.5	20.6	4.2
19-Aug-24 17:00:00	39.2	7.5	1.7	33.0	8.7	522.6	20.6	20.7
19-Aug-24 18:00:00	35.3	7.4	1.5	33.0	8.7	513.8	20.6	23.3
19-Aug-24 19:00:00	30.3	7.4	1.3	33.1	8.7	511.3	20.6	25.1
19-Aug-24 20:00:00	29.0	7.3	1.1	33.2	8.6	508.9	20.6	27.2
19-Aug-24 21:00:00	28.3	7.3	0.9	33.3	8.6	506.5	20.6	26.1
19-Aug-24 22:00:00	27.7	7.2	0.9	33.4	8.6	504.1	20.6	26.2
19-Aug-24 23:00:00	27.6	7.2	0.8	33.4	8.5	501.8	20.6	25.8
20-Aug-24 00:00:00	27.3	7.2	0.7	33.3	8.5	502.9	20.6	26.7
20-Aug-24 01:00:00	27.5	7.1	0.6	33.1	8.5	504.0	20.6	27.9
20-Aug-24 02:00:00	27.9	7.1	0.6	33.1	8.5	505.1	20.6	26.9
20-Aug-24 03:00:00	27.5	7.2	0.5	32.9	8.5	506.2	20.6	27.6
20-Aug-24 04:00:00	25.2	7.2	0.4	32.0	8.5	507.2	20.6	26.6
20-Aug-24 05:00:00	24.3	7.2	0.4	31.6	8.5	508.3	20.6	26.7
20-Aug-24 06:00:00	24.3	7.0	0.5	31.8	8.4	509.4	20.6	27.4
20-Aug-24 07:00:00	25.5	6.9	0.6	31.9	8.4	510.5	20.6	26.9
20-Aug-24 08:00:00	34.8	6.8	0.6	31.8	8.3	509.8	20.6	28.4
20-Aug-24 17:00:00	37.0	7.0	0.6	32.9	7.7	538.0	20.6	18.2
20-Aug-24 18:00:00	32.7	7.0	0.5	33.2	7.6	539.8	20.6	19.5
20-Aug-24 19:00:00	30.0	6.9	0.4	33.0	7.6	541.6	20.6	20.8
20-Aug-24 20:00:00	29.1	6.9	0.3	33.1	7.6	543.4	20.6	20.9
20-Aug-24 21:00:00	28.4	6.9	0.3	33.1	7.6	545.2	20.6	20.4
20-Aug-24 22:00:00	28.3	6.9	0.3	33.1	7.5	545.4	20.6	20.6
20-Aug-24 23:00:00	28.3	6.8	0.3	33.2	7.5	545.6	20.6	20.5
21-Aug-24 00:00:00	28.3	6.8	0.3	33.2	7.5	545.7	20.6	20.4
21-Aug-24 01:00:00	28.0	6.8	0.3	33.0	7.5	545.8	20.6	21.4
21-Aug-24 02:00:00	26.6	7.0	0.3	31.1	7.5	545.9	20.6	22.1
21-Aug-24 03:00:00	26.2	6.8	0.4	31.5	7.5	546.0	20.6	22.2
21-Aug-24 04:00:00	24.6	6.8	0.4	31.5	7.5	546.2	20.6	21.9
21-Aug-24 05:00:00	24.4	6.8	0.4	31.6	7.4	546.3	20.6	21.9
21-Aug-24 06:00:00	24.4	6.7	0.3	31.6	7.4	540.7	20.6	21.7
21-Aug-24 07:00:00	25.7	6.7	0.3	31.8	7.4	534.6	20.6	20.6
21-Aug-24 08:00:00	29.3	6.6	0.3	31.6	7.4	525.4	20.6	19.3
21-Aug-24 09:00:00	38.0	6.6	0.3	32.7	7.4	487.6	20.6	18.8
21-Aug-24 15:00:00	32.0	7.0	0.3	31.6	8.7	552.4	20.6	25.8
21-Aug-24 16:00:00	33.0	6.9	0.3	32.2	8.7	560.8	20.6	24.5

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
21-Aug-24 17:00:00	31.8	6.8	0.3	32.5	8.7	569.5	20.6	24.0
21-Aug-24 18:00:00	31.1	6.9	0.3	32.7	8.7	578.2	20.6	24.3
21-Aug-24 19:00:00	29.9	6.9	0.3	32.9	8.7	586.9	20.6	23.6
21-Aug-24 20:00:00	28.6	6.8	0.3	32.4	8.6	595.6	20.6	20.5
21-Aug-24 21:00:00	27.6	6.8	0.3	33.0	8.6	605.0	20.6	10.4
21-Aug-24 22:00:00	26.7	6.8	0.3	32.8	8.6	614.5	20.6	9.4
21-Aug-24 23:00:00	26.3	6.8	0.3	32.7	8.5	624.0	20.6	9.6
22-Aug-24 00:00:00	26.2	6.8	0.3	33.0	8.5	627.0	20.6	8.8
22-Aug-24 01:00:00	26.2	6.8	0.3	32.8	8.5	626.4	20.6	8.6
22-Aug-24 02:00:00	26.2	6.7	0.3	32.8	8.5	625.8	20.6	9.2
22-Aug-24 03:00:00	26.2	6.7	0.3	32.9	8.5	625.1	20.6	9.0
22-Aug-24 04:00:00	26.4	6.7	0.2	32.9	8.4	624.5	20.6	9.4
22-Aug-24 05:00:00	26.4	6.7	0.3	32.8	8.4	625.8	20.6	9.7
22-Aug-24 06:00:00	26.1	6.7	0.3	32.6	8.3	628.2	20.6	8.9
22-Aug-24 07:00:00	28.2	6.6	0.4	32.5	8.3	630.6	20.6	9.5
22-Aug-24 08:00:00	31.6	7.8	513.5	32.6	8.2	633.0	20.6	10.3
22-Aug-24 09:00:00	31.7	7.9	469.1	33.4	8.0	635.4	20.6	11.0
22-Aug-24 10:00:00	31.3	8.1	441.9	33.5	8.0	637.7	20.6	13.6
22-Aug-24 11:00:00	31.8	8.2	419.1	33.3	7.9	640.1	20.6	14.4
22-Aug-24 12:00:00	32.2	8.5	400.9	33.0	7.8	642.5	20.6	13.7
22-Aug-24 13:00:00	32.8	8.8	392.4	32.4	7.7	642.4	20.6	14.0
22-Aug-24 14:00:00	32.9	9.0	378.1	32.9	7.7	640.7	20.6	15.5
22-Aug-24 15:00:00	32.7	8.2	316.4	33.0	7.7	639.1	20.6	15.6
22-Aug-24 16:00:00	32.6	7.2	283.1	32.9	7.6	633.1	20.6	15.6
22-Aug-24 17:00:00	32.6	7.4	266.2	32.9	7.6	601.1	20.6	16.1
22-Aug-24 18:00:00	32.5	8.1	263.9	32.8	7.5	612.2	20.6	16.6
22-Aug-24 19:00:00	32.5	8.5	261.6	32.9	7.5	619.9	20.6	15.8
22-Aug-24 20:00:00	32.1	8.6	259.3	32.9	7.5	608.8	20.6	15.2
22-Aug-24 21:00:00	31.7	8.5	264.0	33.1	7.5	593.0	20.6	15.0
22-Aug-24 22:00:00	29.6	7.9	1.3	33.0	7.5	567.4	20.6	14.5
22-Aug-24 23:00:00	27.7	7.9	1.3	33.1	7.5	541.7	20.6	14.6
23-Aug-24 00:00:00	27.1	7.8	1.3	33.0	7.5	513.4	20.6	14.4
23-Aug-24 01:00:00	26.9	7.7	1.2	32.8	7.5	484.1	20.6	14.1
23-Aug-24 02:00:00	27.0	7.7	1.2	32.9	7.4	454.7	20.6	13.8
23-Aug-24 03:00:00	26.3	7.6	1.2	32.7	7.4	428.7	20.6	13.5
23-Aug-24 04:00:00	25.8	7.5	1.1	32.7	7.4	406.0	20.6	13.2
23-Aug-24 05:00:00	25.6	7.5	1.1	32.6	7.4	383.2	20.6	13.0
23-Aug-24 06:00:00	25.5	7.4	1.0	32.6	7.4	360.5	20.6	12.7
23-Aug-24 07:00:00	27.5	7.4	0.9	32.6	7.4	336.4	20.6	13.7
23-Aug-24 08:00:00	34.5	7.2	0.8	32.8	7.4	281.0	20.6	12.9
23-Aug-24 09:00:00	38.5	7.2	0.7	33.2	7.4	220.5	20.6	14.3
23-Aug-24 10:00:00	28.5	7.2	0.6	33.0	7.3	234.2	20.6	15.1
23-Aug-24 11:00:00	31.3	7.1	0.6	33.4	7.3	186.7	20.6	16.5
23-Aug-24 12:00:00	28.9	7.1	0.5	32.5	7.4	686.9	20.6	16.5
23-Aug-24 13:00:00	24.7	7.1	0.4	30.6	8.3	740.9	20.6	8.1
23-Aug-24 14:00:00	27.3	7.0	0.3	32.1	8.5	789.5	20.6	7.2
23-Aug-24 15:00:00	29.8	7.0	0.3	32.4	8.5	815.9	20.6	7.5
23-Aug-24 16:00:00	30.5	6.9	0.3	32.6	8.5	826.6	20.6	7.1
23-Aug-24 17:00:00	31.3	6.9	0.3	32.9	8.5	827.1	20.6	6.9
23-Aug-24 18:00:00	29.6	6.9	0.3	33.1	8.6	827.6	20.6	6.4
23-Aug-24 19:00:00	27.6	7.0	0.2	33.3	8.6	828.1	20.6	5.9
23-Aug-24 20:00:00	26.8	7.0	0.2	32.5	8.6	828.7	20.6	5.5
23-Aug-24 21:00:00	26.3	6.9	0.2	32.3	8.6	829.2	20.6	4.9
23-Aug-24 22:00:00	25.9	6.9	0.2	32.4	8.5	829.7	20.6	4.5
23-Aug-24 23:00:00	26.1	6.9	0.2	32.5	8.5	830.2	20.6	4.3
24-Aug-24 00:00:00	26.2	6.9	0.2	32.5	8.5	834.8	20.6	4.1



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
24-Aug-24 01:00:00	26.3	6.9	0.2	32.7	8.5	907.4	20.6	3.9
24-Aug-24 02:00:00	25.8	6.9	0.2	32.7	8.5	916.5	20.6	4.3
24-Aug-24 03:00:00	25.1	6.9	0.2	32.4	8.4	917.5	20.6	3.7
24-Aug-24 04:00:00	24.8	6.9	0.2	32.4	8.4	918.4	20.6	3.5
24-Aug-24 05:00:00	25.0	6.8	0.2	32.5	8.3	919.3	20.6	3.8
24-Aug-24 06:00:00	25.1	6.8	0.2	32.4	8.3	920.3	20.6	4.4
24-Aug-24 07:00:00	25.8	6.8	0.2	32.6	8.2	921.2	20.6	4.3
24-Aug-24 08:00:00	27.5	6.7	0.2	32.4	8.2	922.1	20.6	3.4
24-Aug-24 09:00:00	29.0	6.7	0.2	32.4	8.1	923.1	20.6	3.8
24-Aug-24 10:00:00	35.8	6.7	0.2	32.9	8.0	924.0	20.6	3.2
24-Aug-24 12:00:00	37.0	7.1	394.3	33.3	7.8	926.4	20.6	4.5
24-Aug-24 13:00:00	32.1	7.6	488.0	32.3	7.8	927.5	20.6	6.2
24-Aug-24 14:00:00	32.9	7.9	548.8	33.1	7.7	928.7	20.6	6.8
24-Aug-24 15:00:00	34.1	8.1	570.9	33.0	7.7	929.8	20.6	7.5
24-Aug-24 16:00:00	34.1	8.2	582.3	32.7	7.7	931.0	20.6	7.4
24-Aug-24 17:00:00	34.1	8.3	586.3	32.4	7.7	932.2	20.6	6.5
24-Aug-24 18:00:00	33.3	7.7	1724.2	33.2	7.7	932.9	20.6	6.1
24-Aug-24 19:00:00	32.5	7.3	3473.9	32.9	7.7	932.4	20.6	5.0
24-Aug-24 20:00:00	32.1	7.3	3944.5	32.9	7.7	931.9	20.6	4.6
24-Aug-24 21:00:00	31.9	7.3	4024.1	32.9	7.6	931.4	20.6	4.2
24-Aug-24 22:00:00	31.8	7.3	3920.1	33.0	7.6	930.9	20.6	3.8
24-Aug-24 23:00:00	31.6	7.3	3854.9	33.1	7.6	930.4	20.6	3.4
25-Aug-24 00:00:00	31.5	7.3	3844.3	33.0	7.6	929.9	20.6	3.4
25-Aug-24 01:00:00	31.3	7.3	3833.7	32.9	7.6	929.4	20.6	3.2
25-Aug-24 02:00:00	31.1	7.3	3831.5	32.7	7.6	925.0	20.6	3.2
25-Aug-24 03:00:00	31.0	7.3	3831.4	32.0	7.6	909.5	20.6	3.4
25-Aug-24 04:00:00	30.9	7.3	3831.4	31.8	7.6	894.1	20.6	4.0
25-Aug-24 05:00:00	30.8	7.3	3831.4	32.1	7.6	877.5	20.6	4.4
25-Aug-24 06:00:00	30.7	7.4	3831.3	32.1	7.5	899.6	20.6	4.6
25-Aug-24 07:00:00	30.6	7.4	3831.3	32.0	7.5	799.1	20.6	4.4
25-Aug-24 08:00:00	30.5	7.4	3831.3	32.3	7.5	728.0	20.6	4.0
25-Aug-24 09:00:00	30.6	7.4	3831.3	32.5	7.5	664.9	20.6	4.2
25-Aug-24 10:00:00	30.8	7.5	3829.3	32.5	7.5	602.3	20.6	3.9
25-Aug-24 11:00:00	31.2	7.7	3826.7	32.4	7.5	577.3	20.6	3.3
25-Aug-24 12:00:00	31.7	8.0	3824.2	32.4	7.4	533.1	20.6	4.8
25-Aug-24 13:00:00	32.2	8.3	3821.7	32.1	7.4	468.0	20.6	4.6
25-Aug-24 14:00:00	32.5	8.4	3819.2	31.7	7.4	470.7	20.6	4.6
25-Aug-24 15:00:00	32.8	8.6	3775.9	31.8	7.4	424.0	20.6	4.8
25-Aug-24 16:00:00	32.7	8.7	3124.4	31.8	7.4	363.1	20.6	5.0
25-Aug-24 17:00:00	32.5	8.8	2773.3	31.6	7.4	316.9	20.6	4.9
25-Aug-24 18:00:00	32.4	8.9	2510.5	31.3	7.4	300.5	20.6	3.1
25-Aug-24 19:00:00	32.2	8.8	2373.9	31.9	7.4	295.1	20.6	4.3
25-Aug-24 20:00:00	32.1	8.8	2298.4	32.0	7.4	280.4	20.6	5.5
25-Aug-24 21:00:00	31.9	8.8	2248.5	31.9	7.4	255.5	20.6	6.4
25-Aug-24 22:00:00	31.8	8.8	2238.7	32.1	7.4	230.7	20.6	6.5
25-Aug-24 23:00:00	31.6	8.7	2203.1	32.3	7.3	205.8	20.6	6.8
26-Aug-24 00:00:00	31.5	8.7	2200.1	28.0	7.3	180.2	20.6	7.5
26-Aug-24 01:00:00	31.4	8.7	2201.6	27.6	7.3	152.9	20.6	7.9
26-Aug-24 02:00:00	31.3	8.7	2200.7	27.5	7.3	125.6	20.6	8.5
26-Aug-24 03:00:00	31.2	8.7	2182.5	27.8	7.3	98.3	20.6	8.8
26-Aug-24 04:00:00	31.1	8.6	2239.3	27.7	7.3	68.0	20.6	9.3
26-Aug-24 05:00:00	31.0	8.6	2220.5	27.5	7.3	1.1	20.6	10.0
26-Aug-24 06:00:00	30.9	8.6	2232.4	27.4	7.3	1.0	20.6	10.2
26-Aug-24 07:00:00	30.8	8.6	2231.8	27.6	7.3	0.9	20.6	10.5
26-Aug-24 08:00:00	30.8	8.5	2231.1	31.4	7.3	0.9	20.6	10.9
26-Aug-24 09:00:00	30.8	8.6	2230.5	32.5	7.3	0.8	20.6	11.2

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
26-Aug-24 10:00:00	30.8	8.7	2229.8	32.8	7.3	0.7	20.6	10.4
26-Aug-24 11:00:00	30.9	8.8	2229.1	32.3	7.3	0.7	20.6	8.3
26-Aug-24 12:00:00	31.1	9.0	2219.2	32.0	7.3	0.6	20.6	9.7
27-Aug-24 04:00:00	30.6	8.7	1193.7	28.4	7.2	0.2	20.6	16.6
27-Aug-24 05:00:00	30.6	8.5	1047.1	28.0	7.2	0.1	20.6	17.4
27-Aug-24 06:00:00	30.6	8.3	924.4	27.9	7.2	0.1	20.6	17.9
27-Aug-24 07:00:00	30.6	8.1	831.8	28.2	7.2	0.1	20.6	18.2
27-Aug-24 08:00:00	30.6	7.9	795.4	31.1	7.2	0.0	20.6	17.7
27-Aug-24 09:00:00	30.5	7.9	763.0	32.9	7.1	0.0	20.6	18.0
27-Aug-24 10:00:00	30.6	8.0	738.8	32.9	7.1	0.0	20.6	17.6
27-Aug-24 11:00:00	30.6	8.2	730.2	33.0	7.1	-0.1	20.6	16.3
27-Aug-24 12:00:00	30.7	8.4	724.4	33.1	7.1	-0.1	20.6	15.7
27-Aug-24 13:00:00	30.8	8.8	716.1	32.3	7.1	-0.1	20.6	16.1
27-Aug-24 14:00:00	30.8	9.0	708.1	32.9	7.1	0.0	20.6	15.8
29-Aug-24 19:00:00	30.6	7.0	366.0	32.0	8.5	1423.2	20.6	36.2
29-Aug-24 20:00:00	30.5	5.7	413.0	32.2	8.5	1428.7	20.6	34.7
30-Aug-24 17:00:00	31.1	8.8	393.5	32.2	8.7	1521.6	20.6	30.7
30-Aug-24 18:00:00	31.3	8.7	453.8	32.6	8.5	1551.3	20.6	31.6
30-Aug-24 19:00:00	31.5	8.8	533.2	32.6	8.4	1555.7	20.6	31.8
30-Aug-24 20:00:00	31.4	8.9	545.0	32.6	8.3	1560.1	20.6	30.9
30-Aug-24 21:00:00	31.3	8.9	546.4	32.6	8.2	1564.5	20.6	30.3
30-Aug-24 22:00:00	31.2	8.9	547.7	31.7	8.1	1568.9	20.6	30.8
30-Aug-24 23:00:00	31.1	8.9	549.1	31.7	7.8	1573.1	20.6	31.4
31-Aug-24 00:00:00	31.0	8.9	550.4	31.9	7.8	1574.9	20.6	31.2
31-Aug-24 01:00:00	30.9	8.9	551.8	27.6	7.8	1576.8	20.6	31.3
31-Aug-24 02:00:00	30.8	8.9	553.1	27.6	7.7	1578.6	20.6	31.3
31-Aug-24 03:00:00	30.7	8.9	554.4	27.5	7.6	1580.4	20.6	31.1
31-Aug-24 04:00:00	30.6	8.8	555.6	27.1	7.6	1582.3	20.6	3.5
31-Aug-24 05:00:00	30.5	8.8	556.7	27.4	7.6	1584.1	20.6	3.8
31-Aug-24 06:00:00	30.4	8.8	557.8	27.4	7.6	1585.9	20.6	3.6
31-Aug-24 07:00:00	30.3	8.8	558.8	27.0	7.5	1587.6	20.6	3.7
31-Aug-24 08:00:00	30.2	8.8	559.9	30.9	7.5	1588.3	20.6	3.8
31-Aug-24 09:00:00	30.3	8.8	561.0	32.3	7.5	1588.9	20.6	4.1
31-Aug-24 10:00:00	30.3	8.9	562.1	32.3	7.5	1589.5	20.6	5.4
31-Aug-24 11:00:00	30.4	9.0	563.2	32.4	7.5	1590.2	20.6	6.0
31-Aug-24 12:00:00	34.8	8.7	2.0	31.9	7.5	1590.8	20.6	7.4
31-Aug-24 17:00:00	30.8	6.1	893.5	31.9	7.4	1598.0	20.6	10.6
31-Aug-24 18:00:00	31.0	5.7	434.0	31.9	7.4	1598.2	20.6	9.8
31-Aug-24 19:00:00	31.2	6.2	463.3	31.9	7.3	1598.3	20.6	9.2
31-Aug-24 20:00:00	31.1	6.7	481.1	32.2	7.3	1598.4	20.6	8.6
31-Aug-24 21:00:00	31.1	7.1	493.0	32.3	7.3	1598.6	20.6	8.7
31-Aug-24 22:00:00	31.0	7.4	499.1	32.4	7.3	1598.7	20.6	8.5
31-Aug-24 23:00:00	31.0	7.6	505.1	32.4	7.3	1598.8	20.6	8.9
01-Sep-24 00:00:00	30.9	7.6	511.1	32.5	7.3	1599.0	20.6	8.8
01-Sep-24 01:00:00	30.9	7.6	517.1	28.3	7.3	1599.8	20.6	8.9
01-Sep-24 02:00:00	30.8	7.6	531.8	28.2	7.3	1600.6	20.6	8.4
01-Sep-24 03:00:00	30.7	7.5	563.7	27.8	7.3	1601.5	20.6	8.0
01-Sep-24 04:00:00	30.6	7.5	571.6	27.6	7.3	1602.3	20.6	7.9
01-Sep-24 05:00:00	30.6	7.5	579.4	27.4	7.3	1603.1	20.6	7.9
01-Sep-24 06:00:00	30.5	7.4	586.4	27.1	7.3	1604.0	20.6	7.3
01-Sep-24 07:00:00	30.4	7.4	579.5	27.4	7.2	1604.8	20.6	8.3
01-Sep-24 08:00:00	30.3	7.5	572.6	27.8	7.2	1605.6	20.6	8.2
01-Sep-24 09:00:00	30.3	7.5	566.2	27.8	7.2	1606.5	20.6	9.0
01-Sep-24 10:00:00	30.4	7.5	559.9	28.0	7.2	1607.4	20.6	10.1
01-Sep-24 11:00:00	30.4	7.5	553.5	27.8	7.2	1608.3	20.6	10.9
01-Sep-24 12:00:00	30.4	7.5	552.7	27.9	7.2	1609.2	20.6	10.8



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
01-Sep-24 13:00:00	30.4	7.5	543.7	27.9	7.2	1610.1	20.6	11.2
01-Sep-24 14:00:00	30.5	7.6	541.5	27.8	7.2	1611.0	20.6	10.7
01-Sep-24 15:00:00	30.5	7.8	543.7	27.8	7.1	1625.2	20.6	12.5
01-Sep-24 16:00:00	30.5	7.9	547.4	27.8	7.1	1633.7	20.6	13.5
01-Sep-24 17:00:00	30.6	8.0	543.4	27.9	7.1	1634.9	20.6	14.5
01-Sep-24 18:00:00	30.6	8.0	539.4	30.3	7.1	1636.1	20.6	13.3
01-Sep-24 19:00:00	30.7	8.1	535.4	32.1	7.1	1637.3	20.6	12.0
01-Sep-24 20:00:00	30.8	8.2	530.7	32.3	7.1	1638.5	20.6	10.0
01-Sep-24 21:00:00	30.9	8.3	532.1	32.5	7.1	1639.7	20.6	13.0
01-Sep-24 22:00:00	30.9	8.5	528.1	32.8	7.1	1640.9	20.6	25.6
01-Sep-24 23:00:00	31.0	8.6	524.1	32.9	7.1	1642.1	20.6	25.7
02-Sep-24 00:00:00	31.1	8.7	516.4	31.0	7.1	1643.1	20.6	27.3
02-Sep-24 01:00:00	31.1	8.7	495.3	31.3	7.1	1643.0	20.6	28.9
02-Sep-24 02:00:00	31.2	8.6	482.7	31.6	7.1	1642.9	20.6	27.7
02-Sep-24 03:00:00	31.1	8.6	470.1	31.4	7.1	1642.8	20.6	26.5
02-Sep-24 04:00:00	31.0	8.7	458.4	31.2	7.1	1642.6	20.6	27.7
02-Sep-24 05:00:00	30.8	8.6	456.9	31.2	7.1	1642.5	20.6	28.1
02-Sep-24 06:00:00	30.7	8.6	455.4	31.2	7.1	1642.4	20.6	18.0
02-Sep-24 07:00:00	30.6	8.5	453.8	31.3	8.6	1695.0	20.6	5.5
02-Sep-24 08:00:00	30.5	8.5	452.3	31.1	8.7	1764.0	20.6	5.4
02-Sep-24 09:00:00	30.4	8.6	450.8	32.1	8.8	1770.9	20.6	4.3
02-Sep-24 10:00:00	30.4	8.5	449.3	32.3	8.8	1777.8	20.6	4.1
02-Sep-24 16:00:00	30.7	8.9	469.6	32.6	8.9	1790.9	20.6	4.1
02-Sep-24 17:00:00	30.7	8.6	495.7	32.3	8.9	1763.7	20.6	3.3
02-Sep-24 18:00:00	30.7	8.4	521.9	32.1	8.9	1748.5	20.6	4.5
02-Sep-24 19:00:00	30.6	8.4	537.7	32.1	8.9	1757.2	20.6	5.3
02-Sep-24 20:00:00	30.5	8.3	542.9	32.3	8.9	1766.3	20.6	5.6
02-Sep-24 21:00:00	30.4	8.3	538.7	32.3	8.8	1775.4	20.6	5.0
02-Sep-24 22:00:00	30.3	8.2	532.4	32.2	8.8	1783.7	20.6	6.1
02-Sep-24 23:00:00	30.3	8.3	526.1	32.2	8.7	1786.6	20.6	3.4
03-Sep-24 00:00:00	30.2	8.2	520.0	32.2	8.6	1789.5	20.6	3.8
03-Sep-24 01:00:00	30.1	8.2	515.0	31.9	8.6	1792.4	20.6	4.8
03-Sep-24 02:00:00	30.0	8.1	510.0	32.0	8.5	1795.3	20.6	5.0
03-Sep-24 03:00:00	29.9	8.0	508.8	32.0	8.5	1798.2	20.6	3.9
03-Sep-24 04:00:00	29.9	8.0	508.5	31.9	8.5	1801.1	20.6	3.5
03-Sep-24 05:00:00	29.8	7.9	508.3	31.9	8.4	1804.0	20.6	3.8
03-Sep-24 06:00:00	29.7	7.9	508.0	32.0	8.4	1806.4	20.6	3.4
03-Sep-24 07:00:00	29.6	7.7	507.7	31.9	8.4	1807.4	20.6	4.5
03-Sep-24 08:00:00	29.5	7.7	495.3	31.4	8.4	1808.4	20.6	4.1
03-Sep-24 09:00:00	29.4	7.7	477.5	32.0	8.4	1809.4	20.6	3.4
03-Sep-24 10:00:00	29.4	7.7	459.6	32.1	8.3	1810.4	20.6	4.0
03-Sep-24 11:00:00	29.5	7.9	441.8	32.4	8.2	1811.4	20.6	3.5
03-Sep-24 12:00:00	29.5	8.0	423.9	32.3	8.2	1812.4	20.6	3.9
03-Sep-24 13:00:00	29.5	8.2	417.0	31.8	8.2	1813.4	20.6	5.0
03-Sep-24 14:00:00	29.6	8.2	412.1	32.4	8.1	1814.5	20.6	3.2
03-Sep-24 15:00:00	29.6	8.6	364.5	32.4	8.1	2.0	20.6	4.0
03-Sep-24 16:00:00	29.7	8.8	364.7	32.4	8.4	5161.7	20.6	4.1
03-Sep-24 17:00:00	29.7	8.9	371.1	32.3	8.4	5162.2	20.6	5.0
03-Sep-24 18:00:00	29.8	8.9	415.4	32.4	8.4	5162.7	20.6	5.1
03-Sep-24 19:00:00	29.9	8.9	459.7	32.5	8.4	5163.2	20.6	5.0
03-Sep-24 20:00:00	30.0	8.9	480.0	32.5	8.4	5163.8	20.6	4.1
03-Sep-24 21:00:00	30.0	8.9	490.7	32.6	8.3	5164.3	20.6	4.2
03-Sep-24 22:00:00	29.9	8.9	489.7	32.8	8.2	5164.8	20.6	3.8
03-Sep-24 23:00:00	29.8	8.9	488.0	32.7	8.1	5165.3	20.6	4.1
04-Sep-24 00:00:00	29.8	8.9	486.0	32.6	8.1	5165.4	20.6	3.7
04-Sep-24 01:00:00	29.7	8.9	488.6	32.3	8.1	5165.3	20.6	4.1

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
04-Sep-24 02:00:00	29.6	8.8	487.6	32.2	8.0	5165.3	20.6	4.4
04-Sep-24 03:00:00	29.6	8.8	486.6	32.2	8.0	5165.3	20.6	4.8
04-Sep-24 04:00:00	29.5	8.8	485.6	32.0	8.0	5165.2	20.6	5.0
04-Sep-24 05:00:00	29.4	8.8	484.5	31.8	8.0	5165.2	20.6	5.6
04-Sep-24 06:00:00	29.3	8.8	483.2	31.7	8.0	5165.1	20.6	5.7
04-Sep-24 07:00:00	29.3	8.7	481.8	31.7	8.0	5165.1	20.6	6.0
04-Sep-24 08:00:00	29.2	8.7	480.5	31.4	8.0	5165.1	20.6	5.4
04-Sep-24 09:00:00	29.1	8.8	479.1	32.4	7.9	5165.1	20.6	5.2
04-Sep-24 10:00:00	29.3	8.9	480.6	32.4	8.3	5165.1	20.6	3.3
04-Sep-24 11:00:00	29.4	9.0	485.1	32.2	8.3	5165.1	20.6	3.7
04-Sep-24 14:00:00	30.5	8.9	384.2	32.3	8.5	5165.1	20.6	3.2
04-Sep-24 15:00:00	30.9	8.8	389.4	32.2	8.5	5165.1	20.6	3.4
04-Sep-24 16:00:00	31.3	8.7	394.6	32.5	8.6	5165.1	20.6	2.9
04-Sep-24 17:00:00	31.5	8.8	399.8	32.3	8.6	5165.1	20.6	3.7
04-Sep-24 18:00:00	31.5	8.8	405.0	32.1	8.5	5165.2	20.6	5.1
05-Sep-24 00:00:00	28.8	8.6	1.1	32.1	8.2	5165.1	20.6	9.9
05-Sep-24 01:00:00	28.8	8.5	180.8	31.9	8.1	5165.1	20.6	11.4
05-Sep-24 02:00:00	27.5	8.4	181.6	32.1	8.1	5165.0	20.6	11.2
05-Sep-24 03:00:00	27.4	8.4	182.4	32.3	8.1	5165.0	20.6	12.1
05-Sep-24 04:00:00	27.3	8.4	183.1	32.0	8.0	5164.9	20.6	13.1
05-Sep-24 05:00:00	27.1	8.3	183.9	31.8	8.0	5164.9	20.6	13.4
05-Sep-24 06:00:00	27.0	8.2	184.7	31.8	8.0	5164.8	20.6	14.3
05-Sep-24 07:00:00	31.5	8.3	254.3	32.0	7.9	5164.8	20.6	14.8
05-Sep-24 08:00:00	39.4	8.2	258.5	31.8	7.9	5164.8	20.6	14.9
05-Sep-24 15:00:00	31.9	8.9	362.9	31.9	8.6	5165.0	20.6	11.4
06-Sep-24 03:00:00	30.7	9.0	360.6	31.9	8.5	5164.9	20.6	18.0
06-Sep-24 04:00:00	30.6	8.9	352.7	32.0	8.4	5164.8	20.6	18.3
06-Sep-24 05:00:00	30.5	8.9	344.8	32.1	8.3	5164.8	20.6	19.0
06-Sep-24 06:00:00	30.5	8.8	342.5	32.0	8.2	5164.8	20.6	19.5
06-Sep-24 07:00:00	30.4	8.8	342.4	32.1	8.1	5164.8	20.6	18.9
06-Sep-24 08:00:00	30.3	8.8	342.3	31.9	8.0	5164.8	20.6	19.7
06-Sep-24 09:00:00	30.3	8.9	342.2	32.7	8.0	5164.9	20.6	19.8
06-Sep-24 10:00:00	30.3	9.0	342.1	32.8	8.0	5164.9	20.6	19.9
06-Sep-24 11:00:00	30.4	9.0	341.9	32.7	8.0	5165.0	20.6	18.7
06-Sep-24 13:00:00	30.6	9.0	344.7	31.7	7.9	5165.0	20.6	18.8
06-Sep-24 14:00:00	30.8	8.8	358.2	32.3	7.9	5165.1	20.6	18.9
06-Sep-24 15:00:00	30.9	8.7	371.6	32.4	7.9	5165.1	20.6	18.2
06-Sep-24 16:00:00	31.1	8.7	376.7	32.6	7.9	5165.1	20.6	20.2
06-Sep-24 17:00:00	31.3	8.9	379.2	32.5	8.6	5165.2	20.6	17.4
06-Sep-24 18:00:00	31.4	9.0	381.8	32.6	8.6	5165.2	20.6	18.3
06-Sep-24 22:00:00	31.3	8.8	321.7	33.0	8.6	5165.3	20.6	17.5
08-Sep-24 23:00:00	31.4	6.2	421.9	32.4	8.9	5164.7	20.6	14.6
09-Sep-24 00:00:00	31.3	6.0	431.5	27.9	8.9	5164.7	20.6	14.9
09-Sep-24 01:00:00	31.2	5.9	434.4	27.7	8.9	5164.7	20.6	15.4
09-Sep-24 02:00:00	31.1	5.8	433.5	27.9	8.9	5164.6	20.6	15.9
09-Sep-24 03:00:00	31.0	6.0	422.0	28.0	8.9	5164.6	20.6	14.9
09-Sep-24 04:00:00	30.8	6.1	412.8	27.9	8.9	5164.6	20.6	15.3
09-Sep-24 05:00:00	30.7	6.1	403.6	27.6	8.8	5164.6	20.6	15.6
09-Sep-24 06:00:00	30.6	6.1	394.4	27.5	8.8	5164.6	20.6	15.5
09-Sep-24 07:00:00	30.5	6.2	388.7	27.7	8.8	5164.6	20.6	15.4
09-Sep-24 08:00:00	30.5	6.2	389.1	31.7	8.8	5164.6	20.6	14.0
09-Sep-24 09:00:00	30.4	6.2	389.4	32.9	8.8	5164.5	20.6	13.7
09-Sep-24 10:00:00	30.4	6.4	389.8	33.0	8.8	5164.5	20.6	13.8
09-Sep-24 11:00:00	30.6	6.9	419.4	32.9	8.7	5164.5	20.6	13.4
09-Sep-24 12:00:00	30.7	7.7	440.5	32.7	8.8	5164.6	20.6	17.5
09-Sep-24 13:00:00	30.9	8.4	454.6	32.4	8.8	5164.9	20.6	15.0



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
09-Sep-24 14:00:00	31.1	8.8	470.7	33.2	8.9	5165.2	20.6	13.2
09-Sep-24 15:00:00	31.3	9.0	480.9	33.1	9.0	5125.4	20.6	11.5
09-Sep-24 21:00:00	32.3	9.0	458.0	33.0	8.5	5134.3	20.6	11.2
09-Sep-24 22:00:00	32.2	9.0	455.1	33.2	8.5	5136.0	20.6	11.4
09-Sep-24 23:00:00	31.7	7.4	403.1	33.1	8.4	5137.8	20.6	11.4
10-Sep-24 00:00:00	31.6	6.1	403.1	33.0	8.4	5139.5	20.6	11.4
10-Sep-24 01:00:00	31.4	5.7	403.1	28.6	8.4	5141.2	20.6	11.6
10-Sep-24 07:00:00	30.7	6.3	370.6	28.4	8.2	5141.7	20.6	12.8
10-Sep-24 08:00:00	30.6	6.1	396.6	32.1	8.2	5140.1	20.6	12.6
10-Sep-24 09:00:00	30.6	6.2	425.7	33.1	8.2	5138.6	20.6	12.1
10-Sep-24 10:00:00	30.6	6.3	441.8	32.9	8.2	5136.3	20.6	12.7
10-Sep-24 11:00:00	30.7	6.5	435.9	33.1	8.2	5133.9	20.6	12.1
10-Sep-24 12:00:00	30.9	6.6	429.9	32.9	8.2	5131.6	20.6	12.1
10-Sep-24 13:00:00	31.2	7.1	424.3	32.3	8.1	5129.3	20.6	13.6
10-Sep-24 14:00:00	31.5	7.7	424.6	33.0	8.1	5126.9	20.6	11.3
10-Sep-24 15:00:00	32.0	8.0	425.0	33.1	8.1	5124.6	20.6	12.0
10-Sep-24 16:00:00	32.5	7.9	511.6	33.4	8.0	5122.2	20.6	12.7
10-Sep-24 17:00:00	32.6	7.9	610.8	33.1	8.0	5121.3	20.6	12.2
10-Sep-24 18:00:00	32.7	8.2	643.9	33.1	8.1	5121.8	20.6	12.9
10-Sep-24 19:00:00	32.4	8.2	648.4	33.1	8.1	5122.2	20.6	14.5
10-Sep-24 20:00:00	32.1	8.2	667.5	33.0	8.1	5122.7	20.6	16.0
10-Sep-24 21:00:00	31.8	8.1	664.0	33.3	8.1	5123.2	20.6	15.9
10-Sep-24 22:00:00	31.5	8.0	655.3	33.4	8.1	5123.7	20.6	15.8
10-Sep-24 23:00:00	31.2	7.8	646.6	32.2	8.1	5124.2	20.6	16.5
11-Sep-24 00:00:00	30.9	7.6	638.0	32.2	8.0	5124.7	20.6	17.8
11-Sep-24 01:00:00	30.6	7.4	639.9	28.0	8.0	5125.7	20.6	17.2
11-Sep-24 02:00:00	30.2	7.3	641.8	28.1	7.9	5127.1	20.6	17.3
11-Sep-24 03:00:00	29.9	7.2	643.7	28.0	8.0	5128.4	20.6	18.0
11-Sep-24 04:00:00	27.7	7.4	1.4	28.0	8.9	5138.3	20.6	16.7
11-Sep-24 05:00:00	26.3	7.5	1.3	28.2	8.9	5146.6	20.6	16.8
11-Sep-24 06:00:00	25.8	7.5	1.3	28.3	8.9	5154.9	20.6	17.5
11-Sep-24 07:00:00	26.4	7.5	1.3	28.5	8.9	5161.0	20.6	16.5
11-Sep-24 08:00:00	30.6	7.5	1.2	32.1	8.9	5164.0	20.6	16.4
11-Sep-24 09:00:00	39.2	7.4	1.2	33.0	8.9	5166.9	20.6	16.7
11-Sep-24 10:00:00	37.2	7.6	2.5	32.9	8.9	5169.8	20.6	17.3
11-Sep-24 11:00:00	39.4	7.4	2.2	33.2	8.9	5172.7	20.6	18.8
11-Sep-24 12:00:00	39.8	7.4	2.0	33.2	8.9	5175.7	20.6	19.8
11-Sep-24 13:00:00	37.4	7.4	1.7	32.4	8.7	5178.6	20.6	19.1
11-Sep-24 14:00:00	30.9	7.3	1.5	33.1	8.7	5181.1	20.6	18.9
11-Sep-24 15:00:00	29.4	7.4	1.2	33.0	8.5	5183.0	20.6	19.2
11-Sep-24 16:00:00	29.8	7.4	1.0	32.9	8.5	5184.8	20.6	19.5
11-Sep-24 17:00:00	29.8	7.3	0.7	33.0	8.4	5186.7	20.6	19.3
11-Sep-24 18:00:00	29.0	7.3	0.6	33.0	8.4	5188.6	20.6	21.2
11-Sep-24 19:00:00	28.3	7.2	0.7	33.0	8.3	5190.4	20.6	21.0
11-Sep-24 20:00:00	28.1	7.2	0.7	33.0	8.3	5192.3	20.6	21.2
11-Sep-24 21:00:00	27.6	7.2	0.7	33.0	8.3	5194.2	20.6	21.1
11-Sep-24 22:00:00	26.9	7.1	0.7	33.1	8.2	5195.5	20.6	21.0
11-Sep-24 23:00:00	26.7	7.1	0.8	33.1	8.2	5196.1	20.6	21.0
12-Sep-24 00:00:00	26.5	7.1	0.8	32.9	8.2	5196.8	20.6	21.0
12-Sep-24 01:00:00	26.5	7.1	0.8	28.9	8.2	5197.4	20.6	20.8
12-Sep-24 02:00:00	26.5	7.1	0.8	28.8	8.1	5198.1	20.6	21.7
12-Sep-24 03:00:00	26.0	7.1	0.9	28.2	8.1	5198.7	20.6	21.1
12-Sep-24 04:00:00	25.6	7.0	0.9	27.7	8.1	5199.4	20.6	21.6
12-Sep-24 05:00:00	25.4	7.0	1.0	27.7	8.1	5200.1	20.6	22.2
12-Sep-24 06:00:00	25.4	7.0	1.0	27.5	8.1	5200.0	20.6	21.8
12-Sep-24 07:00:00	27.0	7.1	1.0	27.5	7.9	5199.1	20.6	22.6

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
12-Sep-24 08:00:00	31.0	7.1	1.1	31.1	7.9	5198.3	20.6	22.6
12-Sep-24 09:00:00	38.9	7.1	1.1	32.8	7.8	5197.4	20.6	25.0
12-Sep-24 10:00:00	34.3	7.2	262.3	32.8	7.8	5197.2	20.6	20.8
12-Sep-24 11:00:00	32.0	7.1	747.3	32.9	7.8	5199.1	20.6	19.4
12-Sep-24 12:00:00	30.8	7.0	528.5	32.5	7.9	5201.0	20.6	19.6
12-Sep-24 13:00:00	30.7	7.1	427.3	31.2	7.8	5202.0	20.6	20.0
12-Sep-24 14:00:00	30.6	7.1	460.3	32.1	7.8	5202.7	20.6	20.1
12-Sep-24 15:00:00	30.6	7.2	496.4	31.8	7.8	5203.5	20.6	47.6
12-Sep-24 16:00:00	30.5	7.2	497.1	31.9	7.8	5204.3	20.6	47.7
12-Sep-24 17:00:00	30.4	7.4	1.9	32.1	7.8	5205.1	20.6	48.0
12-Sep-24 18:00:00	30.3	7.2	509.4	32.3	7.8	5205.9	20.6	50.3
12-Sep-24 19:00:00	30.2	7.2	519.0	32.5	7.8	5206.7	20.6	47.6
12-Sep-24 20:00:00	30.1	7.2	521.9	32.6	7.8	5207.4	20.6	47.2
12-Sep-24 21:00:00	30.0	7.2	521.6	32.7	7.8	5207.5	20.6	47.2
12-Sep-24 22:00:00	30.0	7.2	521.3	32.7	7.8	5207.7	20.6	47.3
12-Sep-24 23:00:00	29.9	7.2	521.0	32.7	7.8	5207.8	20.6	45.9
13-Sep-24 00:00:00	29.8	7.2	520.7	32.8	8.6	5173.8	20.6	53.7
13-Sep-24 01:00:00	29.8	7.2	520.4	28.7	8.6	5178.8	20.6	53.9
13-Sep-24 02:00:00	29.7	7.2	520.1	28.6	8.6	5183.8	20.6	53.8
13-Sep-24 03:00:00	29.5	7.2	519.8	28.6	8.5	5188.8	20.6	53.5
13-Sep-24 04:00:00	29.4	7.2	521.1	28.6	8.5	5193.8	20.6	53.6
13-Sep-24 05:00:00	29.2	7.2	523.2	28.6	8.5	5198.8	20.6	55.1
13-Sep-24 06:00:00	29.1	7.1	525.3	28.5	8.4	5203.8	20.6	53.5
13-Sep-24 07:00:00	30.1	7.2	530.6	28.7	8.3	5208.8	20.6	54.1
13-Sep-24 08:00:00	37.1	7.3	530.4	32.6	8.0	5211.8	20.6	56.3
13-Sep-24 09:00:00	35.0	7.2	530.1	33.1	8.0	5213.4	20.6	53.8
13-Sep-24 10:00:00	39.1	7.2	529.9	32.9	7.9	5215.0	20.6	54.6
13-Sep-24 12:00:00	39.6	7.1	529.4	33.2	7.8	5218.1	20.6	51.2
13-Sep-24 13:00:00	34.2	7.0	529.2	32.6	7.8	5219.7	20.6	52.6
13-Sep-24 14:00:00	31.9	7.0	528.9	33.3	7.8	5221.3	20.6	52.5
13-Sep-24 15:00:00	33.5	7.0	528.3	33.2	7.7	5222.8	20.6	52.7
13-Sep-24 16:00:00	34.8	7.0	525.8	33.0	7.7	5224.3	20.6	52.4
13-Sep-24 17:00:00	34.5	7.0	523.2	32.8	7.7	5225.7	20.6	51.5
13-Sep-24 18:00:00	31.3	7.0	501.8	32.6	7.7	5227.0	20.6	52.8
13-Sep-24 19:00:00	28.7	6.9	508.5	32.8	7.7	5228.4	20.6	52.9
13-Sep-24 20:00:00	27.9	6.9	514.9	32.5	7.7	5229.8	20.6	53.6
13-Sep-24 21:00:00	27.8	6.9	517.7	32.7	7.7	5231.2	20.6	54.0
13-Sep-24 22:00:00	28.0	6.9	520.5	32.7	7.7	5232.5	20.6	54.4
13-Sep-24 23:00:00	27.2	6.8	523.2	32.2	7.6	5233.9	20.6	55.0
14-Sep-24 00:00:00	27.1	6.8	526.0	32.6	7.6	5235.0	20.6	55.0
14-Sep-24 01:00:00	27.0	6.8	528.8	28.5	7.6	5236.0	20.6	55.0
14-Sep-24 02:00:00	26.1	6.8	531.5	28.5	7.6	5236.9	20.6	56.0
14-Sep-24 03:00:00	25.6	6.8	534.3	28.1	7.6	5237.9	20.6	54.9
14-Sep-24 04:00:00	23.2	6.7	536.7	26.6	7.6	5238.8	20.6	56.8
14-Sep-24 05:00:00	23.3	6.7	537.8	26.8	7.6	5239.8	20.6	56.3
14-Sep-24 06:00:00	23.4	6.7	538.8	26.7	7.6	5240.8	20.6	56.1
14-Sep-24 07:00:00	23.9	6.7	539.9	26.9	7.6	5241.7	20.6	55.6
14-Sep-24 08:00:00	25.6	6.8	541.0	30.8	7.5	5241.6	20.6	53.6
14-Sep-24 09:00:00	30.8	6.9	542.0	32.6	7.5	5240.7	20.6	54.9
14-Sep-24 10:00:00	35.9	6.9	543.1	32.9	7.5	5239.8	20.6	53.4
14-Sep-24 11:00:00	39.2	6.9	544.1	33.1	7.5	5238.9	20.6	52.1
14-Sep-24 14:00:00	38.3	6.9	545.2	33.1	7.4	5236.1	20.6	49.4
14-Sep-24 15:00:00	35.6	6.8	545.3	32.9	7.4	5235.2	20.6	49.4
14-Sep-24 16:00:00	36.0	6.8	545.4	32.8	7.4	5232.0	20.6	48.9
14-Sep-24 18:00:00	32.6	6.7	545.6	32.6	7.3	5228.5	20.6	48.4
14-Sep-24 19:00:00	28.8	6.7	545.6	32.3	7.3	5230.2	20.6	49.4



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
14-Sep-24 20:00:00	27.9	6.7	545.9	32.4	7.3	2231.9	20.6	50.5
14-Sep-24 21:00:00	27.7	6.7	546.5	32.9	7.3	2233.6	20.6	50.8
14-Sep-24 22:00:00	27.7	6.7	547.1	33.1	7.4	2235.4	20.6	51.3
14-Sep-24 23:00:00	27.6	6.7	547.7	32.8	7.4	2237.1	20.6	51.5
15-Sep-24 00:00:00	24.7	6.6	548.3	31.4	7.3	2238.8	20.6	51.9
15-Sep-24 01:00:00	23.9	6.6	548.9	31.1	7.3	2240.5	20.6	53.3
15-Sep-24 02:00:00	23.7	6.6	549.5	31.1	8.5	2198.6	20.6	51.8
15-Sep-24 03:00:00	23.8	6.6	550.1	31.1	8.6	2180.5	20.6	51.8
15-Sep-24 04:00:00	24.0	6.6	550.6	31.1	8.6	2171.6	20.6	51.9
15-Sep-24 05:00:00	24.2	6.6	551.1	31.1	8.7	2171.0	20.6	51.9
15-Sep-24 06:00:00	24.3	6.6	551.6	31.3	8.7	2173.2	20.6	52.0
15-Sep-24 07:00:00	25.0	6.6	552.1	31.5	8.6	2175.3	20.6	51.6
15-Sep-24 08:00:00	34.2	6.8	552.6	32.0	8.6	2177.4	20.6	52.7
15-Sep-24 09:00:00	39.9	6.8	553.1	32.6	8.6	2179.5	20.6	52.1
15-Sep-24 12:00:00	39.8	6.7	554.5	32.7	8.1	2180.4	20.6	51.9
15-Sep-24 14:00:00	38.3	6.7	555.5	32.5	8.0	2186.9	20.6	50.6
15-Sep-24 15:00:00	38.4	6.7	555.9	32.6	7.9	2188.8	20.6	50.9
15-Sep-24 16:00:00	38.6	6.7	556.4	32.9	7.9	2190.7	20.6	49.8
15-Sep-24 17:00:00	37.8	6.6	556.9	32.8	7.9	2192.6	20.6	50.7
15-Sep-24 18:00:00	32.8	6.6	557.3	32.7	7.8	2194.5	20.6	50.4
15-Sep-24 19:00:00	30.2	6.6	557.8	33.2	7.8	2196.4	20.6	52.1
15-Sep-24 20:00:00	24.5	6.5	558.4	32.0	7.8	2198.3	20.6	55.6
15-Sep-24 21:00:00	23.6	6.5	559.0	31.6	7.8	2198.8	20.6	56.0
15-Sep-24 22:00:00	23.8	6.5	559.6	31.6	7.8	2199.0	20.6	54.1
15-Sep-24 23:00:00	24.0	6.5	560.2	31.8	7.7	2199.2	20.6	51.8
16-Sep-24 00:00:00	24.2	6.5	560.9	31.2	7.8	2199.5	20.6	51.2
16-Sep-24 01:00:00	24.3	6.5	561.5	27.3	7.8	2199.7	20.6	52.1
16-Sep-24 02:00:00	24.3	6.5	562.1	27.3	7.8	2199.9	20.6	50.6
16-Sep-24 03:00:00	24.5	6.5	562.7	27.3	7.7	2200.2	20.6	49.9
16-Sep-24 04:00:00	24.8	6.5	562.8	27.5	7.8	2200.4	20.6	49.2
16-Sep-24 05:00:00	24.9	6.5	562.9	27.7	7.8	2199.6	20.6	48.9
16-Sep-24 06:00:00	24.8	6.5	562.9	27.6	7.7	2198.7	20.6	49.2
16-Sep-24 07:00:00	26.1	6.5	562.9	27.6	7.5	2197.7	20.6	49.9
16-Sep-24 08:00:00	31.9	6.7	563.0	31.3	7.6	2196.8	20.6	50.2
16-Sep-24 09:00:00	37.7	6.7	563.0	32.6	7.6	2195.8	20.6	51.6
16-Sep-24 10:00:00	39.7	6.7	563.0	32.4	7.5	2194.8	20.6	48.6
16-Sep-24 18:00:00	34.8	6.6	560.0	32.4	7.4	2192.6	20.6	46.8
16-Sep-24 19:00:00	30.6	6.6	559.5	32.8	7.4	2192.6	20.6	48.0
16-Sep-24 20:00:00	29.0	6.6	560.4	33.1	7.4	2193.4	20.6	48.7
16-Sep-24 21:00:00	28.7	6.5	561.3	33.3	7.4	2194.6	20.6	48.8
16-Sep-24 22:00:00	25.9	6.6	562.2	32.3	7.4	2195.8	20.6	49.3
16-Sep-24 23:00:00	24.9	6.5	563.0	31.9	7.4	2196.9	20.6	49.8
17-Sep-24 00:00:00	24.7	6.5	563.9	31.9	7.4	2198.1	20.6	50.4
17-Sep-24 01:00:00	24.3	6.5	564.8	31.6	7.4	2199.3	20.6	50.6
17-Sep-24 02:00:00	24.3	6.5	565.7	31.5	7.3	2200.4	20.6	51.0
17-Sep-24 03:00:00	24.4	6.5	566.5	31.7	7.3	2201.6	20.6	50.7
17-Sep-24 04:00:00	24.5	6.5	567.3	31.6	7.3	2201.4	20.6	51.2
17-Sep-24 05:00:00	24.6	6.5	568.1	31.7	7.3	2200.8	20.6	50.5
17-Sep-24 06:00:00	24.6	6.5	568.8	31.7	7.4	2200.1	20.6	50.6
17-Sep-24 07:00:00	25.3	6.6	569.6	31.7	7.4	2199.4	20.6	50.3
17-Sep-24 08:00:00	28.0	6.7	570.4	31.7	7.3	2198.8	20.6	49.2
17-Sep-24 09:00:00	31.9	6.8	571.1	32.4	7.3	2198.1	20.6	49.5
17-Sep-24 10:00:00	38.0	6.9	571.9	32.3	7.3	2197.2	20.6	51.2
17-Sep-24 15:00:00	33.8	7.5	652.2	32.8	7.2	2180.6	20.6	76.1
17-Sep-24 16:00:00	31.4	8.3	644.1	32.6	7.2	2177.5	20.6	76.3
17-Sep-24 17:00:00	31.0	8.6	636.1	32.5	7.2	2178.5	20.6	77.3

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
17-Sep-24 18:00:00	30.9	8.9	628.0	32.6	7.2	2179.4	20.6	79.0
18-Sep-24 01:00:00	31.2	6.0	540.5	32.1	7.2	2185.7	20.6	83.3
18-Sep-24 02:00:00	30.9	7.5	520.2	32.4	7.2	2186.3	20.6	84.0
18-Sep-24 03:00:00	30.8	8.4	484.3	32.0	7.2	2187.0	20.6	85.0
18-Sep-24 04:00:00	30.7	8.5	453.2	31.3	7.2	2187.6	20.6	84.0
18-Sep-24 05:00:00	30.6	8.6	448.7	31.2	7.2	2188.2	20.6	85.2
18-Sep-24 06:00:00	30.5	8.6	444.2	31.3	7.2	2188.8	20.6	84.7
18-Sep-24 07:00:00	30.5	8.6	439.7	31.5	7.2	2189.4	20.6	84.7
18-Sep-24 08:00:00	30.4	8.6	436.9	31.4	7.2	2189.7	20.6	85.0
18-Sep-24 09:00:00	30.3	8.6	434.5	32.2	7.2	2187.2	20.6	84.6
18-Sep-24 10:00:00	30.6	8.7	436.7	32.4	7.2	2184.7	20.6	86.2
18-Sep-24 11:00:00	35.6	8.6	437.8	32.6	7.2	2182.2	20.6	86.4
18-Sep-24 12:00:00	38.0	8.5	438.8	32.7	7.2	2179.7	20.6	86.5
19-Sep-24 02:00:00	30.0	8.6	533.9	32.0	9.0	2021.2	20.6	46.7
19-Sep-24 03:00:00	29.9	8.6	533.4	32.0	9.0	2023.7	20.6	46.6
19-Sep-24 04:00:00	29.9	8.5	532.9	32.1	9.0	2026.1	20.6	46.5
19-Sep-24 05:00:00	29.8	8.5	532.4	32.0	8.9	2028.6	20.6	47.1
19-Sep-24 06:00:00	29.7	8.4	533.0	32.0	8.9	2031.0	20.6	46.3
19-Sep-24 07:00:00	29.7	8.3	537.7	32.1	8.3	2032.3	20.6	46.0
19-Sep-24 08:00:00	29.6	8.2	542.5	31.8	8.5	2035.9	20.6	46.3
19-Sep-24 09:00:00	29.6	8.3	545.2	32.6	8.5	2038.2	20.6	46.0
19-Sep-24 10:00:00	29.7	8.5	542.6	32.7	8.6	2037.7	20.6	46.5
19-Sep-24 11:00:00	29.8	8.8	540.0	32.7	8.6	2037.3	20.6	46.6
19-Sep-24 12:00:00	30.1	9.0	537.4	32.5	8.7	2029.9	20.6	47.0
19-Sep-24 22:00:00	29.8	8.9	7.7	32.8	8.2	2072.1	20.6	49.8
20-Sep-24 00:00:00	26.7	8.9	0.8	32.9	8.1	2073.9	20.6	49.9
20-Sep-24 01:00:00	26.0	8.9	0.8	32.7	8.2	2074.8	20.6	49.6
20-Sep-24 02:00:00	25.6	8.8	0.9	32.6	8.2	2075.8	20.6	49.6
20-Sep-24 03:00:00	25.8	8.7	0.9	32.6	8.1	2076.7	20.6	50.1
20-Sep-24 04:00:00	26.3	8.7	0.9	32.4	8.1	2077.6	20.6	50.2
20-Sep-24 05:00:00	26.5	8.6	0.9	32.4	8.1	2078.6	20.6	50.6
20-Sep-24 06:00:00	26.5	8.6	1.0	32.3	8.1	2079.6	20.6	51.3
20-Sep-24 15:00:00	31.8	8.6	1.1	33.1	7.8	2056.9	20.6	45.4
20-Sep-24 16:00:00	31.9	6.9	147.4	33.0	7.7	2052.9	20.6	46.5
20-Sep-24 17:00:00	32.1	6.2	346.1	33.1	7.7	2051.2	20.6	47.0
20-Sep-24 18:00:00	32.1	5.9	480.4	33.1	7.7	2049.6	20.6	48.1
20-Sep-24 19:00:00	32.0	5.7	560.5	33.1	7.7	2047.9	20.6	47.9
20-Sep-24 20:00:00	32.0	5.6	571.5	32.9	7.7	2046.2	20.6	48.3
20-Sep-24 21:00:00	31.8	5.5	573.1	32.9	7.7	2046.1	20.6	49.1
20-Sep-24 22:00:00	31.5	5.5	574.6	33.0	7.7	2080.4	20.6	51.2
20-Sep-24 23:00:00	31.3	5.6	576.1	32.9	7.7	2079.7	20.6	49.3
21-Sep-24 00:00:00	31.0	5.7	577.7	32.8	7.7	2079.0	20.6	49.3
21-Sep-24 01:00:00	30.8	5.7	579.2	32.5	7.7	2078.3	20.6	49.2
21-Sep-24 02:00:00	30.5	5.8	580.7	32.5	7.7	2077.6	20.6	50.3
21-Sep-24 03:00:00	30.2	5.8	582.3	32.2	7.7	2077.0	20.6	49.5
21-Sep-24 04:00:00	29.0	6.0	2.6	32.2	7.7	2076.3	20.6	49.8
21-Sep-24 05:00:00	27.3	5.9	2.4	32.2	7.7	2075.3	20.6	49.6
21-Sep-24 06:00:00	27.0	5.9	2.2	32.2	7.7	2072.0	20.6	49.7
21-Sep-24 07:00:00	29.2	6.0	1.9	32.4	7.5	2068.6	20.6	49.8
21-Sep-24 08:00:00	36.1	6.0	1.7	32.3	7.5	2065.2	20.6	51.1
21-Sep-24 09:00:00	39.9	5.9	1.5	32.6	7.5	2061.8	20.6	77.8
21-Sep-24 10:00:00	39.7	5.9	1.2	32.8	7.5	2058.5	20.6	77.3
21-Sep-24 11:00:00	31.1	7.1	1.0	32.9	7.5	2055.1	20.6	75.9
21-Sep-24 12:00:00	31.9	7.4	0.8	33.0	7.5	2051.7	20.6	76.1
21-Sep-24 13:00:00	32.8	7.7	0.8	32.3	7.5	2048.4	20.6	76.0
21-Sep-24 14:00:00	33.6	8.1	0.8	33.2	7.5	2045.6	20.6	75.4



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
21-Sep-24 15:00:00	34.3	8.3	0.8	33.2	7.5	2042.7	20.6	75.1
21-Sep-24 16:00:00	34.8	7.9	0.9	33.2	7.5	2039.9	20.6	75.6
21-Sep-24 17:00:00	30.7	7.7	0.9	33.2	7.4	2037.1	20.6	77.1
21-Sep-24 18:00:00	28.0	7.6	0.9	33.1	7.4	2034.3	20.6	78.8
21-Sep-24 19:00:00	28.0	7.6	0.9	33.0	7.4	2031.4	20.6	78.4
21-Sep-24 20:00:00	28.1	7.6	1.0	33.1	7.4	2029.2	20.6	79.1
21-Sep-24 21:00:00	28.1	7.5	1.0	32.6	7.4	2028.6	20.6	80.0
21-Sep-24 22:00:00	28.1	7.5	1.0	32.2	7.4	2028.0	20.6	80.4
21-Sep-24 23:00:00	28.1	7.5	1.0	32.7	7.4	2027.4	20.6	80.6
22-Sep-24 00:00:00	28.1	7.5	1.0	32.6	7.4	2026.8	20.6	80.7
22-Sep-24 01:00:00	27.9	7.5	1.0	28.5	7.4	2026.1	20.6	81.0
22-Sep-24 02:00:00	27.8	7.5	1.0	28.0	7.5	2025.5	20.6	81.2
22-Sep-24 03:00:00	27.7	7.5	1.0	28.1	7.5	2024.9	20.6	81.9
22-Sep-24 04:00:00	27.1	7.5	1.0	28.3	7.5	2024.7	20.6	81.4
22-Sep-24 05:00:00	27.2	7.5	1.0	28.1	7.4	2025.1	20.6	82.5
22-Sep-24 06:00:00	27.4	7.5	1.0	28.1	7.4	2058.7	20.6	81.9
22-Sep-24 07:00:00	28.1	7.5	1.0	28.2	7.4	2060.4	20.6	81.9
22-Sep-24 08:00:00	31.2	7.4	1.1	28.5	7.3	2062.2	20.6	81.6
22-Sep-24 09:00:00	34.9	7.4	1.1	28.7	7.4	2090.4	20.6	82.1
22-Sep-24 10:00:00	35.6	7.7	1.1	28.8	7.4	2089.1	20.6	81.7
22-Sep-24 11:00:00	34.8	7.6	1.1	28.7	7.4	2087.8	20.6	80.9
22-Sep-24 12:00:00	32.4	7.6	1.1	28.8	7.4	2086.5	20.6	81.5
22-Sep-24 13:00:00	35.1	7.5	1.1	28.8	7.4	2085.2	20.6	81.6
22-Sep-24 14:00:00	33.8	7.5	1.1	28.6	7.4	2083.9	20.6	82.0
22-Sep-24 15:00:00	33.0	7.5	1.1	28.8	7.4	2082.6	20.6	81.9
22-Sep-24 16:00:00	31.2	7.4	1.1	28.4	7.4	2081.3	20.6	83.4
22-Sep-24 17:00:00	29.5	7.4	1.1	27.7	7.4	2081.3	20.6	85.4
22-Sep-24 18:00:00	27.7	7.4	1.1	31.2	7.4	2081.3	20.6	85.9
22-Sep-24 19:00:00	26.4	7.4	1.1	32.4	7.4	2081.3	20.6	86.8
22-Sep-24 20:00:00	26.0	7.3	1.1	32.4	7.4	2081.2	20.6	87.1
22-Sep-24 21:00:00	26.7	7.3	1.0	32.7	7.4	2081.2	20.6	88.0
22-Sep-24 22:00:00	27.4	7.3	1.0	32.7	7.4	2081.2	20.6	88.4
22-Sep-24 23:00:00	27.0	7.3	1.0	32.6	7.4	2081.2	20.6	88.8
23-Sep-24 00:00:00	27.1	7.3	1.0	32.2	7.4	2081.2	20.6	89.5
23-Sep-24 01:00:00	27.4	7.3	1.0	32.1	7.4	2080.6	20.6	89.8
23-Sep-24 02:00:00	27.3	7.3	1.0	31.8	7.4	2080.0	20.6	91.1
23-Sep-24 03:00:00	27.3	7.3	1.0	31.7	7.4	2079.3	20.6	90.9
23-Sep-24 04:00:00	27.2	7.3	1.0	31.8	7.4	2078.7	20.6	91.5
23-Sep-24 05:00:00	27.1	7.2	1.1	31.9	7.4	2078.1	20.6	91.8
23-Sep-24 06:00:00	27.1	7.2	1.1	32.1	7.4	2077.5	20.6	92.2
23-Sep-24 07:00:00	27.7	7.2	1.1	32.3	7.3	2105.0	20.6	92.6
23-Sep-24 08:00:00	30.0	7.2	1.1	32.2	7.3	2104.6	20.6	92.8
23-Sep-24 09:00:00	33.2	7.1	1.2	33.0	7.3	2104.1	20.6	93.4
23-Sep-24 10:00:00	36.2	7.1	1.2	32.9	7.3	2103.7	12.4	93.8
23-Sep-24 11:00:00	31.3	7.1	578.1	32.9	7.4	7.5	7.2	93.8
23-Sep-24 12:00:00	31.6	7.1	553.9	32.6	7.4	6.9	7.0	94.6
23-Sep-24 13:00:00	32.2	7.1	552.0	32.1	7.4	6.2	7.0	93.8
23-Sep-24 14:00:00	32.8	7.4	550.2	32.9	7.4	5.6	6.8	95.4
23-Sep-24 15:00:00	33.2	7.6	548.3	33.0	7.3	4.9	6.3	96.5
23-Sep-24 16:00:00	33.6	8.1	548.9	32.9	7.3	4.3	7.0	97.3
23-Sep-24 17:00:00	32.6	7.9	549.7	32.7	7.3	3.6	8.0	99.3
23-Sep-24 18:00:00	29.7	7.6	2.4	32.7	7.3	3.0	8.6	101.6
23-Sep-24 19:00:00	28.6	7.6	2.2	32.6	7.3	2.5	8.9	103.0
23-Sep-24 20:00:00	28.1	7.6	2.0	32.7	7.3	2.5	9.0	104.0
23-Sep-24 21:00:00	27.9	7.6	1.8	32.8	7.2	2.5	9.1	105.6
23-Sep-24 22:00:00	27.7	7.5	1.6	32.8	7.2	2.4	9.1	106.1

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
23-Sep-24 23:00:00	27.3	7.5	1.3	33.0	7.2	2.4	9.2	107.0
24-Sep-24 00:00:00	27.4	7.4	1.1	32.6	7.2	2.4	9.3	109.2
24-Sep-24 01:00:00	30.9	7.6	739.9	28.7	8.9	2393.0	8.3	99.9
24-Sep-24 02:00:00	30.3	7.5	737.3	28.3	9.0	2469.2	8.4	106.6
24-Sep-24 03:00:00	30.0	7.5	740.4	28.1	9.0	2420.6	8.6	105.9
24-Sep-24 04:00:00	29.6	7.5	679.4	28.1	9.0	2452.0	8.8	105.7
24-Sep-24 05:00:00	29.3	7.5	640.4	27.7	9.0	2462.2	8.7	105.8
24-Sep-24 06:00:00	28.5	7.6	3.4	27.8	9.0	2437.9	8.8	105.9
24-Sep-24 07:00:00	26.1	7.6	3.0	27.8	8.9	2430.8	8.8	106.3
24-Sep-24 08:00:00	28.4	7.5	2.7	31.2	8.9	2424.5	8.5	105.7
24-Sep-24 09:00:00	31.4	7.5	2.3	32.6	8.9	2489.4	8.2	105.9
24-Sep-24 10:00:00	35.3	7.4	1.9	32.6	9.0	2492.8	8.7	105.9
24-Sep-24 11:00:00	25.1	7.4	1.6	31.9	9.0	2492.4	10.4	105.6
24-Sep-24 12:00:00	26.5	7.3	1.2	32.6	9.0	2460.6	9.3	104.5
24-Sep-24 13:00:00	26.7	7.3	0.8	32.0	9.0	2444.5	9.1	104.4
24-Sep-24 14:00:00	29.8	7.3	0.5	32.9	8.9	2424.5	8.5	103.8
24-Sep-24 15:00:00	30.7	7.3	0.7	32.8	8.9	2422.9	8.5	103.8
24-Sep-24 16:00:00	30.8	7.2	0.8	32.8	8.9	2430.2	8.5	104.1
24-Sep-24 17:00:00	29.4	7.4	1.0	32.7	8.9	2447.1	8.4	101.6
24-Sep-24 18:00:00	29.3	7.4	669.6	32.7	8.9	2454.5	8.4	101.8
24-Sep-24 19:00:00	29.2	7.4	675.0	32.5	8.9	2461.9	8.4	101.2
24-Sep-24 20:00:00	29.1	7.4	674.9	32.5	8.9	2469.3	8.5	101.4
24-Sep-24 21:00:00	27.1	7.5	3.5	32.7	8.9	2479.6	8.5	104.0
24-Sep-24 22:00:00	26.3	7.4	3.2	32.6	8.9	2490.5	8.5	103.3
24-Sep-24 23:00:00	25.7	7.3	2.8	32.5	8.8	2501.4	8.6	102.0
25-Sep-24 00:00:00	25.1	7.2	2.5	31.6	8.8	2514.8	9.3	103.3
25-Sep-24 01:00:00	23.5	7.2	2.1	26.8	8.6	9.9	9.9	103.6
25-Sep-24 02:00:00	23.4	7.2	1.7	26.8	8.6	8.1	10.7	105.9
25-Sep-24 03:00:00	23.4	7.2	1.4	26.8	8.5	6.2	10.7	106.4
25-Sep-24 04:00:00	23.4	7.2	1.0	26.8	8.4	4.4	10.6	106.4
25-Sep-24 05:00:00	23.6	7.2	0.9	27.0	8.3	2.6	10.6	106.0
25-Sep-24 06:00:00	23.8	7.2	0.8	27.1	8.2	2.2	10.4	106.2
25-Sep-24 07:00:00	24.4	7.2	0.7	27.3	8.1	2.2	10.2	105.4
25-Sep-24 08:00:00	27.6	7.1	0.5	31.0	8.0	2.2	9.6	103.7
25-Sep-24 09:00:00	35.2	7.2	0.4	32.5	7.9	2.2	8.2	104.2
25-Sep-24 10:00:00	37.3	7.3	0.3	32.6	7.8	2.2	7.8	100.8
25-Sep-24 14:00:00	39.9	7.2	0.3	33.0	7.6	2.2	7.5	97.9
25-Sep-24 15:00:00	39.7	7.2	0.4	32.8	7.5	2.1	7.4	97.7
25-Sep-24 16:00:00	35.3	7.2	0.6	32.8	7.5	2.1	7.8	97.6
25-Sep-24 17:00:00	28.0	7.2	0.7	32.7	7.5	2.1	9.1	100.8
25-Sep-24 18:00:00	25.7	7.1	0.8	32.2	7.5	2.1	9.7	101.5
25-Sep-24 19:00:00	25.2	7.1	0.9	31.9	7.5	2.0	10.0	101.6
25-Sep-24 20:00:00	25.4	7.1	1.0	31.9	7.4	2.0	9.9	102.0
25-Sep-24 21:00:00	25.4	7.1	1.1	32.2	7.4	2.0	9.8	102.2
25-Sep-24 22:00:00	25.1	7.1	1.1	32.2	7.4	2.0	10.0	102.5
25-Sep-24 23:00:00	25.0	7.1	1.1	32.2	7.4	2.1	10.0	102.5
26-Sep-24 00:00:00	25.1	7.0	1.1	32.2	7.4	2.1	9.9	102.4
26-Sep-24 01:00:00	24.7	7.0	1.1	28.0	7.4	2.2	10.1	103.6
26-Sep-24 02:00:00	24.3	7.0	1.1	27.7	7.4	2.2	10.2	103.0
26-Sep-24 03:00:00	24.2	7.0	1.1	27.7	7.3	2.3	10.2	103.1
26-Sep-24 04:00:00	24.3	7.0	1.1	27.7	7.3	2.3	10.1	103.0
26-Sep-24 05:00:00	24.2	7.0	1.1	27.7	7.3	2.4	10.3	103.2
26-Sep-24 06:00:00	24.1	7.0	1.1	27.7	7.3	2.4	10.3	103.3
26-Sep-24 07:00:00	25.2	7.0	1.0	27.8	7.3	2.4	10.0	102.8
26-Sep-24 08:00:00	31.5	7.0	1.0	31.6	7.3	2.4	8.6	106.2
26-Sep-24 09:00:00	39.3	7.0	1.0	32.9	7.2	2.5	7.6	103.3



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
26-Sep-24 10:00:00	37.7	7.0	1.0	32.8	7.2	2.5	7.5	101.2
26-Sep-24 12:00:00	30.6	7.4	0.9	32.7	7.2	2.5	6.9	99.8
26-Sep-24 13:00:00	31.2	7.6	0.9	32.0	7.2	2.5	6.5	99.3
26-Sep-24 14:00:00	31.6	7.6	0.9	32.6	7.2	2.5	8.5	100.5
26-Sep-24 15:00:00	31.5	7.7	0.9	31.7	7.2	2.6	9.1	101.6
26-Sep-24 16:00:00	30.8	7.7	0.9	32.3	7.1	2.6	9.2	102.1
26-Sep-24 17:00:00	27.0	7.6	0.9	32.5	7.1	2.6	9.6	102.7
26-Sep-24 18:00:00	26.4	7.5	0.8	32.4	7.1	2.7	9.6	103.0
26-Sep-24 19:00:00	25.8	7.4	0.8	32.5	7.1	2.7	9.7	103.7
26-Sep-24 20:00:00	25.4	7.4	0.8	32.5	7.1	2.7	9.8	104.1
26-Sep-24 21:00:00	25.2	7.3	0.9	32.4	7.1	2.7	9.9	104.1
26-Sep-24 22:00:00	25.0	7.3	0.9	32.4	7.1	2.7	9.9	104.8
26-Sep-24 23:00:00	29.6	7.4	409.7	32.4	7.1	2.6	10.0	105.0
27-Sep-24 00:00:00	28.9	7.1	378.5	32.4	7.1	2.6	10.1	104.8
27-Sep-24 01:00:00	25.7	7.2	1.3	28.1	7.1	2.5	10.1	105.1
27-Sep-24 02:00:00	24.7	7.1	1.2	27.9	7.1	2.5	10.1	105.0
27-Sep-24 03:00:00	24.7	7.1	1.1	28.0	7.1	2.4	10.1	105.3
27-Sep-24 04:00:00	24.9	7.1	1.1	28.1	7.0	2.4	10.0	105.3
27-Sep-24 05:00:00	24.7	7.1	1.0	28.2	7.0	2.3	10.1	105.1
27-Sep-24 06:00:00	24.7	7.0	0.9	28.0	7.0	2.1	10.1	105.1
27-Sep-24 07:00:00	25.7	7.1	0.9	28.0	7.0	2.0	9.9	104.9
27-Sep-24 08:00:00	34.9	6.8	0.8	32.2	7.0	1.9	8.2	106.1
27-Sep-24 09:00:00	39.0	7.2	0.7	33.2	7.0	1.7	7.7	106.0
27-Sep-24 14:00:00	30.9	7.2	0.7	33.3	8.6	2749.1	7.8	114.2
27-Sep-24 15:00:00	33.1	7.3	461.0	33.1	8.6	2742.0	8.1	113.8
27-Sep-24 16:00:00	32.7	7.3	461.1	32.4	8.6	2706.9	8.5	114.2
27-Sep-24 17:00:00	32.4	7.4	461.3	32.5	8.6	2729.1	8.2	112.7
27-Sep-24 18:00:00	31.7	7.4	461.4	32.3	8.6	2727.3	8.8	112.9
27-Sep-24 19:00:00	31.1	7.4	461.6	32.2	8.6	2725.4	8.3	112.3
27-Sep-24 20:00:00	30.3	7.4	461.7	32.3	8.5	2727.0	8.4	112.6
27-Sep-24 21:00:00	26.7	7.5	5.4	32.2	8.5	2729.1	8.4	112.6
27-Sep-24 23:00:00	24.8	7.5	4.2	32.3	8.5	2736.9	8.4	75.4
28-Sep-24 00:00:00	24.5	7.4	3.6	32.2	8.4	2743.1	8.3	74.1
28-Sep-24 01:00:00	24.7	7.4	3.1	27.5	8.4	2749.3	8.3	73.2
28-Sep-24 02:00:00	24.4	7.3	2.5	27.6	8.4	2789.0	8.5	72.4
28-Sep-24 03:00:00	24.1	7.3	1.9	27.4	8.4	2798.1	8.5	72.3
28-Sep-24 04:00:00	23.8	7.3	1.3	27.5	8.4	2805.9	8.6	72.1
28-Sep-24 05:00:00	23.9	7.3	1.0	27.5	8.3	2812.7	8.7	71.7
28-Sep-24 06:00:00	23.7	7.2	1.0	27.2	8.3	2818.8	9.4	71.5
28-Sep-24 07:00:00	26.3	7.2	0.9	27.2	8.1	2819.6	9.8	72.2
28-Sep-24 08:00:00	34.0	7.4	0.9	31.2	8.0	2820.4	8.7	72.1
28-Sep-24 09:00:00	40.0	7.2	0.8	32.9	7.9	2821.2	7.7	70.6
28-Sep-24 11:00:00	35.7	7.4	0.7	33.2	7.9	2827.3	7.8	67.3
28-Sep-24 12:00:00	27.7	7.4	0.7	32.9	7.9	2833.7	8.8	68.4
28-Sep-24 14:00:00	27.0	7.4	0.8	32.3	7.8	2846.5	9.2	68.3
28-Sep-24 15:00:00	37.1	7.4	0.8	33.4	7.7	2843.4	7.9	66.5
28-Sep-24 16:00:00	39.4	7.4	0.9	32.9	7.7	2840.0	7.3	66.5
28-Sep-24 17:00:00	34.1	7.4	1.0	32.5	7.7	2836.6	6.3	66.2
28-Sep-24 18:00:00	31.2	7.3	1.0	32.3	7.7	2838.7	7.5	65.3
28-Sep-24 19:00:00	28.6	7.3	1.1	32.6	7.7	2845.7	8.7	65.9
28-Sep-24 20:00:00	27.5	7.3	1.1	32.8	7.7	2852.6	9.0	66.1
28-Sep-24 21:00:00	26.8	7.3	1.1	33.0	7.7	2856.2	9.3	66.2
28-Sep-24 22:00:00	26.4	7.2	1.1	32.8	7.7	2857.3	9.4	66.5
28-Sep-24 23:00:00	25.7	7.2	1.1	32.8	7.7	2858.5	9.6	67.0
29-Sep-24 00:00:00	25.7	7.2	1.0	32.8	7.6	2859.7	9.6	67.0
29-Sep-24 01:00:00	25.8	7.2	1.0	28.6	7.6	2860.9	9.7	67.1

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
29-Sep-24 02:00:00	25.3	7.2	1.0	28.4	7.6	2862.1	9.8	67.5
29-Sep-24 03:00:00	24.9	7.1	0.9	28.3	7.6	2863.3	9.9	67.8
29-Sep-24 04:00:00	24.9	7.1	0.9	28.2	7.6	2864.5	10.0	67.7
29-Sep-24 05:00:00	24.6	7.1	0.9	28.2	7.6	2864.6	10.0	68.0
29-Sep-24 06:00:00	24.6	7.1	0.9	28.1	7.6	2864.0	10.0	68.0
29-Sep-24 07:00:00	26.2	7.1	1.0	28.2	7.5	2863.4	9.8	67.6
29-Sep-24 08:00:00	34.3	7.0	1.0	28.6	7.5	2863.0	8.2	67.1
29-Sep-24 09:00:00	39.9	7.1	1.0	28.9	7.5	2862.9	7.5	65.5
29-Sep-24 12:00:00	31.5	7.3	1.1	28.8	7.4	2862.6	6.9	63.1
29-Sep-24 13:00:00	31.5	7.4	1.1	28.9	7.4	2862.5	7.8	62.9
29-Sep-24 14:00:00	31.9	7.4	1.0	29.1	7.4	2857.2	7.4	62.2
29-Sep-24 15:00:00	32.4	7.4	1.0	28.7	7.4	2849.8	7.2	62.4
29-Sep-24 16:00:00	33.1	7.4	0.9	28.7	7.4	2842.5	6.9	56.2
29-Sep-24 17:00:00	33.3	7.5	819.1	28.8	7.4	2834.3	6.1	61.2
29-Sep-24 18:00:00	30.9	7.4	3.1	28.6	7.4	2826.5	7.8	33.6
29-Sep-24 19:00:00	28.8	7.4	2.9	28.9	7.4	2830.2	8.7	35.1
29-Sep-24 20:00:00	28.0	7.3	2.6	28.6	7.4	2833.9	8.9	35.8
29-Sep-24 21:00:00	27.4	7.3	2.3	28.6	7.4	2837.6	9.0	36.4
29-Sep-24 22:00:00	26.8	7.2	2.1	28.6	7.4	2840.7	9.2	36.4
29-Sep-24 23:00:00	26.5	7.2	1.8	28.7	7.4	2841.6	9.4	36.6
30-Sep-24 00:00:00	26.3	7.2	1.6	28.5	7.4	2842.5	9.5	36.8
30-Sep-24 01:00:00	26.1	7.2	1.3	28.5	7.4	2843.4	9.6	37.0
30-Sep-24 02:00:00	25.7	7.2	1.2	28.4	7.4	2844.3	9.7	37.5
30-Sep-24 03:00:00	25.8	7.2	1.2	30.5	7.3	2845.2	9.7	37.5
30-Sep-24 04:00:00	25.7	7.2	1.2	32.2	7.3	2846.1	9.7	37.8
30-Sep-24 05:00:00	25.8	7.2	1.2	32.5	7.3	2847.0	9.7	37.7
30-Sep-24 06:00:00	25.7	7.2	1.2	32.2	8.1	2759.2	8.4	38.0
30-Sep-24 07:00:00	27.3	7.2	1.2	32.2	8.1	2763.6	8.3	42.8
30-Sep-24 08:00:00	32.7	7.2	1.2	32.2	7.8	2748.4	8.3	47.7
30-Sep-24 09:00:00	38.6	7.2	1.2	33.4	7.8	2738.7	8.3	61.3
30-Sep-24 11:00:00	31.2	7.4	1.2	33.3	8.5	2719.3	8.1	81.4
30-Sep-24 12:00:00	31.1	7.3	1.2	33.4	8.5	2709.7	7.9	85.1
30-Sep-24 13:00:00	31.4	7.3	1.2	33.1	8.6	2692.6	8.0	84.1
30-Sep-24 14:00:00	32.0	7.4	1.2	33.0	8.4	2676.6	7.0	85.5
30-Sep-24 15:00:00	32.8	7.4	1.1	33.4	8.3	2667.4	7.3	85.5
30-Sep-24 16:00:00	35.3	7.3	1.1	32.4	8.1	2666.5	7.5	86.1
30-Sep-24 17:00:00	33.0	7.2	1.1	33.4	8.1	2665.6	7.9	86.6
30-Sep-24 18:00:00	30.4	7.2	1.1	33.0	8.0	1859.1	8.5	88.4
30-Sep-24 19:00:00	28.9	7.1	1.1	32.8	8.0	1927.5	8.7	89.3
30-Sep-24 20:00:00	28.2	7.1	1.0	33.0	8.0	1952.0	8.9	89.9
30-Sep-24 21:00:00	27.9	7.1	1.0	33.1	8.0	2202.3	9.0	90.2
30-Sep-24 22:00:00	27.1	7.0	1.0	33.1	7.9	2288.2	9.2	90.3
30-Sep-24 23:00:00	27.0	7.2	1.0	33.1	7.9	2320.6	9.2	90.4
01-Oct-24 00:00:00	27.3	7.2	1.0	32.8	7.9	2337.7	9.2	90.7
01-Oct-24 01:00:00	26.4	7.1	0.9	31.5	7.9	2366.7	9.5	91.4
01-Oct-24 02:00:00	24.6	7.1	1.0	31.7	7.9	2411.1	10.1	93.3
01-Oct-24 03:00:00	24.4	7.1	1.0	31.6	7.9	2417.7	10.2	93.3
01-Oct-24 04:00:00	27.6	6.9	1.1	31.6	7.9	2424.4	10.3	94.3
01-Oct-24 05:00:00	29.8	7.2	661.7	31.6	7.9	2429.5	10.4	94.6
01-Oct-24 06:00:00	29.5	7.3	676.5	31.7	7.9	2431.4	10.4	94.6
01-Oct-24 07:00:00	29.3	7.2	671.9	31.7	7.8	2447.6	10.2	94.4
01-Oct-24 08:00:00	29.2	7.2	560.4	31.9	7.8	2488.3	9.3	93.3
01-Oct-24 09:00:00	29.4	7.3	618.2	31.9	7.7	2537.9	7.7	95.0
01-Oct-24 10:00:00	30.2	7.3	553.0	32.9	7.7	2318.4	7.2	93.0
01-Oct-24 11:00:00	33.5	7.3	179.0	33.2	7.7	2329.3	6.8	91.7
01-Oct-24 13:00:00	38.9	7.3	2.4	32.8	7.7	1770.2	7.1	89.8



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
01-Oct-24 14:00:00	39.6	7.3	2.1	33.5	7.6	1700.9	7.1	89.7
01-Oct-24 15:00:00	36.2	7.2	1.9	32.9	7.6	1154.9	7.6	89.5
01-Oct-24 16:00:00	35.3	7.2	1.7	34.7	7.6	269.1	7.9	89.8
01-Oct-24 17:00:00	32.6	7.2	1.4	33.2	7.6	205.5	7.7	90.0
01-Oct-24 18:00:00	30.0	7.2	1.2	33.1	7.6	3.0	8.6	91.7
01-Oct-24 19:00:00	28.2	7.2	0.9	33.1	7.6	2.9	8.9	92.7
01-Oct-24 20:00:00	27.5	7.2	0.8	33.1	7.6	2.9	9.1	93.3
01-Oct-24 21:00:00	27.5	7.2	0.9	33.0	7.5	2.8	9.1	93.7
01-Oct-24 22:00:00	27.3	7.2	0.9	32.9	7.5	2.7	9.1	93.9
01-Oct-24 23:00:00	26.8	7.2	1.0	33.1	7.5	2.7	9.3	94.4
02-Oct-24 00:00:00	26.8	7.2	1.0	32.7	7.5	2.6	9.4	94.6
02-Oct-24 01:00:00	26.6	7.2	1.0	32.7	7.5	2.6	9.4	95.0
02-Oct-24 02:00:00	26.1	7.1	1.1	32.8	7.5	2.5	9.6	95.6
02-Oct-24 03:00:00	25.5	7.2	1.1	32.1	7.5	2.5	9.7	95.5
02-Oct-24 04:00:00	25.2	7.1	1.1	32.0	7.5	2.4	9.8	95.7
02-Oct-24 05:00:00	25.1	7.1	1.1	32.2	7.5	2.4	9.9	95.9
02-Oct-24 06:00:00	25.2	7.1	1.1	32.3	7.5	2.3	9.9	96.6
02-Oct-24 07:00:00	28.2	7.1	1.1	32.6	7.4	2.3	9.3	96.4
02-Oct-24 08:00:00	35.4	7.1	1.1	32.9	7.4	2.2	7.7	96.4
02-Oct-24 09:00:00	39.3	7.1	1.1	32.8	7.4	2.2	7.0	95.1
02-Oct-24 10:00:00	39.6	7.2	1.1	33.1	7.4	2.2	7.4	95.9
02-Oct-24 11:00:00	39.6	7.2	1.1	32.8	7.4	2.2	7.4	94.6
02-Oct-24 16:00:00	38.1	7.3	1.1	32.9	7.3	2.2	7.3	95.7
02-Oct-24 17:00:00	37.0	7.3	1.1	33.0	7.3	2.3	6.8	96.2
02-Oct-24 18:00:00	30.8	7.3	1.1	33.0	7.3	2.3	8.4	99.8
02-Oct-24 19:00:00	29.1	7.3	1.1	32.9	7.3	2.3	8.7	101.9
02-Oct-24 20:00:00	28.4	7.3	1.1	33.0	7.3	2.3	8.8	102.8
02-Oct-24 21:00:00	27.8	7.2	1.1	32.9	7.3	2.3	9.0	104.0
02-Oct-24 22:00:00	27.2	7.2	1.1	33.0	7.3	2.3	9.1	105.0
02-Oct-24 23:00:00	26.9	7.2	1.1	33.0	7.3	2.3	9.2	106.1
03-Oct-24 00:00:00	26.8	7.2	1.1	32.6	7.3	2.3	9.3	107.0
03-Oct-24 01:00:00	26.1	7.1	1.1	32.7	7.3	2.3	9.5	108.2
03-Oct-24 02:00:00	25.8	7.1	1.1	32.6	7.3	2.3	9.6	109.3
03-Oct-24 03:00:00	25.8	7.1	1.0	32.5	7.3	2.2	9.7	110.1
03-Oct-24 04:00:00	25.6	7.1	1.0	32.4	7.3	2.2	9.7	111.2
03-Oct-24 05:00:00	25.5	7.1	1.0	32.3	7.3	2.2	9.7	112.0
03-Oct-24 06:00:00	25.3	7.1	1.0	32.3	7.3	2.2	9.8	112.8
03-Oct-24 07:00:00	26.0	7.1	1.0	32.4	7.3	2.2	9.6	113.4
03-Oct-24 08:00:00	28.8	7.1	1.0	32.5	7.3	2.2	9.0	112.9
03-Oct-24 09:00:00	32.4	7.1	1.0	32.8	7.3	2.2	8.4	114.3
03-Oct-24 10:00:00	28.3	7.1	1.0	32.4	7.3	2.2	9.0	113.7
03-Oct-24 11:00:00	31.3	7.1	1.0	32.1	8.6	2676.2	8.1	50.6
03-Oct-24 12:00:00	39.7	7.2	1.1	32.7	8.7	2673.5	7.8	49.7
03-Oct-24 16:00:00	39.2	7.2	1.1	32.9	8.8	2692.1	7.0	44.5
03-Oct-24 18:00:00	31.8	7.2	1.1	32.6	8.7	2672.7	7.6	44.3
03-Oct-24 19:00:00	29.1	7.1	1.1	32.8	8.6	2679.2	8.6	45.6
03-Oct-24 20:00:00	28.5	7.1	1.1	33.0	8.6	2685.6	8.8	46.3
03-Oct-24 21:00:00	28.1	7.1	1.0	33.0	8.5	2692.1	8.9	46.6
03-Oct-24 22:00:00	27.8	7.1	0.9	33.0	8.5	2698.5	9.0	46.8
03-Oct-24 23:00:00	30.9	6.9	577.5	33.0	8.4	2705.0	9.2	47.3
04-Oct-24 00:00:00	30.8	7.1	748.3	32.5	8.4	2711.4	9.3	47.2
04-Oct-24 01:00:00	30.6	7.5	625.7	32.6	8.4	2717.9	9.4	47.3
04-Oct-24 02:00:00	30.5	7.4	507.5	32.6	8.4	2721.9	9.5	47.5
04-Oct-24 03:00:00	30.4	7.4	471.6	32.5	8.4	2723.6	9.6	47.4
04-Oct-24 04:00:00	30.2	7.4	459.4	32.3	8.4	2725.4	9.7	47.7
04-Oct-24 05:00:00	30.1	7.4	458.1	32.3	8.3	2727.1	9.7	47.7

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
04-Oct-24 06:00:00	30.0	7.4	456.8	32.3	8.3	2728.9	9.7	47.6
04-Oct-24 07:00:00	29.8	7.3	455.4	32.5	8.2	2730.6	9.5	47.2
04-Oct-24 08:00:00	29.9	7.3	454.1	32.6	8.2	2732.4	8.9	46.7
04-Oct-24 09:00:00	38.8	7.4	1.7	32.7	8.2	2733.9	7.7	46.1
04-Oct-24 11:00:00	35.7	7.3	1.5	32.9	8.1	2736.3	7.9	43.8
04-Oct-24 12:00:00	36.0	7.3	1.4	32.3	8.1	2737.5	7.7	43.2
04-Oct-24 15:00:00	39.0	7.2	1.2	32.2	8.1	2741.1	8.1	42.0
04-Oct-24 16:00:00	24.9	7.1	1.1	31.6	8.1	2743.1	9.6	45.2
04-Oct-24 17:00:00	25.5	7.1	1.1	31.5	8.1	2745.5	9.8	45.4
04-Oct-24 18:00:00	25.5	7.1	1.1	31.6	8.0	2747.9	9.9	46.1
04-Oct-24 19:00:00	24.8	7.1	1.1	31.8	8.0	2750.4	10.0	46.3
04-Oct-24 20:00:00	24.4	7.1	1.1	31.8	8.0	2752.8	10.1	46.6
04-Oct-24 21:00:00	24.6	7.1	1.1	31.8	8.0	2755.2	10.1	46.8
04-Oct-24 22:00:00	24.8	7.1	1.1	31.8	8.0	2756.7	10.1	47.1
04-Oct-24 23:00:00	24.7	7.1	1.1	31.7	8.0	2757.4	10.1	47.2
05-Oct-24 00:00:00	24.4	7.1	1.1	31.5	8.0	2758.2	10.1	47.2
05-Oct-24 01:00:00	24.2	7.1	1.0	31.6	8.0	2758.9	10.3	47.6
05-Oct-24 02:00:00	23.9	7.1	1.0	31.5	7.9	2759.7	10.4	47.8
05-Oct-24 03:00:00	23.8	7.1	1.0	31.5	7.9	2760.4	10.4	47.8
05-Oct-24 04:00:00	23.8	7.1	0.9	31.3	7.9	2761.2	10.5	48.0
05-Oct-24 05:00:00	23.8	7.0	0.9	31.3	7.9	2761.9	10.4	47.9
05-Oct-24 06:00:00	24.0	7.0	0.9	31.4	7.9	2761.0	10.3	47.7
05-Oct-24 07:00:00	25.7	7.1	0.9	31.5	7.8	2759.6	9.9	47.0
05-Oct-24 08:00:00	31.6	7.1	0.8	31.8	7.8	2758.3	8.9	47.6
05-Oct-24 09:00:00	37.1	7.2	0.7	31.8	7.8	2756.9	7.9	45.9
05-Oct-24 10:00:00	38.7	7.1	0.6	32.3	7.8	2755.5	7.4	44.5
05-Oct-24 15:00:00	39.4	7.3	0.2	33.0	7.7	2753.0	7.4	40.5
05-Oct-24 16:00:00	28.4	7.3	0.1	32.6	8.6	2743.8	9.5	42.6
05-Oct-24 17:00:00	25.0	7.2	0.2	32.0	8.7	2722.9	10.1	46.0
05-Oct-24 18:00:00	25.2	7.2	0.3	32.1	8.7	2697.5	9.9	46.6
05-Oct-24 19:00:00	25.2	7.2	0.5	32.4	8.7	2674.1	9.9	46.9
05-Oct-24 20:00:00	25.1	7.2	0.6	32.2	8.6	2667.1	9.9	46.8
05-Oct-24 21:00:00	25.2	7.2	0.7	32.4	8.6	2695.7	9.8	46.8
05-Oct-24 22:00:00	25.3	7.2	0.8	32.3	8.6	2700.5	9.8	46.7
05-Oct-24 23:00:00	29.9	7.4	769.7	32.4	8.6	2696.9	9.8	46.6
06-Oct-24 00:00:00	30.0	7.5	942.5	32.1	8.6	2688.2	9.8	46.6
06-Oct-24 01:00:00	29.7	7.5	1070.6	32.2	8.5	2686.2	10.0	46.7
06-Oct-24 02:00:00	29.4	7.4	1117.6	32.1	8.5	2690.5	10.1	46.9
06-Oct-24 03:00:00	29.1	7.4	1198.9	32.1	8.4	2694.7	10.1	47.1
06-Oct-24 04:00:00	25.8	7.5	1.4	32.0	8.4	2699.0	10.2	47.1
06-Oct-24 05:00:00	24.9	7.5	1.4	31.9	8.3	2703.3	10.2	47.1
06-Oct-24 06:00:00	25.0	7.4	1.3	32.1	8.2	2707.5	10.1	46.8
06-Oct-24 07:00:00	25.6	7.4	1.3	32.0	8.2	2711.8	10.0	46.4
06-Oct-24 08:00:00	28.9	7.4	1.3	32.2	8.1	2716.0	9.5	46.1
06-Oct-24 09:00:00	35.9	7.3	1.3	32.1	8.1	2717.4	8.2	46.9
06-Oct-24 10:00:00	36.8	7.2	1.3	31.8	8.0	2716.1	7.8	48.2
06-Oct-24 16:00:00	30.8	7.2	1.2	31.8	7.9	2725.0	8.6	48.2
06-Oct-24 17:00:00	28.7	7.2	1.2	31.4	7.8	2727.2	9.1	49.8
06-Oct-24 18:00:00	27.3	7.1	1.2	31.7	7.8	2728.9	9.4	50.8
06-Oct-24 19:00:00	26.2	7.1	1.2	32.2	7.8	2730.7	9.6	51.5
06-Oct-24 20:00:00	25.7	7.1	1.1	32.2	7.8	2732.4	9.8	52.0
06-Oct-24 21:00:00	25.2	7.1	1.0	32.1	7.8	2734.1	9.8	52.6
06-Oct-24 22:00:00	25.0	7.1	0.9	32.1	7.8	2735.9	9.9	52.9
06-Oct-24 23:00:00	24.8	7.1	0.8	27.9	7.8	2737.6	10.0	53.2
07-Oct-24 00:00:00	24.6	7.1	0.7	27.7	7.8	2739.3	10.1	53.3
07-Oct-24 01:00:00	24.7	7.1	0.6	27.9	7.8	2739.2	10.0	53.6



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
07-Oct-24 02:00:00	29.6	7.5	892.8	27.9	7.7	2739.2	10.0	53.6
07-Oct-24 03:00:00	29.5	7.5	564.7	27.8	7.8	2739.1	10.0	53.6
07-Oct-24 04:00:00	29.4	7.5	532.9	27.5	7.8	2739.1	10.0	53.8
07-Oct-24 05:00:00	29.3	7.5	523.6	27.5	7.8	2739.0	10.1	53.8
07-Oct-24 06:00:00	29.2	7.5	514.3	27.4	7.8	2739.0	10.2	54.0
07-Oct-24 07:00:00	29.0	7.4	504.9	27.4	7.6	2739.0	9.9	53.7
07-Oct-24 08:00:00	30.8	7.6	2.7	27.9	7.6	2738.9	8.7	53.6
07-Oct-24 09:00:00	37.9	7.5	2.4	30.0	7.6	2738.5	7.8	52.6
07-Oct-24 10:00:00	39.3	7.4	2.1	32.3	7.6	2738.2	7.4	51.2
07-Oct-24 15:00:00	37.3	7.4	0.5	33.1	7.6	2736.5	7.5	48.1
07-Oct-24 16:00:00	29.0	7.4	0.2	32.7	7.6	2739.3	8.7	50.6
07-Oct-24 17:00:00	27.7	7.3	0.4	31.9	7.6	2742.5	9.1	52.0
07-Oct-24 18:00:00	27.9	7.3	0.5	32.4	7.5	2745.7	9.1	52.4
07-Oct-24 19:00:00	26.7	7.3	0.7	32.4	7.5	2748.5	9.4	53.5
07-Oct-24 20:00:00	26.2	7.3	0.8	32.3	7.5	2749.0	9.5	53.6
07-Oct-24 21:00:00	26.3	7.2	1.0	32.2	7.5	2749.4	9.5	53.8
07-Oct-24 22:00:00	28.4	7.4	534.8	32.2	7.5	2749.9	9.4	53.9
07-Oct-24 23:00:00	26.7	7.3	2.8	32.5	7.5	2750.3	9.5	54.3
08-Oct-24 00:00:00	25.8	7.3	2.6	29.6	8.6	2671.3	9.5	54.6
08-Oct-24 01:00:00	25.4	7.3	2.3	28.3	8.6	2648.5	9.5	54.9
08-Oct-24 02:00:00	25.2	7.3	2.1	28.1	8.6	2625.7	9.7	55.1
08-Oct-24 03:00:00	25.2	7.2	1.8	28.3	8.6	2604.3	9.7	55.2
08-Oct-24 04:00:00	25.1	7.2	1.6	28.4	8.6	2626.2	9.7	55.3
08-Oct-24 05:00:00	25.0	7.2	1.4	27.9	8.6	2622.2	9.8	55.5
08-Oct-24 06:00:00	25.0	7.2	1.1	27.6	8.6	2625.7	9.7	55.5
08-Oct-24 07:00:00	25.7	7.2	1.0	27.7	8.5	2633.5	8.5	55.7
08-Oct-24 08:00:00	28.4	7.2	0.8	28.0	8.5	2605.1	8.8	55.3
08-Oct-24 09:00:00	32.5	7.2	0.7	30.1	8.4	2603.7	8.5	55.7
08-Oct-24 10:00:00	37.0	7.1	0.6	31.9	8.3	2602.3	7.8	55.6
08-Oct-24 12:00:00	39.6	7.2	0.3	32.2	8.1	2608.3	7.3	55.7
08-Oct-24 16:00:00	39.6	7.3	0.3	32.4	7.9	2627.4	6.9	56.3
08-Oct-24 17:00:00	35.2	7.2	0.4	32.6	7.9	2632.2	7.1	55.9
08-Oct-24 18:00:00	25.7	7.3	0.5	32.3	7.9	2636.9	8.7	58.4
08-Oct-24 19:00:00	24.1	7.2	0.7	31.7	7.9	2641.3	10.1	61.2
08-Oct-24 20:00:00	24.4	7.2	0.8	32.0	7.8	2645.6	10.1	60.2
08-Oct-24 21:00:00	24.7	7.2	0.9	32.0	7.8	2649.9	10.0	60.1
08-Oct-24 22:00:00	24.8	7.2	1.0	32.1	7.8	2654.3	9.9	60.4
08-Oct-24 23:00:00	24.9	7.2	1.0	32.2	7.8	2657.4	9.9	60.3
09-Oct-24 00:00:00	24.8	7.2	1.0	29.3	7.8	2658.3	9.9	60.7
09-Oct-24 01:00:00	24.7	7.2	1.0	28.1	7.8	2659.2	10.0	60.8
09-Oct-24 02:00:00	24.6	7.2	1.1	28.0	7.7	2660.1	10.0	61.2
09-Oct-24 03:00:00	24.5	7.2	1.1	28.0	7.7	2661.0	10.1	61.3
09-Oct-24 04:00:00	24.4	7.2	1.1	27.9	7.7	2661.9	10.1	61.7
09-Oct-24 05:00:00	24.7	7.2	1.1	27.9	7.7	2662.8	10.2	61.8
09-Oct-24 06:00:00	24.2	7.2	1.1	26.9	7.7	2663.7	10.3	62.3
09-Oct-24 07:00:00	24.3	7.2	1.1	26.6	7.7	2663.8	10.5	62.9
09-Oct-24 08:00:00	33.0	7.2	1.1	27.1	7.6	2662.4	9.0	62.9
09-Oct-24 09:00:00	33.4	7.1	1.0	28.9	7.6	2660.9	8.4	62.0
09-Oct-24 10:00:00	35.6	7.2	1.0	31.8	7.6	2659.5	8.2	61.7
09-Oct-24 11:00:00	37.4	7.2	1.0	31.9	7.6	2658.1	8.3	72.8
09-Oct-24 15:00:00	30.8	7.0	733.7	32.0	8.5	2273.3	7.8	75.3
09-Oct-24 16:00:00	31.1	7.1	935.0	32.6	8.6	2258.0	7.4	74.8
09-Oct-24 17:00:00	31.4	7.2	973.5	32.2	8.6	2275.6	7.8	74.9
09-Oct-24 18:00:00	31.5	7.2	977.1	32.7	8.6	2261.4	8.2	76.6
09-Oct-24 19:00:00	31.3	7.2	1004.5	32.9	8.6	2247.8	8.4	78.8
09-Oct-24 20:00:00	31.0	7.2	1005.4	32.7	8.6	2234.2	8.5	81.1

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
09-Oct-24 21:00:00	30.8	7.2	1006.7	32.6	8.6	2227.3	8.5	82.7
09-Oct-24 22:00:00	30.6	7.2	1008.2	32.5	8.6	2256.0	9.5	83.9
09-Oct-24 23:00:00	30.0	7.2	1009.8	32.2	8.5	2258.6	9.7	84.9
10-Oct-24 00:00:00	26.5	7.0	0.9	29.5	8.5	2261.2	9.8	85.6
10-Oct-24 01:00:00	25.4	7.1	0.8	27.6	8.5	2263.8	9.8	86.0
10-Oct-24 02:00:00	24.9	7.0	0.6	27.3	8.4	2266.4	9.9	86.3
10-Oct-24 03:00:00	24.4	7.0	0.5	27.4	8.4	2269.0	10.1	87.1
10-Oct-24 04:00:00	24.5	7.2	0.3	27.2	8.3	2271.6	10.2	87.5
10-Oct-24 05:00:00	24.9	7.1	0.1	27.3	8.3	2273.9	10.1	87.5
10-Oct-24 06:00:00	24.7	7.1	0.0	27.4	8.3	2274.7	10.1	87.8
10-Oct-24 07:00:00	25.8	7.0	-0.2	27.4	8.2	2275.4	9.9	87.6
10-Oct-24 08:00:00	32.6	6.6	0.0	27.8	8.1	2276.2	8.6	88.0
10-Oct-24 09:00:00	30.1	7.1	817.5	30.1	8.1	2277.0	7.8	87.6
10-Oct-24 10:00:00	30.2	7.1	432.6	32.4	8.0	2277.7	7.3	87.3
10-Oct-24 11:00:00	31.2	7.1	455.2	32.6	8.0	2278.5	6.6	86.9
10-Oct-24 12:00:00	31.8	7.1	477.2	32.4	7.9	2280.5	6.4	86.5
10-Oct-24 13:00:00	31.3	7.0	420.7	31.8	7.8	2283.8	7.5	86.2
10-Oct-24 14:00:00	31.1	7.0	369.1	32.5	7.8	2287.1	8.6	89.9
10-Oct-24 15:00:00	30.9	7.0	337.7	32.3	7.8	2290.4	9.2	90.6
10-Oct-24 16:00:00	30.8	7.1	331.0	32.3	7.8	2293.7	9.4	92.0
10-Oct-24 17:00:00	30.6	7.1	333.9	32.0	7.8	2297.0	9.7	93.7
10-Oct-24 18:00:00	30.0	7.1	273.1	32.2	7.8	2299.9	10.0	95.5
10-Oct-24 19:00:00	25.9	6.9	0.6	32.2	7.7	2300.4	10.1	95.1
10-Oct-24 20:00:00	25.1	7.0	0.6	32.2	7.7	2300.8	10.1	95.1
10-Oct-24 21:00:00	24.6	7.0	0.6	32.1	7.7	2301.3	10.2	95.7
10-Oct-24 22:00:00	24.5	7.1	0.5	32.1	7.7	2301.8	10.2	95.9
10-Oct-24 23:00:00	24.4	7.1	0.5	32.2	7.6	2302.3	10.2	96.2
11-Oct-24 00:00:00	24.3	7.1	0.5	29.8	7.6	2302.8	10.2	96.5
11-Oct-24 01:00:00	24.2	7.1	0.5	27.6	7.6	2303.2	10.2	96.4
11-Oct-24 02:00:00	24.2	7.1	0.4	27.4	7.6	2303.5	10.2	96.6
11-Oct-24 03:00:00	24.0	7.0	0.4	27.3	7.6	2303.2	10.3	96.9
11-Oct-24 04:00:00	23.9	7.1	0.4	27.3	7.6	2302.9	10.3	97.3
11-Oct-24 05:00:00	23.9	7.1	0.4	27.2	7.6	2302.6	10.3	97.6
11-Oct-24 06:00:00	23.9	7.1	0.3	27.2	7.6	2302.3	10.4	98.6
11-Oct-24 07:00:00	25.3	6.8	0.3	27.3	7.5	2302.0	10.1	97.5
11-Oct-24 08:00:00	31.5	6.6	0.3	28.0	7.5	2301.7	9.0	96.9
11-Oct-24 09:00:00	37.1	6.4	0.3	30.5	7.5	2301.4	8.0	97.0
11-Oct-24 11:00:00	39.3	6.4	0.2	32.5	7.5	2301.9	7.3	94.3
11-Oct-24 15:00:00	35.3	6.4	0.1	32.9	7.3	2304.1	7.6	92.6
11-Oct-24 16:00:00	36.0	6.3	0.1	32.8	7.3	2305.3	7.6	93.2
11-Oct-24 17:00:00	33.9	6.4	0.1	33.0	7.3	2306.7	7.9	94.2
11-Oct-24 18:00:00	27.5	6.4	0.1	31.5	7.3	2308.2	8.8	96.2
11-Oct-24 19:00:00	23.7	6.4	0.1	31.5	7.3	2309.7	10.3	99.3
11-Oct-24 20:00:00	24.3	6.3	0.1	31.8	7.3	2311.1	10.3	100.0
11-Oct-24 21:00:00	24.5	6.3	0.1	32.0	7.3	2312.6	10.3	100.4
11-Oct-24 22:00:00	24.5	6.3	0.1	32.1	7.3	2314.0	10.2	100.7
11-Oct-24 23:00:00	24.5	6.4	0.1	32.1	7.3	2315.5	10.2	101.0
12-Oct-24 00:00:00	24.5	6.4	0.1	29.3	7.3	2316.1	10.2	101.4
12-Oct-24 01:00:00	24.6	6.4	0.1	27.6	7.2	2316.4	10.2	101.7
12-Oct-24 02:00:00	24.7	6.4	0.1	27.8	7.2	2316.6	10.2	101.9
12-Oct-24 03:00:00	24.8	6.4	0.0	27.8	7.2	2316.9	10.1	102.3
12-Oct-24 04:00:00	24.8	6.4	0.0	27.8	7.2	2317.2	10.1	102.7
12-Oct-24 05:00:00	24.5	6.4	-0.1	27.8	7.2	2317.4	10.1	103.1
12-Oct-24 06:00:00	24.6	6.3	-0.1	27.7	7.2	2317.7	10.1	103.5
12-Oct-24 07:00:00	26.0	6.0	-0.1	27.9	7.2	2318.0	9.7	103.4
12-Oct-24 08:00:00	31.9	6.1	-0.2	28.4	7.2	2314.0	8.6	106.5



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
12-Oct-24 09:00:00	37.9	5.9	-0.2	31.0	7.2	2309.4	7.7	103.7
12-Oct-24 14:00:00	30.2	6.5	-0.2	32.7	8.8	2055.3	8.9	103.3
12-Oct-24 15:00:00	25.9	6.5	-0.2	26.1	8.9	2060.7	8.5	105.0
12-Oct-24 16:00:00	27.9	6.4	-0.2	25.6	8.9	2040.8	8.3	105.7
12-Oct-24 17:00:00	28.1	6.6	-0.2	25.9	8.9	2033.1	8.4	106.4
12-Oct-24 18:00:00	27.9	6.6	-0.1	26.0	8.9	2038.7	8.4	106.9
12-Oct-24 19:00:00	26.5	6.6	0.0	26.0	8.9	2045.4	8.6	108.2
12-Oct-24 20:00:00	28.2	6.8	402.8	26.0	8.9	2038.6	8.8	109.1
12-Oct-24 21:00:00	29.1	7.0	487.4	26.0	8.9	2031.7	9.1	109.8
12-Oct-24 22:00:00	29.2	7.0	514.7	26.0	8.8	2024.8	9.1	110.6
12-Oct-24 23:00:00	29.6	7.0	479.7	26.0	8.8	2019.1	9.7	111.1
13-Oct-24 00:00:00	29.7	7.0	494.2	26.0	8.8	2022.9	9.4	111.8
14-Oct-24 00:00:00	26.4	7.0	0.0	28.7	9.0	2001.4	8.7	98.9
14-Oct-24 01:00:00	26.0	7.0	0.0	28.5	9.0	1988.1	8.3	100.3
14-Oct-24 02:00:00	25.6	7.0	0.1	28.5	9.0	1984.2	8.4	98.9
14-Oct-24 03:00:00	25.3	7.0	0.1	28.4	8.9	2032.5	8.4	99.1
14-Oct-24 04:00:00	25.0	7.0	0.1	28.3	8.9	2030.9	8.5	99.1
14-Oct-24 05:00:00	24.9	7.0	0.2	28.1	8.9	2029.3	8.6	99.4
14-Oct-24 06:00:00	24.7	6.9	0.2	28.0	8.8	2027.7	8.6	99.3
14-Oct-24 07:00:00	25.9	6.5	0.3	28.2	8.8	2026.0	8.5	99.7
14-Oct-24 08:00:00	32.5	6.5	0.3	28.7	8.8	2024.4	8.4	99.8
14-Oct-24 09:00:00	36.8	6.5	0.3	28.9	8.9	2022.8	8.2	100.0
14-Oct-24 14:00:00	30.9	6.5	0.3	27.5	9.0	1999.5	9.2	102.3
14-Oct-24 15:00:00	30.8	6.5	0.3	27.8	9.0	2002.0	9.1	102.4
14-Oct-24 16:00:00	30.8	6.4	0.3	27.4	8.9	2004.5	8.9	101.1
14-Oct-24 17:00:00	29.8	6.5	0.3	27.7	8.9	2007.0	8.9	100.6
14-Oct-24 18:00:00	28.1	6.6	0.2	29.5	8.9	2009.6	9.1	100.8
14-Oct-24 19:00:00	26.7	6.5	0.2	32.2	8.8	2012.2	9.3	101.2
14-Oct-24 20:00:00	26.3	6.5	0.2	32.5	8.8	2015.2	9.5	101.3
14-Oct-24 21:00:00	25.9	6.5	0.2	32.5	8.8	2018.2	9.6	101.4
14-Oct-24 22:00:00	25.8	6.5	0.2	32.4	8.8	2021.2	9.6	100.5
14-Oct-24 23:00:00	25.8	6.5	0.2	32.3	8.7	2024.2	9.6	99.4
15-Oct-24 00:00:00	25.6	6.5	0.2	32.3	8.7	2027.2	9.7	98.8
15-Oct-24 01:00:00	25.4	6.5	0.2	32.2	8.7	2030.2	9.8	98.7
15-Oct-24 02:00:00	25.0	6.5	0.2	32.1	8.7	2033.2	10.0	98.3
15-Oct-24 03:00:00	24.8	6.5	0.2	32.1	8.7	2035.0	10.0	98.0
15-Oct-24 04:00:00	24.8	6.5	0.1	32.2	8.7	2035.5	10.1	97.1
15-Oct-24 05:00:00	25.0	6.5	0.1	32.3	8.6	2035.9	10.1	96.6
15-Oct-24 06:00:00	29.6	6.5	474.4	32.3	8.6	2036.3	10.0	96.5
15-Oct-24 07:00:00	29.6	6.7	528.6	32.5	8.6	2036.7	9.7	96.0
15-Oct-24 08:00:00	29.6	6.9	598.5	32.8	8.6	2037.1	8.5	97.2
15-Oct-24 09:00:00	30.1	6.9	615.0	32.9	8.5	2037.5	7.7	95.6
15-Oct-24 10:00:00	31.0	6.9	596.9	33.0	8.5	2038.0	6.9	93.4
15-Oct-24 11:00:00	31.7	7.0	373.5	33.1	8.4	2039.0	6.5	91.3
15-Oct-24 12:00:00	32.8	7.0	284.7	33.0	8.4	2040.3	6.4	88.8
15-Oct-24 13:00:00	32.4	7.3	3.2	31.8	8.4	2043.4	8.7	91.6
15-Oct-24 14:00:00	27.4	7.3	2.8	31.8	8.4	2047.6	9.3	93.0
15-Oct-24 15:00:00	31.7	6.9	2.4	32.2	8.4	2051.8	8.7	91.8
15-Oct-24 16:00:00	33.8	6.8	1.9	32.6	8.4	2054.0	8.2	89.8
15-Oct-24 17:00:00	33.1	6.9	1.5	32.6	8.3	2055.1	7.8	90.2
15-Oct-24 18:00:00	29.5	7.1	1.1	32.7	8.3	2056.3	8.2	89.9
15-Oct-24 19:00:00	27.4	7.1	0.6	32.7	8.3	2057.4	8.9	90.1
15-Oct-24 20:00:00	26.9	7.0	0.2	32.7	8.3	2058.5	9.3	91.1
15-Oct-24 21:00:00	26.7	6.9	-0.1	32.5	8.3	2059.6	9.4	91.1
15-Oct-24 22:00:00	26.5	7.0	-0.3	32.8	8.3	2060.8	9.4	91.1
15-Oct-24 23:00:00	30.0	8.2	1421.3	32.7	8.3	2061.9	9.5	91.2

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
16-Oct-24 00:00:00	29.9	8.5	2293.2	32.4	8.3	2062.8	9.6	91.3
16-Oct-24 01:00:00	29.9	8.5	2536.0	32.4	8.2	2063.6	9.7	91.3
16-Oct-24 02:00:00	30.0	8.3	2610.7	32.3	8.2	2064.4	9.9	91.6
16-Oct-24 03:00:00	30.0	7.9	2632.9	32.2	8.2	2065.2	10.0	91.7
16-Oct-24 04:00:00	29.6	7.6	2647.3	32.2	8.2	2066.0	10.0	91.5
16-Oct-24 05:00:00	27.2	7.3	2635.9	32.0	8.2	2066.8	10.0	91.4
16-Oct-24 06:00:00	25.6	7.3	2637.6	32.2	8.8	1915.9	8.4	98.8
16-Oct-24 07:00:00	25.9	7.2	2651.0	32.1	8.9	1850.1	8.5	97.6
16-Oct-24 08:00:00	30.3	7.3	2769.1	32.4	8.9	1816.4	8.3	96.4
16-Oct-24 09:00:00	38.6	7.5	2760.6	33.0	8.9	1782.7	8.0	95.4
16-Oct-24 12:00:00	28.8	7.0	2796.4	31.8	9.0	1756.9	9.3	96.1
16-Oct-24 13:00:00	29.3	7.0	1973.2	31.0	9.0	1620.0	10.8	91.5
16-Oct-24 14:00:00	29.2	7.0	1924.0	31.7	9.0	1623.7	10.8	91.2
16-Oct-24 15:00:00	29.2	6.9	1768.7	31.9	9.0	1620.0	10.5	91.1
16-Oct-24 16:00:00	29.2	6.8	1682.2	32.1	9.0	1613.2	9.9	90.6
16-Oct-24 17:00:00	29.2	6.8	1661.0	32.0	9.0	1610.0	9.2	90.5
16-Oct-24 18:00:00	29.2	6.8	1639.1	32.1	9.0	1608.5	9.5	90.3
16-Oct-24 19:00:00	29.2	6.8	1604.8	31.9	9.0	1607.0	9.9	89.8
16-Oct-24 20:00:00	29.1	6.8	1600.9	31.9	9.0	1605.4	10.0	89.8
16-Oct-24 21:00:00	29.0	6.8	1597.0	32.0	9.0	1603.9	9.7	89.8
16-Oct-24 22:00:00	28.9	6.8	1593.1	32.1	8.9	1603.5	10.0	89.7
16-Oct-24 23:00:00	28.7	6.8	1593.5	31.9	8.9	1604.2	10.0	89.5
17-Oct-24 00:00:00	28.6	6.8	1594.7	31.7	8.9	1604.9	10.1	89.3
17-Oct-24 01:00:00	28.3	6.8	1596.0	31.7	8.9	1605.6	10.2	89.0
17-Oct-24 02:00:00	27.5	6.8	1597.2	31.7	8.9	1606.3	10.4	88.6
17-Oct-24 03:00:00	24.4	6.7	1.6	31.5	8.9	1608.2	10.5	88.5
17-Oct-24 04:00:00	23.4	6.6	1.5	31.5	8.8	1611.0	10.4	88.0
17-Oct-24 05:00:00	23.2	6.6	1.4	31.3	8.8	1612.2	10.6	88.3
17-Oct-24 06:00:00	23.3	6.6	1.4	31.6	8.8	1599.9	9.9	87.7
17-Oct-24 07:00:00	24.6	6.6	1.3	31.6	8.8	1598.3	10.1	87.3
17-Oct-24 08:00:00	29.1	6.5	1.3	32.0	8.8	1599.7	9.2	87.6
17-Oct-24 09:00:00	34.2	6.5	1.2	32.5	8.8	1601.0	8.4	87.4
17-Oct-24 10:00:00	38.5	6.4	1.1	32.9	8.9	1601.8	8.0	87.4
17-Oct-24 13:00:00	35.2	6.3	1.0	32.3	8.5	1601.7	7.5	83.0
17-Oct-24 14:00:00	33.7	6.3	0.9	33.3	8.5	1604.7	8.1	82.0
17-Oct-24 15:00:00	36.1	6.3	0.9	32.5	8.5	1608.0	8.3	83.4
17-Oct-24 17:00:00	37.1	6.3	0.8	32.3	8.3	1613.9	7.0	78.9
17-Oct-24 18:00:00	31.3	6.2	0.7	32.4	8.4	1615.6	8.4	80.1
17-Oct-24 19:00:00	28.6	6.2	0.8	32.4	8.4	1617.3	8.8	80.7
17-Oct-24 20:00:00	27.5	6.2	0.8	32.5	8.4	1619.0	9.1	80.8
17-Oct-24 21:00:00	27.0	6.1	0.8	33.0	8.4	1620.7	9.2	80.7
17-Oct-24 22:00:00	27.0	6.1	0.9	33.0	8.3	1622.4	9.3	80.5
17-Oct-24 23:00:00	26.5	6.1	0.9	32.9	8.3	1624.1	9.5	80.6
18-Oct-24 00:00:00	26.5	6.1	0.9	32.6	8.3	1625.8	9.5	80.2
18-Oct-24 01:00:00	26.5	6.1	1.0	32.7	8.3	1627.2	9.5	80.5
18-Oct-24 02:00:00	26.3	6.1	1.0	32.7	8.3	1628.3	9.5	80.3
18-Oct-24 03:00:00	26.2	6.0	1.0	32.2	8.3	1629.4	9.7	80.5
18-Oct-24 04:00:00	25.5	6.0	1.1	31.7	8.3	1630.5	9.9	80.9
18-Oct-24 05:00:00	24.8	6.0	1.1	31.5	8.3	1631.5	10.1	81.1
18-Oct-24 06:00:00	24.2	6.0	1.1	31.8	8.2	1632.6	10.2	81.6
18-Oct-24 07:00:00	25.3	6.0	1.1	31.8	8.2	1633.7	10.1	81.5
18-Oct-24 08:00:00	28.5	6.0	1.2	31.9	8.2	1634.8	9.4	81.1
18-Oct-24 09:00:00	32.0	6.0	1.2	32.1	8.2	1635.8	8.7	80.9
18-Oct-24 10:00:00	36.4	6.1	1.2	32.5	8.1	1636.8	7.9	79.4
18-Oct-24 11:00:00	38.9	6.0	1.2	32.7	8.1	1637.8	7.7	78.6
18-Oct-24 12:00:00	38.1	6.0	1.2	32.8	8.1	1638.7	7.7	78.3



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
18-Oct-24 13:00:00	25.4	6.0	1.2	31.8	8.1	1639.7	9.2	78.6
18-Oct-24 14:00:00	25.1	5.9	1.1	31.7	8.1	1640.7	10.3	80.7
18-Oct-24 15:00:00	27.1	5.9	1.1	31.7	8.1	1641.6	9.8	79.4
18-Oct-24 16:00:00	24.7	5.9	1.1	31.8	8.1	1642.6	10.0	79.8
18-Oct-24 17:00:00	24.6	5.9	1.1	32.1	8.0	1643.2	10.3	81.4
18-Oct-24 18:00:00	24.5	5.9	1.1	31.9	8.0	1643.7	10.3	81.1
18-Oct-24 19:00:00	24.4	5.9	1.0	31.9	8.0	1644.1	10.3	81.0
18-Oct-24 20:00:00	24.4	5.9	0.9	32.0	8.0	1644.6	10.3	81.0
18-Oct-24 21:00:00	24.5	5.9	0.8	32.1	8.0	1645.1	10.3	80.9
18-Oct-24 22:00:00	24.5	5.9	0.7	32.1	8.0	1645.5	10.4	80.8
18-Oct-24 23:00:00	24.2	5.9	0.7	32.0	8.0	1646.0	10.4	80.9
19-Oct-24 00:00:00	24.2	5.9	0.6	31.5	8.0	1646.4	10.5	81.0
19-Oct-24 01:00:00	24.0	5.9	0.5	31.6	8.0	1646.9	10.5	80.7
19-Oct-24 02:00:00	28.5	6.9	1513.2	31.6	8.0	1647.3	10.6	80.8
19-Oct-24 03:00:00	28.4	6.9	1517.6	31.6	8.0	1647.7	10.7	81.1
19-Oct-24 04:00:00	28.3	6.9	1523.3	31.4	8.0	1648.2	10.8	81.3
19-Oct-24 05:00:00	28.5	6.9	1359.9	31.3	8.0	1648.6	10.8	82.2
19-Oct-24 06:00:00	28.6	6.9	1174.4	31.3	8.0	1649.0	10.8	81.5
19-Oct-24 07:00:00	28.6	6.8	1096.2	31.5	7.9	1649.5	10.6	81.1
19-Oct-24 08:00:00	28.5	6.8	1053.5	31.6	7.8	1649.9	10.0	80.7
19-Oct-24 09:00:00	28.6	6.8	977.7	31.9	7.9	1650.3	9.4	81.5
19-Oct-24 10:00:00	29.1	6.9	912.8	32.6	7.9	1650.8	8.3	80.8
19-Oct-24 11:00:00	35.5	7.0	786.8	32.7	7.9	1651.2	7.6	79.9
19-Oct-24 14:00:00	37.7	6.7	1.1	32.3	7.8	1652.5	7.9	76.4
19-Oct-24 15:00:00	31.4	6.7	0.9	32.9	7.8	1653.0	8.4	77.0
19-Oct-24 16:00:00	30.8	6.7	0.7	32.3	7.8	1653.6	8.5	77.9
19-Oct-24 17:00:00	29.2	6.6	0.5	32.7	7.8	1654.3	8.9	78.7
19-Oct-24 18:00:00	27.5	6.6	0.4	32.6	7.8	1655.0	9.3	79.0
19-Oct-24 19:00:00	25.5	6.6	0.2	32.5	7.8	1655.6	9.8	79.7
19-Oct-24 20:00:00	25.2	6.6	0.3	32.4	7.8	1656.3	9.9	79.9
19-Oct-24 21:00:00	25.1	6.6	0.4	32.5	7.8	1657.0	10.0	80.7
19-Oct-24 22:00:00	25.1	6.6	0.5	32.4	7.7	1657.6	10.1	82.1
19-Oct-24 23:00:00	25.0	6.5	0.6	32.2	7.7	1658.2	10.1	82.7
20-Oct-24 00:00:00	24.8	6.5	0.7	31.7	7.7	1658.6	10.2	82.0
20-Oct-24 01:00:00	24.6	6.5	0.9	31.8	7.7	1659.0	10.3	81.9
20-Oct-24 02:00:00	24.4	6.5	1.0	31.7	7.7	1659.4	10.4	82.9
20-Oct-24 03:00:00	24.2	6.5	1.1	31.7	7.7	1659.8	10.4	82.3
20-Oct-24 04:00:00	24.1	6.5	1.0	31.7	7.7	1660.1	10.5	82.3
20-Oct-24 05:00:00	23.9	6.5	0.9	31.7	7.7	1660.5	10.5	82.2
20-Oct-24 06:00:00	23.8	6.5	0.8	31.5	7.7	1660.9	10.5	82.2
20-Oct-24 07:00:00	24.5	6.5	0.7	31.6	7.7	1660.1	10.4	82.4
20-Oct-24 08:00:00	28.0	6.4	0.6	31.8	7.6	1656.8	9.6	83.5
20-Oct-24 09:00:00	30.2	6.4	0.5	32.0	9.0	1621.5	8.8	89.7
24-Oct-24 10:00:00	35.5	6.7	0.3	31.3	9.0	601.8	7.7	30.5
25-Oct-24 03:00:00	24.3	6.5	0.0	27.6	9.0	888.0	10.1	34.7
25-Oct-24 04:00:00	24.1	6.5	0.0	27.4	9.0	891.9	10.2	35.1
25-Oct-24 05:00:00	23.8	6.5	-0.1	27.2	8.9	895.7	10.3	34.8
25-Oct-24 06:00:00	24.0	6.5	-0.1	27.5	8.9	899.6	10.2	34.1
25-Oct-24 07:00:00	25.3	6.5	-0.2	27.2	8.8	903.5	9.9	34.8
25-Oct-24 08:00:00	30.1	6.6	-0.2	27.4	8.8	935.5	8.7	34.1
25-Oct-24 09:00:00	34.4	6.6	-0.2	29.9	8.8	928.2	8.0	36.3
25-Oct-24 10:00:00	38.8	6.7	-0.2	32.5	8.8	937.8	7.3	36.9
26-Oct-24 00:00:00	31.3	6.7	308.4	29.6	8.9	1517.1	8.2	42.0
26-Oct-24 08:00:00	32.0	6.5	1.9	28.0	6.9	1459.6	8.2	51.7
26-Oct-24 09:00:00	34.4	6.4	1.7	30.5	6.5	1466.1	7.8	18.0
26-Oct-24 10:00:00	38.1	6.4	1.5	33.0	5.9	1434.1	7.5	17.1

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
26-Oct-24 17:00:00	39.2	6.5	0.4	33.0	6.0	1403.4	7.8	15.0
26-Oct-24 18:00:00	33.3	6.4	0.5	32.9	5.7	1400.9	8.0	13.3
26-Oct-24 19:00:00	30.6	6.4	0.6	32.9	5.8	1398.4	8.3	14.9
26-Oct-24 20:00:00	29.7	6.4	0.7	32.7	5.8	1395.9	8.3	15.5
26-Oct-24 21:00:00	29.4	6.4	0.8	32.6	5.8	1393.4	8.5	16.0
26-Oct-24 22:00:00	30.8	6.8	964.5	33.1	5.9	1374.4	8.0	16.8
26-Oct-24 23:00:00	31.1	7.0	1095.7	33.4	6.0	1371.1	8.1	17.9
27-Oct-24 00:00:00	29.6	6.9	5.8	32.9	6.1	1367.7	8.1	17.3
27-Oct-24 01:00:00	28.4	6.8	5.1	32.9	6.2	1364.4	8.1	18.7
27-Oct-24 02:00:00	27.3	6.7	4.4	32.9	6.4	1377.7	8.3	18.7
27-Oct-24 03:00:00	26.9	6.7	3.7	32.8	6.4	1378.0	8.4	19.8
27-Oct-24 04:00:00	26.8	6.8	3.0	32.9	6.5	1378.4	8.4	19.8
27-Oct-24 05:00:00	26.4	6.8	2.3	32.9	6.4	1378.8	8.5	19.9
27-Oct-24 06:00:00	26.1	6.8	1.6	32.7	6.5	1379.8	9.0	19.4
27-Oct-24 07:00:00	27.2	6.7	0.9	32.6	6.4	1380.8	9.2	18.2
27-Oct-24 08:00:00	29.3	6.7	0.5	32.8	6.3	1381.8	8.7	18.5
27-Oct-24 09:00:00	33.1	6.7	0.5	32.6	6.3	1382.8	8.2	18.2
27-Oct-24 10:00:00	37.7	6.7	0.4	32.3	6.2	1383.8	7.4	18.0
27-Oct-24 17:00:00	35.8	6.8	0.4	32.5	6.3	1390.6	7.4	20.2
27-Oct-24 18:00:00	32.6	6.8	0.5	32.6	6.3	1391.6	7.8	18.7
27-Oct-24 19:00:00	31.1	6.7	0.6	32.9	6.3	1392.5	8.0	18.7
27-Oct-24 20:00:00	30.1	6.8	0.7	33.2	6.3	1393.5	8.2	18.8
27-Oct-24 21:00:00	29.4	6.8	0.8	33.2	6.3	1395.2	8.4	18.2
27-Oct-24 22:00:00	29.5	6.8	0.9	33.3	6.3	1398.9	8.5	17.7
27-Oct-24 23:00:00	30.4	6.9	772.8	29.4	6.1	1326.4	7.9	15.3
28-Oct-24 00:00:00	29.6	6.8	3.4	29.1	6.2	1288.3	7.9	17.2
28-Oct-24 01:00:00	28.0	6.6	3.1	28.8	6.2	1296.5	8.7	17.4
28-Oct-24 02:00:00	26.5	6.6	2.8	28.9	6.2	1303.1	9.2	16.5
28-Oct-24 03:00:00	24.0	6.6	2.5	26.8	6.2	1305.0	9.7	15.4
28-Oct-24 04:00:00	23.5	6.6	2.2	26.8	6.2	1306.9	10.5	14.1
28-Oct-24 05:00:00	24.1	6.6	2.0	27.2	6.1	1308.8	10.4	14.0
28-Oct-24 06:00:00	24.3	6.6	1.7	27.1	6.1	1310.7	10.3	14.3
28-Oct-24 07:00:00	24.9	6.6	1.4	27.6	6.1	1312.6	10.2	14.2
28-Oct-24 08:00:00	29.2	6.9	707.0	27.3	6.3	1291.1	8.4	16.5
28-Oct-24 09:00:00	29.1	6.9	1.6	29.5	6.4	1273.4	8.6	16.8
28-Oct-24 10:00:00	31.1	6.8	1.5	32.0	6.3	1270.2	8.9	17.3
28-Oct-24 11:00:00	38.0	6.6	1.5	32.1	6.3	1271.1	8.0	18.3
28-Oct-24 14:00:00	36.2	6.5	1.2	32.4	6.2	1273.5	7.7	21.0
28-Oct-24 15:00:00	38.2	6.5	1.1	32.5	6.2	1274.3	7.3	20.1
28-Oct-24 16:00:00	36.9	6.5	1.1	32.5	6.2	1275.1	7.0	21.3
28-Oct-24 17:00:00	35.7	6.5	1.0	31.6	6.2	1275.9	6.3	22.1
28-Oct-24 18:00:00	30.0	6.5	1.0	31.4	6.2	1277.1	7.9	21.7
28-Oct-24 19:00:00	27.7	6.5	1.0	32.4	6.1	1278.3	9.0	20.9
28-Oct-24 20:00:00	27.0	6.5	1.0	32.6	6.1	1279.5	9.3	20.3
28-Oct-24 21:00:00	29.2	6.8	636.5	32.5	6.1	1280.7	9.4	19.9
28-Oct-24 22:00:00	29.9	6.7	248.7	32.4	6.2	1281.8	9.6	19.6
28-Oct-24 23:00:00	29.9	6.6	164.6	31.6	6.2	1283.0	9.7	19.4
29-Oct-24 00:00:00	29.8	6.7	287.0	28.2	6.2	1284.2	9.9	19.0
29-Oct-24 01:00:00	29.8	6.9	531.5	27.1	6.2	1285.3	10.0	18.2
29-Oct-24 02:00:00	29.6	7.0	771.9	26.9	6.2	1285.6	10.1	18.7
29-Oct-24 03:00:00	27.7	7.0	872.2	26.9	6.2	1285.8	10.2	18.3
29-Oct-24 04:00:00	24.8	7.0	7.9	26.9	6.2	1286.1	10.3	18.2
29-Oct-24 05:00:00	24.0	6.9	6.8	27.0	6.2	1286.4	10.4	18.0
29-Oct-24 06:00:00	23.5	6.8	5.7	26.9	6.2	1286.6	10.5	17.6
29-Oct-24 07:00:00	24.5	6.8	4.6	27.1	6.5	1259.2	8.4	19.9
29-Oct-24 08:00:00	30.4	6.8	3.5	27.8	6.7	1258.5	8.4	20.4



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
29-Oct-24 09:00:00	35.5	6.7	2.4	29.6	6.8	1257.7	8.4	20.6
29-Oct-24 10:00:00	38.0	6.6	1.3	31.9	6.8	1256.9	8.3	21.1
29-Oct-24 17:00:00	34.4	6.5	0.3	32.7	7.3	1201.9	7.6	21.6
29-Oct-24 18:00:00	30.3	6.5	0.3	32.6	7.3	1207.4	8.3	21.7
29-Oct-24 19:00:00	28.8	6.5	0.1	32.6	7.4	1196.3	8.4	22.4
29-Oct-24 20:00:00	30.6	7.0	1068.9	32.6	7.3	1185.3	8.6	22.6
29-Oct-24 21:00:00	30.3	7.0	1084.6	32.5	7.3	1174.2	8.8	22.5
29-Oct-24 22:00:00	29.6	7.0	1082.4	32.7	7.3	1163.1	9.2	22.3
29-Oct-24 23:00:00	27.0	7.0	1.7	32.6	7.2	1162.6	9.3	22.2
30-Oct-24 00:00:00	26.1	6.9	1.6	30.1	7.1	1166.6	9.5	21.3
30-Oct-24 01:00:00	25.5	6.8	1.5	28.0	7.1	1170.7	9.7	20.2
30-Oct-24 02:00:00	25.2	6.7	1.4	28.0	7.0	1174.7	9.8	19.8
30-Oct-24 03:00:00	25.1	6.7	1.3	27.9	7.0	1178.7	9.9	19.7
30-Oct-24 04:00:00	24.9	6.7	1.2	27.7	7.0	1182.8	9.9	18.9
30-Oct-24 05:00:00	25.1	6.7	1.1	27.7	6.9	1186.8	9.9	19.3
30-Oct-24 06:00:00	25.6	6.6	1.0	26.9	6.9	1190.8	10.0	18.8
30-Oct-24 07:00:00	26.6	6.6	0.9	26.9	6.9	1192.6	9.9	19.0
30-Oct-24 08:00:00	27.5	6.6	0.9	27.5	6.8	1194.1	9.4	19.4
30-Oct-24 09:00:00	29.9	6.8	758.6	29.7	6.8	1195.5	9.1	20.8
30-Oct-24 10:00:00	30.0	6.8	675.3	31.9	6.8	1196.9	8.5	21.4
30-Oct-24 11:00:00	34.0	7.0	1.2	32.1	6.8	1198.4	7.7	21.3
30-Oct-24 17:00:00	28.6	6.6	0.5	32.0	7.9	1195.8	9.9	20.2
30-Oct-24 18:00:00	24.9	6.5	0.4	31.6	8.0	1186.8	10.1	20.4
30-Oct-24 19:00:00	24.7	6.4	0.3	31.8	8.0	1178.4	9.7	20.3
30-Oct-24 20:00:00	24.5	6.5	0.3	31.6	8.0	1173.1	9.9	20.4
30-Oct-24 21:00:00	24.3	6.5	0.3	31.6	8.0	1167.8	9.9	20.9
30-Oct-24 22:00:00	24.2	6.5	0.3	31.6	8.0	1162.5	9.9	19.7
30-Oct-24 23:00:00	24.2	6.4	0.3	31.5	7.9	1157.2	9.9	19.6
31-Oct-24 00:00:00	23.9	6.4	0.2	29.1	7.9	1151.9	10.2	19.3
31-Oct-24 01:00:00	23.7	6.4	0.2	27.3	7.9	1146.6	10.5	18.5
31-Oct-24 02:00:00	23.7	6.4	0.2	27.5	7.8	1141.3	10.3	18.3
31-Oct-24 03:00:00	23.7	6.4	0.2	27.1	7.8	1137.1	10.4	18.2
31-Oct-24 04:00:00	23.4	6.3	0.2	26.9	7.7	1135.3	10.6	18.0
31-Oct-24 05:00:00	23.3	6.3	0.2	26.9	7.7	1133.5	10.5	17.8
31-Oct-24 06:00:00	23.4	6.3	0.2	27.0	7.7	1131.6	10.5	17.4
31-Oct-24 07:00:00	29.3	6.8	589.3	27.3	7.7	1137.5	8.6	17.1
31-Oct-24 08:00:00	29.4	6.7	386.1	27.9	7.7	1135.8	8.6	16.7
31-Oct-24 09:00:00	29.8	6.5	294.7	30.4	7.8	1134.1	8.5	17.2
31-Oct-24 10:00:00	30.3	6.5	256.0	32.5	7.9	1132.4	8.4	16.6
31-Oct-24 11:00:00	31.1	6.4	245.4	32.6	8.0	1130.6	8.3	16.7
31-Oct-24 12:00:00	32.4	6.5	237.1	32.2	8.1	1128.9	8.3	17.1
31-Oct-24 13:00:00	37.2	6.7	1.0	31.8	8.2	1127.2	8.2	15.7
31-Oct-24 14:00:00	28.5	6.5	0.9	32.4	8.4	1125.5	8.6	15.3
31-Oct-24 15:00:00	24.8	6.5	0.8	31.2	8.4	1114.9	8.3	15.2
31-Oct-24 16:00:00	28.4	6.6	0.7	31.6	8.4	1097.9	8.0	11.7
31-Oct-24 17:00:00	33.4	6.4	0.6	32.1	8.4	1081.0	8.0	10.9
31-Oct-24 18:00:00	29.3	6.4	0.5	32.3	8.4	1064.0	8.1	8.8
31-Oct-24 19:00:00	27.0	6.6	0.4	32.1	8.4	1050.6	8.1	6.5
31-Oct-24 20:00:00	26.3	6.6	0.3	32.0	8.3	1042.6	8.1	8.9
31-Oct-24 21:00:00	25.4	6.6	0.2	32.2	8.3	1034.6	8.1	6.1
31-Oct-24 22:00:00	25.2	6.6	0.2	32.0	8.3	1026.6	8.1	14.0
31-Oct-24 23:00:00	25.0	6.6	0.2	32.2	8.2	1018.6	8.2	24.0
01-Nov-24 00:00:00	24.6	6.5	0.2	29.2	8.2	1010.6	8.3	33.9
01-Nov-24 01:00:00	24.2	6.5	0.2	27.5	8.1	1001.7	8.3	32.4
01-Nov-24 02:00:00	24.1	6.5	0.2	27.4	8.1	990.4	8.4	32.3
01-Nov-24 03:00:00	24.0	6.5	0.2	27.4	8.0	979.0	8.5	31.8

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
01-Nov-24 04:00:00	23.9	6.5	0.2	27.3	8.0	967.6	8.5	32.1
01-Nov-24 05:00:00	23.7	6.4	0.2	27.4	8.0	956.3	8.6	31.2
01-Nov-24 06:00:00	23.7	6.4	0.2	27.3	7.9	944.9	8.7	29.7
01-Nov-24 07:00:00	24.7	6.4	0.3	27.5	7.9	936.9	8.7	31.0
01-Nov-24 08:00:00	29.9	6.5	0.3	28.1	7.9	929.4	8.6	33.4
01-Nov-24 09:00:00	35.0	6.5	0.3	28.8	7.9	921.9	8.6	33.6
01-Nov-24 10:00:00	38.4	6.5	0.3	29.0	7.9	914.3	8.5	35.9
01-Nov-24 12:00:00	37.4	6.2	0.4	28.3	8.0	899.4	8.6	37.5
01-Nov-24 13:00:00	25.5	6.3	0.3	30.7	8.0	892.5	9.2	36.7
01-Nov-24 14:00:00	30.8	6.4	0.2	32.0	8.0	885.0	8.5	38.2
01-Nov-24 15:00:00	30.9	6.5	223.5	32.2	8.0	876.8	8.3	38.1
01-Nov-24 16:00:00	30.4	6.4	209.3	32.7	8.1	868.5	8.5	38.1
01-Nov-24 17:00:00	30.2	6.4	201.9	32.8	8.1	861.5	8.5	38.3
01-Nov-24 18:00:00	30.0	6.5	247.0	32.6	8.1	858.6	8.5	38.2
01-Nov-24 19:00:00	28.1	6.3	280.5	32.5	8.1	855.8	8.5	39.4
01-Nov-24 20:00:00	26.9	6.3	281.6	32.4	8.1	852.9	8.5	42.1
01-Nov-24 21:00:00	26.4	6.2	282.7	32.4	8.0	850.1	8.8	41.2
01-Nov-24 22:00:00	26.4	6.3	283.7	32.2	7.9	841.1	8.9	41.3
01-Nov-24 23:00:00	26.0	6.2	284.8	32.4	7.9	829.7	9.1	41.1
02-Nov-24 00:00:00	25.4	6.1	285.9	28.2	7.8	818.3	9.4	7.2
02-Nov-24 01:00:00	24.9	6.1	287.0	28.0	7.8	805.3	9.5	10.5
02-Nov-24 02:00:00	24.5	6.0	288.1	27.8	7.8	789.1	9.7	10.4
02-Nov-24 03:00:00	24.4	6.0	288.8	27.7	7.8	773.7	9.7	11.5
02-Nov-24 04:00:00	24.2	6.0	289.4	27.7	7.8	767.3	9.5	11.3
02-Nov-24 05:00:00	24.1	6.0	290.0	27.6	7.7	760.9	9.6	11.9
02-Nov-24 06:00:00	23.8	6.0	290.6	27.4	7.7	754.6	10.1	12.9
02-Nov-24 07:00:00	24.5	6.0	291.2	27.4	7.7	748.2	8.9	12.0
02-Nov-24 08:00:00	29.1	6.2	291.8	27.8	7.8	741.8	8.7	12.8
02-Nov-24 09:00:00	33.5	6.1	292.4	27.3	7.8	735.5	8.4	13.1
02-Nov-24 10:00:00	35.4	6.0	293.0	25.1	7.8	729.1	8.3	14.9
02-Nov-24 17:00:00	35.9	5.9	297.9	31.1	8.4	687.4	8.1	19.5
02-Nov-24 18:00:00	30.5	5.9	298.6	31.3	8.5	685.2	8.4	19.8
02-Nov-24 19:00:00	27.8	5.9	299.1	31.1	8.5	682.7	8.5	20.0
02-Nov-24 20:00:00	26.5	5.9	299.7	31.1	8.5	680.2	8.6	20.4
02-Nov-24 21:00:00	26.5	5.8	300.3	31.2	8.5	677.6	8.6	20.4
02-Nov-24 22:00:00	26.1	5.8	300.8	31.3	8.5	675.1	8.6	19.9
02-Nov-24 23:00:00	25.7	5.8	301.4	31.2	8.5	671.8	8.6	50.8
03-Nov-24 00:00:00	25.3	5.8	302.0	30.8	8.5	662.9	8.7	50.7
03-Nov-24 01:00:00	25.0	5.9	302.5	30.8	8.5	678.2	9.5	52.6
03-Nov-24 02:00:00	24.8	5.9	303.0	30.9	8.4	676.9	9.5	53.9
03-Nov-24 03:00:00	24.2	5.9	303.2	30.8	8.4	675.6	9.8	54.8
03-Nov-24 04:00:00	24.0	5.9	303.4	30.5	8.3	674.2	9.3	54.8
03-Nov-24 05:00:00	23.9	5.9	303.6	30.1	8.3	672.9	9.5	53.7
03-Nov-24 06:00:00	23.7	5.8	303.8	30.0	8.3	671.5	9.7	54.8
03-Nov-24 07:00:00	24.6	5.8	304.0	30.1	8.2	670.2	9.9	54.8
03-Nov-24 08:00:00	28.7	6.0	304.2	30.2	8.2	668.9	9.2	54.3
03-Nov-24 09:00:00	31.5	6.0	304.3	30.4	8.3	669.0	9.0	54.1
03-Nov-24 10:00:00	34.2	5.9	304.5	30.6	8.3	670.1	8.4	54.0
03-Nov-24 13:00:00	31.7	6.7	457.8	31.1	8.7	673.3	7.0	54.7
03-Nov-24 14:00:00	33.0	7.1	595.3	31.1	8.5	674.4	6.8	55.6
03-Nov-24 15:00:00	33.4	7.2	457.3	31.4	8.3	676.9	6.8	57.5
03-Nov-24 16:00:00	32.0	6.8	226.8	31.4	8.0	680.1	7.0	61.3
03-Nov-24 17:00:00	31.3	6.6	163.1	31.5	7.9	683.3	7.9	62.9
03-Nov-24 18:00:00	30.8	6.6	141.9	31.8	7.8	686.5	8.4	61.9
03-Nov-24 19:00:00	29.1	6.5	4.2	31.6	7.8	689.7	8.8	63.1
03-Nov-24 20:00:00	27.1	6.5	3.6	31.5	7.7	692.9	9.2	64.8



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
03-Nov-24 21:00:00	26.2	6.5	2.9	31.5	7.7	696.1	9.4	64.7
03-Nov-24 22:00:00	25.7	6.6	2.2	28.0	7.7	699.3	9.5	66.5
03-Nov-24 23:00:00	25.4	6.6	1.6	26.8	7.6	700.3	9.6	66.1
04-Nov-24 00:00:00	25.2	6.5	0.9	26.6	7.6	700.7	9.7	65.6
04-Nov-24 01:00:00	25.0	6.5	0.2	26.6	7.6	701.2	9.8	66.0
04-Nov-24 02:00:00	29.3	6.4	142.7	26.3	7.6	701.7	9.8	65.3
04-Nov-24 03:00:00	28.7	6.2	138.0	26.5	7.6	702.2	9.9	65.1
04-Nov-24 04:00:00	27.3	6.1	139.9	26.2	7.5	702.7	9.8	65.3
04-Nov-24 05:00:00	26.0	6.1	141.8	26.1	7.5	703.2	9.8	64.5
04-Nov-24 06:00:00	25.6	6.1	143.7	25.9	7.5	703.6	9.8	64.6
04-Nov-24 07:00:00	26.2	5.9	145.6	25.8	7.5	705.0	9.7	64.6
04-Nov-24 08:00:00	29.4	6.0	147.4	26.1	7.4	706.3	8.9	65.1
04-Nov-24 09:00:00	34.0	6.1	149.3	26.3	7.4	707.6	8.2	65.4
04-Nov-24 10:00:00	36.7	6.0	151.2	26.6	7.4	708.9	7.6	67.2
04-Nov-24 14:00:00	40.0	5.9	158.7	31.8	7.4	714.2	7.3	69.2
04-Nov-24 16:00:00	39.3	5.9	160.9	32.2	7.3	716.7	6.7	70.0
04-Nov-24 17:00:00	33.9	5.9	161.7	32.2	8.6	651.1	7.7	58.6
04-Nov-24 18:00:00	29.9	5.8	162.5	31.9	8.9	642.2	8.8	59.4
04-Nov-24 19:00:00	27.6	5.8	163.3	31.8	9.0	637.7	9.4	58.1
04-Nov-24 22:00:00	26.2	5.9	165.6	32.1	9.0	653.1	9.7	53.0
04-Nov-24 23:00:00	25.2	5.9	166.1	32.2	9.0	657.7	9.9	53.0
05-Nov-24 00:00:00	24.8	5.9	166.3	32.0	8.9	662.4	10.1	53.0
05-Nov-24 01:00:00	24.6	5.9	166.5	31.9	8.8	667.0	10.2	53.7
05-Nov-24 02:00:00	24.5	5.9	166.7	31.7	8.8	671.6	10.3	54.0
05-Nov-24 03:00:00	24.3	5.9	166.9	31.6	8.7	676.2	10.3	54.6
05-Nov-24 05:00:00	24.4	5.9	167.3	31.6	9.0	647.3	10.2	54.6
05-Nov-24 06:00:00	24.6	5.9	167.5	31.3	8.9	649.1	10.2	54.3
05-Nov-24 07:00:00	24.8	5.9	167.1	31.1	8.9	651.0	10.1	53.7
05-Nov-24 08:00:00	26.0	5.9	166.4	31.2	8.8	652.8	10.0	54.4
05-Nov-24 09:00:00	27.7	5.9	165.7	31.1	8.7	654.2	9.8	54.6
05-Nov-24 10:00:00	31.2	5.9	165.0	31.2	8.9	654.5	9.2	52.0
05-Nov-24 11:00:00	37.5	6.0	164.3	31.4	8.9	656.5	8.3	53.2
05-Nov-24 16:00:00	29.0	5.8	161.1	31.8	9.0	663.0	9.0	57.4
05-Nov-24 17:00:00	25.7	5.9	160.6	31.9	9.0	664.3	9.0	54.4
05-Nov-24 18:00:00	25.5	5.9	160.2	32.0	8.9	670.5	9.6	55.1
05-Nov-24 22:00:00	27.1	6.9	1.4	31.6	9.0	746.5	9.8	44.5
05-Nov-24 23:00:00	25.7	6.8	1.3	31.7	8.9	748.1	9.7	39.5
06-Nov-24 00:00:00	25.3	6.7	1.2	27.0	8.9	749.8	9.7	40.9
06-Nov-24 01:00:00	24.9	6.6	1.2	26.8	8.9	751.5	9.8	41.1
06-Nov-24 02:00:00	24.7	6.6	1.1	26.8	8.8	753.1	9.9	41.8
06-Nov-24 03:00:00	24.4	6.6	1.0	26.9	8.8	754.8	10.1	41.3
06-Nov-24 04:00:00	24.5	6.6	0.9	27.0	8.7	756.4	10.2	41.6
06-Nov-24 05:00:00	24.6	6.6	0.9	27.2	8.7	758.1	10.2	43.0
06-Nov-24 06:00:00	24.9	6.6	0.8	27.2	8.7	763.8	10.2	42.4
06-Nov-24 07:00:00	25.4	6.6	0.7	27.1	8.6	771.4	10.0	43.0
06-Nov-24 08:00:00	28.3	6.6	0.6	27.0	8.6	782.2	9.4	43.3
06-Nov-24 09:00:00	35.0	6.4	0.6	27.0	8.5	790.7	8.3	43.8
07-Nov-24 00:00:00	26.3	6.6	572.6	31.5	9.0	1064.6	9.6	47.6
07-Nov-24 01:00:00	26.0	6.5	568.7	31.2	9.0	1062.3	9.6	46.3
07-Nov-24 02:00:00	25.3	6.5	570.2	31.2	9.0	1060.7	9.9	47.0
07-Nov-24 03:00:00	24.7	6.5	571.6	31.0	9.0	1060.4	9.8	43.3
07-Nov-24 04:00:00	24.5	6.5	573.1	30.8	8.9	1064.3	10.2	41.5
07-Nov-24 05:00:00	24.3	6.5	574.5	30.8	8.9	1068.2	10.3	42.4
07-Nov-24 06:00:00	24.0	6.4	576.0	30.5	8.8	1072.2	10.4	42.6
07-Nov-24 07:00:00	24.9	6.4	577.4	30.5	8.8	1076.1	10.3	43.0
07-Nov-24 08:00:00	27.9	6.4	578.8	30.6	8.7	1078.3	9.6	43.9

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
07-Nov-24 09:00:00	30.9	6.5	580.0	30.8	8.7	1076.5	8.9	45.2
07-Nov-24 10:00:00	33.1	6.5	579.6	31.0	8.9	1030.2	8.6	48.9
07-Nov-24 11:00:00	38.1	6.4	579.2	31.3	8.7	1012.4	8.2	54.1
07-Nov-24 13:00:00	33.9	6.7	572.6	31.3	9.0	996.8	6.9	52.0
07-Nov-24 14:00:00	32.9	6.8	553.2	32.0	9.0	997.3	6.8	52.8
07-Nov-24 18:00:00	31.4	6.7	369.7	32.0	7.7	1003.9	8.2	53.7
07-Nov-24 19:00:00	29.9	6.7	346.8	32.1	8.7	999.1	8.3	56.3
07-Nov-24 20:00:00	28.1	6.5	0.4	32.0	8.8	996.9	8.7	56.9
07-Nov-24 21:00:00	27.5	6.4	0.4	31.9	8.8	994.6	8.7	58.9
07-Nov-24 22:00:00	27.2	6.4	0.4	31.7	8.8	992.4	9.0	58.5
07-Nov-24 23:00:00	27.0	6.3	0.4	31.6	8.8	993.0	9.2	57.7
08-Nov-24 00:00:00	26.8	6.3	0.3	31.4	8.7	992.6	8.9	57.6
08-Nov-24 01:00:00	26.5	6.3	0.3	31.2	8.7	993.9	8.9	57.9
08-Nov-24 02:00:00	26.0	6.3	0.3	31.2	8.7	997.5	9.3	58.2
08-Nov-24 03:00:00	25.6	6.3	0.2	31.0	8.6	1001.1	9.7	58.4
08-Nov-24 04:00:00	25.6	6.3	0.2	30.8	8.6	1004.8	9.7	59.5
08-Nov-24 05:00:00	25.7	6.2	0.2	30.8	8.6	1008.4	9.5	59.7
08-Nov-24 06:00:00	25.7	6.2	0.3	30.8	8.5	1012.1	9.8	59.7
08-Nov-24 07:00:00	26.3	6.3	0.3	30.7	8.5	1015.7	9.7	60.0
08-Nov-24 08:00:00	30.5	6.5	0.3	30.8	8.5	1017.1	9.1	60.7
08-Nov-24 09:00:00	32.6	6.3	0.4	30.8	8.5	1016.1	8.5	61.0
08-Nov-24 10:00:00	34.6	6.3	0.4	30.9	8.5	1005.7	8.0	61.8
08-Nov-24 15:00:00	39.6	6.5	0.2	31.9	9.0	982.7	7.5	61.4
09-Nov-24 01:00:00	30.5	6.7	254.9	31.3	9.0	993.7	8.7	64.6
09-Nov-24 02:00:00	30.2	6.7	256.8	31.5	9.0	1005.3	9.1	64.9
09-Nov-24 03:00:00	29.5	6.7	258.6	31.3	9.0	1008.8	9.3	65.0
09-Nov-24 04:00:00	25.6	6.6	3.0	31.1	8.9	1010.0	9.4	66.0
09-Nov-24 05:00:00	24.4	6.6	2.6	31.0	8.9	1007.5	9.9	65.4
09-Nov-24 06:00:00	23.9	6.6	2.2	30.7	8.8	1010.4	9.8	64.5
09-Nov-24 07:00:00	24.6	6.7	1.8	30.7	8.8	1013.1	9.1	63.4
09-Nov-24 08:00:00	29.2	6.5	1.4	30.8	8.8	1014.2	8.7	64.9
09-Nov-24 09:00:00	33.0	6.6	1.0	30.9	8.8	1015.3	8.4	65.1
09-Nov-24 10:00:00	34.9	6.4	0.6	30.9	8.8	1016.4	8.3	65.1
10-Nov-24 05:00:00	23.8	6.3	1.0	30.2	9.0	1018.2	10.2	55.8
10-Nov-24 06:00:00	23.5	6.3	0.6	30.0	9.0	1020.0	10.3	54.8
10-Nov-24 07:00:00	24.5	6.4	0.2	29.7	8.9	1020.9	10.1	54.7
10-Nov-24 08:00:00	29.0	6.2	0.1	29.8	8.8	1021.8	9.1	45.8
10-Nov-24 09:00:00	34.0	6.4	0.1	30.1	8.7	1022.7	8.1	50.6
10-Nov-24 10:00:00	36.7	6.4	0.1	29.9	8.6	1023.7	7.3	55.5
11-Nov-24 08:00:00	28.7	6.4	0.0	25.8	9.0	1026.7	9.3	50.4
11-Nov-24 09:00:00	32.9	6.5	0.0	26.1	8.9	1028.6	8.3	51.8
11-Nov-24 10:00:00	30.3	6.6	363.3	26.1	8.8	1030.5	7.7	54.2
11-Nov-24 11:00:00	30.6	6.5	264.8	26.4	8.8	1032.4	7.2	51.8
11-Nov-24 12:00:00	31.3	6.4	207.7	26.5	8.7	1034.4	6.7	52.9
11-Nov-24 13:00:00	31.9	6.4	176.5	30.3	8.6	1036.3	6.5	55.2
11-Nov-24 14:00:00	32.8	6.4	149.8	31.5	8.6	1040.0	6.2	56.3
11-Nov-24 15:00:00	33.5	6.2	146.8	31.3	8.6	1044.0	6.4	58.1
11-Nov-24 16:00:00	33.4	6.3	143.7	32.0	8.5	1059.4	7.2	50.9
11-Nov-24 17:00:00	32.6	6.4	130.4	31.9	8.4	1061.3	7.7	52.9
11-Nov-24 18:00:00	30.8	6.4	1.4	32.0	8.4	1063.2	7.8	52.7
11-Nov-24 19:00:00	29.4	6.4	1.3	31.9	8.4	1065.1	8.3	49.8
11-Nov-24 20:00:00	28.3	6.4	1.1	31.9	8.3	1067.0	8.7	47.5
11-Nov-24 21:00:00	27.2	6.4	0.9	31.8	8.3	1068.9	9.0	46.6
11-Nov-24 22:00:00	26.2	6.3	0.8	31.8	8.2	1070.8	9.3	47.4
12-Nov-24 00:00:00	25.4	6.3	0.4	31.6	9.0	1072.0	8.9	47.6
12-Nov-24 01:00:00	25.2	6.3	0.3	31.8	8.9	1067.8	9.1	47.3



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
12-Nov-24 02:00:00	24.9	6.3	0.1	31.6	9.0	1063.7	9.5	46.0
12-Nov-24 03:00:00	24.1	6.3	0.1	31.3	9.0	1064.4	10.0	47.1
12-Nov-24 04:00:00	23.8	6.3	0.1	31.0	9.0	1066.0	9.3	47.0
12-Nov-24 05:00:00	24.0	6.3	0.1	31.0	8.9	1067.6	9.6	46.8
12-Nov-24 06:00:00	23.7	6.3	0.1	30.7	8.9	1069.2	9.6	45.1
12-Nov-24 07:00:00	24.2	6.5	0.1	30.4	8.8	1069.4	9.1	45.0
12-Nov-24 08:00:00	29.1	6.5	0.1	30.7	8.8	1067.1	8.7	44.7
12-Nov-24 09:00:00	33.5	6.6	0.1	31.0	8.7	1064.7	8.1	44.9
12-Nov-24 10:00:00	35.0	6.4	0.1	30.8	8.8	1061.4	8.1	42.5
13-Nov-24 05:00:00	27.7	6.7	614.1	31.0	9.0	1119.6	10.2	7.5
13-Nov-24 06:00:00	24.4	6.7	614.5	31.0	9.0	1120.3	10.4	7.3
13-Nov-24 07:00:00	24.6	6.5	614.9	31.1	9.0	1120.9	10.1	7.0
13-Nov-24 08:00:00	29.4	6.7	615.2	31.4	9.0	1121.6	9.1	7.0
13-Nov-24 09:00:00	34.1	6.6	615.6	31.4	9.0	1122.5	7.9	6.4
13-Nov-24 10:00:00	35.7	6.5	616.0	31.3	9.0	1124.8	7.6	6.1
13-Nov-24 16:00:00	39.6	6.4	619.5	32.6	8.6	1137.9	6.5	9.9
13-Nov-24 17:00:00	36.8	6.4	620.3	32.7	8.6	1139.0	6.5	9.3
13-Nov-24 18:00:00	31.3	6.4	621.0	32.7	8.7	1140.2	7.8	7.5
13-Nov-24 19:00:00	29.5	6.4	621.8	32.6	8.7	1141.3	8.4	6.9
13-Nov-24 20:00:00	28.2	6.4	622.6	32.7	8.7	1142.4	8.7	5.6
13-Nov-24 21:00:00	27.4	6.4	623.1	32.5	8.7	1143.6	8.9	4.6
13-Nov-24 22:00:00	27.2	6.4	623.4	32.2	8.7	1144.8	9.1	4.7
13-Nov-24 23:00:00	26.8	6.3	623.7	32.3	8.7	1146.0	9.2	4.1
14-Nov-24 00:00:00	26.4	6.3	624.0	32.2	8.7	1147.2	9.4	4.5
14-Nov-24 01:00:00	26.7	6.3	624.3	32.3	8.7	1148.4	9.4	4.5
14-Nov-24 02:00:00	26.6	6.3	624.5	32.2	8.7	1149.6	9.4	4.9
14-Nov-24 03:00:00	26.2	6.3	624.8	32.4	8.7	1150.8	9.4	5.3
14-Nov-24 04:00:00	25.6	6.3	625.1	32.1	8.7	1152.1	9.7	5.1
14-Nov-24 05:00:00	25.5	6.3	625.5	32.0	8.7	1153.6	9.8	4.8
14-Nov-24 06:00:00	25.6	6.3	625.9	32.1	8.7	1155.0	9.7	6.8
14-Nov-24 07:00:00	29.5	6.6	399.5	32.1	8.7	1156.5	9.7	5.3
14-Nov-24 08:00:00	29.6	6.5	247.2	32.1	8.6	1158.0	9.5	5.4
14-Nov-24 09:00:00	29.8	6.5	204.3	32.3	8.6	1159.4	9.0	6.5
14-Nov-24 10:00:00	29.9	6.5	197.1	32.2	8.6	1160.9	8.7	7.4
14-Nov-24 11:00:00	30.1	6.5	191.2	32.3	8.6	1162.4	8.2	7.1
14-Nov-24 14:00:00	39.2	6.4	0.4	32.9	8.4	1165.4	Bad	9.3
14-Nov-24 15:00:00	28.9	6.2	0.3	32.7	8.4	1165.2	Bad	9.6
14-Nov-24 16:00:00	26.6	6.3	0.2	32.4	8.4	1165.0	Bad	7.2
15-Nov-24 14:00:00	35.0	6.5	222.3	31.8	8.7	1222.6	7.7	14.5
15-Nov-24 15:00:00	31.4	6.7	461.2	32.4	8.6	1230.0	6.8	13.4
15-Nov-24 16:00:00	31.2	6.9	649.6	32.4	8.7	1206.5	8.2	14.6
15-Nov-24 17:00:00	30.8	6.9	804.8	32.5	8.7	1206.3	8.6	14.5
15-Nov-24 18:00:00	29.1	6.9	880.5	32.6	8.7	1206.2	9.1	14.9
15-Nov-24 19:00:00	27.0	6.8	880.9	32.4	8.7	1206.0	9.5	15.3
15-Nov-24 20:00:00	26.1	6.7	881.4	32.3	8.6	1207.8	9.8	15.5
15-Nov-24 21:00:00	25.5	6.7	881.9	32.2	8.6	1214.6	10.0	15.6
15-Nov-24 22:00:00	25.1	6.6	882.4	32.1	8.6	1221.5	10.1	15.8
15-Nov-24 23:00:00	24.9	6.6	882.9	32.0	8.5	1228.4	10.3	16.0
16-Nov-24 00:00:00	24.6	6.6	883.4	31.7	8.4	1235.2	10.3	15.7
16-Nov-24 01:00:00	24.3	6.6	883.8	31.7	8.4	1242.1	10.4	16.1
16-Nov-24 02:00:00	24.2	6.6	883.4	31.7	8.3	1249.0	10.5	16.3
16-Nov-24 03:00:00	24.0	6.6	882.3	31.7	8.2	1276.7	10.6	16.4
16-Nov-24 04:00:00	23.8	6.6	881.2	31.4	8.1	1282.6	10.7	16.5
16-Nov-24 05:00:00	23.7	6.6	880.2	31.4	8.1	1288.5	10.7	16.1
16-Nov-24 06:00:00	23.7	6.6	879.1	31.3	8.0	1294.5	10.7	16.0
16-Nov-24 07:00:00	24.5	6.6	878.0	31.6	7.9	1300.4	10.5	16.1

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
16-Nov-24 08:00:00	28.8	6.7	876.9	32.0	7.9	1306.3	9.6	16.4
16-Nov-24 09:00:00	33.6	6.7	875.9	32.4	8.1	1312.2	8.4	16.4
16-Nov-24 10:00:00	35.8	6.6	876.1	32.1	8.1	1311.4	7.6	16.2
16-Nov-24 12:00:00	32.3	6.9	555.6	32.1	8.2	1304.8	6.8	15.7
16-Nov-24 13:00:00	32.3	7.2	323.8	31.5	8.3	1322.7	6.6	15.6
16-Nov-24 14:00:00	32.9	7.3	247.0	32.2	8.3	1323.8	6.4	15.2
16-Nov-24 15:00:00	33.7	7.5	226.9	33.2	8.4	1324.9	6.8	15.6
16-Nov-24 17:00:00	37.6	7.1	0.9	32.9	8.5	1361.6	7.4	15.6
16-Nov-24 18:00:00	32.4	7.0	1.0	32.6	8.5	1365.1	8.2	16.1
16-Nov-24 19:00:00	29.5	7.0	1.1	32.6	8.5	1371.0	8.7	16.1
16-Nov-24 20:00:00	28.3	7.0	1.1	32.4	8.5	1376.8	9.1	16.4
16-Nov-24 21:00:00	28.2	7.0	295.4	32.5	8.4	1382.7	9.3	16.4
16-Nov-24 22:00:00	30.8	7.2	439.9	32.5	8.4	1388.5	9.5	16.6
16-Nov-24 23:00:00	30.5	7.2	511.2	32.5	8.3	1394.4	9.7	16.7
17-Nov-24 00:00:00	30.4	7.2	534.5	28.4	8.3	1406.0	9.9	16.6
17-Nov-24 01:00:00	30.3	7.2	535.5	28.0	8.2	1410.5	10.0	16.8
17-Nov-24 02:00:00	30.2	7.1	536.5	28.0	8.2	1414.9	10.1	16.7
17-Nov-24 03:00:00	30.0	7.0	537.5	27.8	8.1	1419.4	10.2	16.9
17-Nov-24 04:00:00	29.9	6.9	538.5	27.7	8.1	1423.9	10.3	16.8
17-Nov-24 05:00:00	29.8	6.8	539.5	27.5	8.1	1428.4	10.4	16.8
17-Nov-24 06:00:00	29.7	6.7	540.5	27.5	8.0	1437.2	9.6	16.6
17-Nov-24 07:00:00	29.6	6.7	541.5	27.6	8.0	1441.9	10.1	16.2
17-Nov-24 08:00:00	29.6	6.8	541.8	28.1	7.9	1446.7	9.2	16.5
17-Nov-24 09:00:00	29.9	6.9	541.9	28.7	8.0	1458.4	8.1	16.5
17-Nov-24 10:00:00	30.8	7.0	542.1	28.6	8.0	1459.4	7.7	16.4
17-Nov-24 11:00:00	38.2	7.3	1.6	28.6	8.0	1460.3	7.0	16.4
17-Nov-24 14:00:00	39.3	7.1	0.8	28.7	8.2	1472.7	7.7	16.9
17-Nov-24 15:00:00	39.1	7.1	0.5	28.5	8.3	1476.4	7.8	17.1
17-Nov-24 16:00:00	32.0	6.5	425.3	28.8	8.4	1477.9	8.2	16.9
17-Nov-24 17:00:00	29.3	6.4	218.5	28.2	8.4	1479.1	11.3	13.5
17-Nov-24 18:00:00	28.9	6.6	338.8	31.0	8.3	1478.6	11.2	19.8
17-Nov-24 19:00:00	28.8	6.6	449.9	31.3	8.3	1478.1	11.0	19.8
17-Nov-24 20:00:00	28.7	6.6	501.9	31.2	8.2	1464.4	11.0	20.0
17-Nov-24 21:00:00	28.6	6.6	529.0	31.4	8.2	1408.2	10.9	19.5
17-Nov-24 22:00:00	28.5	6.6	537.5	31.1	8.1	1406.3	10.7	19.4
17-Nov-24 23:00:00	28.5	6.6	546.0	31.5	8.1	1404.9	10.6	20.0
18-Nov-24 00:00:00	28.4	6.6	554.4	31.6	8.0	1405.2	10.5	20.1
18-Nov-24 01:00:00	28.3	6.6	562.9	31.5	8.0	1409.4	10.5	19.9
18-Nov-24 02:00:00	28.1	6.6	566.8	31.4	7.9	1417.6	10.5	19.6
18-Nov-24 03:00:00	27.9	6.6	567.5	31.4	7.9	1423.2	10.0	20.1
18-Nov-24 04:00:00	25.2	6.4	568.2	31.1	7.9	1432.3	10.4	20.3
18-Nov-24 05:00:00	23.9	6.3	568.8	31.1	7.9	1449.6	10.5	20.5
18-Nov-24 06:00:00	23.6	6.2	569.5	31.1	7.8	1466.8	10.6	20.0
18-Nov-24 07:00:00	24.4	6.4	570.2	30.8	7.8	1473.5	10.4	19.8
18-Nov-24 08:00:00	27.4	6.3	570.9	30.6	7.8	1478.4	9.8	19.9
18-Nov-24 09:00:00	31.1	6.4	571.3	30.9	7.8	1476.8	8.8	19.8
18-Nov-24 10:00:00	32.4	6.3	570.8	30.9	7.8	1469.2	8.4	20.2
18-Nov-24 11:00:00	35.3	7.0	6.7	31.2	7.9	1464.5	8.3	19.6
18-Nov-24 17:00:00	37.2	6.4	1.4	31.5	8.6	1484.2	7.2	18.4
18-Nov-24 18:00:00	30.3	6.7	0.6	31.4	8.6	1479.6	7.5	18.3
18-Nov-24 19:00:00	27.7	6.8	0.0	31.3	8.5	1480.4	8.2	13.4
18-Nov-24 20:00:00	26.4	6.9	0.1	31.1	8.4	1481.9	8.6	12.4
18-Nov-24 21:00:00	25.5	6.9	0.1	31.0	8.4	1483.4	8.8	12.5
18-Nov-24 22:00:00	24.9	6.9	0.2	31.0	8.3	1485.0	8.9	12.0
18-Nov-24 23:00:00	24.3	6.9	0.2	30.9	8.2	1486.5	9.1	11.1
19-Nov-24 00:00:00	23.8	7.0	0.2	30.6	8.1	1488.0	9.2	10.4



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
19-Nov-24 01:00:00	23.5	7.0	0.3	30.5	8.1	1489.5	9.4	9.5
19-Nov-24 02:00:00	29.3	7.0	412.0	30.9	8.0	1491.0	9.4	9.3
19-Nov-24 03:00:00	29.2	6.9	403.8	30.6	7.9	1491.6	9.5	8.8
19-Nov-24 04:00:00	28.9	6.8	404.8	30.2	7.9	1492.2	9.7	8.8
19-Nov-24 05:00:00	28.7	6.8	405.8	30.2	7.9	1492.9	9.8	8.2
19-Nov-24 06:00:00	28.2	6.8	406.8	30.2	7.8	1493.5	9.8	8.1
19-Nov-24 07:00:00	25.9	6.8	2.5	30.3	7.8	1494.1	9.7	8.2
19-Nov-24 08:00:00	28.4	6.4	2.2	30.7	7.7	1494.7	8.7	8.5
19-Nov-24 09:00:00	31.8	6.3	1.9	30.9	7.6	1495.4	7.9	8.1
19-Nov-24 10:00:00	32.7	6.6	1.6	31.2	7.6	1495.7	7.2	10.5
19-Nov-24 11:00:00	39.6	6.6	1.3	31.5	7.5	1495.1	6.8	11.7
19-Nov-24 17:00:00	36.8	6.6	0.2	31.6	7.3	1488.6	5.9	16.4
19-Nov-24 18:00:00	31.3	6.7	0.2	31.6	7.3	1485.8	7.1	15.0
19-Nov-24 19:00:00	28.8	6.5	0.2	31.6	7.3	1483.0	7.7	13.6
19-Nov-24 20:00:00	27.3	6.5	0.2	31.6	7.3	1480.3	8.2	12.6
19-Nov-24 21:00:00	26.3	6.5	0.2	31.4	7.3	1478.1	8.5	11.9
19-Nov-24 22:00:00	25.8	6.5	0.2	31.2	7.2	1477.0	8.6	11.7
19-Nov-24 23:00:00	25.3	6.5	0.2	31.2	7.2	1476.0	8.7	11.8
20-Nov-24 00:00:00	24.8	6.5	0.2	30.9	7.2	1474.9	9.0	11.1
20-Nov-24 01:00:00	24.6	6.5	0.2	31.1	7.2	1473.8	9.1	10.6
20-Nov-24 02:00:00	24.4	6.4	0.3	31.1	7.2	1472.7	9.2	10.3
20-Nov-24 03:00:00	24.3	6.4	0.3	30.9	7.2	1471.7	9.2	10.0
20-Nov-24 04:00:00	24.1	6.4	0.3	30.8	7.2	1470.6	9.3	9.8
20-Nov-24 05:00:00	24.0	6.4	0.3	30.7	7.2	1469.3	9.4	9.2
20-Nov-24 06:00:00	23.8	6.4	0.3	30.5	7.2	1467.7	9.5	9.4
20-Nov-24 07:00:00	28.7	6.9	485.8	30.4	7.2	1466.2	9.4	9.6
20-Nov-24 08:00:00	28.8	6.8	334.9	30.5	7.1	1464.6	8.9	10.6
20-Nov-24 09:00:00	28.7	6.8	271.6	30.7	7.1	1463.1	8.2	10.1
20-Nov-24 10:00:00	28.9	6.8	240.3	31.0	7.1	1474.9	7.7	10.6
20-Nov-24 11:00:00	29.3	6.9	236.4	31.2	7.1	1472.2	7.2	12.4
20-Nov-24 12:00:00	30.2	6.9	232.5	31.4	7.1	1487.7	7.0	12.8
20-Nov-24 13:00:00	31.3	7.0	228.7	31.3	7.1	1485.5	6.6	12.8
20-Nov-24 14:00:00	40.0	7.1	2.7	32.2	7.1	1483.4	6.4	14.0
20-Nov-24 16:00:00	38.7	6.8	2.0	32.0	7.1	1479.0	6.3	15.1
20-Nov-24 17:00:00	35.2	6.7	1.6	32.0	7.0	1476.8	6.4	18.2
20-Nov-24 18:00:00	30.2	6.7	1.3	31.7	7.0	1474.7	7.6	23.0
20-Nov-24 19:00:00	27.8	6.6	0.9	31.5	7.0	1472.9	8.2	24.1
20-Nov-24 20:00:00	26.9	6.6	0.6	31.4	7.0	1473.5	8.4	24.9
20-Nov-24 21:00:00	26.2	6.6	0.3	31.4	7.0	1474.1	8.6	25.7
20-Nov-24 22:00:00	25.6	6.6	0.2	31.4	7.0	1474.7	8.8	26.0
20-Nov-24 23:00:00	30.0	7.2	781.8	31.4	7.0	1475.3	8.9	25.4
21-Nov-24 00:00:00	29.5	7.2	880.4	31.1	7.0	1475.9	9.0	27.1
21-Nov-24 01:00:00	29.3	7.2	908.7	31.2	7.0	1476.5	9.0	27.4
21-Nov-24 02:00:00	29.2	7.2	969.7	31.2	7.0	1477.2	9.1	28.0
21-Nov-24 03:00:00	29.0	7.2	1005.1	30.7	7.0	1477.7	9.2	28.6
21-Nov-24 04:00:00	28.8	7.2	1013.6	30.5	7.0	1477.6	9.3	28.2
21-Nov-24 05:00:00	28.6	7.2	1021.8	30.5	7.0	1477.5	9.4	28.5
21-Nov-24 06:00:00	28.4	7.2	1024.0	30.2	7.0	1477.4	9.4	28.8
21-Nov-24 07:00:00	28.2	6.9	1030.0	30.1	7.0	1477.4	9.4	29.2
21-Nov-24 08:00:00	28.4	6.7	1386.2	30.3	7.0	1477.3	8.6	29.4
21-Nov-24 09:00:00	28.7	6.7	1477.2	30.5	7.0	1477.2	8.0	28.3
21-Nov-24 10:00:00	29.2	6.7	1525.2	30.9	7.0	1477.2	7.4	27.5
21-Nov-24 11:00:00	29.9	6.8	1642.1	31.0	7.0	1476.8	7.1	26.2
21-Nov-24 12:00:00	30.6	6.7	2270.5	31.2	7.0	1475.8	6.7	26.0
21-Nov-24 13:00:00	31.1	6.5	2709.7	31.3	7.0	1474.8	6.3	25.0
21-Nov-24 14:00:00	31.4	6.4	3018.8	31.9	7.0	1473.7	6.7	25.6

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
21-Nov-24 15:00:00	31.7	6.4	3076.7	31.8	7.0	1472.7	6.6	25.3
21-Nov-24 16:00:00	31.8	6.4	3154.5	31.7	7.0	1471.7	6.6	26.2
21-Nov-24 17:00:00	31.8	6.4	3164.3	31.9	7.0	1470.7	6.0	26.7
21-Nov-24 18:00:00	31.7	6.4	3171.6	31.7	7.0	1469.6	7.2	28.5
21-Nov-24 19:00:00	31.5	6.4	3174.6	31.5	7.0	1469.6	8.1	31.1
21-Nov-24 20:00:00	31.3	6.4	3155.7	31.4	7.0	1470.6	8.4	32.3
21-Nov-24 21:00:00	31.2	6.5	3144.6	31.4	7.0	1471.6	8.4	33.5
21-Nov-24 22:00:00	31.0	6.5	3153.5	31.3	7.0	1472.6	8.5	33.8
21-Nov-24 23:00:00	30.8	6.5	3168.2	31.2	7.0	1473.6	8.7	34.7
22-Nov-24 00:00:00	30.6	6.5	3156.6	26.6	7.0	1474.6	8.9	35.7
22-Nov-24 01:00:00	30.5	6.5	3142.8	26.4	7.0	1475.5	9.0	36.8
22-Nov-24 02:00:00	30.3	6.5	2818.3	26.3	7.0	1476.5	9.1	37.5
22-Nov-24 03:00:00	30.1	6.6	2512.9	26.0	7.0	1477.4	9.2	38.7
22-Nov-24 04:00:00	30.0	6.6	2404.5	25.5	7.0	1478.3	9.3	39.3
22-Nov-24 05:00:00	29.8	6.6	2349.7	25.6	7.0	1479.1	9.4	40.1
22-Nov-24 06:00:00	29.6	6.6	2327.4	25.3	7.0	1480.0	9.5	41.0
22-Nov-24 07:00:00	29.5	6.5	2309.9	25.3	7.0	1501.1	9.4	41.8
22-Nov-24 08:00:00	29.4	6.5	2293.7	25.7	7.0	1500.7	8.7	41.4
22-Nov-24 09:00:00	29.3	6.6	2284.8	26.0	6.9	1500.4	7.9	41.4
22-Nov-24 10:00:00	29.5	6.6	2275.8	26.3	6.9	1500.1	7.3	40.3
22-Nov-24 11:00:00	29.8	6.6	2266.8	26.6	6.9	1499.7	7.0	39.8
22-Nov-24 12:00:00	30.2	6.7	2272.7	26.8	6.9	1499.4	6.8	40.3
22-Nov-24 13:00:00	30.7	6.9	2197.1	27.0	6.9	1499.0	6.4	39.5
22-Nov-24 14:00:00	31.1	6.9	2162.7	27.1	6.9	1498.7	6.2	40.1
22-Nov-24 15:00:00	31.6	6.9	2139.1	27.2	6.9	1494.9	6.0	41.9
22-Nov-24 16:00:00	32.0	7.0	2156.2	27.4	6.9	1514.3	5.8	41.3
22-Nov-24 17:00:00	32.0	7.0	2149.5	27.3	6.9	1515.6	6.5	42.6
22-Nov-24 18:00:00	31.7	7.0	2142.8	27.4	6.9	1516.9	7.4	44.2
22-Nov-24 19:00:00	31.1	7.1	2136.1	27.2	6.9	1518.1	8.0	46.6
22-Nov-24 20:00:00	27.8	6.9	2.4	27.0	6.9	1519.4	8.4	48.6
22-Nov-24 21:00:00	26.4	6.8	2.2	26.8	6.9	1520.7	8.6	50.0
22-Nov-24 22:00:00	26.2	6.8	2.0	26.7	6.9	1522.0	8.6	51.0
22-Nov-24 23:00:00	25.8	6.7	1.9	26.6	6.9	1523.2	8.8	52.3
23-Nov-24 00:00:00	25.5	6.7	1.7	26.5	6.9	1523.7	8.9	53.0
23-Nov-24 01:00:00	25.3	6.7	1.5	26.4	6.9	1524.1	8.9	54.1
23-Nov-24 02:00:00	25.1	6.7	1.3	26.2	6.9	1524.5	9.0	55.1
23-Nov-24 03:00:00	24.9	6.7	1.2	26.0	6.9	1524.9	9.1	55.9
23-Nov-24 04:00:00	24.8	6.7	1.0	25.8	6.9	1525.3	9.1	56.7
23-Nov-24 05:00:00	24.3	6.6	1.0	25.9	6.9	1525.8	9.3	57.8
23-Nov-24 06:00:00	23.7	6.5	1.0	25.6	6.9	1526.2	9.5	58.8
23-Nov-24 07:00:00	24.4	6.7	0.9	25.6	6.9	1526.5	9.5	59.5
23-Nov-24 08:00:00	26.0	6.7	0.9	25.8	6.9	1526.3	9.1	59.6
23-Nov-24 09:00:00	31.0	6.6	0.8	26.4	6.9	1526.0	8.0	59.7
23-Nov-24 10:00:00	32.1	6.6	0.8	26.9	6.9	1525.8	7.4	58.9
23-Nov-24 11:00:00	39.0	6.5	0.8	27.3	6.9	1525.5	6.9	58.1
23-Nov-24 15:00:00	39.3	6.5	0.6	27.4	6.9	1524.8	6.4	61.4
23-Nov-24 16:00:00	37.3	6.5	0.6	27.5	6.9	1525.5	6.5	62.7
23-Nov-24 17:00:00	34.0	6.5	0.6	27.6	6.9	1526.2	6.8	64.6
23-Nov-24 18:00:00	30.4	6.4	0.5	27.5	6.9	1527.0	7.5	67.8
23-Nov-24 19:00:00	28.4	6.4	0.5	27.4	6.9	1527.7	7.9	70.1
23-Nov-24 20:00:00	27.4	6.3	0.5	27.3	6.9	1528.4	8.2	72.1
23-Nov-24 21:00:00	26.7	6.3	0.6	27.2	6.9	1529.2	8.4	73.5
23-Nov-24 22:00:00	26.2	6.3	0.6	27.0	6.9	1529.9	8.6	74.8
23-Nov-24 23:00:00	25.8	6.3	0.7	26.8	6.9	1530.4	8.7	76.0
24-Nov-24 00:00:00	25.3	6.3	0.7	26.6	6.9	1530.7	8.9	77.3
24-Nov-24 01:00:00	25.1	6.2	0.8	26.4	6.9	1531.0	9.0	78.6



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
24-Nov-24 02:00:00	24.8	6.2	0.8	26.1	6.9	1531.2	9.2	80.1
24-Nov-24 03:00:00	24.5	6.1	0.8	25.9	6.9	1531.5	9.2	81.4
24-Nov-24 04:00:00	24.3	6.3	0.9	25.8	6.9	1531.7	9.2	82.1
24-Nov-24 05:00:00	24.3	6.3	0.9	25.6	6.9	1532.0	9.3	83.2
24-Nov-24 06:00:00	24.2	6.3	0.9	25.5	6.9	1532.3	9.3	84.2
24-Nov-24 07:00:00	24.5	6.3	0.9	25.5	6.9	1532.1	9.3	85.2
24-Nov-24 08:00:00	27.2	6.3	0.9	25.8	6.9	1531.8	8.8	88.2
24-Nov-24 09:00:00	31.9	6.3	0.9	26.3	6.9	1531.4	7.9	86.7
24-Nov-24 10:00:00	33.2	6.2	0.9	26.7	6.9	1531.0	7.4	85.1
24-Nov-24 11:00:00	39.7	6.3	0.9	27.1	6.9	1530.6	6.8	84.5
24-Nov-24 17:00:00	34.3	6.4	1.1	27.3	6.9	1531.3	6.7	88.6
24-Nov-24 18:00:00	30.5	6.4	1.1	27.3	6.9	1532.0	7.4	91.3
24-Nov-24 19:00:00	28.5	6.3	1.1	27.1	6.9	1532.7	7.9	93.8
24-Nov-24 20:00:00	27.5	6.3	1.1	27.0	6.9	1533.4	8.2	95.7
24-Nov-24 21:00:00	26.8	6.4	1.0	26.9	6.9	1534.1	8.4	97.1
24-Nov-24 22:00:00	26.5	6.3	1.0	26.8	6.9	1534.8	8.5	98.6
24-Nov-24 23:00:00	26.2	6.3	0.9	26.9	6.9	1535.2	8.6	99.7
25-Nov-24 00:00:00	25.9	6.3	0.9	26.9	6.9	1535.5	8.7	100.5
25-Nov-24 01:00:00	25.5	6.3	0.8	26.9	6.9	1535.7	8.9	102.0
25-Nov-24 02:00:00	25.5	6.2	0.8	26.9	6.9	1536.0	8.9	102.6
25-Nov-24 03:00:00	27.0	6.8	1818.1	26.6	6.9	1536.2	9.0	103.5
25-Nov-24 04:00:00	29.1	7.0	958.7	26.5	6.9	1536.5	9.0	104.2
25-Nov-24 05:00:00	28.9	7.0	629.8	26.3	6.9	1536.7	9.1	105.1
25-Nov-24 06:00:00	28.7	7.0	504.5	26.2	6.9	1537.0	9.1	106.0
25-Nov-24 07:00:00	28.5	7.0	460.2	26.1	6.9	1537.0	9.1	106.8
25-Nov-24 08:00:00	28.3	7.0	456.3	26.2	6.9	1537.1	8.9	108.1
25-Nov-24 09:00:00	28.5	7.0	452.5	26.7	6.9	1537.1	8.2	107.2
25-Nov-24 10:00:00	32.1	6.9	452.9	27.0	6.9	1537.1	7.5	106.6
25-Nov-24 15:00:00	36.0	6.6	458.1	27.6	6.9	1537.6	6.9	107.6
25-Nov-24 16:00:00	35.5	6.6	459.1	27.7	6.9	1537.9	6.9	109.8
25-Nov-24 19:00:00	27.5	6.5	1.1	27.7	6.9	1538.8	8.3	115.4
26-Nov-24 11:00:00	31.2	6.5	475.3	27.3	8.3	2509.8	7.9	100.0
26-Nov-24 12:00:00	32.0	6.4	476.7	27.3	8.4	2504.7	7.9	100.0
26-Nov-24 13:00:00	33.0	6.4	478.0	27.4	8.4	2512.2	7.8	100.0
26-Nov-24 14:00:00	33.8	6.4	479.4	27.2	8.4	2514.1	7.7	100.0
26-Nov-24 17:00:00	37.9	6.3	122.6	26.8	8.5	2558.0	7.7	100.0
26-Nov-24 18:00:00	32.0	6.3	156.4	26.9	8.6	2574.8	7.9	100.0
26-Nov-24 19:00:00	29.0	6.2	186.3	26.8	8.6	2591.5	7.9	100.0
26-Nov-24 20:00:00	27.5	6.2	211.4	26.7	8.5	2608.3	8.0	100.0
26-Nov-24 21:00:00	26.7	6.3	236.2	26.7	8.5	2612.0	8.0	100.0
26-Nov-24 22:00:00	26.2	6.3	240.9	26.6	8.5	2613.8	8.1	100.0
26-Nov-24 23:00:00	26.0	6.3	253.3	27.0	8.5	2615.5	8.4	100.0
27-Nov-24 00:00:00	26.2	6.2	258.6	26.6	8.4	2617.3	8.6	100.0
27-Nov-24 01:00:00	25.7	6.2	252.6	26.7	8.4	2619.0	8.8	100.0
27-Nov-24 02:00:00	25.1	6.2	262.3	26.6	8.4	2620.8	8.3	100.0
27-Nov-24 03:00:00	24.5	6.2	272.1	26.5	8.4	2622.5	8.4	100.0
27-Nov-24 04:00:00	24.1	6.2	281.8	26.3	8.3	2625.7	8.5	100.0
27-Nov-24 05:00:00	23.9	6.2	286.1	26.4	8.3	2633.7	8.6	100.0
27-Nov-24 06:00:00	23.7	6.2	287.1	26.3	8.3	2641.7	8.6	100.0
27-Nov-24 07:00:00	24.5	6.2	280.4	26.1	8.2	2649.8	8.6	100.0
27-Nov-24 08:00:00	28.1	6.4	217.8	26.6	8.2	2657.8	8.5	100.0
27-Nov-24 09:00:00	31.6	6.4	161.0	26.8	8.1	2652.4	7.8	100.0
27-Nov-24 10:00:00	32.5	6.3	137.6	27.0	8.0	2645.2	7.3	100.0
27-Nov-24 16:00:00	38.0	6.3	125.4	26.9	7.8	2622.4	6.1	100.0
27-Nov-24 17:00:00	35.1	6.2	187.3	26.8	7.8	2622.0	6.3	100.0
27-Nov-24 18:00:00	30.9	6.2	249.8	26.8	7.8	2621.6	7.1	100.0

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
27-Nov-24 19:00:00	28.3	6.2	285.4	26.6	7.8	2624.6	7.8	100.0
27-Nov-24 20:00:00	27.2	6.2	296.1	26.4	7.7	2627.7	8.1	100.0
27-Nov-24 21:00:00	26.4	6.2	315.0	26.4	7.7	2630.7	8.4	100.0
27-Nov-24 22:00:00	25.8	6.2	321.1	26.5	7.7	2633.8	8.7	100.0
27-Nov-24 23:00:00	25.9	6.3	330.1	26.7	7.7	2636.1	8.8	100.0
28-Nov-24 00:00:00	25.4	6.3	338.9	26.7	7.7	2636.9	8.9	100.0
28-Nov-24 01:00:00	24.7	6.3	345.2	26.8	7.7	2637.8	9.1	100.0
28-Nov-24 02:00:00	24.5	6.2	350.8	26.7	7.7	2638.6	9.2	100.0
28-Nov-24 03:00:00	24.7	6.2	350.6	25.9	7.7	2639.5	9.2	100.0
28-Nov-24 04:00:00	24.4	6.2	352.6	25.4	7.6	2640.3	9.3	100.0
28-Nov-24 05:00:00	24.0	6.2	349.4	25.2	7.6	2641.1	9.4	100.0
28-Nov-24 06:00:00	23.6	6.2	359.5	24.9	7.6	2642.0	9.6	100.0
28-Nov-24 07:00:00	24.0	6.3	340.9	24.9	7.6	2641.9	9.6	100.0
28-Nov-24 08:00:00	27.5	6.4	267.6	25.1	7.6	2640.9	9.0	100.0
28-Nov-24 09:00:00	29.7	6.3	254.3	25.4	7.6	2639.9	8.3	100.0
28-Nov-24 10:00:00	31.5	6.3	232.6	25.8	7.6	2638.9	7.5	100.0
28-Nov-24 11:00:00	35.9	6.3	219.2	26.1	8.3	2716.5	8.1	100.0
28-Nov-24 13:00:00	39.1	6.3	181.9	26.4	8.4	2765.1	7.9	100.0
28-Nov-24 17:00:00	35.3	6.3	218.5	27.0	8.7	2770.5	7.8	100.0
28-Nov-24 18:00:00	30.9	7.3	2449.8	26.1	8.8	2766.2	7.9	100.0
28-Nov-24 19:00:00	30.7	7.5	3076.0	25.8	8.8	2761.9	8.0	100.0
28-Nov-24 20:00:00	30.5	7.5	3202.9	25.7	8.7	2749.8	8.5	100.0
28-Nov-24 21:00:00	30.3	7.6	3164.4	25.7	8.7	2734.6	8.7	100.0
28-Nov-24 22:00:00	30.1	7.6	3171.6	25.5	8.6	2740.5	8.9	100.0
28-Nov-24 23:00:00	29.8	7.6	3178.8	25.2	8.6	2748.5	9.1	100.0
29-Nov-24 00:00:00	29.6	7.5	3183.8	24.8	8.6	2756.4	9.3	100.0
29-Nov-24 01:00:00	29.3	7.4	3188.3	24.5	8.5	2764.3	9.5	100.0
29-Nov-24 02:00:00	28.9	7.4	3192.9	24.3	8.5	2772.3	9.7	100.0
29-Nov-24 03:00:00	28.5	7.4	3197.5	24.1	8.5	2780.2	9.8	100.0
29-Nov-24 04:00:00	28.0	7.4	3200.0	23.9	8.5	2788.2	10.0	100.0
29-Nov-24 05:00:00	27.1	7.3	3193.0	23.6	8.5	2795.6	10.3	100.0
29-Nov-24 06:00:00	23.2	7.2	3187.6	23.5	8.4	2797.5	10.4	100.0
29-Nov-24 07:00:00	22.4	7.0	3187.6	23.4	8.4	2799.3	10.4	100.0
29-Nov-24 08:00:00	26.4	7.3	3186.4	23.6	8.4	2801.2	9.4	100.0
29-Nov-24 09:00:00	28.1	7.2	3184.2	23.9	8.3	2803.0	8.9	100.0
29-Nov-24 10:00:00	28.1	7.1	3182.0	24.1	8.3	2787.2	8.4	100.0
29-Nov-24 11:00:00	34.3	7.1	3179.8	24.3	8.2	2792.9	8.0	100.0
29-Nov-24 12:00:00	39.8	7.1	3179.8	24.7	8.1	2798.6	7.5	100.0
29-Nov-24 16:00:00	39.6	7.1	3180.9	25.3	7.8	2805.1	6.0	100.0
29-Nov-24 17:00:00	35.2	7.1	3181.2	25.4	7.8	2806.0	6.1	100.0
29-Nov-24 18:00:00	28.5	7.0	3181.5	25.1	7.9	2806.9	7.9	100.0
29-Nov-24 19:00:00	25.8	7.0	3181.8	24.9	7.9	2809.1	8.7	100.0
29-Nov-24 20:00:00	24.5	6.9	3182.9	24.6	7.9	2811.3	9.1	100.0
29-Nov-24 21:00:00	27.2	7.4	3105.5	24.4	7.8	2813.4	9.5	100.0
29-Nov-24 22:00:00	28.4	7.7	912.0	24.1	7.8	2815.6	9.5	100.0
29-Nov-24 23:00:00	28.1	7.6	583.2	23.9	7.8	2817.8	9.6	100.0
30-Nov-24 00:00:00	27.3	7.5	508.7	23.5	7.8	2819.9	9.7	100.0
30-Nov-24 01:00:00	23.6	7.3	513.1	23.3	7.8	2822.1	9.9	100.0
30-Nov-24 02:00:00	26.9	7.2	473.9	23.1	7.8	2824.1	10.1	100.0
30-Nov-24 03:00:00	27.5	7.1	242.0	23.0	7.8	2824.3	10.3	100.0
30-Nov-24 04:00:00	27.0	7.0	223.9	22.9	7.7	2824.4	10.4	100.0
30-Nov-24 05:00:00	22.8	6.9	152.6	22.9	7.7	2824.5	10.8	100.0
30-Nov-24 06:00:00	20.5	6.7	160.6	22.7	7.7	2824.7	11.1	100.0
30-Nov-24 07:00:00	20.5	6.6	168.6	22.7	7.7	2824.8	11.2	100.0
30-Nov-24 08:00:00	24.2	7.0	171.7	23.1	7.6	2825.0	10.2	100.0
30-Nov-24 09:00:00	27.2	7.0	169.7	23.3	7.6	2825.1	9.0	100.0



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
30-Nov-24 10:00:00	28.0	6.9	171.1	23.9	7.6	2824.8	8.3	100.0
30-Nov-24 11:00:00	34.8	6.9	174.3	24.4	7.6	2822.9	7.9	100.0
30-Nov-24 17:00:00	36.5	6.8	123.6	25.3	7.4	2813.6	5.8	100.0
30-Nov-24 18:00:00	29.5	6.8	146.3	25.3	7.5	2814.5	7.5	100.0
30-Nov-24 19:00:00	26.4	6.8	151.2	25.2	7.5	2820.2	8.5	100.0
30-Nov-24 20:00:00	25.1	6.8	155.7	24.9	7.5	2825.9	9.0	100.0
30-Nov-24 21:00:00	24.2	6.7	160.1	24.8	8.6	2822.5	8.5	100.0
30-Nov-24 22:00:00	23.5	6.7	164.5	24.6	8.8	2847.3	8.7	100.0
30-Nov-24 23:00:00	23.1	6.7	169.0	24.6	8.8	2877.4	9.2	100.0
01-Dec-24 00:00:00	22.7	6.7	173.4	24.3	8.8	2873.9	9.8	100.0
01-Dec-24 01:00:00	22.2	6.7	176.8	24.2	8.8	2870.5	10.1	100.0
01-Dec-24 02:00:00	21.9	6.7	179.0	23.8	8.8	2897.8	10.2	100.0
01-Dec-24 03:00:00	21.7	6.6	181.2	23.5	8.8	2894.5	10.3	100.0
01-Dec-24 04:00:00	21.4	6.6	183.5	23.3	8.7	2892.1	10.5	100.0
01-Dec-24 05:00:00	21.1	6.6	185.7	23.3	8.7	2889.8	10.6	100.0
01-Dec-24 06:00:00	21.0	6.5	187.9	23.3	8.7	2887.4	10.7	100.0
01-Dec-24 07:00:00	21.4	6.5	201.5	23.2	8.6	2885.1	10.7	100.0
01-Dec-24 08:00:00	25.4	6.8	216.4	23.6	8.6	2876.9	9.5	100.0
01-Dec-24 09:00:00	29.1	6.9	212.8	24.1	8.5	2868.3	8.2	100.0
01-Dec-24 10:00:00	29.8	6.8	218.2	24.6	8.5	2884.5	7.5	100.0
01-Dec-24 11:00:00	37.4	6.8	225.2	24.9	8.5	2887.2	7.1	100.0
01-Dec-24 17:00:00	39.3	6.8	190.6	25.2	8.1	2860.3	5.1	100.0
01-Dec-24 18:00:00	31.7	6.7	189.0	25.4	8.1	2870.6	6.8	100.0
01-Dec-24 19:00:00	27.5	6.6	203.3	26.2	8.1	2881.0	8.0	100.0
01-Dec-24 20:00:00	25.8	6.6	217.7	26.2	8.2	2891.3	8.6	100.0
01-Dec-24 21:00:00	24.4	6.6	232.0	26.0	8.3	2899.9	9.1	100.0
01-Dec-24 22:00:00	23.8	6.6	237.2	25.5	8.3	2902.9	9.3	100.0
01-Dec-24 23:00:00	23.3	6.6	239.1	25.1	8.3	2905.8	9.6	100.0
02-Dec-24 00:00:00	22.8	6.6	241.1	24.9	8.3	2908.7	9.7	100.0
02-Dec-24 01:00:00	22.2	6.6	243.1	24.8	8.3	2911.6	9.9	100.0
02-Dec-24 02:00:00	22.0	6.5	245.1	24.5	8.3	2914.5	10.0	100.0
02-Dec-24 03:00:00	21.8	6.5	247.0	24.4	8.3	2917.4	10.1	100.0
02-Dec-24 04:00:00	21.6	6.5	249.0	24.4	8.2	2920.4	10.3	100.0
02-Dec-24 05:00:00	21.3	6.4	251.0	24.3	8.2	2922.1	10.3	100.0
02-Dec-24 06:00:00	20.7	6.4	256.7	24.1	8.2	2921.9	10.5	100.0
02-Dec-24 07:00:00	27.3	7.2	638.1	24.1	8.1	2921.7	10.4	100.0
02-Dec-24 08:00:00	27.7	7.4	650.7	24.5	8.1	2921.6	9.4	100.0
02-Dec-24 09:00:00	28.0	7.4	609.7	25.1	8.0	2921.4	8.1	100.0
02-Dec-24 10:00:00	28.3	7.5	594.4	25.2	8.0	2921.3	7.4	100.0
02-Dec-24 11:00:00	28.8	7.5	579.2	25.4	7.9	2920.9	6.6	100.0
02-Dec-24 12:00:00	29.4	7.5	564.8	25.5	7.9	2917.4	6.2	100.0
02-Dec-24 13:00:00	30.5	7.6	565.0	25.5	7.8	2913.9	5.8	100.0
02-Dec-24 14:00:00	31.7	7.6	565.2	25.8	7.8	2910.4	5.7	100.0
02-Dec-24 15:00:00	32.9	7.9	565.4	25.6	7.8	2906.9	5.7	100.0
02-Dec-24 17:00:00	37.4	7.3	565.7	26.3	7.7	2908.1	5.7	100.0
02-Dec-24 18:00:00	30.3	7.1	572.6	26.2	7.8	2911.1	7.0	100.0
02-Dec-24 19:00:00	28.0	7.0	579.4	26.4	7.8	2916.4	8.1	100.0
02-Dec-24 20:00:00	26.3	7.0	579.8	26.3	7.8	2922.3	8.5	100.0
02-Dec-24 21:00:00	25.0	7.0	578.3	26.1	7.8	2928.2	9.0	100.0
02-Dec-24 22:00:00	24.1	7.0	576.9	26.2	7.7	2918.3	9.3	100.0
02-Dec-24 23:00:00	30.0	7.5	373.0	26.1	8.0	2925.9	9.5	100.0
03-Dec-24 00:00:00	29.3	7.3	296.8	25.7	8.4	2939.6	9.6	100.0
03-Dec-24 01:00:00	29.1	7.3	314.5	25.5	8.5	2930.9	9.8	100.0
03-Dec-24 02:00:00	28.8	7.3	264.6	25.5	8.5	2943.9	9.7	100.0
03-Dec-24 03:00:00	28.5	7.3	265.1	25.4	8.7	2905.5	9.7	100.0
03-Dec-24 04:00:00	28.4	7.4	265.7	25.3	8.6	2939.0	10.0	100.0

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
03-Dec-24 05:00:00	28.3	7.4	266.3	25.2	8.6	2941.4	9.9	100.0
03-Dec-24 06:00:00	28.1	7.4	266.8	25.1	8.6	2937.2	10.0	100.0
03-Dec-24 07:00:00	28.0	7.4	267.4	25.1	8.6	2939.5	10.2	100.0
03-Dec-24 08:00:00	27.8	7.4	268.0	25.5	8.6	2926.6	9.4	100.0
03-Dec-24 09:00:00	28.0	7.4	268.5	26.0	8.5	2898.9	7.9	100.0
03-Dec-24 10:00:00	28.6	7.5	306.9	26.0	8.4	2910.6	7.2	100.0
03-Dec-24 11:00:00	29.3	7.5	341.5	26.0	8.4	2908.2	6.6	100.0
03-Dec-24 12:00:00	30.0	7.5	365.3	25.9	8.4	2940.3	6.3	100.0
03-Dec-24 13:00:00	30.7	7.5	368.1	26.0	8.4	2947.8	5.6	100.0
03-Dec-24 14:00:00	31.4	7.5	370.9	26.0	8.5	2911.4	5.7	100.0
03-Dec-24 15:00:00	31.9	7.5	373.7	25.9	8.4	2923.7	5.8	100.0
03-Dec-24 16:00:00	32.1	7.5	376.5	26.3	8.3	2913.2	6.0	100.0
03-Dec-24 17:00:00	32.0	7.5	377.8	26.2	8.3	2911.1	6.3	100.0
03-Dec-24 18:00:00	31.8	7.5	378.9	27.0	8.3	2910.9	7.6	100.0
03-Dec-24 19:00:00	31.5	7.4	380.0	27.0	8.3	2915.8	8.1	100.0
03-Dec-24 20:00:00	31.3	7.4	381.1	26.8	8.3	2920.8	8.5	100.0
03-Dec-24 21:00:00	31.0	7.4	382.2	26.8	8.3	2925.7	8.8	100.0
03-Dec-24 22:00:00	30.8	7.4	383.3	26.7	8.2	2930.7	9.1	100.0
03-Dec-24 23:00:00	30.5	7.3	384.4	26.7	8.2	2935.6	9.3	100.0
04-Dec-24 00:00:00	30.3	7.4	385.5	26.5	8.2	2940.5	9.6	100.0
04-Dec-24 01:00:00	30.1	7.3	406.4	26.5	8.2	2945.5	9.8	100.0
04-Dec-24 02:00:00	29.9	7.3	430.9	26.9	8.1	2949.4	9.9	100.0
04-Dec-24 03:00:00	29.7	7.3	440.1	26.6	8.1	2950.9	10.0	100.0
04-Dec-24 04:00:00	29.6	7.3	442.8	26.2	8.1	2952.3	10.0	100.0
04-Dec-24 05:00:00	29.4	7.3	445.5	26.0	8.1	2953.7	10.2	100.0
04-Dec-24 06:00:00	29.3	7.2	448.1	26.0	8.0	2955.2	10.2	100.0
04-Dec-24 07:00:00	29.1	7.2	450.8	25.9	8.0	2956.6	9.9	100.0
04-Dec-24 08:00:00	28.9	7.2	472.6	26.2	7.9	2958.0	9.2	100.0
04-Dec-24 09:00:00	29.0	7.2	507.6	26.0	7.9	2959.4	8.4	100.0
04-Dec-24 10:00:00	29.2	7.3	511.7	26.1	7.9	2959.3	7.1	100.0
04-Dec-24 11:00:00	29.7	7.2	511.1	26.1	7.8	2955.8	6.9	100.0
04-Dec-24 12:00:00	30.2	7.3	510.4	26.5	7.8	2952.2	6.4	100.0
04-Dec-24 13:00:00	30.7	7.3	509.7	26.3	7.8	2948.7	6.2	100.0
04-Dec-24 14:00:00	31.2	7.3	509.1	26.3	7.7	2945.1	6.0	100.0
04-Dec-24 15:00:00	31.6	7.3	508.4	26.5	7.7	2941.6	5.8	100.0
04-Dec-24 16:00:00	31.9	7.3	507.8	26.3	7.7	2937.5	5.4	100.0
04-Dec-24 17:00:00	31.8	7.4	507.2	26.2	7.7	2932.8	5.5	100.0
04-Dec-24 18:00:00	31.6	7.4	510.3	26.0	7.7	2932.2	7.0	100.0
04-Dec-24 19:00:00	31.5	7.4	513.5	25.9	7.7	2937.2	7.8	100.0
04-Dec-24 20:00:00	31.3	7.4	516.6	25.8	7.7	2942.1	8.0	100.0
04-Dec-24 21:00:00	31.1	7.4	520.2	25.9	7.7	2947.1	8.3	100.0
04-Dec-24 22:00:00	30.8	7.4	524.2	26.1	7.6	2952.0	8.5	100.0
04-Dec-24 23:00:00	30.6	7.3	528.2	26.2	7.6	2953.5	8.7	100.0
05-Dec-24 00:00:00	30.4	7.3	532.2	25.9	7.6	2954.3	8.9	100.0
05-Dec-24 01:00:00	30.2	7.3	536.2	26.2	7.6	2955.2	9.0	100.0
05-Dec-24 02:00:00	30.0	7.2	539.6	26.1	7.6	2956.0	9.1	100.0
05-Dec-24 03:00:00	29.8	7.4	542.2	25.8	7.6	2956.8	9.2	100.0
05-Dec-24 04:00:00	29.5	7.4	544.7	25.6	7.6	2957.7	9.3	100.0
05-Dec-24 05:00:00	29.1	7.4	547.2	25.7	7.4	3.8	9.5	100.0
05-Dec-24 06:00:00	28.7	7.4	549.8	25.6	7.4	3.5	9.6	100.0
05-Dec-24 07:00:00	25.8	7.2	556.5	25.5	7.3	3.1	9.5	100.0
05-Dec-24 08:00:00	28.0	7.3	564.8	25.6	7.3	2.7	8.7	100.0
05-Dec-24 09:00:00	32.8	7.3	573.1	25.8	7.3	2.3	7.4	100.0
05-Dec-24 10:00:00	33.4	7.2	581.4	26.2	7.3	2.0	6.8	100.0
05-Dec-24 11:00:00	39.6	7.0	593.4	26.3	7.3	1.6	6.4	100.0
05-Dec-24 16:00:00	39.8	6.8	695.1	27.4	7.3	1.4	5.9	100.0



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
05-Dec-24 17:00:00	36.1	6.8	706.5	27.7	7.3	1.5	6.4	100.0
05-Dec-24 18:00:00	30.9	6.7	717.9	27.3	7.3	1.5	7.3	100.0
05-Dec-24 19:00:00	29.3	6.7	726.0	27.3	7.3	1.6	7.8	100.0
05-Dec-24 20:00:00	28.4	6.8	730.7	27.4	7.3	1.6	8.1	100.0
05-Dec-24 21:00:00	27.0	6.6	735.4	27.5	7.3	1.6	8.4	100.0
05-Dec-24 22:00:00	26.6	6.7	740.1	27.1	7.3	1.6	8.5	100.0
05-Dec-24 23:00:00	26.0	6.7	744.8	26.6	7.3	1.6	8.6	100.0
06-Dec-24 00:00:00	25.3	6.7	749.5	26.1	7.2	1.6	8.9	100.0
06-Dec-24 01:00:00	24.5	6.6	754.2	25.7	7.2	1.6	9.1	100.0
06-Dec-24 02:00:00	24.2	6.7	758.9	25.2	7.2	1.6	9.2	100.0
06-Dec-24 03:00:00	23.9	6.7	766.4	25.1	7.2	1.5	9.3	100.0
06-Dec-24 04:00:00	28.8	7.1	397.1	24.8	7.2	1.5	9.5	100.0
06-Dec-24 05:00:00	28.7	6.8	304.1	24.4	7.2	1.5	9.6	100.0
06-Dec-24 06:00:00	28.6	6.7	282.8	24.3	7.2	1.5	9.6	100.0
06-Dec-24 07:00:00	28.4	6.5	267.6	24.3	7.2	1.5	9.6	100.0
06-Dec-24 08:00:00	28.2	6.6	265.2	24.8	7.2	1.5	8.7	100.0
06-Dec-24 09:00:00	28.4	6.7	270.9	25.1	7.2	1.5	7.6	100.0
06-Dec-24 10:00:00	31.1	6.9	1.7	25.5	7.2	1.5	7.0	100.0
06-Dec-24 11:00:00	39.6	6.7	1.6	25.9	7.1	1.5	6.5	100.0
06-Dec-24 17:00:00	37.5	6.0	1.0	27.5	7.1	1.5	6.2	100.0
06-Dec-24 18:00:00	31.0	6.2	0.9	27.2	7.1	1.5	7.5	100.0
06-Dec-24 19:00:00	28.4	6.1	0.9	27.2	8.4	2988.1	8.2	100.0
06-Dec-24 20:00:00	27.4	6.1	0.9	27.3	8.6	3044.4	8.4	100.0
06-Dec-24 21:00:00	26.5	6.1	0.9	27.3	8.7	3066.5	8.7	100.0
06-Dec-24 22:00:00	25.5	6.0	0.9	27.1	8.7	3120.5	9.0	100.0
06-Dec-24 23:00:00	24.9	6.0	0.9	27.1	8.7	3109.1	9.1	100.0
07-Dec-24 00:00:00	24.4	6.0	0.9	27.0	8.7	3131.4	9.2	100.0
07-Dec-24 01:00:00	24.0	6.0	0.9	26.9	8.8	3126.2	8.8	100.0
07-Dec-24 02:00:00	23.7	6.0	0.9	26.7	8.7	3107.0	8.9	100.0
07-Dec-24 03:00:00	23.6	6.0	0.9	26.7	8.7	3128.9	9.3	100.0
07-Dec-24 04:00:00	23.6	5.9	0.9	26.5	8.7	3151.7	9.4	100.0
07-Dec-24 05:00:00	23.5	5.9	0.9	26.3	8.6	3140.6	9.6	100.0
07-Dec-24 06:00:00	23.2	5.9	0.8	26.1	8.6	3129.5	9.7	100.0
07-Dec-24 07:00:00	24.2	5.9	0.8	25.9	8.6	3118.4	9.3	100.0
07-Dec-24 08:00:00	27.9	5.9	0.8	26.3	8.5	3107.4	8.5	100.0
07-Dec-24 09:00:00	31.6	5.9	0.8	26.5	8.5	3096.3	7.5	100.0
07-Dec-24 10:00:00	34.5	5.9	0.8	27.0	8.4	3085.8	6.9	100.0
07-Dec-24 11:00:00	39.4	5.8	0.8	27.0	8.4	3111.6	6.5	100.0
12-Dec-24 00:00:00	27.4	6.6	817.7	26.7	8.5	2981.6	8.2	100.0
12-Dec-24 01:00:00	27.2	6.5	819.4	26.5	8.5	3011.8	8.2	100.0
12-Dec-24 02:00:00	26.9	6.6	821.0	26.5	8.5	2988.7	8.3	100.0
12-Dec-24 03:00:00	26.6	6.6	822.1	26.4	8.5	2960.4	8.4	100.0
12-Dec-24 04:00:00	26.6	6.6	823.0	26.5	8.5	2944.2	8.4	100.0
12-Dec-24 05:00:00	26.7	6.6	823.9	26.4	8.4	2929.2	8.4	100.0
12-Dec-24 06:00:00	26.3	6.5	824.7	26.3	8.4	2924.3	8.5	100.0
12-Dec-24 07:00:00	26.1	6.5	825.6	26.2	8.4	2920.8	8.5	100.0
12-Dec-24 08:00:00	28.2	6.8	826.5	26.3	8.4	2881.4	8.4	100.0
12-Dec-24 09:00:00	30.6	6.8	827.4	26.4	8.4	2836.6	8.3	100.0
12-Dec-24 10:00:00	32.7	6.8	828.2	26.6	8.4	2793.6	8.1	100.0
12-Dec-24 11:00:00	35.7	6.8	829.2	28.3	8.4	2857.6	8.0	100.0
12-Dec-24 12:00:00	36.2	6.8	830.2	31.0	8.4	2890.5	7.9	100.0
12-Dec-24 13:00:00	34.9	6.7	831.3	30.9	8.4	2889.9	7.9	100.0
12-Dec-24 14:00:00	35.6	6.8	832.3	31.6	8.3	2885.5	7.3	100.0
12-Dec-24 15:00:00	37.0	6.7	833.3	31.9	8.2	2883.1	7.0	100.0
12-Dec-24 16:00:00	33.6	6.7	834.3	31.8	8.2	2887.0	7.3	100.0
12-Dec-24 17:00:00	30.2	6.0	855.0	31.7	8.1	2890.9	7.3	100.0

Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
12-Dec-24 18:00:00	29.6	7.6	879.1	31.7	8.1	2894.8	7.9	100.0
12-Dec-24 19:00:00	29.3	7.5	891.5	31.4	8.0	2899.7	8.3	100.0
12-Dec-24 20:00:00	28.1	7.5	902.8	31.4	8.0	2905.6	8.4	100.0
12-Dec-24 21:00:00	27.5	7.3	899.9	31.5	8.4	2878.3	8.4	100.0
12-Dec-24 22:00:00	27.3	7.1	1.4	31.4	8.5	2754.9	8.3	100.0
12-Dec-24 23:00:00	27.1	7.0	1.3	31.4	8.5	2687.7	8.2	100.0
13-Dec-24 00:00:00	26.9	6.8	1.3	31.3	8.5	2644.0	8.2	100.0
13-Dec-24 01:00:00	26.7	6.6	1.3	31.4	8.4	2611.0	8.3	100.0
13-Dec-24 02:00:00	26.3	6.5	1.2	31.3	8.4	2578.5	8.2	100.0
13-Dec-24 03:00:00	26.4	6.4	1.2	31.3	8.3	2546.1	8.2	100.0
13-Dec-24 04:00:00	26.4	6.4	1.2	31.0	8.3	2520.2	8.3	100.0
13-Dec-24 05:00:00	25.9	6.3	1.1	31.1	8.4	2498.0	8.4	100.0
13-Dec-24 06:00:00	25.7	6.3	1.1	31.0	8.3	2452.1	8.4	100.0
13-Dec-24 07:00:00	28.6	7.2	1048.1	31.0	8.3	2455.6	8.6	100.0
13-Dec-24 08:00:00	28.7	7.3	900.6	31.0	8.2	2465.2	8.3	100.0
13-Dec-24 09:00:00	28.8	7.4	815.0	31.2	8.2	2414.1	8.2	100.0
13-Dec-24 10:00:00	28.9	7.5	753.6	31.3	8.1	2425.5	8.0	100.0
13-Dec-24 11:00:00	29.2	7.5	719.7	31.5	8.1	2381.1	7.9	100.0
13-Dec-24 12:00:00	29.7	7.6	711.8	31.4	8.0	2356.2	7.8	100.0
13-Dec-24 13:00:00	32.7	7.5	713.6	31.2	8.0	2369.5	7.8	100.0
13-Dec-24 14:00:00	33.9	7.3	715.4	31.9	8.0	2375.6	7.7	100.0
13-Dec-24 15:00:00	35.8	7.3	717.2	32.0	8.1	2371.1	7.6	100.0
13-Dec-24 16:00:00	33.5	7.2	719.0	31.9	8.3	2247.9	7.7	100.0
13-Dec-24 17:00:00	31.1	7.2	720.8	32.2	8.3	2255.2	7.8	100.0
13-Dec-24 18:00:00	28.0	7.0	722.6	31.7	8.3	2310.2	8.2	100.0
13-Dec-24 19:00:00	26.8	6.9	724.4	31.8	8.2	2276.7	8.8	100.0
13-Dec-24 20:00:00	26.6	6.9	725.6	31.6	8.2	2281.7	8.8	100.0
13-Dec-24 21:00:00	26.4	6.8	726.0	31.8	8.1	2286.8	8.9	100.0
13-Dec-24 22:00:00	26.3	6.8	726.4	31.6	8.0	2291.9	8.8	100.0
13-Dec-24 23:00:00	26.4	6.9	726.8	31.4	8.0	2297.0	8.8	100.0
14-Dec-24 00:00:00	23.8	6.7	727.2	31.3	7.9	2321.9	9.3	100.0
14-Dec-24 01:00:00	24.1	6.8	727.6	30.8	7.9	2322.2	9.5	100.0
14-Dec-24 02:00:00	24.2	6.9	728.0	30.5	7.9	2322.5	9.5	100.0
14-Dec-24 03:00:00	24.6	6.9	728.4	30.3	7.9	2322.8	9.4	100.0
14-Dec-24 04:00:00	24.7	6.9	728.9	30.1	7.8	2323.1	9.4	100.0
14-Dec-24 05:00:00	24.6	6.9	729.5	29.9	7.8	2323.3	9.4	100.0
14-Dec-24 06:00:00	24.6	6.9	730.1	29.9	8.3	2303.0	8.2	100.0
14-Dec-24 07:00:00	24.7	6.9	730.8	29.8	8.2	2074.7	8.3	100.0
14-Dec-24 08:00:00	26.3	6.9	731.4	29.8	8.1	2035.2	8.3	100.0
14-Dec-24 09:00:00	28.5	6.9	732.0	30.0	8.1	2014.9	8.3	100.0
14-Dec-24 10:00:00	28.5	7.3	728.3	30.2	8.1	1997.5	8.2	100.0
14-Dec-24 11:00:00	28.1	7.3	733.7	30.1	8.1	1966.1	8.2	100.0
14-Dec-24 12:00:00	28.4	7.5	1415.2	30.0	8.1	1912.5	8.1	100.0
14-Dec-24 13:00:00	37.1	7.4	1407.0	30.0	8.1	1896.3	7.9	100.0
14-Dec-24 14:00:00	35.3	7.3	1406.6	30.7	8.1	1880.0	8.1	100.0
14-Dec-24 15:00:00	32.0	7.3	1406.1	30.5	8.2	1909.1	8.1	100.0
14-Dec-24 16:00:00	30.0	7.2	1405.5	30.5	8.2	1874.0	8.1	100.0
14-Dec-24 17:00:00	28.9	7.2	1405.0	30.5	8.3	1872.8	8.2	100.0
14-Dec-24 18:00:00	26.9	7.2	1404.5	30.3	8.3	1860.4	8.2	100.0
14-Dec-24 19:00:00	25.8	7.1	1404.0	30.2	8.3	1848.0	8.3	100.0
14-Dec-24 20:00:00	25.5	7.1	1403.4	30.4	8.3	1837.2	8.3	100.0
14-Dec-24 21:00:00	25.1	7.1	1403.0	30.3	8.3	1826.1	8.4	100.0
14-Dec-24 22:00:00	24.8	7.0	1403.1	30.1	8.3	1817.5	8.5	100.0
14-Dec-24 23:00:00	24.5	7.1	1403.3	29.9	8.3	1819.8	8.6	100.0
15-Dec-24 00:00:00	25.0	7.1	1403.4	29.5	8.2	1822.1	8.6	100.0
15-Dec-24 01:00:00	25.0	7.1	1403.5	29.4	8.2	1824.4	8.7	100.0



Start 1-Jul-2024 End 30-Dec-2024 Time Interval 1 Hour

Date/Tag	Waste Water Holding Pond			CT Blowdown Holding Pond				
	WW TEMP	WW PH	WW CONDUCT	CT TEMP	CT PH	CT CONDUCT	CT DO	CT COD
	Celsius	-	us/cm	Celsius	-	us/cm	mg/l	mg/l
15-Dec-24 02:00:00	24.9	7.1	1403.7	29.4	8.2	1826.7	9.4	100.0
15-Dec-24 03:00:00	24.6	7.1	1403.8	29.2	8.1	1829.0	9.5	100.0
15-Dec-24 04:00:00	24.4	7.1	1403.9	28.8	8.0	1831.3	9.6	100.0
15-Dec-24 05:00:00	23.8	7.1	1403.5	28.5	7.9	1833.6	9.8	100.0
15-Dec-24 06:00:00	23.2	7.1	1401.7	28.4	7.9	1835.9	10.0	100.0
15-Dec-24 07:00:00	22.6	7.0	1399.8	28.3	7.9	1838.3	10.3	100.0
15-Dec-24 08:00:00	24.3	7.1	1398.0	28.1	7.8	1840.6	10.0	100.0
15-Dec-24 09:00:00	25.7	7.0	1396.1	28.2	7.8	1843.0	9.7	100.0
15-Dec-24 10:00:00	30.1	7.0	1394.2	28.4	7.7	1845.4	9.0	100.0
15-Dec-24 11:00:00	31.6	7.0	1392.3	28.6	7.7	1847.7	8.5	100.0
15-Dec-24 12:00:00	36.3	7.1	1390.3	28.8	7.6	1850.1	7.8	100.0
15-Dec-24 13:00:00	38.5	7.1	1388.4	29.0	7.6	1852.4	7.4	100.0
15-Dec-24 15:00:00	38.2	7.1	1384.6	29.5	7.5	1873.4	7.0	100.0
15-Dec-24 16:00:00	38.8	7.1	1382.7	29.6	7.5	1874.4	6.1	100.0
15-Dec-24 17:00:00	35.9	7.1	1383.2	29.6	7.5	1876.9	6.3	100.0
15-Dec-24 18:00:00	29.1	7.0	1383.7	29.5	7.5	1880.8	7.8	100.0
15-Dec-24 19:00:00	26.4	6.9	1384.3	29.5	7.5	1884.6	8.7	100.0
15-Dec-24 20:00:00	25.3	6.9	1384.8	29.4	8.2	1882.1	8.6	100.0
15-Dec-24 21:00:00	25.6	6.9	1385.3	29.4	8.4	1882.7	8.6	100.0
15-Dec-24 22:00:00	25.6	6.9	1385.8	27.4	8.5	1882.7	8.6	100.0
15-Dec-24 23:00:00	25.6	6.9	1386.4	23.7	8.5	1879.7	8.6	100.0
16-Dec-24 00:00:00	25.0	6.9	1386.8	23.6	8.5	1884.9	8.6	100.0
16-Dec-24 01:00:00	24.6	6.9	1387.0	23.4	8.5	1890.0	8.7	100.0
16-Dec-24 02:00:00	24.5	6.8	1387.2	23.3	8.5	1895.2	8.8	100.0
16-Dec-24 03:00:00	24.2	6.8	1387.3	23.1	8.5	1900.3	8.9	100.0
16-Dec-24 04:00:00	23.8	6.8	1387.5	23.2	8.4	1905.5	9.0	100.0
16-Dec-24 05:00:00	23.7	6.8	1387.7	22.9	8.4	1908.1	9.0	100.0
16-Dec-24 06:00:00	23.6	6.8	1387.8	22.8	8.4	1908.9	9.1	100.0
16-Dec-24 07:00:00	23.6	6.7	1388.0	22.8	8.4	1909.8	9.2	100.0
16-Dec-24 08:00:00	25.0	6.8	1387.4	22.7	8.4	1910.6	9.2	100.0
16-Dec-24 09:00:00	28.3	7.0	1385.4	23.0	8.4	1911.5	8.9	100.0
16-Dec-24 10:00:00	28.0	7.3	1155.3	23.4	8.4	1912.3	8.8	100.0
16-Dec-24 11:00:00	27.9	7.3	789.5	23.5	8.4	1913.2	8.8	100.0
16-Dec-24 12:00:00	28.2	7.3	674.0	23.9	8.4	1914.1	8.6	100.0
16-Dec-24 13:00:00	28.9	7.4	647.4	27.9	8.5	1909.8	8.5	100.0
16-Dec-24 14:00:00	34.8	7.5	643.0	29.7	8.5	1905.1	8.4	100.0
16-Dec-24 16:00:00	38.3	7.1	647.8	29.7	8.5	1878.4	7.4	100.0
16-Dec-24 17:00:00	31.4	7.0	650.2	29.8	8.5	1889.5	8.0	100.0
16-Dec-24 18:00:00	28.8	6.9	652.6	29.6	8.5	1893.1	8.3	100.0
16-Dec-24 19:00:00	27.6	6.8	655.0	29.8	8.4	1896.7	8.5	100.0
16-Dec-24 20:00:00	26.6	6.8	657.4	29.7	8.4	1900.4	8.8	100.0
16-Dec-24 21:00:00	26.0	6.8	659.8	29.6	8.3	1904.0	9.0	100.0
16-Dec-24 22:00:00	25.1	6.8	661.4	29.3	8.3	1906.4	9.2	100.0
16-Dec-24 23:00:00	24.0	6.8	662.8	29.1	8.6	1900.4	8.8	100.0
17-Dec-24 00:00:00	23.1	6.8	664.3	28.6	8.5	1898.9	8.8	100.0
17-Dec-24 01:00:00	22.6	6.8	665.7	28.6	8.5	1897.5	8.8	100.0
17-Dec-24 02:00:00	22.3	6.8	667.2	28.4	8.4	1896.0	8.9	100.0
17-Dec-24 03:00:00	21.9	6.8	668.6	28.3	8.4	1894.6	8.9	100.0
17-Dec-24 04:00:00	27.2	7.1	684.0	28.1	8.4	1893.2	8.9	100.0
17-Dec-24 05:00:00	27.4	7.3	791.9	28.1	8.4	1891.7	9.1	100.0
17-Dec-24 06:00:00	27.0	7.3	709.0	28.0	8.4	1890.3	9.2	100.0
17-Dec-24 07:00:00	26.7	7.3	668.3	28.0	8.3	1888.6	9.1	100.0
17-Dec-24 08:00:00	26.3	7.2	642.1	28.0	8.3	1885.8	9.0	100.0
17-Dec-24 09:00:00	26.3	7.4	642.4	28.1	8.3	1883.0	8.8	100.0
17-Dec-24 10:00:00	28.3	7.2	642.7	28.3	8.3	1880.2	8.6	100.0
17-Dec-24 11:00:00	34.5	6.9	642.9	28.7	8.3	1877.4	8.5	100.0



## ภาคผนวก ค-6

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ผลการติดตามคุณภาพน้ำทิ้งแบบรายปี





## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNLL2

## TESTING

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-1

Page 1 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำเสีย (Waste water holding pond)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤400	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CH (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - Cl (F)	Rayong

Technical Management

Chontichak

Chonticha Subongkroh  
Scientist (I)  
โทรศัพท์มือถือ 3-323-9-9449

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรศัพท์มือถือ 3-323-9-9442

Result apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced or any form without written consent from the laboratory.

104 Phatthanakan 40 Phatthanakan Rd. Khwaeng Phatthanakan, Khet Suan Luang Bangkok 10250 Thailand TEL: +66 0 2760 3000 FAX: +66 0 2760 3197



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNLL2

## TESTING

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-1

Page 2 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำเสีย (Waste water holding pond)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfide *	mg/L	-	0.5	<0.5	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Rayong
Temperature *	Degree C	-	-	31.9	≤45	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	600	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.6	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-10mg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant (Expansion and Remaining Area after July 2011)

Sampling By : Parmet Sattayakun โทรศัพท์มือถือ 3-323-9-9476, Samart Khumplee โทรศัพท์มือถือ 3-204-9-0084

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

Technical Management

Chontichak

Chonticha Subongkroh  
Scientist (I)  
โทรศัพท์มือถือ 3-323-9-9449

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรศัพท์มือถือ 3-323-9-9442

104 Phatthanakan 40 Phatthanakan Rd. Khwaeng Phatthanakan, Khet Suan Luang Bangkok 10250 Thailand TEL: +66 0 2760 3000 FAX: +66 0 2760 3197



## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNLL2

## TESTING

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-2

Page 1 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำเสีย (Waste water holding pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.25	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.26	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.004	≤2.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3100-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.20	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.11	≤5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

Savitree N.

Savitree Nohangnam  
Manager  
โทรศัพท์มือถือ 3-204-9-0007

Approved by

Kankom Anek

Kankom Anek  
Assistant General Manager  
โทรศัพท์มือถือ 3-204-9-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNLL2

## TESTING

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-2

Page 2 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำเสีย (Waste water holding pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Nickel	mg/L	0.0003	0.0005	0.002	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	0.006	≤0.02	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	≤0.75	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.14	≤5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Pesticides - Organochlorine Group</b>							
2,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DOE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

Savitree N.

Savitree Nohangnam  
Manager  
โทรศัพท์มือถือ 3-204-9-0007

Approved by

Kankom Anek

Kankom Anek  
Assistant General Manager  
โทรศัพท์มือถือ 3-204-9-0004

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNL2

TESTING  
No 0009  
Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-1

Page 1 of 2

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำฝน (Waste water holding pond)						
Date Analysis Commenced	Jul 09, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LDD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl *	mg/L	0.5	1	171	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 Cl (D)	Rayong
Fluoride as F *	mg/L	0.06	0.2	0.6	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 F (D)	Rayong

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant (Expansion and Remaining Area after July 2011)  
Sampling By : Paramet Sattayakun , Samart Khumplhee

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

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Approved by

Sawatree N.  
Sawatree Nolaslam  
Manager

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNL2

Lot ID: 2466466  
Date Received : Jul 08, 2024  
Date Reported : Jul 26, 2024  
Report Number : 3066338-8

Page 1 of 1

Sample Number	2466466-1						
Sampled Date	Jul 08, 2024 2:31 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำฝน (Waste water holding pond)						
Date Analysis Commenced	Jul 11, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eleven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Gross alpha activity	Bq/L	0.018	0.063	Not Detected	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 7110 B	Bangkok
Gross beta activity	Bq/L	0.012	0.063	0.808 ± 0.047	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 7110 B	Bangkok

Guideline : Standard of WHA Rayong Industrial Land, Maximum levels for wastewater discharging to central wastewater treatment plant (Expansion and Remaining Area after July 2011)  
Note : Gross alpha activity and Gross beta activity analysis has been subcontracted to outsource lab  
Sampling By : Paramet Sattayakun , Samart Khumplhee

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

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Approved by

Siriluk P.  
Siriluk Bunrak  
Section Head

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNL2

TESTING  
No 0042  
Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-1

Page 1 of 2

Sample Number	2466471-1						
Sampled Date	Jul 08, 2024 2:14 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำฝน (CT blowdown pond)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Rayong
COD	mg/L	1.5	25	59	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Color (at Original pH)	ADMI	-	5	26	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Color (at pH 7.0)	ADMI	-	5	16	≤300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
Oil & Grease	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5510 D	Rayong

Technical Management

Photchanas S.  
Photchanas Seeda  
Scientist (4)  
วิจิตรานนท์ 3-323-9-9446

Approved by

Dej Changchon  
Senior Manager  
วิจิตรานนท์ 3-323-9-9442

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## Analysis / Test Report

Client : Gulf NLL2 Co., Ltd  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNL2

TESTING  
No 0042  
Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-1

Page 2 of 2

Sample Number	2466471-1						
Sampled Date	Jul 08, 2024 2:14 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำฝน (CT blowdown pond)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	33.4	≤40	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2280	≤3000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.5	≤100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part 1113 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	1	≤50	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E. 2560 (2017)  
Sampling By : Paramet Sattayakun วิจิตรานนท์ 3-323-9-9416, Samart Khumplhee วิจิตรานนท์ 3-323-9-9442

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

Technical Management

Photchanas S.  
Photchanas Seeda  
Scientist (4)  
วิจิตรานนท์ 3-323-9-9446

Approved by

Dej Changchon  
Senior Manager  
วิจิตรานนท์ 3-323-9-9442

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## Analysis / Test Report



TESTING

No 0009

Lot ID: 2466471

Date Received : Jul 08, 2024

Date Reported : Jul 16, 2024

Report Number : 3021527-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location: GNLL2

Sample Number	2466471-1
Sampled Date	Jul 08, 2024 2:14 PM
Sample Description	Wastewater
Location	บ่อกักน้ำพายุฝน (CT blowdown pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.02	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.94	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.01	≤2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3132	Bangkok

Technical Management

Savitree N.

Savitree Nonsangiam

Manager

โทรศัพท์ 0-204-4-0007

Approved by

Kanokkom Anek

Assistant General Manager

โทรศัพท์ 0-204-4-0004

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## Analysis / Test Report



TESTING

No 0009

Lot ID: 2466471

Date Received : Jul 08, 2024

Date Reported : Jul 16, 2024

Report Number : 3021527-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location: GNLL2

Sample Number	2466471-1
Sampled Date	Jul 08, 2024 2:14 PM
Sample Description	Wastewater
Location	บ่อกักน้ำพายุฝน (CT blowdown pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Nickel	mg/L	0.0003	0.0005	0.006	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	0.002	≤0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	≤0.75	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.39	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Pesticides - Organochlorine Group</b>							
2,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
2,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

Savitree N.

Savitree Nonsangiam

Manager

โทรศัพท์ 0-204-4-0007

Approved by

Kanokkom Anek

Assistant General Manager

โทรศัพท์ 0-204-4-0004

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## Analysis / Test Report



TESTING

No 0009

Lot ID: 2466471

Date Received : Jul 08, 2024

Date Reported : Jul 16, 2024

Report Number : 3021527-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location: GNLL2

Sample Number	2466471-1
Sampled Date	Jul 08, 2024 2:14 PM
Sample Description	Wastewater
Location	บ่อกักน้ำพายุฝน (CT blowdown pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
4,4-DDD *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
4,4-DDE *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
4,4-DDT *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Dieldrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
alpha-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
beta-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Chlordane *	ug/L	0.02	0.04	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

Savitree N.

Savitree Nonsangiam

Manager

โทรศัพท์ 0-204-4-0007

Approved by

Kanokkom Anek

Assistant General Manager

โทรศัพท์ 0-204-4-0004

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## Analysis / Test Report



TESTING

No 0009

Lot ID: 2466471

Date Received : Jul 08, 2024

Date Reported : Jul 16, 2024

Report Number : 3021527-2

Client : Gulf NLL2 Co., Ltd.

399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120

P/O : 4210901926

Project Name : Monitoring EIA

Project Location: GNLL2

Sample Number	2466471-1
Sampled Date	Jul 08, 2024 2:14 PM
Sample Description	Wastewater
Location	บ่อกักน้ำพายุฝน (CT blowdown pond)
Date Analysis Commenced	Jul 09, 2024
Condition of Sample	Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
delta-BHC *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Dieldrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endosulfan I *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endosulfan II *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Endrin *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Heptachlor *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Heptachlor-Epoxyde *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Technical Management

Savitree N.

Savitree Nonsangiam

Manager

โทรศัพท์ 0-204-4-0007

Approved by

Kanokkom Anek

Assistant General Manager

โทรศัพท์ 0-204-4-0004

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## Analysis / Test Report

TESTING  
No. 0009Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-2Client : Gulf NL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNLL2Sample Number 2466471-1  
Sampled Date Jul 08, 2024 2:14 PM  
Sample Description Wastewater  
Location วนพืชน์นาเกลือ (CT blowdown pond)  
Date Analysis Commenced Jul 09, 2024  
Condition of Sample Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Pesticides - Organochlorine Group</b>							
Lindane (gamma-BHC) *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Methoxychlor *	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Guideline: Effluent standard for factories, Industrial estate and Industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E. 2560 (2017)  
Sampling By: Paramet Sattayakun วิจัยอุตสาหกรรม 3-223-9-9476, Samart Khumplee วิจัยอุตสาหกรรม 3-204-9-0084Remark :  
- LOD : Limit of Detection  
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)  
- Analyte(s) marked \* : were not included in scope of Accreditation ISO/IEC 17025  
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

Savitree N.

Savitree Nolsangiam  
Manager  
วิจัยอุตสาหกรรม 3-204-9-0007

Approved by

Kankom Anek

Kankom Anek  
Assistant General Manager  
วิจัยอุตสาหกรรม 3-204-9-0004

Results apply to the sample(s) as submitted, unless the sampling and analysis by ALS. The part of the report that the laboratory is not responsible for is the sampling and analysis by the client. The laboratory is not responsible for the sampling and analysis by the client. The laboratory is not responsible for the sampling and analysis by the client.

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## Analysis / Test Report

Lot ID: 2466471  
Date Received : Jul 08, 2024  
Date Reported : Jul 16, 2024  
Report Number : 3021527-3Client : Gulf NL2 Co., Ltd.  
399 Moo 3, Nong La Lork, Ban Khai, Rayong Thailand 21120  
P/O : 4210901926  
Project Name : Monitoring EIA  
Project Location: GNLL2Sample Number 2466471-1  
Sampled Date Jul 08, 2024 2:14 PM  
Sample Description Wastewater  
Location วนพืชน์นาเกลือ (CT blowdown pond)  
Date Analysis Commenced Jul 09, 2024  
Condition of Sample Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Chloride	mg/L	0.05	0.1	1.11	No Standard	In-house method: STM 04-062 based on United States Environmental Protection Agency, 1999, EPA Method 300.1	Bangkok
Dissolved Oxygen	mg/L	-	0.1	7.1	≥4	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-D (C)	Rayong
Odour	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong

Guideline: Effluent standard for factories, Industrial estate and Industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E. 2560 (2017)  
Sampling By: Paramet Sattayakun วิจัยอุตสาหกรรม 3-223-9-9476, Samart Khumplee วิจัยอุตสาหกรรม 3-204-9-0084Remark :  
- LOD : Limit of Detection  
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Savitree N.

Savitree Nolsangiam  
Manager

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Project Location: GNLL2Sample Number 2466471-1  
Sampled Date Jul 08, 2024 2:14 PM  
Sample Description Wastewater  
Location วนพืชน์นาเกลือ (CT blowdown pond)  
Date Analysis Commenced Jul 09, 2024  
Condition of Sample Contained in two BOD bottles, three glass vials, two amber glass bottles and nine plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Calcium	mmol/L	0.002	0.004	5.82	No Standard	In-house method: STM 05-014 based on United States Environmental Protection Agency, 1999, EPA Method 200.7	Bangkok
Magnesium	mmol/L	0.002	0.004	2.26	No Standard	In-house method: STM 05-014 based on United States Environmental Protection Agency, 1999, EPA Method 200.7	Bangkok
SAR	-	-	-	3.81	No Standard	In-house method: STM 05-014 based on United States Environmental Protection Agency, 1999, EPA Method 200.7	Bangkok
Sodium	mmol/L	0.002	0.004	10.8	No Standard	In-house method: STM 05-014 based on United States Environmental Protection Agency, 1999, EPA Method 200.7	Bangkok
<b>Pesticides - Organochlorine Group</b>							
alpha-Chlordane	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
gamma-Chlordane	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Hexachlorobenzene	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok
Hexachlorocyclopentadiene	ug/L	0.01	0.02	Not Detected	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 6630 D, part 6410 B	Bangkok

Water Testing

Approved by

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# ภาคผนวก ค-7

สถิติอุบัติเหตุ



## Safety Statistic

Safety Statistics 2024	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	Accumulate since last LTI
<b>EMPLOYEE</b>														
1. Average number of employees	34	35	35	35	35	35	35	35	35	35	35	35		
2. Risk hours / Man-hour	6,453	6,179.5	6,229.5	6,095	6,226	5,965.5	6,502	6,641.5	6,275.5	6,517.5	7,569	6,858	77,512	459,424.5
3. Number of Fatal accidents	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Number of Accident bodily injuries > 1 lost workday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5. Number of work leave days	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Number of injuries requiring first aid	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7. Number of injuries requiring doctor assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8. Number of days worked since last lost workday injury. (beginning with next shift worked after lost time accident)	31	29	31	30	31	30	31	31	30	31	30	31	367	2,192
9. Date of last lost work day injury (COD on January 1 <sup>st</sup> , 2019)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>NON-EMPLOYEE</b>														
10. Risk hours / Man hour	5,578.5	5,492.5	6,238.5	4,987.5	5,425	5,394.5	5,484	5,488.5	5,227	5,687.5	14,490.5	12,911.5	82,405.5	464,298
11. Number of Accident bodily injuries > 1 lost workday	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12. Number of work leave days	0	0	0	0	0	0	0	0	0	0	0	0	0	0



## ภาคผนวก ค-8

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ข้อมูลการเจ็บป่วยของประชาชนในรัศมี 5 กิโลเมตร



รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน มกราคม 2567 (วันที่ตัดยอดรายงาน 1 ม.ค. 2567-31 ธ.ค. 2566)  
 สถานบริการ(รพ. สต. /pcu): หนองละลอก บ้านละหารไร่ หมู่ที่ 08,สอ. ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 07 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	32
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	3
06	G00 -G99	โรคระบบประสาท....Disease of the nervous system	
07	H00 - H59	โรคตาบางส่วนประกอบของตา.....disease of the eye and adnexa	69
08	H60 - H95	โรคหูและปุ่มกกหู.....Diseases of the ear and mastoid process	8
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	2
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	566
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	124
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	322
14	N00 - N99	โรคระบบสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	18
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดรูปแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	712

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดอาการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	1
26	U74 - U75	โรคและอาการอื่น	2
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่เน้น 504 (ไม่ใช่โรค)	5,422
รวม			7,284



แบบ รจ.504

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน มกราคม 2567 (วันที่คัดยอดรายงาน 1 ม.ค. 2567-31 ม.ค. 2567)  
 สถานบริการ(รพ. สต. /pcu): หมอชิตจตุรภักดิ์ บ้านหมื่นบ้านตัวล่าง หมู่ที่ 09,สต. ตำบลหนองระลอก อำเภอบ้านค่าย จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	1
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและโรคระบบสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม.... Endocrine, nutritional and metabolic diseases	7
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท....Disease of the nervous system	1
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	6
08	H60 - H95	โรคหูและจมูกหู.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	5
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	55
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	3
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	1
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเยื่อข้อเสิม..... Diseases of the musculoskeletal system and connective tissue	12
14	N00 - N99	โรคระบบสืบพันธุ์ระบบปัสสาวะ.....Diseases of the genitourinary system	3
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	26

รจ.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae...	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	3
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	10
99	Z00 - Z99,999	กลุ่มไม่มีโรค (ไม่ใช่โรค)	1,083
รวม			1,217

รจ.504 หน้า 2/2

แบบ รจ.504

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน กุมภาพันธ์ 2567 (วันที่คัดยอดรายงาน 1 ก.พ. 2567-29 ก.พ. 2567)  
 สถานบริการ(รพ. สต. /pcu): หมอชิตจตุรภักดิ์ บ้านหมื่นบ้านตัวล่าง หมู่ที่ 09,สต. ตำบลหนองระลอก อำเภอบ้านค่าย จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและโรคระบบสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม.... Endocrine, nutritional and metabolic diseases	1
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท....Disease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	2
08	H60 - H95	โรคหูและจมูกหู.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	38
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	6
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	6
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเยื่อข้อเสิม..... Diseases of the musculoskeletal system and connective tissue	16
14	N00 - N99	โรคระบบสืบพันธุ์ระบบปัสสาวะ.....Diseases of the genitourinary system	1
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	23

รจ.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae...	2
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	3
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดอาการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	10
99	Z00 - Z99,999	กลุ่มไม่มีโรค (ไม่ใช่โรค)	3,022
รวม			3,132

รจ.504 หน้า 2/2



แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค)      ประจำปี เดือน 2567 (วันที่คัดยอกรายงาน 1 เม.ย. 2567-30 เม.ย. 2567) สถานบริการ(รพ. สต./pcu):    นนทบุรี    บ้านหมื่น    อำเภอเมือง    จังหวัดนนทบุรี    09.00.    ตำบลหนองระลอก    อำเภอเมือง    จังหวัดนนทบุรี    06 เม.ย. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	11
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	1
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	2
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	2
07	H00 - H59	โรคตาและส่วนประกอบของตา.....disease of the eye and adnexa	4
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	36
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	7
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	7
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเชื่อม..... Diseases of the musculoskeletal system and connective tissue	12
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	1
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	43
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	1
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	2
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	21
99	Z00 - Z99.999	กลุ่มไม่มีโรค 504 (ไม่ใช่โรค)	1,168
รวม			1,318

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค)      ประจำปี เดือน 2567 (วันที่คัดยอกรายงาน 1 มี.ค. 2567-31 มี.ค. 2567) สถานบริการ(รพ. สต./pcu):    นนทบุรี    บ้านหมื่น    อำเภอเมือง    จังหวัดนนทบุรี    09.00.    ตำบลหนองระลอก    อำเภอเมือง    จังหวัดนนทบุรี    06 เม.ย. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	7
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	19
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	3
07	H00 - H59	โรคตาและส่วนประกอบของตา.....disease of the eye and adnexa	8
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	19
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	37
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	14
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเชื่อม..... Diseases of the musculoskeletal system and connective tissue	20
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	7
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	45
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	1
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	44
99	Z00 - Z99.999	กลุ่มไม่มีโรค 504 (ไม่ใช่โรค)	677
รวม			904

รจ.504 หน้า 2/2



แบบ รจ.504

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน มิถุนายน 2567 (วันที่ส่งยอดรายงาน 1 มิ.ย. 2567-30 มิ.ย. 2567)  
 สถานบริการ(รพ. สต./pcu): หนองละลอก บ้านหมื่นบ้านสว่าง่าง หมู่ที่ 09,สต. สาขานองละลอก อำเภอบ้านคำ จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	13
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	6
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	5
08	H60 - H95	โรคหูและโกลกหู.....Diseases of the ear and mastoid process	1
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	16
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	51
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	11
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	12
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	28
14	N00 - N99	โรคระบบสืบพันธุ์ทางเพศ.....Diseases of the genitourinary system	10
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการทางโครงสร้างแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	43

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กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	V01-V99 Y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	W00-W99 X00-X19 X20-X29 X30-X39 X50-59 X70-X84 X91-X99 Y00-Y09 Y20-Y36 Y40-Y84 Y86-Y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะส่วนหนึ่ง	
26	U74 - U75	โรคและการบาดเจ็บ	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	47
99	Z00 - Z99.999	กลุ่มไม่พบ 504 (ไม่ใช้โรค)	199
รวม			444

รจ.504 หน้า 2/2

แบบ รจ.504

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน พฤษภาคม 2567 (วันที่ส่งยอดรายงาน 1 พ.ค. 2567-31 พ.ค. 2567)  
 สถานบริการ(รพ. สต./pcu): หนองละลอก บ้านหมื่นบ้านสว่าง่าง หมู่ที่ 09,สต. สาขานองละลอก อำเภอบ้านคำ จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	4
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	1
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	4
08	H60 - H95	โรคหูและโกลกหู.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	1
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	22
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	8
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	4
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	16
14	N00 - N99	โรคระบบสืบพันธุ์ทางเพศ.....Diseases of the genitourinary system	2
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการทางโครงสร้างแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	31

รจ.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	V01-V99 Y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	2
21	W00-W99 X00-X19 X20-X29 X30-X39 X50-59 X70-X84 X91-X99 Y00-Y09 Y20-Y36 Y40-Y84 Y86-Y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะส่วนหนึ่ง	
26	U74 - U75	โรคและการบาดเจ็บ	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	14
99	Z00 - Z99.999	กลุ่มไม่พบ 504 (ไม่ใช้โรค)	739
รวม			848

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค)      ประจําเดือน สิงหาคม 2567 (วันที่ตัดยอดรายงาน 1 ส.ค. 2567-31 ส.ค. 2567) สถานบริการ(รพ. สต. /pcu):   หนองระลอก บ้านหมื่นบ้านตัวอ่าง หมู่ที่ 09,สต.   สามหนองระลอก ฆ่าเกอนบ้านคำย จังหวัดระยอง ชื่อผู้ออกรายงาน      วันที่ออกรายงาน    06 ม.ค. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	12
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	7
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรกระบบประสาท.....Desease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	6
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	3
10	J00 - J99	โรกระบบหายใจ.....Diseases of the respiratory system	53
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	6
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	5
13	M00 - M99	โรกระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	18
14	N00 - N99	โรกระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	5
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการแบบผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, ภาวะแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	44
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	1
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้อายุหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	47
99	Z00 - Z99.999	กลุ่มไม่นับ 504 (ไม่ใช้โรค)	596
รวม			804

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค)      ประจําเดือน กรกฎาคม 2567 (วันที่ตัดยอดรายงาน 1 ก.ค. 2567-31 ก.ค. 2567) สถานบริการ(รพ. สต. /pcu):   หนองระลอก บ้านหมื่นบ้านตัวอ่าง หมู่ที่ 09,สต.   สามหนองระลอก ฆ่าเกอนบ้านคำย จังหวัดระยอง ชื่อผู้ออกรายงาน      วันที่ออกรายงาน    06 ม.ค. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	8
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรกระบบประสาท.....Desease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	3
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรกระบบหายใจ.....Diseases of the respiratory system	66
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	9
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	5
13	M00 - M99	โรกระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	26
14	N00 - N99	โรกระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	1
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการแบบผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, ภาวะแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	34
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้อายุหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	34
99	Z00 - Z99.999	กลุ่มไม่นับ 504 (ไม่ใช้โรค)	991
รวม			1,178





แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี 2567 (วันที่คัดยอสรายงาน 1 ธ.ค. 2567-31 ธ.ค. 2567) : นอนงอระลอก บ้านหมื่นบ้านตัวอ่าง หมู่ที่ 09,ต.อ. ตำบลหนองระลอก อำเภอบ้านคำ จังหวัดระยอง			
ชื่อผู้ออกรายงาน วันที่ออกรายงาน 05 ม.ค. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	6
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	1
05	F00 - F99	การแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	1
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	3
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	63
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	5
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	4
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	10
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	5
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากอาการตรวจทางคลินิกและหัตถการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	35
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหายาธรรมชาติ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	21
99	Z00 - Z99.999	กลุ่มไม่บันทึก 504 (ไม่ใช้โรค)	1,096
รวม			1,251

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี 2567 (วันที่คัดยอสรายงาน 1 พ.ย. 2567-30 พ.ย. 2567) : นอนงอระลอก บ้านหมื่นบ้านตัวอ่าง หมู่ที่ 09,ต.อ. ตำบลหนองระลอก อำเภอบ้านคำ จังหวัดระยอง			
ชื่อผู้ออกรายงาน วันที่ออกรายงาน 05 ม.ค. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	4
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	7
05	F00 - F99	การแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	3
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	12
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	45
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	7
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	8
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	25
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	11
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากอาการตรวจทางคลินิกและหัตถการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	39
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	2
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหายาธรรมชาติ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	41
99	Z00 - Z99.999	กลุ่มไม่บันทึก 504 (ไม่ใช้โรค)	275
รวม			480



รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน กุมภาพันธ์ 2567 (วันที่ส่งมอบรายงาน 1 ก.พ. 2567-29 ก.พ. สถานบริการ(รพ. สด./pcu): แม่ข่าย บ้านแม่คำมีใหม่ หมู่ที่ 05,สอ. ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง ชื่อผู้ส่งรายงาน วันที่ออกรายงาน 13 เม.ย. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	25
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและโรคสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน ... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม ... Endocrine, nutritional and metabolic diseases	25
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม...Mental and behavioural disorders	7
06	G00 - G99	โรคระบบประสาท...Disease of the nervous system	4
07	H00 - H59	โรคตาส่วนประกอบของตา...disease of the eye and adnexa	14
08	H60 - H95	โรคหูและจมูก...Diseases of the ear and mastoid process	2
09	I00 - I99	โรคระบบไหลเวียนเลือด...Diseases of the circulatory system	41
10	J00 - J99	โรคระบบหายใจ...Diseases of the respiratory system	177
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก...Diseases of the digestive system	55
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง...Diseases of the skin and subcutaneous tissue	8
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงสร้าง และเนื้อเยื่อเสริม...Diseases of the musculoskeletal system and connective tissue	51
14	N00 - N99	โรคระบบสืบพันธุ์และปัสสาวะ...Diseases of the genitourinary system	8
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด...Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ถึงไปจนถึง 7 วันหลังคลอด )...Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการทางจิตรูปแต่กำเนิดและโครโมโซมผิดปกติ...Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	74

รง.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	V01-Y99 Y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา... Transport accidents and their sequelae...	3
21	W00-W99 X00-X19 X20-X29 X30-X39 X50-59 X70-X84 X91-X99 Y00-Y09 Y20-Y36 Y40-Y84 Y86-Y89	สาเหตุภายนอกอื่น ๆ ที่ทำให้ป่วยหรือตาย... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	4
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการกลายพันธุ์	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	4
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่มีโรค (ไม่ใช้โรค)	5,124
รวม			5,626

รง.504 หน้า 2/2

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน มกราคม 2567 (วันที่ส่งมอบรายงาน 1 ม.ค. 2567-31 ม.ค. สถานบริการ (รพ. สด./pcu): แม่ข่าย บ้านแม่คำมีใหม่ หมู่ที่ 05,สอ. ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง ชื่อผู้ส่งรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	31
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและโรคสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน ... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	3
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม ... Endocrine, nutritional and metabolic diseases	80
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม...Mental and behavioural disorders	9
06	G00 - G99	โรคระบบประสาท...Disease of the nervous system	1
07	H00 - H59	โรคตาส่วนประกอบของตา...disease of the eye and adnexa	17
08	H60 - H95	โรคหูและจมูก...Diseases of the ear and mastoid process	2
09	I00 - I99	โรคระบบไหลเวียนเลือด...Diseases of the circulatory system	92
10	J00 - J99	โรคระบบหายใจ...Diseases of the respiratory system	178
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก...Diseases of the digestive system	55
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง...Diseases of the skin and subcutaneous tissue	9
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงสร้าง และเนื้อเยื่อเสริม...Diseases of the musculoskeletal system and connective tissue	53
14	N00 - N99	โรคระบบสืบพันธุ์และปัสสาวะ...Diseases of the genitourinary system	8
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด...Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ถึงไปจนถึง 7 วันหลังคลอด )...Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการทางจิตรูปแต่กำเนิดและโครโมโซมผิดปกติ...Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	93

รง.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	V01-Y99 Y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา... Transport accidents and their sequelae...	2
21	W00-W99 X00-X19 X20-X29 X30-X39 X50-59 X70-X84 X91-X99 Y00-Y09 Y20-Y36 Y40-Y84 Y86-Y89	สาเหตุภายนอกอื่น ๆ ที่ทำให้ป่วยหรือตาย... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	13
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการกลายพันธุ์	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่มีโรค (ไม่ใช้โรค)	1,689
รวม			2,335

รง.504 หน้า 2/2





รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปีเดือน กันยายน 2567 (วันที่คัดเลือกรายงาน 1 มี.ย. 2567-30 ส.ย. 2567)  
สถานบริการ(รพ. สด./pcu): แผนกผู้ป่วยนอกใหญ่ หมู่ที่ 05,สอ. ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง  
ชื่อผู้ออกรายงาน วันที่ออกรายงาน 13 มี.ย. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	26
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	1
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	56
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	7
06	G00 -G99	โรกระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	17
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	6
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	61
10	J00 - J99	โรกระบบทางเดินหายใจ.....Diseases of the respiratory system	207
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	39
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	10
13	M00 - M99	โรกระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	56
14	N00 - N99	โรกระบบสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	18
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	72

รง.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10	การเป็นพิษและผลที่ตามมา.....	
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae.....	8
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่น ๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	8
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและการวินิจฉัย	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่ขึ้น 504 (ไม่ใช่วิธี)	5,372
รวม			5,965

รง.504 หน้า 2/2

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปีเดือน พฤษภาคม 2567 (วันที่คัดเลือกรายงาน 1 พ.ค. 2567-31 พ.ค. 2567)  
สถานบริการ(รพ. สด./pcu): แผนกผู้ป่วยนอกใหญ่ หมู่ที่ 05,สอ. ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง  
ชื่อผู้ออกรายงาน วันที่ออกรายงาน 13 มี.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	30
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	8
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	1
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	71
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	7
06	G00 -G99	โรกระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	18
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	8
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	80
10	J00 - J99	โรกระบบทางเดินหายใจ.....Diseases of the respiratory system	101
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	47
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	15
13	M00 - M99	โรกระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	49
14	N00 - N99	โรกระบบสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	13
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	86

รง.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10	การเป็นพิษและผลที่ตามมา.....	
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae.....	2
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่น ๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	11
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและการวินิจฉัย	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่ขึ้น 504 (ไม่ใช่วิธี)	1,181
รวม			1,728

รง.504 หน้า 2/2

รายงานผู้ป้อนข้อมูลตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี 2567 (วันที่ติดต่อยุทธศาสตร์ 1 ส.ค. 2567-31 ส.ค. 2567)  
 สถานบริการ(รพ. ลต. /pcu): แม่ป๋าย บ้านแม่ป๋าย หมู่ที่ 05,ลต. ตำบลแม่ป๋าย อำเภอปลวกแดง จังหวัดระยอง  
 ชื่อผู้ส่งรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	34
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน ... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	6
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	46
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	7
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	3
07	H00 - H59	โรคตาและอวัยวะประกอบของตา.....disease of the eye and adnexa	18
08	H60 - H95	โรคหูและโกลนกกหู.....Diseases of the ear and mastoid process	6
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	60
10	J00 - J99	โรคระบบทางเดินหายใจ.....Diseases of the respiratory system	220
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	37
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	19
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	65
14	N00 - N99	โรคระบบสืบพันธุ์และปัสสาวะ.....Diseases of the genitourinary system	13
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด.....Complication of pregnancy, childbirth and the puerperium	2
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางพยาธิวิทยาที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	86

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา.... Transport accidents and their sequelae....	1
21	w00-w99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	24
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะส่วนหนึ่ง	
26	U74 - U75	โรคและการบาดเจ็บ	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่บันทึก (ไม่ใช้โรค)	2,766
รวม			3,413

รายงานผู้ป้อนข้อมูลตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี 2567 (วันที่ติดต่อยุทธศาสตร์ 1 ส.ค. 2567-31 ส.ค. 2567)  
 สถานบริการ(รพ. ลต. /pcu): แม่ป๋าย บ้านแม่ป๋าย หมู่ที่ 05,ลต. ตำบลแม่ป๋าย อำเภอปลวกแดง จังหวัดระยอง  
 ชื่อผู้ส่งรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	32
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน ... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	2
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	52
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	4
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตาและอวัยวะประกอบของตา.....disease of the eye and adnexa	12
08	H60 - H95	โรคหูและโกลนกกหู.....Diseases of the ear and mastoid process	7
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	60
10	J00 - J99	โรคระบบทางเดินหายใจ.....Diseases of the respiratory system	231
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	52
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	20
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	55
14	N00 - N99	โรคระบบสืบพันธุ์และปัสสาวะ.....Diseases of the genitourinary system	11
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด.....Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางพยาธิวิทยาที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	81

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา.... Transport accidents and their sequelae....	
21	w00-w99 x00-x19 x20-x29 x30-x39 x50-59 x70-y84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	18
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะส่วนหนึ่ง	
26	U74 - U75	โรคและการบาดเจ็บ	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่บันทึก (ไม่ใช้โรค)	1,954
รวม			2,591



รายงานผู้เขียนนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน ตุลาคม 2567 (วันที่ติดต่อรายงาน 1 ต.ค. 2567-31 ต.ค. 2567)  
สถานบริการ(รพ. สด./pcu): แผนกผู้ป่วยนอก/ผู้ป่วยใน หมู่ที่ 05, สด, ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง  
ชื่อผู้ออกรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	27
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism	3
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	60
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	10
06	G00 -G99	โรกระบบประสาท.....Disease of the nervous system	2
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	11
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	3
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	79
10	J00 - J99	โรกระบบหายใจ.....Diseases of the respiratory system	132
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	61
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	10
13	M00 - M99	โรกระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเชื่อม..... Diseases of the musculoskeletal system and connective tissue	43
14	N00 - N99	โรกระบบสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	12
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	65

รง.504 หน้า 1/ 2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae.....	5
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้เป็นอันตราย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	7
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่พบ 504 (ไม่ใช้โรค)	883
รวม			1,413

รง.504 หน้า 2/ 2

รายงานผู้เขียนนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน กันยายน 2567 (วันที่ติดต่อรายงาน 1 ต.ย. 2567-30 ต.ย. 2567)  
สถานบริการ(รพ. สด./pcu): แผนกผู้ป่วยนอก/ผู้ป่วยใน หมู่ที่ 05, สด, ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง  
ชื่อผู้ออกรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	27
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	2
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	1
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	53
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	6
06	G00 -G99	โรกระบบประสาท.....Disease of the nervous system	3
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	11
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	6
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	65
10	J00 - J99	โรกระบบหายใจ.....Diseases of the respiratory system	203
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	46
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	13
13	M00 - M99	โรกระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเชื่อม..... Diseases of the musculoskeletal system and connective tissue	55
14	N00 - N99	โรกระบบสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	3
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	85

รง.504 หน้า 1/ 2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae.....	7
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้เป็นอันตราย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	3
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่พบ 504 (ไม่ใช้โรค)	2,153
รวม			2,742

รง.504 หน้า 2/ 2

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน ธันวาคม 2567 (วันที่ติดต่อรายงาน 1 ธ.ค. 2567-31 ธ.ค. 2567)  
 สถานบริการ(รพ. สต./pcu): แผนกผู้ป่วยนอกใหม่ หมู่ที่ 05,สต. ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	26
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	3
03	D50-D89	โรคเลือดและภาวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน ... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	2
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โยขนการ และระบบต่อสลับ Endocrine, nutritional and metabolic diseases	42
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม Mental and behavioural disorders	8
06	G00 - G99	โรคระบบประสาท Disease of the nervous system	
07	H00 - H59	โรคตาบางส่วนประกอบของตา disease of the eye and adnexa	12
08	H60 - H95	โรคหูและจมูก Diseases of the ear and mastoid process	2
09	I00 - I99	โรคระบบไหลเวียนเลือด Diseases of the circulatory system	46
10	J00 - J99	โรคระบบทางเดินหายใจ Diseases of the respiratory system	138
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก Diseases of the digestive system	60
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง Diseases of the skin and subcutaneous tissue	9
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงสร้าง และเนื้อเยื่อเสริม Diseases of the musculoskeletal system and connective tissue	30
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว Diseases of the genitourinary system	14
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ) Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการรบบผิดปกติแต่กำเนิดและโครโมโซมผิดปกติ Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและการพบปัญหาการวินิจฉัยที่สามารถจำแนกโรคในกลุ่มอื่นได้	45

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา Transport accidents and their sequelae	2
21	w00-w99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	11
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่พบ 504 (ไม่พบโรค)	1,126
รวม			1,576

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน พฤศจิกายน 2567 (วันที่ติดต่อรายงาน 1 พ.ย. 2567-30 พ.ย. 2567)  
 สถานบริการ(รพ. สต./pcu): แผนกผู้ป่วยนอกใหม่ หมู่ที่ 05,สต. ตำบลแม่คำมี อำเภอปลวกแดง จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 13 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	33
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	2
03	D50-D89	โรคเลือดและภาวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน ... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	1
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โยขนการ และระบบต่อสลับ Endocrine, nutritional and metabolic diseases	59
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม Mental and behavioural disorders	9
06	G00 - G99	โรคระบบประสาท Disease of the nervous system	
07	H00 - H59	โรคตาบางส่วนประกอบของตา disease of the eye and adnexa	18
08	H60 - H95	โรคหูและจมูก Diseases of the ear and mastoid process	3
09	I00 - I99	โรคระบบไหลเวียนเลือด Diseases of the circulatory system	58
10	J00 - J99	โรคระบบทางเดินหายใจ Diseases of the respiratory system	163
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก Diseases of the digestive system	74
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง Diseases of the skin and subcutaneous tissue	15
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงสร้าง และเนื้อเยื่อเสริม Diseases of the musculoskeletal system and connective tissue	53
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว Diseases of the genitourinary system	11
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ) Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการรบบผิดปกติแต่กำเนิดและโครโมโซมผิดปกติ Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและการพบปัญหาการวินิจฉัยที่สามารถจำแนกโรคในกลุ่มอื่นได้	66

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา Transport accidents and their sequelae	6
21	w00-w99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	10
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่พบ 504 (ไม่พบโรค)	888
รวม			1,469



แบบ รจ.504

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน กุมภาพันธ์ 2567 (วันที่คัดยอดรายงาน 1 ก.พ. 2567-29 ก.พ. 2567)  
 สถานบริการ(รพ. สต. /pcu): แม่น้ำคู่ ดอกหญ้า หมู่ที่ 06,สอ. ตำบลแม่น้ำคู่ อำเภอปลวกแดง จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ธ.ค. 67

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	1
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	1
06	G00 -G99	โรครวมประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตาบางส่วนประกอบของตา.....disease of the eye and adnexa	3
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรครวมไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรครวมหายใจ.....Diseases of the respiratory system	28
11	K00 - K93	โรครวมย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	7
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรครวมกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	9
14	N00 - N99	โรครวมสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	2
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและหาหน้ปฏิบัติกรที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	19

รจ.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	V01-V99 Y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	W00-W99 X00-X19 X20-X29 X30-X39 X50-59 X70-X84 X91-X99 Y00-Y09 Y20-Y36 Y40-Y84 Y86-Y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	3
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะส่วนหนึ่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่มีโรค (ไม่ใช่โรค)	756
รวม			833

รจ.504 หน้า 2/2

แบบ รจ.504

รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน มกราคม 2567 (วันที่คัดยอดรายงาน 1 ม.ค. 2567-31 ม.ค. 2567)  
 สถานบริการ(รพ. สต. /pcu): แม่น้ำคู่ ดอกหญ้า หมู่ที่ 06,สอ. ตำบลแม่น้ำคู่ อำเภอปลวกแดง จังหวัดระยอง  
 ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ธ.ค. 67

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	2
06	G00 -G99	โรครวมประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตาบางส่วนประกอบของตา.....disease of the eye and adnexa	4
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรครวมไหลเวียนเลือด.....Diseases of the circulatory system	2
10	J00 - J99	โรครวมหายใจ.....Diseases of the respiratory system	38
11	K00 - K93	โรครวมย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	9
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรครวมกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	9
14	N00 - N99	โรครวมสืบพันธุ์ร่วมปัสสาวะ.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและหาหน้ปฏิบัติกรที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	9

รจ.504 หน้า 1/2

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	V01-V99 Y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	W00-W99 X00-X19 X20-X29 X30-X39 X50-59 X70-X84 X91-X99 Y00-Y09 Y20-Y36 Y40-Y84 Y86-Y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดอาการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะส่วนหนึ่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่มีโรค (ไม่ใช่โรค)	224
รวม			304

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค)      ประจำเดือน เมษายน 2567 (วันที่คัดแยกรายงาน 1 เม.ย. 2567-30 เม.ย. 2567) สถาบันบริการ(รพ. สต. /pcu): แม่น้ำคู่ ดอกกรวย หมู่ที่ 06,สต. ตำบลแม่น้ำคู่ อำเภอปลวกแดง จังหวัดระยอง ชื่อผู้ออกรายงาน      วันที่ออกรายงาน      06 ธ.ค. 67			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	5
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	3
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตา รวมส่วนประกอบของตา.....disease of the eye and adnexa	4
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	24
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	9
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	7
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการรณผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	19
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา.... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่ับน 504 (ไม่ใช้โรค)	227
รวม			303

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค)      ประจำเดือน มีนาคม 2567 (วันที่คัดแยกรายงาน 1 มี.ค. 2567-31 มี.ค. 2567) สถาบันบริการ(รพ. สต. /pcu): แม่น้ำคู่ ดอกกรวย หมู่ที่ 06,สต. ตำบลแม่น้ำคู่ อำเภอปลวกแดง จังหวัดระยอง ชื่อผู้ออกรายงาน      วันที่ออกรายงาน      06 ธ.ค. 67			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตา รวมส่วนประกอบของตา.....disease of the eye and adnexa	2
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	30
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	10
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	2
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	10
14	N00 - N99	โรคระบบสืบพันธุ์ระบบสืบสาว.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการรณผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	27
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา.... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	2
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่ับน 504 (ไม่ใช้โรค)	188
รวม			274



แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปีเดือน มิถุนายน 2567 (วันที่คัดยอผลงาน 1 มิ.ย. 2567-30 มิ.ย. 67) สถานบริการ(รพ. สส. /pcu): แผนกผู้ป่วย 06,สอ. ส่วนคณิน้ำดี อำเภอปลวกแดง จังหวัดระยอง			
ชื่อผู้ออกรายงาน		วันที่ออกรายงาน 06 ธ.ค. 67	
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	9
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โยชนะการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	2
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	4
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	46
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	9
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	5
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	8
14	N00 - N99	โรคระบบสืบพันธุ์และปัสสาวะ.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อาจตรงกับ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	29
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-	การเป็นพิษและผลที่ตามมา... Y19	
20	V01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้อายุสั้น..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	4
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจาการหลายระบบ	
25	U61 - U72	โรคที่เกิดจาสาเหตุหนึ่ง	
26	U74 - U75	โรคและการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่มีโรค (ไม่ใช้โรค)	312
รวม			429

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปีเดือน พฤษภาคม 2567 (วันที่คัดยอผลงาน 1 พ.ค. 2567-31 พ.ค. 67) สถานบริการ(รพ. สส. /pcu): แผนกผู้ป่วย 06,สอ. ส่วนคณิน้ำดี อำเภอปลวกแดง จังหวัดระยอง			
ชื่อผู้ออกรายงาน		วันที่ออกรายงาน 06 ธ.ค. 67	
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โยชนะการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	1
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	21
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	11
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	1
13	M00 - M99	โรคระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	7
14	N00 - N99	โรคระบบสืบพันธุ์และปัสสาวะ.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อาจตรงกับ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	20
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-	การเป็นพิษและผลที่ตามมา... Y19	
20	V01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้อายุสั้น..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจาการหลายระบบ	
25	U61 - U72	โรคที่เกิดจาสาเหตุหนึ่ง	
26	U74 - U75	โรคและการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่มีโรค (ไม่ใช้โรค)	211
รวม			275

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน สิงหาคม 2567 (วันที่คัดยอดรายงาน 1 ส.ค. 2567-31 ส.ค. 2567)			
สถานบริการ(รพ. สต. /pcu): แม่บ้านคู่ ดอกทราย หมู่ที่ 06,สต. ตำบลแม่บ้านคู่ ตำบลปลวกแดง จังหวัดระยอง			
ชื่อผู้ออกรายงาน		วันที่ออกรายงาน 06 ส.ค. 67	
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain Infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตา รวมทั้งส่วนประกอบของตา.....disease of the eye and adnexa	5
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	32
11	K00 - K93	โรคระบบย่อยอาหาร รวมทั้งโรคในช่องปาก.....Diseases of the digestive system	9
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	7
14	N00 - N99	โรคระบบสืบพันธุ์รวมทั้งสืบสาร.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการทางสติปัญญาแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางอภิปฐิติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	19
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10	การเป็นพิษและผลที่ตามมา... Y19	
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำไม่ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่นับ 504 (ไม่ใช่โรค)	441
รวม			519

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน กรกฎาคม 2567 (วันที่คัดยอดรายงาน 1 ก.ค. 2567-31 ก.ค. 2567)			
สถานบริการ(รพ. สต. /pcu): แม่บ้านคู่ ดอกทราย หมู่ที่ 06,สต. ตำบลแม่บ้านคู่ ตำบลปลวกแดง จังหวัดระยอง			
ชื่อผู้ออกรายงาน		วันที่ออกรายงาน 06 ส.ค. 67	
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	4
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตา รวมทั้งส่วนประกอบของตา.....disease of the eye and adnexa	5
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	31
11	K00 - K93	โรคระบบย่อยอาหาร รวมทั้งโรคในช่องปาก.....Diseases of the digestive system	7
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	3
13	M00 - M99	โรคระบบกล้ามเนื้อ ระบบโครงร่าง และเนื้อเยื่อเกี่ยวพัน..... Diseases of the musculoskeletal system and connective tissue	8
14	N00 - N99	โรคระบบสืบพันธุ์รวมทั้งสืบสาร.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการทางสติปัญญาแต่กำเนิดและโครโมโซมผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางอภิปฐิติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	16
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10	การเป็นพิษและผลที่ตามมา... Y19	
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำไม่ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	2
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่นับ 504 (ไม่ใช่โรค)	1,084
รวม			1,160



แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน ตุลาคม 2567 (วันที่ตัดยอดรายงาน 1 ต.ค. 2567-31 ต.ค. 2567) สถานบริการ(รพ. สต./pcu): แผนกสูติ-นรีเวช หน่วยที่ 06,สต. ส่วนแม่ข่าย สำนักปลัดและ จังหรัของ ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ต.ค. 67			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	1
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	1
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	2
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	3
08	H60 - H95	โรคหูและในหู.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	3
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	24
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	10
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	4
13	M00 - M99	โรคระบบกล้ามเนื้อ วมโครงสร้าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	6
14	N00 - N99	โรคระบบสืบพันธุ์ทางสืบสาว.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	*ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	23
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae...	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	1
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่บันทึก 504 (ไม่ใช้โรค)	136
รวม			216

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำปี เดือน กันยายน 2567 (วันที่ตัดยอดรายงาน 1 ก.ย. 2567-30 ก.ย. 2567) สถานบริการ(รพ. สต./pcu): แผนกสูติ-นรีเวช หน่วยที่ 06,สต. ส่วนแม่ข่าย สำนักปลัดและ จังหรัของ ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ต.ค. 67			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	3
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	1
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	
07	H00 - H59	โรคตาส่วนประกอบของตา.....disease of the eye and adnexa	4
08	H60 - H95	โรคหูและในหู.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	39
11	K00 - K93	โรคระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	8
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	1
13	M00 - M99	โรคระบบกล้ามเนื้อ วมโครงสร้าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	14
14	N00 - N99	โรคระบบสืบพันธุ์ทางสืบสาว.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	*ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	35
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae...	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	4
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99,999	กลุ่มไม่บันทึก 504 (ไม่ใช้โรค)	197
รวม			306

รจ.504 หน้า 2/2

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน ธันวาคม 2567 (วันที่ตัดยอดรายงาน 1 ธ.ค. 2567-31 ธ.ค. สถานบริการ(รพ. สส. /pcu): แม่บ้านคู่ ดอกทราย หมู่ที่ 06,สอ. ตำบลแม่บ้านคู่ อำเภอปลวกแดง จังหวัดระยอง ชื่อผู้ออกรายงาน วันที่ออกรายงาน 10 ม.ค. 68			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	1
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the Immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	26
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	2
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตา รวมทั้งส่วนประกอบของตา.....disease of the eye and adnexa	7
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	13
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	36
11	K00 - K93	โรคระบบย่อยอาหาร รวมทั้งโรคในช่องปาก.....Diseases of the digestive system	6
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	2
13	M00 - M99	โรคระบบกล้ามเนื้อ ราวโครงร่าง และเนื้อเยื่อเชื่อม..... Diseases of the musculoskeletal system and connective tissue	25
14	N00 - N99	โรคระบบสืบพันธุ์รวมทั้งสืบสาว.....Diseases of the genitourinary system	1
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิเกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	28
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	2
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่ขึ้น 504 (ไม่ใช่โรค)	1,471
รวม			1,621

แบบ รจ.504			
รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน พฤศจิกายน 2567 (วันที่ตัดยอดรายงาน 1 พ.ย. 2567-30 พ.ย. สถานบริการ(รพ. สส. /pcu): แม่บ้านคู่ ดอกทราย หมู่ที่ 06,สอ. ตำบลแม่บ้านคู่ อำเภอปลวกแดง จังหวัดระยอง ชื่อผู้ออกรายงาน วันที่ออกรายงาน 06 ธ.ค. 67			
กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	2
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the Immune mechanism	
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	16
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรคระบบประสาท.....Disease of the nervous system	1
07	H00 - H59	โรคตา รวมทั้งส่วนประกอบของตา.....disease of the eye and adnexa	6
08	H60 - H95	โรคหูและจมูก.....Diseases of the ear and mastoid process	
09	I00 - I99	โรคระบบไหลเวียนเลือด.....Diseases of the circulatory system	8
10	J00 - J99	โรคระบบหายใจ.....Diseases of the respiratory system	32
11	K00 - K93	โรคระบบย่อยอาหาร รวมทั้งโรคในช่องปาก.....Diseases of the digestive system	3
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	6
13	M00 - M99	โรคระบบกล้ามเนื้อ ราวโครงร่าง และเนื้อเยื่อเชื่อม..... Diseases of the musculoskeletal system and connective tissue	12
14	N00 - N99	โรคระบบสืบพันธุ์รวมทั้งสืบสาว.....Diseases of the genitourinary system	
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิเกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดปกติแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและทางห้องปฏิบัติการที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	20
รจ.504 หน้า 1/2			

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	2
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดจากการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	
99	Z00 - Z99.999	กลุ่มไม่ขึ้น 504 (ไม่ใช่โรค)	127
รวม			235



รายงานผู้ป่วยนอกตามกลุ่มสาเหตุ (21 กลุ่มโรค) ประจำเดือน มกราคม 2567 (วันที่ตัดยอดรายงาน 1 ม.ค. 2567-31 ธ.ค. 2567)

สถานบริการ(รพ. สต. /pcu): ดิคมพัฒนา บ้านดิคมพัฒนา หมู่ที่ 01,สต. ตำบลดิคมพัฒนา อำเภอดิคมพัฒนา จังหวัดระยอง

ชื่อผู้ออกรายงาน วันที่ออกรายงาน 10 ม.ค. 68

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
01	A00 - A99 B00 - B99	โรคติดเชื้อและปรสิต (Certain infectious and parasitic diseases)	3
02	C00-C97 D00-D48	เนื้องอก (รวมมะเร็ง) Neoplasms	
03	D50-D89	โรคเลือดและอวัยวะสร้างเลือด และความผิดปกติเกี่ยวกับภูมิคุ้มกัน .... Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	2
04	E00 - E90	โรคเกี่ยวกับต่อมไร้ท่อ โภชนาการ และเมตาบอลิซึม..... Endocrine, nutritional and metabolic diseases	341
05	F00 - F99	ภาวะแปรปรวนทางจิตและพฤติกรรม.....Mental and behavioural disorders	
06	G00 -G99	โรกระบบประสาท....Disease of the nervous system	1
07	H00 - H59	โรคตาบางส่วนประกอบของตา.....disease of the eye and adnexa	20
08	H60 - H95	โรคหูและปุ่มกกหู.....Diseases of the ear and mastoid process	2
09	I00 - I99	โรกระบบไหลเวียนเลือด.....Diseases of the circulatory system	724
10	J00 - J99	โรกระบบหายใจ.....Diseases of the respiratory system	344
11	K00 - K93	โรกระบบย่อยอาหาร รวมโรคในช่องปาก.....Diseases of the digestive system	2,311
12	L00 - L99	โรคผิวหนังและเนื้อเยื่อใต้ผิวหนัง.....Diseases of the skin and subcutaneous tissue	13
13	M00 - M99	โรกระบบกล้ามเนื้อ รวมโครงร่าง และเนื้อเยื่อเสริม..... Diseases of the musculoskeletal system and connective tissue	217
14	N00 - N99	โรกระบบสืบพันธุ์รวมปัสสาวะ.....Diseases of the genitourinary system	3
15	O00-O99 ยกเว้น O80 - O84	ภาวะแทรกซ้อนในการตั้งครรภ์ การคลอด และระยะหลังคลอด..... Complication of pregnancy, childbirth and the puerperium	
16	P00 - P96	ภาวะผิดปกติของทารกที่เกิดขึ้นในระยะปริกำเนิด (อายุครรภ์ 22 สัปดาห์ขึ้นไปจนถึง 7 วันหลังคลอด ).....Certain conditions originating in the perinatal period	
17	Q00 - Q99	รูปร่างผิดปกติแต่กำเนิด การพิการจนผิดรูปร่างแต่กำเนิดและโครโมโซม ผิดปกติ.....Congenital malformations, deformations and chromosomal abnormalities	
18	R00 - R99	อาการ, อาการแสดงและสิ่งผิดปกติที่พบได้จากการตรวจทางคลินิกและหาข้อปฏิบัติที่ไม่สามารถจำแนกโรคในกลุ่มอื่นได้	463

กลุ่ม	รหัสโรค	สาเหตุการป่วย (กลุ่มโรค)	จำนวน
19	X40-X49 X60-X69 X85-X90 Y10-การเป็นพิษและผลที่ตามมา... Y19		
20	v01-v99 y85	อุบัติเหตุจากการขนส่งและผลที่ตามมา..... Transport accidents and their sequelae....	2
21	w00-ww99 x00-x19 x20-x29 x30-x39 x50-59 x70-x84 x91-x99 y00-y09 y20-y36 y40-y84 y86-y89	สาเหตุจากภายนอกอื่นๆ ที่ทำให้ป่วยหรือตาย..... Other external causes of morbidity and mortality (eg: accidents, injuries, intentional self-harm, assault, animals and plants, complications of medical and surgical care and other unspecified causes)	19
22	U50 - U52	โรคของสตรี	
23	U54 - U55	โรคของเด็ก	
24	U56 - U60	โรคที่เกิดอาการหลายระบบ	
25	U61 - U72	โรคที่เกิดเฉพาะตำแหน่ง	
26	U74 - U75	โรคและอาการอื่น	1
27	U77	การส่งเสริมสุขภาพและการป้องกันโรค	111
99	Z00 - Z99.999	กลุ่มไม่บันทึก (ไม่ใช่โรค)	14,341
รวม			18,918

## ภาคผนวก ค-9

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ผลการศึกษาและสำรวจสภาพเศรษฐกิจ-สังคม

และความคิดเห็นของประชาชน

ประจำปี พ.ศ. 2567



## รายงานสรุปผลการสำรวจความคิดเห็นของประชาชนต่อ โครงการโรงไฟฟ้าหนองลอก 2 บริษัท กัลป์ เอ็นแอสแอล 2 จำกัด

### 1. ความจำเป็น

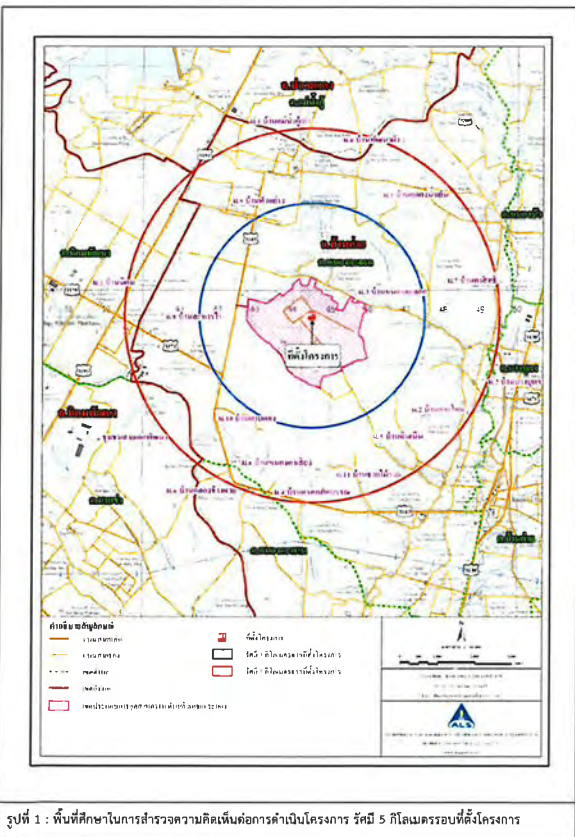
โครงการโรงไฟฟ้าหนองลอก 2 ของบริษัท กัลป์ เอ็นแอสแอล 2 จำกัด ตั้งอยู่ในเขตประกอบการอุตสาหกรรมระดับอีอีซีเอชเอ (เดิมชื่อ เขตประกอบการอุตสาหกรรมเหมราชตะวันออก) ตำบลหนองลอก อำเภอบ้านค่าย จังหวัดระยอง ได้นำเสนอรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมต่อสำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม (สผ.) ซึ่งได้รับความเห็นชอบในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมตามหนังสือเห็นชอบเลขที่ 1009.7/11597 ลงวันที่ 28 กันยายน พ.ศ. 2559 โดยโครงการต้องปฏิบัติตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม ซึ่งได้กำหนดให้มีการสำรวจสภาพเศรษฐกิจ สังคมและความคิดเห็นของครัวเรือน ผู้นำท้องถิ่น รวมถึงตัวแทนหน่วยงานราชการที่เกี่ยวข้อง โดยรอบโครงการ เพื่อให้ทราบถึงความคิดเห็นที่มีต่อโครงการ ทั้งในเรื่องของผลกระทบที่อาจเกิดขึ้นจากโครงการ รวมถึงข้อเสนอแนะต่างๆ ครอบคลุมกับตำแหน่งที่ทำการตรวจวัดคุณภาพสิ่งแวดล้อม ภายในรัศมี 5 กิโลเมตรรอบที่ตั้งโครงการ ปีละ 1 ครั้ง

การจัดทำรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการจึงได้ดำเนินการสำรวจสภาพเศรษฐกิจ สังคมและความคิดเห็นของครัวเรือน ผู้นำท้องถิ่น และรวมถึงตัวแทนหน่วยงานราชการต่างๆ ที่เกี่ยวข้อง ซึ่งดำเนินการระหว่างวันที่ 19-22 สิงหาคม พ.ศ. 2567 มีรายละเอียดการดำเนินงานดังนี้

### 2. วัตถุประสงค์

การสำรวจสภาพสังคม-เศรษฐกิจ และความคิดเห็นต่อการดำเนินโครงการโรงไฟฟ้าหนองลอก 2 ของบริษัท กัลป์ เอ็นแอสแอล 2 จำกัด เพื่อรับฟังข้อคิดเห็น/ข้อเสนอแนะ/ข้อกังวลใจของประชาชน ผู้นำท้องถิ่น และรวมถึงตัวแทนหน่วยงานราชการต่างๆ ที่เกี่ยวข้อง ในช่วงดำเนินการที่ผ่านมาของโครงการ โดยมีวัตถุประสงค์ดังนี้

- (1) เพื่อศึกษาสภาพสังคม-เศรษฐกิจ ได้แก่ การประกอบอาชีพ สุขอนามัย ระบบสาธารณสุข และสภาพความเป็นอยู่ของประชาชน รวมทั้ง เพื่อรับทราบสภาพปัญหาเกี่ยวกับสภาพแวดล้อมที่ส่งผลกระทบต่อดำเนินชีวิตของประชาชนในปัจจุบัน
- (2) เพื่อศึกษาการรับรู้ข้อมูลข่าวสาร ความต้องการรับทราบข้อมูลข่าวสารของโครงการ รวมทั้งความคิดเห็น และความพึงพอใจต่อการดำเนินงานในด้านต่างๆ ของโครงการ
- (3) เพื่อรับฟังความคิดเห็นต่างๆ ต่อการดำเนินการที่ผ่านมาของโครงการร่วมกับชุมชน พร้อมทั้งรับฟังความคิดเห็น ข้อเสนอแนะต่อการดำเนินการ และการดำเนินกิจกรรมต่างๆ ร่วมกับชุมชน



รูปที่ 1 : พื้นที่ศึกษาในการสำรวจความคิดเห็นต่อการดำเนินโครงการ รัศมี 5 กิโลเมตรรอบที่ตั้งโครงการ

- (4) เพื่อนำข้อมูลการสำรวจความคิดเห็นประกอบกรำเสนอไว้ในรายงานผลการปฏิบัติตามมาตรการด้านสิ่งแวดล้อมของโครงการ ต่อสำนักงานนโยบายและแผนทรัพยากรธรรมชาติและสิ่งแวดล้อม รวมทั้งรวบรวมข้อมูลที่ได้สำหรับการประกอบการดำเนินกิจกรรมด้านต่างๆ ของโครงการต่อไป

### 3. พื้นที่ดำเนินการศึกษา

พื้นที่ศึกษากำหนดจากที่ตั้งโครงการ ภายในรัศมี 5 กิโลเมตร แสดงดังรูปที่ 1 ครอบคลุมพื้นที่ในเขตเทศบาลตำบลนิคมพัฒนา อำเภอนิคมพัฒนา จังหวัดระยอง องค์การบริหารส่วนตำบลหนองลอก องค์การบริหารส่วนตำบลบางบุตร องค์การบริหารส่วนตำบลหนองตะพาน อำเภอบ้านค่าย จังหวัดระยอง องค์การบริหารส่วนตำบลแม่ไม้ อำเภอลำลูกเกด จังหวัดระยอง และองค์การบริหารส่วนตำบลนิคมพัฒนา อำเภอนิคมพัฒนา จังหวัดระยอง รายละเอียดดังนี้

- (1) เทศบาลตำบลนิคมพัฒนา อำเภอนิคมพัฒนา จังหวัดระยอง จำนวน 1 ชุมชน ประกอบด้วย
  - 1) ชุมชนสายแยกพัฒนา
- (2) องค์การบริหารส่วนตำบลหนองลอก อำเภอบ้านค่าย จังหวัดระยอง จำนวน 11 ชุมชน ประกอบด้วย
  - 1) หมู่ที่ 1 บ้านคลองน้ำเย็น
  - 2) หมู่ที่ 2 บ้านกระโสม
  - 3) หมู่ที่ 3 บ้านหนองละลอก
  - 4) หมู่ที่ 4 บ้านคลองกุดบัว
  - 5) หมู่ที่ 5 บ้านดินเนิน
  - 6) หมู่ที่ 6 บ้านหนองตาเลี้ยง
  - 7) หมู่ที่ 7 บ้านตาสิทธิ์
  - 8) หมู่ที่ 8 บ้านละหารไร่
  - 9) หมู่ที่ 9 บ้านดอ้อย
  - 10) หมู่ที่ 10 บ้านมาบดอง
  - 11) หมู่ที่ 11 บ้านซากไม้รอก
- (3) องค์การบริหารส่วนตำบลบางบุตร อำเภอบ้านค่าย จังหวัดระยอง จำนวน 1 ชุมชน ประกอบด้วย
  - 1) หมู่ที่ 2 บ้านบางบุตร
- (4) องค์การบริหารส่วนตำบลหนองตะพาน อำเภอบ้านค่าย จังหวัดระยอง จำนวน 1 ชุมชน ประกอบด้วย
  - 1) หมู่ที่ 6 บ้านคลองช้างลาย
- (5) องค์การบริหารส่วนตำบลแม่ไม้ อำเภอลำลูกเกด จังหวัดระยอง จำนวน 2 ชุมชน ประกอบด้วย
  - 1) หมู่ที่ 1 บ้านแม่ไม้คู่เกา
  - 2) หมู่ที่ 6 บ้านพัฒนาทั้ง 2
- (6) องค์การบริหารส่วนตำบลนิคมพัฒนา อำเภอนิคมพัฒนา จังหวัดระยอง จำนวน 1 ชุมชน ประกอบด้วย
  - 1) หมู่ที่ 1 บ้านนิคม

### 4. วิธีการศึกษา

การศึกษาในครั้งนี้ เป็นการเลือกใช้วิจัยแบบผสมวิธี (mixed methodology research) มีทั้งเชิงปริมาณ และเชิงคุณภาพ ใช้การรวบรวมข้อมูลโดยการสำรวจข้อมูลภาคสนาม โดยวิธีการวิจัยเชิงสำรวจ (Survey Research) และใช้แบบสอบถาม (Questionnaire) เป็นเครื่องมือในการสำรวจและเก็บรวบรวมข้อมูล ซึ่งมีวิธีรวบรวมข้อมูลตามวัตถุประสงค์ของการวิจัยโดยการสำรวจภาคสนาม (Field Survey) และแสดงความคิดเห็นผ่านแบบสอบถาม ซึ่งขั้นตอนการศึกษาประกอบด้วย กลุ่มเป้าหมายในการสำรวจความคิดเห็นและวิธีการสุ่มตัวอย่างเครื่องมือที่ใช้ในการสำรวจความคิดเห็น การเตรียมความพร้อมในการสำรวจภาคสนาม วิธีการเก็บข้อมูลภาคสนาม การวิเคราะห์ข้อมูล และการนำเสนอข้อมูล โดยมีรายละเอียดดังนี้

#### 4.1) กลุ่มเป้าหมายในการสำรวจความคิดเห็นและวิธีการสุ่มตัวอย่าง

กำหนดกลุ่มเป้าหมาย (Target Population) ในการสำรวจสภาพเศรษฐกิจ-สังคม และความคิดเห็นต่อโครงการ ให้ครอบคลุมกลุ่มต่าง ๆ ในพื้นที่ศึกษารัศมี 5 กิโลเมตร รอบที่ตั้งโครงการ ทั้งนี้เพื่อให้การสำรวจครอบคลุมถึงกำหนดกลุ่มเป้าหมายที่สำรวจแบ่งเป็น 3 กลุ่มหลัก รายละเอียดแสดงดังรูปที่ 2



รูปที่ 2 กลุ่มเป้าหมาย

ซึ่งวิธีการสำรวจข้อมูล และการกำหนดกลุ่มเป้าหมาย อธิบายได้ดังนี้

#### (1) กลุ่มหน่วยงานราชการต่างๆ ที่เกี่ยวข้อง

กลุ่มตัวอย่างหน่วยงาน ซึ่งเป็นตัวแทนหน่วยงานราชการที่เกี่ยวข้อง ที่มีบทบาทหน้าที่ในการกำกับดูแลการดำเนินกิจกรรมของโครงการในด้านต่าง ๆ ทั้งทางตรงและทางอ้อม ได้แก่ หน่วยงานด้านสิ่งแวดล้อมและกำกับดูแล หน่วยงานด้านการบริหารและการปกครอง หน่วยงานด้านการบริการสุขภาพ สถาบันการศึกษา และหน่วยงานด้านสาธารณสุขโลกและบริการประชาชน ซึ่งเป็นตัวแทนหน่วยงานสถาบันต่าง ๆ ที่มีบทบาทหน้าที่ทางสังคม โดยใช้วิธีการสุ่มตัวอย่างแบบเจาะจง (Purposive Sampling) เพื่อให้ได้รับทราบเกี่ยวกับความคิดเห็น และข้อเสนอแนะต่อการดำเนินโครงการ กำหนดให้สำรวจทุกหน่วยงาน จำนวนโดยรวม 27 หน่วยงาน รายละเอียดแสดงดังตารางที่ 1

## ภาคผนวก ค-10

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สำเนาหนังสือส่งชี้แจงผลการพิจารณาความเห็นต่อ  
รายงานการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบ  
สิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบ  
สิ่งแวดล้อม ฉบับประจำเดือนกรกฎาคม-ธันวาคม 2565



19 มิถุนายน 2566



เรื่องชี้แจงผลการพิจารณาความเห็นต่อรายงานการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด (มหาชน) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด

เรียนเลขาธิการสำนักงานคณะกรรมการกำกับกิจการพลังงาน

อ้างถึงหนังสือสำนักงานคณะกรรมการกำกับกิจการพลังงาน ที่ สกพ 5502/ว7039

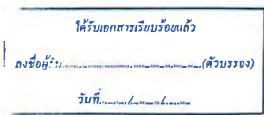
ลงวันที่ 30 พฤษภาคม 2566

สิ่งที่ส่งมาด้วย 1. รายละเอียดชี้แจงผลการพิจารณาการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด ฉบับประจำเดือนกรกฎาคม-ธันวาคม 2565

ตามหนังสือที่อ้างถึง สำนักงานคณะกรรมการกำกับกิจการพลังงาน ได้แจ้งผลการพิจารณา รายงานการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด ฉบับประจำเดือนกรกฎาคม-ธันวาคม พ.ศ. 2565 สำนักงานคณะกรรมการกำกับกิจการพลังงาน มีความเห็นต่อรายงาน และขอความร่วมมือโครงการให้ปฏิบัติตามมาตรการที่กำหนดไว้ในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมให้ครบถ้วน

โครงการฯ ได้พิจารณารายละเอียดพร้อมข้อเสนอแนะตามที่ได้แจ้งมาเป็นที่ยอมรับแล้ว พร้อมทั้งได้ดำเนินการจัดทำเอกสารชี้แจงเพิ่มเติมรายงานผลการปฏิบัติตามมาตรการฯ รายละเอียดตามสิ่งที่ส่งมาด้วยนี้

จึงเรียนมาเพื่อโปรดพิจารณา



ขอแสดงความนับถือ

(นายชานนท์ บุญยงค์)

ผู้จัดการโรงไฟฟ้า

บริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด

ผู้ประสานงานฝ่ายกฎหมาย/ความพิพาท โทร: 06-19699559

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สิ่งที่ส่งมาด้วย

รายละเอียดชี้แจงผลการพิจารณาความเห็นต่อรายงานการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด ตั้งอยู่เลขที่ ๑๓๙ หมู่ ๓ เขตประกอบกรุดสหกรณ์ตำบลโคกเคียน อำเภอเมือง จังหวัดระยอง ตำบลหนองละลอก อำเภอน้ำค้ำย จังหวัดระยอง ฉบับประจำเดือนกรกฎาคม-ธันวาคม พ.ศ. ๒๕๖๕

#### ๑. ผลการตรวจวัดตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

ผลการตรวจวัดตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม ไม่เป็นไปตามที่กำหนดไว้ในรายงานการประเมินผลกระทบสิ่งแวดล้อม ได้แก่

๑.๑ ผลการตรวจวัดคุณภาพน้ำผิวดินเดือนกันยายน ๒๕๖๕ มีค่าไนโตรเจนทั้งหมด (TKN) จุดตรวจวัดบริเวณสถานีที่ ๒ คลองนาบกระรอก (จุดระบายน้ำทิ้งของเขตประกอบการฯ) มีค่าเท่ากับ ๑.๐๙ มิลลิกรัมต่อลิตร และสถานีที่ ๓ คลองนาบกระรอก (จุดทำน้ำทิ้งของเขตประกอบการฯ) มีค่าเท่ากับ ๐.๖๙ มิลลิกรัมต่อลิตร ซึ่งมีค่าไม่เป็นไปตามค่ามาตรฐานตามประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ ๔ (พ.ศ.๒๕๔๙) เรื่อง กำหนดมาตรฐานคุณภาพน้ำในแหล่งน้ำผิวดิน ประเภทที่ ๔ กำหนดให้มีค่าไม่เกิน ๐.๕ มิลลิกรัมต่อลิตร

๑.๒ ผลการตรวจวัดคุณภาพน้ำใต้ดิน เดือนกันยายน ๒๕๖๕ มีความเป็นกรด-ด่าง (pH) จุดตรวจวัดบริเวณบ่อส่งเหตุการณ์ ๑ มีค่าเท่ากับ ๔.๖ และบ่อส่งเหตุการณ์ ๒ มีค่าเท่ากับ ๕.๕ ซึ่งมีค่าไม่เป็นไปตามค่ามาตรฐานตามประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดเกณฑ์การปนเปื้อนในดินและน้ำใต้ดิน การตรวจสอบคุณภาพดินและน้ำใต้ดิน การแจ้งข้อมูลรวมทั้งการรื้อทำรายงานผลการตรวจสอบคุณภาพน้ำใต้ดินและน้ำใต้ดิน พ.ศ.๒๕๖๕ กำหนดให้มีค่าอยู่ในช่วง ๖.๕-๘.๖

19 มิถุนายน 2566

เรื่องชี้แจงผลการพิจารณาความเห็นต่อรายงานการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด

เรียนเลขาธิการสำนักงานคณะกรรมการกำกับกิจการพลังงาน

อ้างถึงหนังสือสำนักงานคณะกรรมการกำกับกิจการพลังงาน ที่ สกพ 5502/ว7039

ลงวันที่ 30 พฤษภาคม 2566

สิ่งที่ส่งมาด้วย 1. รายละเอียดชี้แจงผลการพิจารณาการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด ฉบับประจำเดือนกรกฎาคม-ธันวาคม 2565

ตามหนังสือที่อ้างถึง สำนักงานคณะกรรมการกำกับกิจการพลังงาน ได้แจ้งผลการพิจารณา รายงานการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าหนองละลอก 2 (ระยะดำเนินการ) ของบริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด ฉบับประจำเดือนกรกฎาคม-ธันวาคม พ.ศ. 2565 สำนักงานคณะกรรมการกำกับกิจการพลังงาน มีความเห็นต่อรายงาน และขอความร่วมมือโครงการให้ปฏิบัติตามมาตรการที่กำหนดไว้ในรายงานการวิเคราะห์ผลกระทบสิ่งแวดล้อมให้ครบถ้วน

โครงการฯ ได้พิจารณารายละเอียดพร้อมข้อเสนอแนะตามที่ได้แจ้งมาเป็นที่ยอมรับแล้ว พร้อมทั้งได้ดำเนินการจัดทำเอกสารชี้แจงเพิ่มเติมรายงานผลการปฏิบัติตามมาตรการฯ รายละเอียดตามสิ่งที่ส่งมาด้วยนี้

จึงเรียนมาเพื่อโปรดพิจารณา

ขอแสดงความนับถือ

(นายชานนท์ บุญยงค์)

ผู้จัดการโรงไฟฟ้า

บริษัท กัลฟ์ เอ็นเนอร์จี ดีเวลลอปเมนท์ จำกัด

ผู้ประสานงานฝ่ายกฎหมาย/ความพิพาท โทร: 06-19699559

Gulf NLL2  
Company Limited

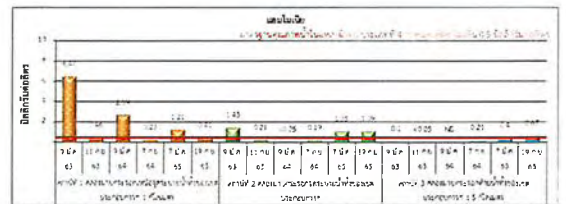
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สิ่งที่ส่งมาด้วย

#### แผนการดำเนินงานของโครงการ

๑.๑ จากผลการตรวจวัดคุณภาพน้ำผิวดินของโครงการ พบว่าค่าไนโตรเจนทั้งหมด (TKN) ปัจจุบันยังไม่สามารถทราบกำหนด ส่วนรับผลการตรวจวัดในเดือนกันยายน ๒๕๖๕ พบว่า ค่าเฉลี่ยเฉลี่ย ๒ คลองนาบกระรอก (จุดระบายน้ำทิ้งของเขตประกอบการฯ) มีค่าเท่ากับ ๑.๐๙ มิลลิกรัมต่อลิตร และสถานีที่ ๓ คลองนาบกระรอก (จุดทำน้ำทิ้งของเขตประกอบการฯ) มีค่าเท่ากับ ๐.๖๙ มิลลิกรัมต่อลิตร (ค่าแห่งการตรวจวัดแสดงถึงผลกระทบที่ ๑) มีแนวโน้มไม่เป็นไปตามค่ามาตรฐานตามประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ ๔ (พ.ศ.๒๕๔๙) เรื่อง กำหนดมาตรฐานคุณภาพน้ำในแหล่งน้ำผิวดิน ประเภทที่ ๔ กำหนดให้มีค่าไม่เกิน ๐.๕ มิลลิกรัมต่อลิตร คาดว่าสาเหตุเนื่องจากแหล่งน้ำในบางช่วงมีปริมาณน้ำน้อย และมีสภาพน้ำนิ่ง ทำให้เกิดการไหลของแหล่งน้ำค่อนข้างต่ำ และในช่วงที่ฝนตกมีการชะล้างเอาเศษดิน เศษอินทรีย์ต่างๆ ลงสู่แหล่งน้ำและเกิดละอองของดินในอากาศ รวมทั้งมีเศษใบไม้ และวัชพืชที่ลอยมาติดอยู่ที่ปากการจะส่งผลให้การย่อยสลายเกิดขึ้นไม่เต็มที่จากกระบวนการทางชีวภาพ แสดงดังรูปที่ ๑ ที่แม่น้ำที่จากโครงการจะส่งเข้าสู่ระบบบำบัดน้ำเสียของเขตประกอบการอุตสาหกรรมตำบลโคกเคียน อำเภอเมือง มีได้ปล่อยลงสู่แหล่งน้ำผิวดินโดยตรงดังรูปที่ ๑

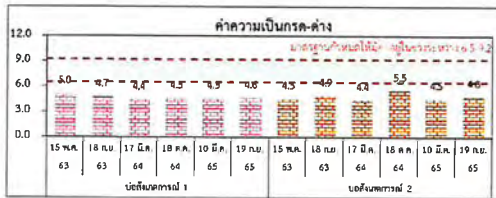


รูปที่ ๑ ภาพแสดงสรุปผลการตรวจวิเคราะห์ค่าเฉลี่ยไนโตรเจนในแหล่งน้ำผิวดิน

๑.๒ จากผลการตรวจวัดคุณภาพน้ำใต้ดินของโครงการพบว่า ค่าความเป็นกรด-ด่าง (pH) จุลตรวจวัดบริเวณบ่อส่งแกล้งการณ ๑ (ทิศเหนือของโครงการ) และบ่อส่งแกล้งการณ ๒ (ทิศใต้ของโครงการ) (ตำแหน่งการตรวจวัดแสดงดังเอกสารแนบที่ ๒) มีค่าไม่เกินตามมาตรฐานกำหนด ซึ่งกำหนดให้ค่าความเป็นกรด-ด่าง (pH) เปรียบเทียบค่าเกณฑ์ของกรมควบคุมมลพิษตามคุณภาพน้ำบาดาลที่บริโภค ซึ่งทั้ง ๒ บริเวณยังคงมีความเป็นกรด-ด่าง (pH) อยู่ในช่วงที่เปลี่ยนแปลงไม่เกินระดับ

จากผลการตรวจวัดคุณภาพน้ำใต้ดินของโครงการตั้งแต่เริ่มดำเนินการจนถึงปัจจุบัน ระหว่างปี พ.ศ. ๒๕๖๒-๒๕๖๔ พบว่า ค่าความเป็นกรด-ด่าง (pH) มีแนวโน้มค่อนข้างต่ำ แสดงดังรูปที่ ๒ ซึ่งสอดคล้องกับข้อมูลสภาพพื้นที่เดิมของจังหวัดระยองเดิมมีความเป็นกรดจัด (กรมพัฒนาที่ดิน, ๒๕๖๑) เมื่อฝนตกสามารถทำให้เกิดการชะล้างสารละลายในดินได้ ซึ่งจากงานวิจัยพบว่าน้ำใต้ดินบริเวณพื้นที่ตำบลหนองละลอก ส่วนใหญ่จะมีค่าความเป็นกรด-ด่าง (pH) อยู่ระหว่าง <5.1-6.5 (อริยะ คล้ายแก้ว (๒๕๖๔)) รายงานการค้นคว้าอิสระ : แนวทางการกำหนดแก้ไขเกณฑ์ค่าพีเอช (pH) น้ำใต้ดินตามประกาศกระทรวงอุตสาหกรรม ของจังหวัดระยอง, วิทยาลัยการมหาบัณฑิต (การจัดการสิ่งแวดล้อมและบริหารศาสตร์) แสดงดังรูปที่ ๓ และเอกสารแนบที่ ๓

ทั้งนี้โครงการได้ทำการตรวจสอบและเฝ้าระวังการรั่วไหลภายในพื้นที่โครงการอย่างสม่ำเสมอ เช่น บริเวณรั้วการกำจัดเศษสแลม กากของเสีย และบริเวณบ่อน้ำต่างๆ เพื่อป้องกันการปนเปื้อนลงสู่ดินและน้ำใต้ดิน



รูปที่ ๒ กราฟแสดงสรุปผลการตรวจวิเคราะห์ค่าความเป็นกรดต่างของคุณภาพน้ำใต้ดิน



รูปที่ ๓ แสดงการประมาณค่าความเป็นกรด-ด่าง (pH) ในน้ำใต้ดิน ของจังหวัดระยอง

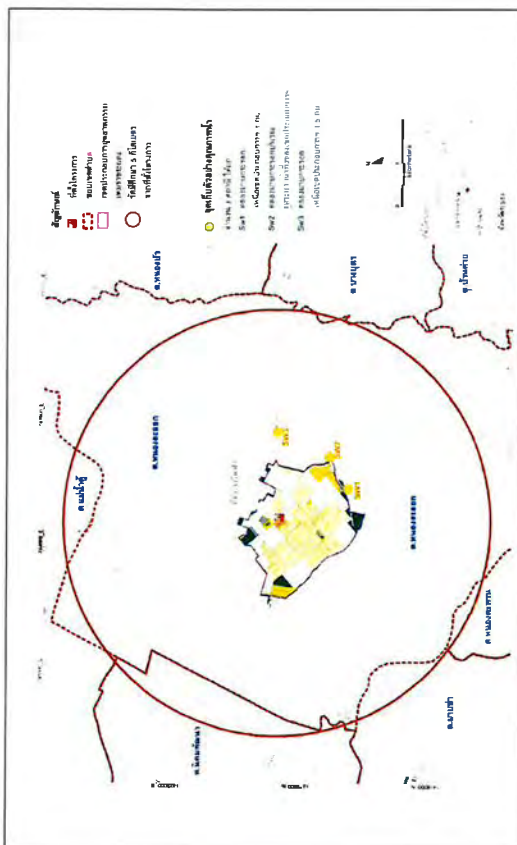
## ๒. ข้อเสนอแนะ

๒.๑ เมื่อเสร็จสิ้นกิจกรรมของโครงการซึ่งอาจส่งผลกระทบต่อคุณภาพน้ำผิวดินและคุณภาพน้ำใต้ดิน และให้ปฏิบัติตามมาตรการด้านคุณภาพน้ำอย่างเคร่งครัด เพื่อป้องกันและลดผลกระทบต่อระบบนิเวศในแหล่งน้ำดังกล่าว

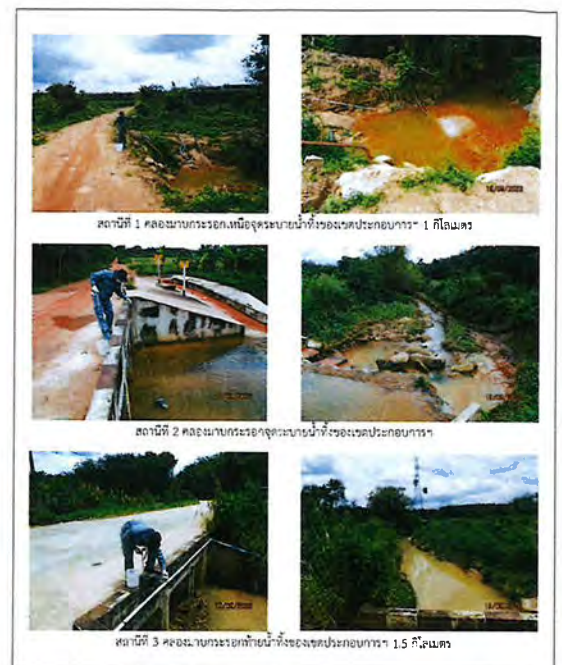
### ชี้แจงการดำเนินงานของโครงการ

๒.๒ โครงการดำเนินการเฝ้าระวังผลการตรวจวัดคุณภาพน้ำผิวดินอย่างใกล้ชิด โดยหากพบว่าผลการตรวจวัดมีแนวโน้มสูงจะแจ้งให้เขตประกอบการอุตสาหกรรมดับบลิวเอชเอ ระยอง ทราบโดยทันทีเพื่อหาสาเหตุและแนวทางการแก้ไขต่อไป

๒.๓ โครงการมีการดำเนินการเฝ้าระวัง โดยการตรวจสอบพื้นที่โดยรอบโครงการ และบริเวณที่คาดว่าอาจเกิดการรั่วไหลของสารเคมีได้อย่างสม่ำเสมอ เพื่อป้องกันการปนเปื้อนลงสู่ดินและน้ำใต้ดิน

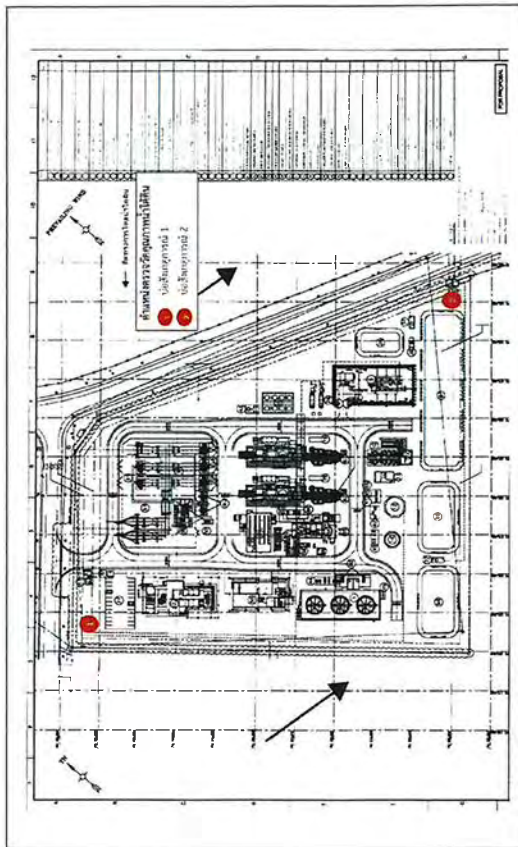


ตำแหน่งการตรวจวัดคุณภาพน้ำใต้ดิน

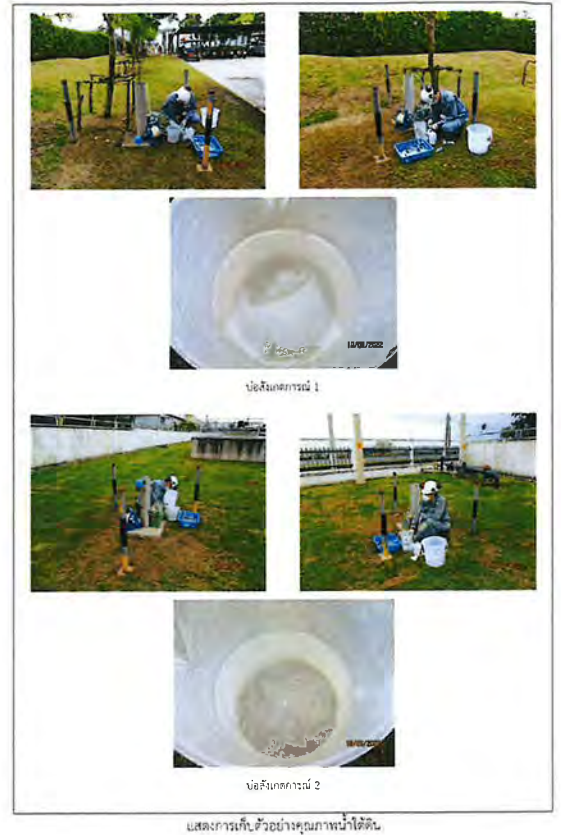


แสดงการเก็บตัวอย่างคุณภาพน้ำผิวดิน





ตำแหน่งการตรวจวัดคุณภาพน้ำดิบ



แสดงการเก็บตัวอย่างคุณภาพน้ำดิบ



กรมส่งเสริมการเกษตร  
กองส่งเสริมการเกษตร  
สำนักงานส่งเสริมการเกษตร  
จังหวัดสุพรรณบุรี

วันที่ ๒๕ สิงหาคม ๒๕๖๕

เรื่อง ขออนุญาตใช้พื้นที่บริเวณบ่อเก็บน้ำดิบและบ่อเก็บน้ำทิ้งของโรงงานไฟฟ้าสุพรรณบุรี

เรียน ท่านผู้ว่าราชการจังหวัดสุพรรณบุรี  
ตามที่กรมส่งเสริมการเกษตรได้มีหนังสือแจ้งให้ทราบถึงผลการพิจารณาอนุญาตใช้พื้นที่บริเวณบ่อเก็บน้ำดิบและบ่อเก็บน้ำทิ้งของโรงงานไฟฟ้าสุพรรณบุรี เมื่อวันที่ ๒๕ สิงหาคม ๒๕๖๕ นั้น

บัดนี้ ได้มีมติให้กรมส่งเสริมการเกษตรได้มีหนังสือแจ้งให้ทราบถึงผลการพิจารณาอนุญาตใช้พื้นที่บริเวณบ่อเก็บน้ำดิบและบ่อเก็บน้ำทิ้งของโรงงานไฟฟ้าสุพรรณบุรี เมื่อวันที่ ๒๕ สิงหาคม ๒๕๖๕ นั้น

๑. การปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
๒. การปฏิบัติตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม  
๓. การตรวจวัดคุณภาพน้ำดิบและน้ำทิ้งตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้ง

จึงเรียนมาเพื่อทราบ

นายสุวิทย์ วัฒนศิริ  
อธิบดีกรมส่งเสริมการเกษตร

นายสุวิทย์ วัฒนศิริ

นายสุวิทย์ วัฒนศิริ

ความเห็นต่อรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม  
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม  
โครงการโรงไฟฟ้าสุพรรณบุรี (ระยะดำเนินการ)

ของ บริษัท กัลป์ เอ็นเนอร์จี้ จำกัด

ตั้งอยู่เลขที่ ๓๔๔ หมู่ที่ ๓ เขตประกอบกิจการอุตสาหกรรมตำบลบึงเสนา

ตำบลหนองกระดี่ อำเภอบ้านค่าย จังหวัดระยอง

ฉบับประจำเดือน กรกฎาคม - ธันวาคม ๒๕๖๕

๑. ผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม

ผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม เป็นไปตามที่กำหนดไว้ใน  
รายงานการประเมินผลกระทบสิ่งแวดล้อม

๒. ผลการปฏิบัติตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

ผลการปฏิบัติตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม เป็นไปตามที่กำหนดไว้ใน  
รายงานการประเมินผลกระทบสิ่งแวดล้อม

๓. ผลการตรวจวัดคุณภาพน้ำดิบและน้ำทิ้งตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้ง

ผลการตรวจวัดคุณภาพน้ำดิบและน้ำทิ้งตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้ง ไม่เป็นไปตามที่กำหนด  
ไว้ในรายงานการประเมินผลกระทบสิ่งแวดล้อม ได้แก่

๓.๑ ผลการตรวจวัดคุณภาพน้ำดิบและน้ำทิ้งตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้ง (TSS)  
จุดตรวจวัดบริเวณ สถานีที่ ๒ คลองนาบกรอก (จุดระบายน้ำทิ้งของเขตประกอบการฯ) มีค่าเท่ากับ ๑.๖๕  
มิลลิกรัมต่อลิตร และสถานีที่ ๓ คลองนาบกรอก (จุดระบายน้ำทิ้งของเขตประกอบการฯ) มีค่าเท่ากับ ๐.๖๕  
มิลลิกรัมต่อลิตร ซึ่งมีค่าไม่เป็นไปตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้งของเขตประกอบการฯ ฉบับที่ ๔  
(พ.ศ. ๒๕๖๓) เรื่อง กำหนดมาตรฐานคุณภาพน้ำในแหล่งน้ำผิวดิน ประเภทที่ ๔ กำหนดให้ค่าไม่เกิน ๐.๕  
มิลลิกรัมต่อลิตร

๓.๒ ผลการตรวจวัดคุณภาพน้ำดิบและน้ำทิ้งตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้ง (pH)  
จุดตรวจวัดบริเวณ บ่อสูบลม/เติมอากาศ ๒ มีค่าเท่ากับ ๘.๖ และบ่อเติมอากาศ ๒ มีค่าเท่ากับ ๘.๘ ซึ่งมีค่าไม่  
เป็นไปตามมาตรฐานการควบคุมคุณภาพน้ำดิบและน้ำทิ้งของเขตประกอบการฯ เรื่อง กำหนดเกณฑ์การปนเปื้อนในดินและน้ำใต้ดิน  
การตรวจสอบคุณภาพดินและน้ำใต้ดิน การแจ้งข้อมูลรวมทั้งการแจ้งหน่วยงานการตรวจสอบคุณภาพดิน  
และน้ำใต้ดิน และรายงานผลการควบคุมและมาตรการการปนเปื้อนในดินและน้ำใต้ดิน พ.ศ. ๒๕๖๕  
กำหนดให้มีค่าอยู่ในช่วง ๖.๕-๘.๖

๔. ข้อเสนอแนะ

๔.๑ เฝ้าระวังกิจกรรมของโครงการซึ่งอาจส่งผลกระทบต่อคุณภาพน้ำผิวดินและคุณภาพ  
น้ำใต้ดิน และให้ปฏิบัติตามมาตรการควบคุมคุณภาพน้ำอย่างเคร่งครัด เพื่อบังคับผลกระทบต่อการปนเปื้อนในดิน  
ในแหล่งน้ำดังกล่าว

ภาคผนวก ง

ใบรับรองการสอบเทียบเครื่องมือ





right solutions.  
right partner.

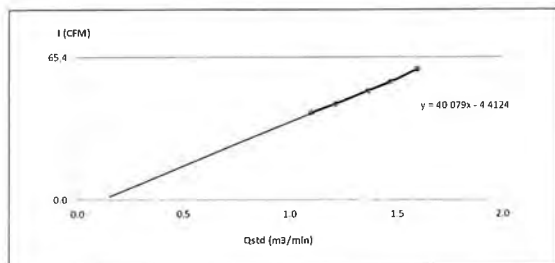
[illegible]

right solutions.  
right partner.


[illegible]

Project Site :	Gulf NLL2 Co., Ltd.	Barometric Pressure (mm Hg) :	757.6
Calibrate Location :	๙๐๖๖๖๖๖๖	Temperature (°C) :	31.6
Calibrate Date :	21-Oct-24	High Volume ID :	RYG_F50291
CalibrationSheet No :	C.211024-RYG_F50291	High Volume Model :	TE-5170D
Calibrator ID :	RYG_F50205	High Volume S/N :	5333
Calibrator Model :	TE-5026A	Calibrator Slope :	1.52567
Calibrator S/N :	1166	Calibrator Intercept :	-0.03613

Test No.	Delta H <sub>2</sub> O (inch)	Q <sub>gas</sub> (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression	
1	2.7	1.0997	40	Slope :	40.0797
2	3.3	1.2120	44	Intercept :	-4.4124
3	4.2	1.3627	50	Correlation Coefficient :	0.9987
4	4.9	1.4689	54		
5	5.8	1.5950	60		



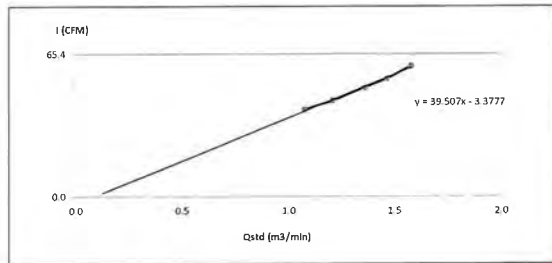
Calibrated by                       
 ( Mr.Chatchai Sukpia )  
 Field Scientist(1)

Approved by :   
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)



Project Site :	Gulf N11.2 Co., Ltd.	Barometric Pressure (mm Hg) :	757.6
Calibrate Location :	รท สดป.บึงนารางจันทน์	Temperature (*C) :	31.6
Calibrate Date :	21-Oct-24	High Volume ID :	RYG_FS0292
CalibrationSheet No.:	C-211024-RYG_FS0292	High Volume Model :	TE-5170D
Calibrator ID:	RYG_FS0205	High Volume S/N :	5497
Calibrator Model :	TE-S028A	Calibrator Slope :	1.52567
Calibrator S/N :	1166	Calibrator Intercept :	-0.03613

Test No.	Delta H <sub>2</sub> O (inch)	Q <sub>add</sub> (m <sup>3</sup> /min)	J : Chart (CFM)	Linear Regression	
1	2.6	1.0798	40	Slope:	39.5066
2	3.3	1.2120	44	Intercept:	-3.3777
3	4.2	1.3627	50	Correlation Coefficient :	0.9956
4	4.9	1.4689	54		
5	5.7	1.5815	60		



Calibrated by                       
( Mr.Chatchai Sukpia )  
Field Scientist(1)

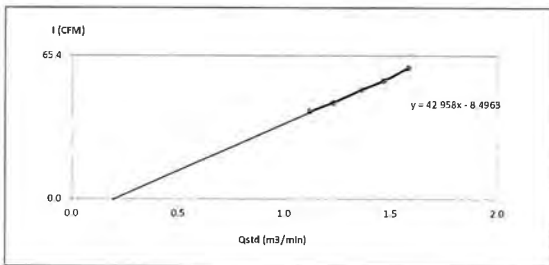
Approved by: \_\_\_\_\_  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)



### High Volume Air Sampler Calibration Worksheet

Project Site : Gulf NLL Co., Ltd. Barometric Pressure (mm Hg) : 757.6  
Calibrate Location : บ้านต๋อนคลองบัน Temperature (°C) : 31.6  
Calibrate Date : 21-Oct-24 High Volume ID : RYG\_F50181  
CalibrationSheet No : C-211024-RYG\_F50181 High Volume Model : TE-5170D  
Calibrator ID : RYG\_F50205 High Volume S/N : 5334  
Calibrator Model : TE-5028A Calibrator Slope : 1.52567  
Calibrator S/N : 1166 Calibrator Intercept : -0.03613

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>as</sub> (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	2.8	1.1192	40	Slope: 42.9579 Intercept: -8.4963 Correlation Coefficient: 0.9981
2	3.4	1.2297	44	
3	4.2	1.3627	50	
4	4.9	1.4689	54	
5	5.7	1.5815	60	



Calibrated by : สุวิธชัย  
( Mr.Chatchai Sukpia )  
Field Scientist(1)

Approved by : น.นพปง จันทรูปาน  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

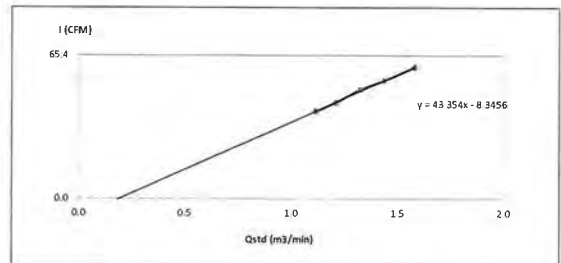
FORM NO: F 06-073 REVISION NO:2 ISSUE DATE: 20/11/23



### High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP NLL Co., Ltd. Barometric Pressure (mm Hg) : 757.6  
Calibrate Location : บริเวณสำนักงานเขตปกครองการ Temperature (°C) : 31.6  
Calibrate Date : 21-Oct-24 High Volume ID : RYG\_F50179  
CalibrationSheet No : C-211024-RYG\_F50179 High Volume Model : TE-5170D  
Calibrator ID : RYG\_F50205 High Volume S/N : 4805  
Calibrator Model : TE-5028A Calibrator Slope : 1.52567  
Calibrator S/N : 1166 Calibrator Intercept : -0.03613

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>as</sub> (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	2.8	1.1192	40	Slope: 43.3543 Intercept: -8.3456 Correlation Coefficient: 0.9989
2	3.3	1.2120	44	
3	4.0	1.3307	50	
4	4.7	1.4394	54	
5	5.7	1.5815	60	



Calibrated by : สุวิธชัย  
( Mr.Chatchai Sukpia )  
Field Scientist(1)

Approved by : น.นพปง จันทรูปาน  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

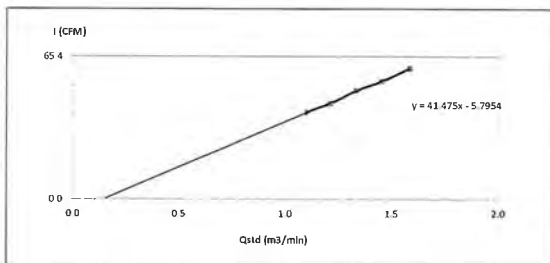
FORM NO: F 06-073 REVISION NO:2 ISSUE DATE: 20/11/23



### High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP NLL Co., Ltd. Barometric Pressure (mm Hg) : 757.6  
Calibrate Location : ชุมชนบ้านสวนนอก Temperature (°C) : 31.6  
Calibrate Date : 21-Oct-24 High Volume ID : RYG\_F50395  
CalibrationSheet No : C-211024-RYG\_F50395 High Volume Model : TE-5170D  
Calibrator ID : RYG\_F50205 High Volume S/N : 5692  
Calibrator Model : TE-5028A Calibrator Slope : 1.52567  
Calibrator S/N : 1166 Calibrator Intercept : -0.03613

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>as</sub> (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	2.7	1.0997	40	Slope: 41.4752 Intercept: -5.7954 Correlation Coefficient: 0.9981
2	3.3	1.2120	44	
3	4.0	1.3307	50	
4	4.8	1.4543	54	
5	5.7	1.5815	60	



Calibrated by : สุวิธชัย  
( Mr.Chatchai Sukpia )  
Field Scientist(1)

Approved by : น.นพปง จันทรูปาน  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

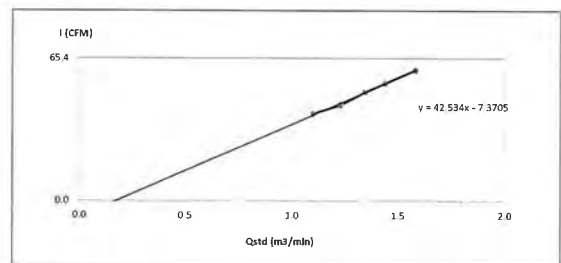
FORM NO: F 06-073 REVISION NO:2 ISSUE DATE: 20/11/23



### High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP NLL Co., Ltd. Barometric Pressure (mm Hg) : 757.6  
Calibrate Location : ชุมชนบ้านสวนนอก Temperature (°C) : 31.6  
Calibrate Date : 21-Oct-24 High Volume ID : RYG\_F50393  
CalibrationSheet No : C-211024-RYG\_F50393 High Volume Model : TE-5170D  
Calibrator ID : RYG\_F50205 High Volume S/N : 5682  
Calibrator Model : TE-5028A Calibrator Slope : 1.52567  
Calibrator S/N : 1166 Calibrator Intercept : -0.03613

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>as</sub> (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	2.7	1.0997	40	Slope: 42.5340 Intercept: -7.3705 Correlation Coefficient: 0.9975
2	3.4	1.2297	44	
3	4.1	1.3468	50	
4	4.7	1.4394	54	
5	5.7	1.5815	60	



Calibrated by : สุวิธชัย  
( Mr.Chatchai Sukpia )  
Field Scientist(1)

Approved by : น.นพปง จันทรูปาน  
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist (3)

FORM NO: F 06-073 REVISION NO:2 ISSUE DATE: 20/11/23

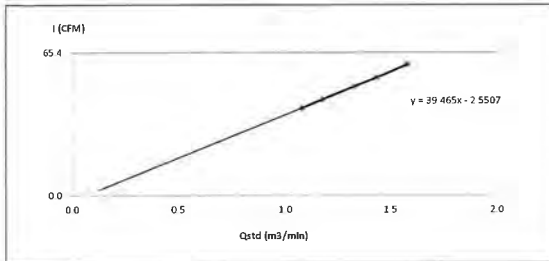




### High Volume Air Sampler Calibration Worksheet

Project Site: Gulf IP NLL Co., Ltd. Barometric Pressure (mm Hg): 757.6  
Calibrate Location: สถานีอนามัยบ้านพรหมราช Temperature (°C): 31.6  
Calibrate Date: 21-Oct-24 High Volume ID: RYG\_FS0176  
Calibration Sheet No.: C-211024-RYG\_FS0176 High Volume Model: TE-S170D  
Calibrator ID: RYG\_FS0205 High Volume S/N: 4802  
Calibrator Model: TE-S028A Calibrator Slope: 1.52567  
Calibrator S/N: 1166 Calibrator Intercept: -0.03613

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>as</sub> (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	2.6	1.0798	40	Slope: 39.4650
2	3.1	1.1758	44	Intercept: -2.5507
3	4.0	1.3307	50	Correlation Coefficient: 0.9998
4	4.7	1.4394	54	
5	5.7	1.5815	60	



Calibrated by:   
(Mr. Chatchai Sulphia)  
Field Scientist(1)

Approved by:   
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist(3)

FORM NO: F 06-073 REVISION NO:2 ISSUE DATE: 20/11/23

Sartorius (Thailand) Co., Ltd.  
120 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310  
Tel: +66 2643 8381-8, e-mail: service.thailand@sartorius.com



SARTORIUS

## Certificate of Calibration

Model Number: LA130S-F Certificate No.: 24BCI0088  
Description: Analytical Balance Issued Date: Friday, February 23, 2024  
Serial Number: 25409684 Reference No.: 229196  
ID No.: RYG\_EN0001  
Manufacturer: Sartorius Page No.: 1 of 2  
Customer Name: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
618/10 Moo 5 T.Maenam Khu, A.Pluak Daeng, Rayong 21140, Thailand  
Calibrated Place: ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)  
618/10 Moo 5 T.Maenam Khu, A.Pluak Daeng, Rayong 21140, Thailand.

Calibrated By: Mr.Chonchai Inthana Calibration Procedure No.: This calibration was conducted by  
Calibration Date: Thursday, February 22, 2024 Using in-house calibration procedure number (WI-003)  
Based on UKAS LAB 14 : 2019

Metrological data: Capacity: 150 g Readability: 0.0001 g  
Reasons for calibration: ☐ New Installation ☐ Service / Repair ☒ Re-calibration/ Maintenance  
Ambients Conditions: Temperature: 23.6 °C ± 5.0 °C  
Humidity: 54.0 % RH ± 10.0 % RH  
Pressure: ☐ Good Operate ☐ Fair

Measurement Method UKAS Publication Ref :Lab 14  
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International System of Units (SI). Report of Tolerance came from list of Sartorius Metrological Specifications

### Traceability:

Model Number	Description	Traceability	Certificate No.	Due Date
YCS011-522-00	Sartorius weight set 1mg - 5000g E2.YCS011-522-00	TCS	M2308197S	23-Aug-2025
MHB-382SD	Humidity/Barometer/Temp. Lultron MHB-382SD	DKSH	C19231845	23-Aug-2024

This certificate relate and apply this equipment only  
This certificate may not be reproduced other than in full except with the prior written approval of the Verification Operation Division  
Sartorius (Thailand) Co., Ltd.

Mr.Chonchai Inthana(Technical Manager)  
S T A M P

SOP FM 33 03 February 2022

Sartorius (Thailand) Co., Ltd.  
128 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310  
Tel: +66 2643 8381-8 Fax: +66 2643 8387, e-mail: service.thailand@sartorius.com

SARTORIUS

## Certificate of Calibration

Model Number: LA130S-F Certificate No.: 24BCI0088  
Description: Analytical Balance Issued Date: Friday, February 23, 2024  
Serial Number: 25409684 Reference No.: 229196  
ID No.: RYG\_EN0001  
Manufacturer: Sartorius Page No.: 2 of 2

### Calibration Results : Without Adjustment

Repeatability			Eccentricity (Off-center loading error)		
The repeatability is the ability of a weighing instrument to display nearly identical readouts under constant test conditions when the same load within a measurement series is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express repeatability quantitatively.			The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed in the middle of the weighing pan and between each of four rotational measurement points (positions defined according to OIML R76)		
Nominal Value : (Low Load)	10.0000	99.9999	Nominal value :	50 g	
10 g	10.0000	100.0000	Tolerance	0.0004 g	
Tolerance	0.0001 g				
	10.0000	100.0001			
	10.0000	100.0001			
	9.9999	100.0000			
Nominal Value : (High Load)	10.0000	100.0001			
100 g	10.0000	100.0000			
Tolerance	0.0001 g				
	10.0000	100.0001			
	9.9999	100.0002			
	9.9999	100.0001			
Standard Deviation	0.00005	0.00008			

Linearity				
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.				
Tolerance 0.0002 g				
Nominal Value (g)	Conventional Mass Value (g)	Displayed Value (g)	Deviation (g)	Uncertainty (g)
0.01	0.0100	0.0100	0.0000	0.00020
0.05	0.0500	0.0500	0.0000	0.00021
0.1	0.1000	0.1000	0.0000	0.00021
0.5	0.5000	0.5000	0.0000	0.00021
1	1.0000	1.0000	0.0000	0.00021
2	2.0000	2.0000	0.0000	0.00021
5	5.0000	5.0000	0.0000	0.00021
10	10.0000	10.0001	0.0001	0.00024
20	20.0000	20.0001	0.0001	0.00021
100	100.0000	99.9999	-0.0001	0.00024

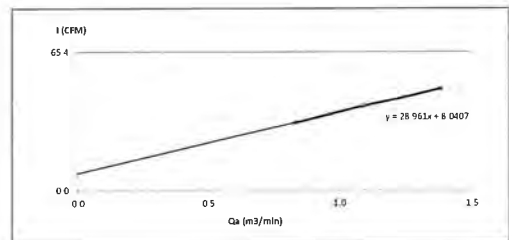
End of Report.

SOP FM 33 03 February 2022

### High Volume Air Sampler Calibration Worksheet

Project Site: Gulf NLL Co., Ltd. Barometric Pressure (mm Hg): 757.6  
Calibrate Location: สถานีอนามัยบ้านพรหมราช Temperature (°C): 31.6  
Calibrate Date: 21-Oct-24 High Volume ID: RYG\_FS0665  
Calibration Sheet No.: C-211024-RYG\_FS0665 High Volume Model: TE-S009X  
Calibrator ID: RYG\_FS0205 High Volume S/N: 6264  
Calibrator Model: TE-S028A Calibrator Slope: 0.95561  
Calibrator S/N: 1166 Calibrator Intercept: -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Q <sub>as</sub> (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	1.5	0.935	32	Slope: 28.9612
2	2.0	0.961	36	Intercept: 0.0407
3	2.6	1.093	40	Correlation Coefficient: 0.9994
4	3.4	1.216	44	
5	4.2	1.383	48	



Calibrated by:   
(Mr. Chatchai Sulphia)  
Field Scientist(1)

Approved by:   
(Mr. Noppong Juntarupan)  
Enviro Field Coordinator Scientist(3)

FORM NO: F 06-074 REVISION NO:2 ISSUE DATE: 20/11/23



# High Volume Air Sampler Calibration Worksheet

Project Site : Gulf N112 Co., Ltd. Barometric Pressure (mm Hg) : 757.6

Calibrate Location : ท่าอากาศยานขอนแก่น Temperature (°C) : 31.6

Calibrate Date : 21-Oct-24 High Volume ID : RYG-FS0295

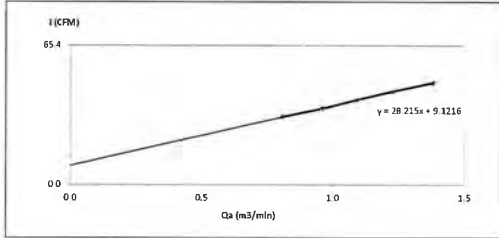
Calibration Sheet No : C-211024-RYG-FS0295 High Volume Model : TE-5009X

Calibrator ID : RYG-FS0205 High Volume S/N : 5502

Calibrator Model : TE-5028A Calibrator Slope : 0.95561

Calibrator S/N : 1166 Calibrator Intercept : -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Qa (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	1.4	0.808	32	Slope : 28.2153 Intercept : 9.1216 Correlation Coefficient : 0.9996
2	2.0	0.961	36	
3	2.6	1.093	40	
4	3.3	1.228	44	
5	4.2	1.383	48	



Calibrated by : จตุรัสชัย Approved by : Mr. Noppong Juntarupan  
(Mr. Chatchai Sukpla) (Mr. Noppong Juntarupan)  
Field Scientist (1) Enviro Field Coordinator Scientist (3)

FORM NO.: F 06-074 REVISION NO.:2 ISSUE DATE: 20/11/23



# High Volume Air Sampler Calibration Worksheet

Project Site : Gulf N112 Co., Ltd. Barometric Pressure (mm Hg) : 757.6

Calibrate Location : ท่าอากาศยานขอนแก่น Temperature (°C) : 31.6

Calibrate Date : 21-Oct-24 High Volume ID : RYG-FS0666

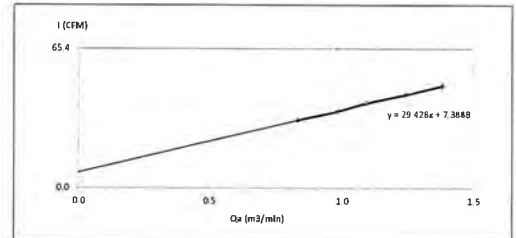
Calibration Sheet No : C-211024-RYG-FS0666 High Volume Model : TE-5009X

Calibrator ID : RYG-FS0205 High Volume S/N : 6265

Calibrator Model : TE-5028A Calibrator Slope : 0.95561

Calibrator S/N : 1166 Calibrator Intercept : -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Qa (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	1.5	0.835	32	Slope : 29.4283 Intercept : 7.3889 Correlation Coefficient : 0.9989
2	2.1	0.984	36	
3	2.6	1.093	40	
4	3.4	1.246	44	
5	4.2	1.383	48	



Calibrated by : จตุรัสชัย Approved by : Mr. Noppong Juntarupan  
(Mr. Chatchai Sukpla) (Mr. Noppong Juntarupan)  
Field Scientist (1) Enviro Field Coordinator Scientist (3)

FORM NO.: F 06-074 REVISION NO.:2 ISSUE DATE: 20/11/23



# High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP N11 Co., Ltd. Barometric Pressure (mm Hg) : 757.6

Calibrate Location : บริเวณสำนักงานเขตปทุมธานี Temperature (°C) : 31.6

Calibrate Date : 21-Oct-24 High Volume ID : RYG-FS0192

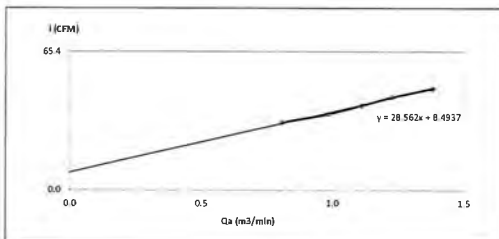
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Calibrator ID : RYG-FS0205 High Volume S/N : 5331

Calibrator Model : TE-5028A Calibrator Slope : 0.95561

Calibrator S/N : 1166 Calibrator Intercept : -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Qa (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	1.4	0.808	32	Slope : 28.5617 Intercept : 8.4937 Correlation Coefficient : 0.9974
2	2.1	0.984	36	
3	2.7	1.113	40	
4	3.3	1.228	44	
5	4.2	1.383	48	



Calibrated by : จตุรัสชัย Approved by : Mr. Noppong Juntarupan  
(Mr. Chatchai Sukpla) (Mr. Noppong Juntarupan)  
Field Scientist (1) Enviro Field Coordinator Scientist (3)

FORM NO.: F 06-074 REVISION NO.:2 ISSUE DATE: 20/11/23



# High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP N11 Co., Ltd. Barometric Pressure (mm Hg) : 757.6

Calibrate Location : บริเวณสำนักงานเขต Temperature (°C) : 31.6

Calibrate Date : 21-Oct-24 High Volume ID : RYG-FS0191

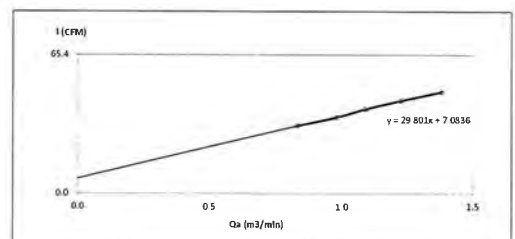
Calibration Sheet No : C-211024-RYG-FS0191 High Volume Model : TE-5009X

Calibrator ID : RYG-FS0205 High Volume S/N : 5330

Calibrator Model : TE-5028A Calibrator Slope : 0.95561

Calibrator S/N : 1166 Calibrator Intercept : -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Qa (m <sup>3</sup> /min)	I : Chart (CFM)	Linear Regression
1	1.5	0.835	32	Slope : 29.8013 Intercept : 7.0036 Correlation Coefficient : 0.9985
2	2.1	0.984	36	
3	2.6	1.093	40	
4	3.3	1.228	44	
5	4.2	1.383	48	



Calibrated by : จตุรัสชัย Approved by : Mr. Noppong Juntarupan  
(Mr. Chatchai Sukpla) (Mr. Noppong Juntarupan)  
Field Scientist (1) Enviro Field Coordinator Scientist (3)

FORM NO.: F 06-074 REVISION NO.:2 ISSUE DATE: 20/11/23

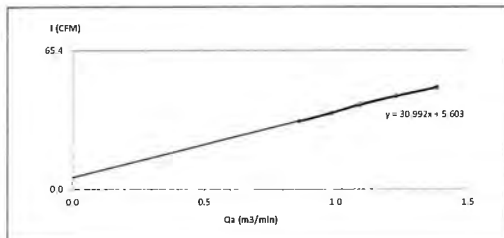




## High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP NLI Co., Ltd. Barometric Pressure (mm Hg) : 757.6  
Calibrate Location : มหานครเชียงใหม่ Temperature (°C) : 31.6  
Calibrate Date : 21-Oct-24 High Volume ID : RYG\_FS0188  
Calibration Sheet No : C-211024-RYG\_FS0188 High Volume Model : TE-5009X  
Calibrator ID : RYG\_FS0205 High Volume S/N : 4796  
Calibrator Model : TE-5028A Calibrator Slope : 0.95561  
Calibrator S/N : 1166 Calibrator Intercept : -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Qa (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	1.6	0.862	32	Slope : 30.9922 Intercept : 5.6030 Correlation Coefficient : 0.9978
2	2.1	0.984	36	
3	2.6	1.093	40	
4	3.3	1.228	44	
5	4.2	1.383	48	



Calibrated by :   
(Mr. Chaichai Sukpia)  
Field Scientist (1)

Approved by :   
(Mr. Noppang Jitranont)  
Enviro Field Coordinator Scientist (3)

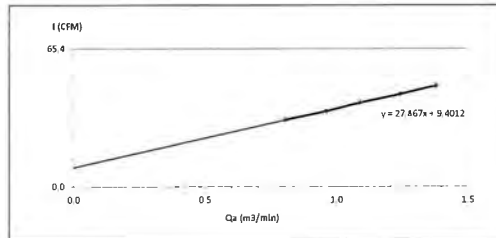
FORM NO.: F 06-074 REVISION NO.:2 ISSUE DATE 20/11/23



## High Volume Air Sampler Calibration Worksheet

Project Site : Gulf IP NLI Co., Ltd. Barometric Pressure (mm Hg) : 757.6  
Calibrate Location : มหานครเชียงใหม่ Temperature (°C) : 31.6  
Calibrate Date : 21-Oct-24 High Volume ID : RYG\_FS0667  
Calibration Sheet No : C-211024-RYG\_FS0667 High Volume Model : TE-5009X  
Calibrator ID : RYG\_FS0205 High Volume S/N : 6266  
Calibrator Model : TE-5028A Calibrator Slope : 0.95561  
Calibrator S/N : 1166 Calibrator Intercept : -0.02266

Test No.	Delta H <sub>2</sub> O (Inch)	Qa (m <sup>3</sup> /min)	I: Chart (CFM)	Linear Regression
1	1.4	0.808	32	Slope : 27.8675 Intercept : 9.4012 Correlation Coefficient : 0.9997
2	2.0	0.961	36	
3	2.6	1.093	40	
4	3.4	1.246	44	
5	4.2	1.383	48	



Calibrated by :   
(Mr. Chaichai Sukpia)  
Field Scientist (1)

Approved by :   
(Mr. Noppang Jitranont)  
Enviro Field Coordinator Scientist (3)

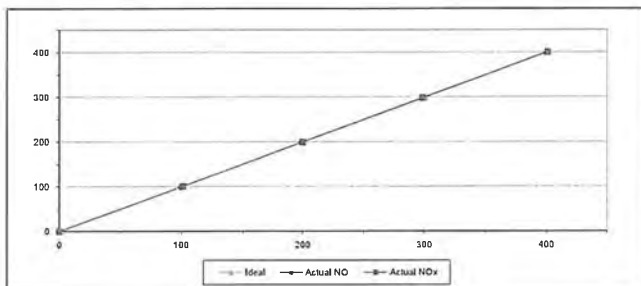
FORM NO.: F 06-074 REVISION NO.:2 ISSUE DATE 20/11/23



## MULTIPOINT CALIBRATION REPORT

Calibration Date : 3-Jul-24 Equipment Name : NOx Analyzer  
Manufacturer : HORIBA Model : APNA-370  
Serial No. : AWXG87CR Equipment ID : RYG\_FS0453  
Calibrator Manufacturer : Teledyne API Model : 700  
Serial No. : 947  
Std. Gas Concentration (PPM) : 55.88 Cylinder No. : GN0027222  
Cylinder Pressure (psi) : 1800 Certified By : Airgas Inc.  
Certified Date : 9-Feb-22 Expired Date : 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.60	-0.40	-0.40	101.10	1.10	1.10
2	200.00	198.60	-1.40	-0.70	199.80	-0.20	-0.10
3	300.00	299.00	-1.00	-0.33	298.60	-1.40	-0.47
4	400.00	401.10	1.10	0.28	401.10	1.10	0.28
AVERAGE (%)				-0.21			0.18



Calibrated By :   
(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

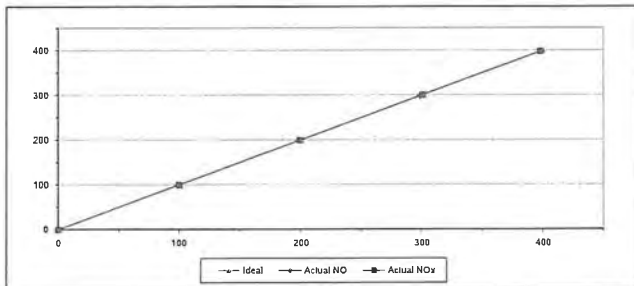
Approved By :   
(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group  
FORM NO.: F 06-056 REVISION NO.: ISSUE DATE 02/04/12

## MULTIPOINT CALIBRATION REPORT

Calibration Date : 2-Jul-24 Equipment Name : NOx Analyzer  
Manufacturer : HORIBA Model : APNA-370  
Serial No. : 8G314J3K Equipment ID : RYG\_FS0264  
Calibrator Manufacturer : Teledyne API Model : 700  
Serial No. : 947  
Std. Gas Concentration (PPM) : 55.88 Cylinder No. : GN0027222  
Cylinder Pressure (psi) : 1800 Certified By : Airgas Inc.  
Certified Date : 9-Feb-22 Expired Date : 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.05	0.05	0.05	0.10	0.10	0.10
1	100.00	99.20	-0.80	-0.80	100.10	0.10	0.10
2	200.00	198.50	-1.50	-0.75	199.30	-0.70	-0.35
3	300.00	298.60	-1.40	-0.47	301.40	1.40	0.47
4	400.00	398.20	-1.80	-0.45	398.00	-2.00	-0.50
AVERAGE (%)				-0.48			-0.04



Calibrated By :   
(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By :   
(Mr. Sarayuth Jitranont)  
Assistant General Manager

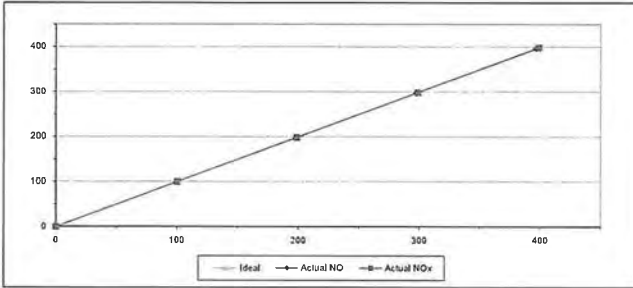
ALS Laboratory Group  
FORM NO.: F 06-056 REVISION NO.: ISSUE DATE 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date	2-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	Teledyne API	Model	T200
Serial No.	2197	Equipment ID	RYG_FS0255
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.60	-0.40	-0.40	100.10	0.10	0.10
2	200.00	198.00	-2.00	-1.00	198.70	-1.30	-0.65
3	300.00	297.30	-2.70	-0.90	298.70	-1.30	-0.43
4	400.00	396.40	-3.60	-0.90	398.80	-1.20	-0.30
AVERAGE (%)				-0.62			-0.24



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group

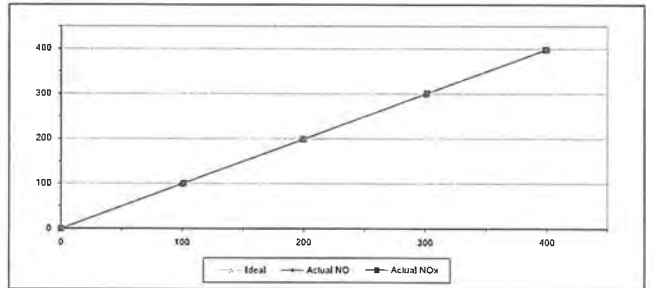
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date	3-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	NV0ER3YH	Equipment ID	RYG_FS0458
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.05	0.05	0.05	0.10	0.10	0.10
1	100.00	99.50	-0.50	-0.50	101.20	1.20	1.20
2	200.00	198.70	-1.30	-0.65	199.70	-0.30	-0.15
3	300.00	301.10	1.10	0.37	301.40	1.40	0.47
4	400.00	400.30	0.30	0.08	398.80	-1.20	-0.30
AVERAGE (%)				-0.13			0.26



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group

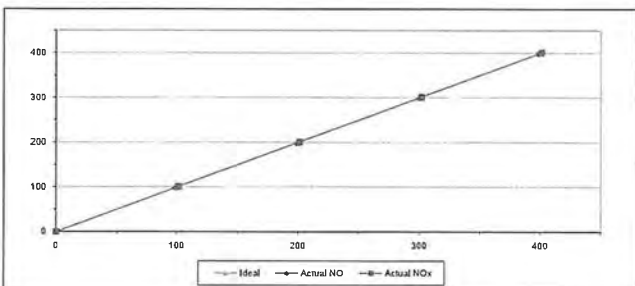
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date	3-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	ALP0V0WY	Equipment ID	RYG_FS0455
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	98.60	-1.40	-1.40	101.60	1.60	1.60
2	200.00	198.80	-1.20	-0.60	201.30	1.30	0.65
3	300.00	301.00	1.00	0.33	301.80	1.80	0.60
4	400.00	398.50	-1.50	-0.38	401.30	1.30	0.33
AVERAGE (%)				-0.38			0.66



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group

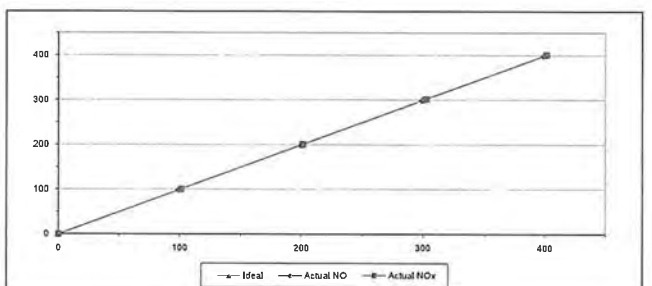
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date	3-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	R06K0177	Equipment ID	RYG_FS0463
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20	101.30	1.30	1.30
2	200.00	201.30	1.30	0.65	201.20	1.20	0.60
3	300.00	299.40	-0.60	-0.20	302.60	2.60	0.87
4	400.00	398.70	-1.30	-0.33	401.50	1.50	0.38
AVERAGE (%)				-0.20			0.65



Calibrated By

(Mr. Jirawut Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

ALS Laboratory Group

FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12

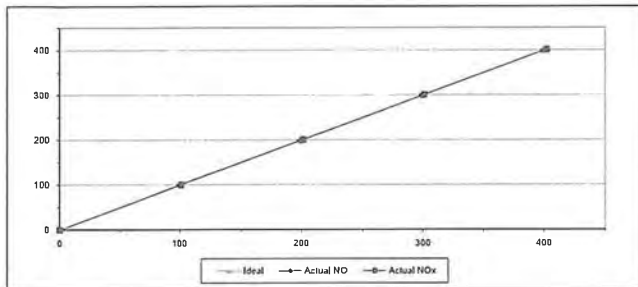




## MULTIPOINT CALIBRATION REPORT

Calibration Date 3-Jul-24 Equipment Name NOx Analyzer  
 Manufacturer Teledyne API Model T200  
 Serial No. 7239 Equipment ID RYG\_FS0535  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 947  
 Std. Gas Concentration (PPM) 55.88 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.80	-0.20	-0.20	101.00	1.00	1.00
2	200.00	198.30	-1.70	-0.85	201.30	1.30	0.65
3	300.00	298.80	-1.20	-0.40	301.20	1.20	0.40
4	400.00	398.70	-1.30	-0.33	402.30	2.30	0.58
AVERAGE (%)				-0.33			0.55



Calibrated By

(Mr. Jirawat Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

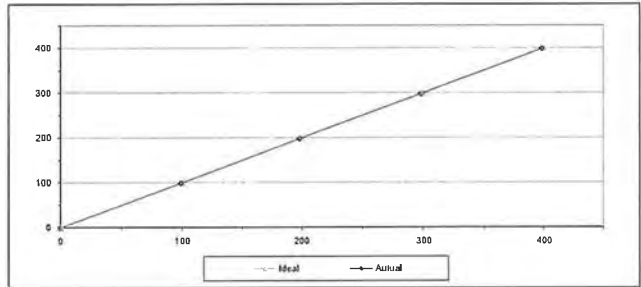
ALS Laboratory Group  
FORM NO.: F 05-055 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 5-Jul-24 Equipment Name SO2 Analyzer  
 Manufacturer HORIBA Model APSA-370  
 Serial No. 90U0XJ31 Equipment ID RYG\_FS0452  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 947  
 Std. Gas Concentration (PPM) 56.3 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.60	-1.40	-1.40
2	200.00	198.00	-2.00	-1.00
3	300.00	298.00	-2.00	-0.67
4	400.00	398.50	-1.50	-0.38
AVERAGE (%)				-0.57



Calibrated By

(Mr. Jirawat Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

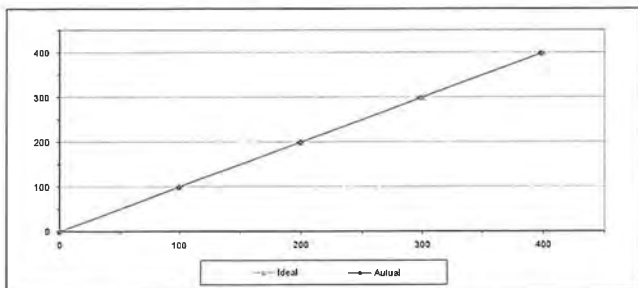
ALS Laboratory Group  
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 4-Jul-24 Equipment Name SO2 Analyzer  
 Manufacturer HORIBA Model APSA-370  
 Serial No. YPRXJJ20 Equipment ID RYG\_FS0263  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 947  
 Std. Gas Concentration (PPM) 56.3 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.80	-0.20	-0.20
2	200.00	199.40	-0.60	-0.30
3	300.00	298.20	-1.80	-0.60
4	400.00	398.00	-2.00	-0.50
AVERAGE (%)				-0.30



Calibrated By

(Mr. Jirawat Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

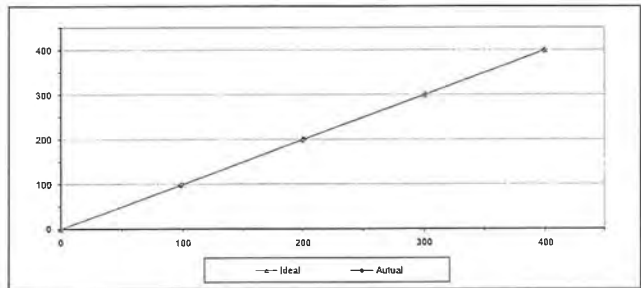
ALS Laboratory Group  
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date 5-Jul-24 Equipment Name SO2 Analyzer  
 Manufacturer HORIBA Model APSA-370  
 Serial No. H033D8FA Equipment ID RYG\_FS0454  
 Calibrator Manufacturer Teledyne API Model 700  
 Serial No. 947  
 Std. Gas Concentration (PPM) 56.3 Cylinder No. GN0027222  
 Cylinder Pressure (psi) 1800 Certified By Airgas Inc.  
 Certified Date 9-Feb-22 Expired Date 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.30	-1.70	-1.70
2	200.00	200.80	0.80	0.40
3	300.00	301.20	1.20	0.40
4	400.00	399.70	-0.30	-0.08
AVERAGE (%)				-0.18



Calibrated By

(Mr. Jirawat Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jitranont)  
Assistant General Manager

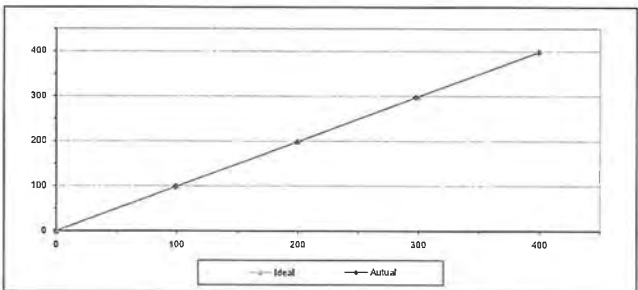
ALS Laboratory Group  
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



## MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jul-24	Equipment Name	SO2 Analyzer
Manufacturer	Teddyne API	Model	T100
Serial No.	1772	Equipment ID	RYG_FS0254
Calibrator Manufacturer	Teddyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.05	0.05	0.05
1	100.00	99.00	-1.00	-1.00
2	200.00	199.60	-0.40	-0.20
3	300.00	297.50	-2.50	-0.83
4	400.00	398.90	-1.10	-0.28
AVERAGE (%)				-0.45



Calibrated By

(Mr. Jirawat Sakam)  
Field Environmental Scientist (3)

Approved By

(Mr. Sarayuth Jittrantorn)  
Assistant General Manager

ALS Laboratory Group  
FORM NO.: F-06-056 REVISION NO.: - ISSUE DATE: 02/04/12



Jirarat Associates Co., Ltd.  
4374-15, 4375-16  
Kor-Mueng 7711, Rd. Muangthani Bangkok  
Bangkok 10110 (Thailand)  
Tel: +662-0000000  
Fax: +662-0000000  
E-mail: jirarat@jirarat.com  
Web site: www.jirarat.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS TIS 17025  
CALIBRATION 0367

Air speed measurement laboratory  
Calibration services department



NSC-TIS-TIS 17025  
CALIBRATION 0367

Certificate Number

CNS-031-67

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM	Cup anemometer
MANUFACTURER	Novatys
MODEL/TYPE	Sensor WS-02P
SERIAL NUMBER	Data logger: 110 WS-250L-D
ID NUMBER	Sensor: WSD-AS560
CONDITION AS RECEIVED	Data logger: AS560
CUSTOMER	RYG_FS0530
	Used item

RECEIVED DATE	06 Aug 2024
MEASUREMENT DATE	21 Aug 2024
ISSUE DATE	21 Aug 2024

ENVIRONMENTAL CONDITIONS:	
Ambient condition in the laboratory are as follow:	
Temperature	23.0 ± 3.0 °C
Relative Humidity	55.0 ± 15.0 %RH
Atmospheric Pressure	1010.0 ± 10 hPa

PLACE OF CALIBRATION	U-tube type wind tunnel of Jirarat Associates Co., Ltd.
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CALIBRATION CONDITIONS	
Wind tunnel cross-section area <sup>1</sup>	900 cm <sup>2</sup>
Wind direction span area <sup>2</sup>	100 cm <sup>2</sup>
Diameter of mounting pipe <sup>3</sup>	mm
Blockage ratio of test object <sup>4</sup>	0.132 [-]

Preconditioning	24 hours at ambient conditions.
Measurement Condition	The average values during measurement are (23.6) °C, (41.8) %RH and (1002.8) hPa

### TABULATION OF RESULTS:

The table on next page give the measured values.

Calibrated by:  
D. Mr. Sarawat Thianthai  
C. Miss Jirarat Jirarat



Approved signature

Mr. Sarawat Thianthai  
Calibration Department Manager

REVIEW BY: [Signature]  
APPROVED BY: [Signature]

NEXT CAL DATE: 21/8/26

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Page 2 of 2 Pages

### MEASUREMENT RESULTS<sup>1</sup>

The Cup anemometer, Unit Under Calibration (UUC) was exercised at 10 m/s for 5 minutes prior to calibration being performed. The standard air velocity 0.5 m/s to 5 m/s was calculated by a standard air velocity transducer which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section and the standard air velocity, 5 m/s to 30 m/s was calculated by a pitot tube with precision differential pressure meter which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section. UUC was mounted on a round vertical tube of the lower plate at center of test section. The calibration was carried out under both rising and falling air velocity in the range of 1 m/s to 30 m/s at calibration interval of 1 m/s. The results of calibration and associated measurement uncertainties are reported in the table below.

U <sub>ref</sub> (m/s)	Temp. wind tunnel (°C)	Temp. room (°C)	U <sub>meas</sub> (m/s)	Error (m/s)	U <sub>ref</sub> (95%) (m/s)
0.955	23.70	23.55	0.8	-0.2	0.91
2.010	23.46	23.55	1.8	-0.2	0.91
2.957	23.64	23.55	2.9	-0.1	0.91
4.017	23.66	23.55	3.8	-0.2	0.91
4.96	23.44	23.55	4.9	-0.1	0.91
5.96	23.10	23.55	6.0	0.2	0.91
7.04	23.50	23.55	7.0	0.0	0.91
7.97	23.94	23.55	8.0	0.0	0.91
8.99	23.24	23.55	9.1	0.1	0.91
9.97	22.92	23.55	10.2	0.2	0.91
10.96	23.40	23.55	11.1	0.1	0.91
12.03	23.08	23.55	12.3	0.3	0.91
13.05	23.40	23.55	13.3	0.3	0.91
14.03	23.20	23.55	14.8	0.7	0.91
15.02	23.40	23.55	15.3	0.3	0.91
15.97	23.30	23.55	16.4	0.4	0.91

### Remarks:

<sup>1</sup> Calibration results only, count for the tested circumstances and environmental conditions. See when calibration took place

<sup>2</sup> Velocity of standard

<sup>3</sup> Velocity of Unit Under Calibration

### PHOTO OF CALIBRATION SET-UP



Calibration set up of the Cup anemometer calibration in the wind tunnel of Jirarat Associates Co., Ltd. The Cup anemometer shown may differ from the calibrated one. Remark: The proportion of the set up is not true to scale due to imaging geometry.



Jirarat Associates Co., Ltd.  
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E-mail: jirarat@jirarat.com  
Web site: www.jirarat.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS TIS 17025  
CALIBRATION 0367

Wind direction measurement laboratory  
Calibration services department



NSC-TIS-TIS 17025  
CALIBRATION 0367

Certificate Number

CND-031-67

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM	Wind Direction Sensor
MANUFACTURER	Novatys
MODEL/TYPE	Sensor WS-02P
SERIAL NUMBER	Data logger: 110 WS-250L-D
ID NUMBER	Sensor: WSD-AS560
CONDITION AS RECEIVED	RYG_FS0530
CUSTOMER	Used item

RECEIVED DATE	06 Aug 2024
MEASUREMENT DATE	21 Aug 2024
ISSUE DATE	21 Aug 2024

ENVIRONMENTAL CONDITIONS:	
Ambient condition in the laboratory are as follow:	
Temperature	23.0 ± 3.0 °C
Relative Humidity	55.0 ± 15.0 %RH
Atmospheric Pressure	1010.0 ± 10 hPa

PLACE OF CALIBRATION	U-tube type wind tunnel of Jirarat Associates Co., Ltd.
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CALIBRATION CONDITION	
Wind tunnel cross-section area <sup>1</sup>	900 cm <sup>2</sup>
Wind direction span area <sup>2</sup>	129 cm <sup>2</sup>
Diameter of mounting pipe <sup>3</sup>	mm
Blockage ratio of test object <sup>4</sup>	0.143 [-]

Preconditioning	24 hours at ambient conditions.
Measurement Condition	The average values during measurement are (23.7) °C, (46.3) %RH and (1007.5) hPa

### TABULATION OF RESULTS:

The table on next page give the measured values.

Calibrated by:  
D. Mr. Sarawat Thianthai  
C. Miss Jirarat Jirarat



Approved signature

Mr. Sarawat Thianthai  
Calibration Department Manager

Remarks:  
<sup>1</sup> Inside cross-section area of the wind tunnel  
<sup>2</sup> Projected cross-section area of the tested object include mounting pipe  
<sup>3</sup> Diameter of mounting pipe  
<sup>4</sup> Ratio to

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Certificate Number
CWD-031 67

Page 2 of 2 Pages

#### MEASUREMENT RESULTS<sup>5</sup>

The wind direction sensor was calibrated against standard rotary encoder by comparison method. During calibration, the measurement was carried out at 45° intervals in clockwise and counterclockwise directions after offset adjustment has been made. The flow speed of wind tunnel (usually 5 m/s) is kept constant while the sensor is rotated around its vertical axis. The results of calibration and associated measurement uncertainties are reported in the table below.

Air speed	D <sub>low</sub>	D <sub>high</sub>	Error	U (k=2)
m/s	Degree (°)	Degree (°)	Degree (°)	Degree (°)
5.01	0.000	0	0	0.80
	45.000	42	-3	0.80
	90.000	88	-2	0.80
	135.000	133	-2	0.80
	180.000	181	1	0.80
	225.000	229	4	0.80
	270.000	273	3	0.80
	315.000	318	3	0.80

#### Remarks:

Calibration results only count for the listed circumstances and environmental conditions during which calibration was performed.

<sup>5</sup> Direction of standard

<sup>6</sup> Direction of Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



JIRANATEE ASSOCIATE CO., LTD.

Jiranaatee Associates Co., Ltd.  
63/14 25, 67/55 36  
Petchaburi 73/1, 12 Wanhazai Bangkok  
Bangkok 10000 (Thailand)  
Tel: +66 2 646 8112  
Fax: +66 2 646 8113  
E-mail: jiranaatee@jiranaatee.com  
Web site: www.jiranaatee.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS 175-17025  
CALIBRATION 0367

Temperature measurement laboratory  
Calibration services department



NSC-TIS 175-17025  
CALIBRATION 0367

## CERTIFICATE OF CALIBRATION

Certificate No. : CDT-156-67

Page 1 of 2 Pages

MEASUREMENT ITEM : Data Logger with Temperature sensor  
MANUFACTURER : Novalyne  
MODEL/TYPE : 110-W5-25DL-D  
SERIAL NUMBER : AS660  
ID NUMBER : RVG\_F50530  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan Rd.,  
Khwaeng Suan Luang, Wattana Suan Luang,  
Bangkok 10250 Thailand.

Calibration procedure:  
The temperature calibration was done by  
In House calibration method as W5-CL-001  
according to comparison method with standard  
digital temperature reference and standard  
temperature probe. The temperature scale was  
based on ITS-90.

Traceability:  
The measurement results are traceable to the  
international system of units (SI) through  
National Institute of Metrology Thailand (NIMT)  
Certificate number: TT-0047-24, Certificate  
number: P-0101 23

#### Reference Used During Calibration:

1. Standard Temperature Probe  
Model: STS 100 AS50, Serial No.: H57682-09,  
Due date: 26 Mar 2025  
2. Digital Temperature Indicator  
Model: DTI-1000-A MKII, Serial No.: 671407,  
00591 Due date: 14 Sep 2024

#### Uncertainty of Measurement:

The reported uncertainty of measurement is  
based on the standard uncertainty multiplied by  
a coverage factor  $k=2$ , which for a normal  
distribution corresponds to a coverage  
probability of approximately 95%. The standard  
uncertainty has been determined in accordance  
with the GUM Evaluation of measurement data  
Guide to the expression of uncertainty in  
measurement.

RECEIVED DATE : 08 Aug 2024  
MEASUREMENT DATE : 21 Aug 2024  
ISSUE DATE : 21 Aug 2024

#### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:  
Temperature :  $23.0 \pm 3.0$  °C  
Relative Humidity :  $55.0 \pm 15.0$  %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

#### TABULATION OF RESULTS:

The table on next page give the measured values

Calibrated by:  
☐ Mr. Surapatt Thachalad  
☒ Mr. Jiraporn Lertsomphol  
☐ Miss Ruangsiraporn Phoommit



Approved signatory

Mr. Pannya Rongcharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED  
IN WRITING FROM THE LABORATORY



JIRANATEE ASSOCIATE CO., LTD.

Continuation of Certificate of Calibration Number CDT-156-67

Page 2 of 2 Pages

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 °C to 40 °C

#### Function:

Table 3: This equipment was connected with temperature sensor Model: HMP60 S/N: S4620631.  
Dimension: Diameter 12 mm. Length 80 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.050	19.6	-0.4	0.099
80	25.053	24.6	-0.5	0.099
80	30.045	29.7	-0.3	0.099
80	35.026	34.5	-0.5	0.099
80	40.018	39.4	-0.6	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



JIRANATEE ASSOCIATE CO., LTD.

Jiranaatee Associates Co., Ltd.  
63/14 25, 67/55 36  
Petchaburi 73/1, 12 Wanhazai Bangkok  
Bangkok 10000 (Thailand)  
Tel: +66 2 646 8112  
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Web site: www.jiranaatee.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS 175-17025  
CALIBRATION 0367

Relative humidity and Air Temperature measurement laboratory  
Calibration services department

## CERTIFICATE OF CALIBRATION

Certificate No. : CRT-032-67

Page 1 of 2 Pages

MEASUREMENT ITEM : Relative humidity with data logger  
MANUFACTURER : Novalyne  
MODEL/TYPE : Data Logger: 110-W5-25DL-U  
Sensor: H08060  
SERIAL NUMBER : Data Logger: AS660  
Sensor: S4670693  
ID NUMBER : RVG\_F50530  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan Rd.,  
Khwaeng Suan Luang, Wattana Suan Luang,  
Bangkok 10250 Thailand.

Calibration procedure:  
The Relative humidity and Air Temperature  
calibration was done by a house calibration  
method as W1-CL-009 and W1-CL-010 according to  
comparison method with Standard Charles Murrill  
hygrometer with Temperature sensor and standard  
Humidity generator can-bus.

Traceability:  
The measurements are traceable to the  
international system of units (SI) through  
National Institute of Metrology Thailand (NIMT)  
Certificate number: TH-BU/19 21 and through Jiranaatee  
Ass. Co., Ltd. Certificate number: CDT-001-67

Uncertainty of Measurement:  
The reported uncertainty of measurement is based  
on the standard uncertainty multiplied by a  
coverage factor  $k=2$ , which for a normal distribution  
corresponds to a coverage probability of  
approximately 95%. The standard uncertainty has  
been determined in accordance with the GUM  
Evaluation of measurement data - Guide to the  
expression of uncertainty in measurement.

RECEIVED DATE : 08 Aug 2024  
MEASUREMENT DATE : 21 Aug 2024  
ISSUE DATE : 21 Aug 2024

#### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:  
Temperature :  $23.0 \pm 3.0$  °C  
Relative Humidity :  $55.0 \pm 15.0$  %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

#### TABULATION OF RESULTS:

The table on next page give the measured values

Calibrated by:  
☐ Mr. Surapatt Thachalad  
☒ Mr. Jiraporn Lertsomphol  
☐ Miss Ruangsiraporn Phoommit



Approved signatory

Mr. Pannya Rongcharoen  
Calibration Department Manager

THIS CERTIFICATE REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED  
IN WRITING FROM THE LABORATORY

Continuation of Certificate of Calibration Number: CWT-029-67

Page 2 of 2 Pages

**Measurement Results:**

The results of calibration and associated measurement uncertainties are reported in the table below.

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Table 1: The results of calibration of relative humidity at 30 °C are reported in table below  
Calibration Range: -20%RH to 80%RH

Air Temperature [ °C ]	Standard Reading [ %RH ]	UUC Reading [ %RH ]	Error [ %RH ]	Uncertainty [ %RH ]
29.82	59.61	57.8	1.8	0.83
29.80	50.72	48.0	-2.7	1.3
29.87	52.34	78.5	-25.9	2.3

UUC: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS 15 17025  
CALIBRATION 0367

Air speed measurement laboratory  
Calibration services department

NSC-TIS 15 17025  
CALIBRATION 0367

Certificate Number

CWS-029-67

**CERTIFICATE OF CALIBRATION**

Page 1 of 2 Pages

**MEASUREMENT ITEM**

MANUFACTURER

MODEL/TYPE

SERIAL NUMBER

ID NUMBER

CONDITION AS-RECEIVED

CUSTOMER

Cup anemometer

Novelty

Sensor: WS-02F

Data logger: WS-250L

Sensor: WSD-44481

Data logger: A4481

BKX-550141

Used item

ALS laboratory group (Thailand) Co., Ltd

104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang

Khet Suan Luang, Bangkok 10250 Thailand

RECEIVED DATE

06 Aug 2024

MEASUREMENT DATE

20 Aug 2024

ISSUE DATE

20 Aug 2024

**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follows:

Temperature: 23.0 ± 0.3 °C

Relative Humidity: 55.0 ± 1.0 %RH

Atmospheric Pressure: 1010 ± 10 hPa

PLACE OF CALIBRATION

Cup type wind tunnel of Jiranate Associate Co., Ltd

**CALIBRATION CONDITIONS**

Wind tunnel cross-section area<sup>1</sup>

900

cm<sup>2</sup>

Wind direction frontal area<sup>2</sup>

100

cm<sup>2</sup>

Diameter of mounting pipe<sup>3</sup>

mm

Blockage ratio of test object<sup>4</sup>

0.131

[-]

Preconditioning

24 hours at ambient conditions

Measurement Condition

The average values during measurement are (23.9) °C (42.7) %RH and (1005.0) hPa

**TABULATION OF RESULTS:**

The table on next page give the measured values

Calibrated by:

Mr. Sorawat Thachalad

Mr. Nissatrasorn Lertsomchul

**Remarks:**

<sup>1</sup> Inside cross-section area of the wind tunnel

<sup>2</sup> Proposed cross-section area of the tested object include mounting pipe

<sup>3</sup> Diameter of mounting pipe

<sup>4</sup> Ratio: [-]

**Calibration procedure:**

The Cup anemometer was calibrated against Standard air velocity transducer model: 4455-82 and pilot tube with precision differential pressure meter model: DM2500 in an open test-section of cup-type wind tunnel with 500 mm<sup>2</sup> cross test section area. The WEL-002 based on IEC 61400-12-1, Wind energy generation systems - Part 12-1, Power performance measurements of electricity producing wind turbines, March 2017 was used as a calibration guide.

**Traceability:**

This certificate provides a traceability of the measurement to international standards, and to realization of the international system of units (SI) through the NIMT (National Metrology Institute of Thailand) via Certificate number: NM-0001-24 and NM-0001-27

**Uncertainty of Measurement:**

The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM "Evaluation of measurement data - Guide to the expression of uncertainty in measurement"



Approved signature:

Mr. Panyas Booncharoen  
Calibration Department Manager

REVIEW BY: *[Signature]*

APPROVED BY: *[Signature]*

NEXT CAL DATE: 20/2/26

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Page 2 of 2 Pages

**MEASUREMENT RESULTS<sup>1</sup>**

The Cup anemometer, Unit Under Calibration (UUC) was exercised at 10 m/s for 5 minutes prior to calibration being performed. The standard air velocity of 5 m/s was calculated by a standard air velocity transducer which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section and the standard air velocity of 10 m/s was calculated by a pilot tube with precision differential pressure meter which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section. UUC was mounted on a round vertical tube of the lower plate at center of test section. The calibration was carried out under both rising and falling air velocity in the range of 1 m/s to 16 m/s at calibration interval of 1 m/s. The results of calibration and associated measurement uncertainties are reported in the table below

UUC [m/s]	Temp. wind tunnel [°C]	Temp. room [°C]	V <sub>ref</sub> [m/s]	Error [m/s]	U (k=2) [m/s]
1.015	23.50	23.90	0.8	-0.2	0.31
2.041	24.28	23.90	1.8	-0.2	0.31
3.007	23.50	23.90	2.9	-0.3	0.31
4.108	23.34	23.90	3.8	-0.3	0.31
4.98	23.36	23.90	5.0	0.0	0.31
5.95	23.50	23.90	6.0	0.1	0.31
7.02	23.14	23.90	7.3	0.3	0.31
7.86	23.90	23.90	8.0	0.1	0.31
8.88	23.26	23.90	9.1	0.1	0.31
9.96	23.16	23.90	10.1	0.1	0.31
10.95	23.50	23.90	11.1	0.1	0.31
12.02	23.30	23.90	12.2	0.1	0.31
12.94	23.50	23.90	13.2	0.2	0.31
14.08	23.38	23.90	14.2	0.1	0.31
15.02	23.60	23.90	15.2	0.2	0.31
15.95	23.50	23.90	16.3	0.3	0.31

**Remarks:**

<sup>1</sup> Calibration results only count for the tested circumstances and environmental conditions during which calibration took place

<sup>2</sup> Velocity of standard

<sup>3</sup> Velocity of Unit Under Calibration

**PHOTO OF CALIBRATION SET-UP**



Calibration set up of the Cup anemometer calibration in the wind tunnel of Jiranate Associate Co., Ltd. The Cup anemometer shown may differ from the calibrated one. Remark: The proportion of the set-up is not true to scale due to imaging geometry



\*\*\*End of Certificate of Calibration\*\*\*

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS 15 17025  
CALIBRATION 0367

Wind direction measurement laboratory  
Calibration services department

NSC-TIS 15 17025  
CALIBRATION 0367

Certificate Number

CWD-029-67

**CERTIFICATE OF CALIBRATION**

Page 1 of 2 Pages

**MEASUREMENT ITEM**

MANUFACTURER

MODEL/TYPE

SERIAL NUMBER

ID NUMBER

CONDITION AS-RECEIVED

CUSTOMER

Wind direction sensor

Novelty

Sensor: WS-02F

Data logger: WS-250L

Sensor: WSD-44481

Data logger: A4481

BKX-550141

Used item

ALS laboratory group (Thailand) Co., Ltd

104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang

Khet Suan Luang, Bangkok 10250 Thailand

RECEIVED DATE

18 Aug 2024

MEASUREMENT DATE

20 Aug 2024

ISSUE DATE

20 Aug 2024

**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follows:

Temperature: 23.0 ± 0.3 °C

Relative Humidity: 55.0 ± 1.0 %RH

Atmospheric Pressure: 1010 ± 10 hPa

PLACE OF CALIBRATION

Cup type wind tunnel of Jiranate Associate Co., Ltd

**CALIBRATION CONDITION**

Wind tunnel cross-section area<sup>1</sup>

900

cm<sup>2</sup>

Wind direction frontal area<sup>2</sup>

129

cm<sup>2</sup>

Diameter of mounting pipe<sup>3</sup>

mm

Blockage ratio of test object<sup>4</sup>

0.143

[-]

Preconditioning

24 hours at ambient conditions

Measurement Condition

The average values during measurement are (23.7) °C (45.7) %RH and (1007.7) hPa

**TABULATION OF RESULTS:**

The table on next page give the measured values

Calibrated by:

Mr. Sorawat Thachalad

Mr. Nissatrasorn Lertsomchul

**Remarks:**

<sup>1</sup> Inside cross-section area of the wind tunnel

<sup>2</sup> Proposed cross-section area of the tested object include mounting pipe

<sup>3</sup> Diameter of mounting pipe

<sup>4</sup> Ratio: [-]

**Calibration procedure:**

The wind direction sensor was calibrated against Standard Rotary Encoder model: AK400975. DM24 P3-5-UD is an open test-section of cup-type wind tunnel with 900 cm<sup>2</sup> cross test section area. The WEL-002 based on IEC 61400-12-1, Wind energy generation systems - Part 12-1, Power performance measurements of electricity producing wind turbines, March 2017 was used as a calibration guide.

**Traceability:**

This certificate provides a traceability of the measurement to international standards, and to realization of the international system of units (SI) through the NIMT (National Metrology Institute of Thailand) via Certificate number: NM-0001-24 and NM-0001-27

**Uncertainty of Measurement:**

The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM "Evaluation of measurement data - Guide to the expression of uncertainty in measurement"



Approved signature:

Mr. Panyas Booncharoen  
Calibration Department Manager

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Certificate Number
CWD-019-67

Page 2 of 2 Pages

#### MEASUREMENT RESULTS<sup>1</sup>

The wind direction sensor was calibrated against standard rotary encoder by comparison method. During calibration, the measurement was carried out at 45° intervals in clockwise and counter-clockwise directions after offset adjustment has been made. The flow speed of wind tunnel (usually 5 m/s) is kept constant while the sensor is rotated around its vertical axis. The results of calibration and associated measurement uncertainties are reported in the table below.

Air speed	D <sub>1</sub> °	D <sub>2</sub> °	Error	U (k=2)
m/s	Degree (°)	Degree (°)	Degree (°)	Degree (°)
5.01	45.000	41	-4	0.80
	90.000	87	-3	0.80
	135.000	134	-1	0.80
	180.000	182	2	0.50
	225.000	230	5	0.80
	270.000	275	5	0.60
	315.000	320	5	0.80
	360.000	359	-1	0.80

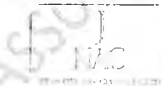
#### Remark:

<sup>1</sup> Calibration results only count for the tested circumstances and environmental conditions during which calibration took place.

<sup>2</sup> Direction of standard.

<sup>3</sup> Direction of Unit Under Calibration.

\*\*\*End of Certificate of Calibration\*\*\*



**J NAC**  
JIRANATE ASSOCIATES CO., LTD.  
Jiranae Associates Co., Ltd.  
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Bangkok 10400, Thailand  
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www.jiranae.co.th

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS-16 17025  
CALIBRATION 0367  
Air speed measurement laboratory  
Calibration services department



Certificate Number
CWS-016-67

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM : Cup anemometer  
MANUFACTURER : Navalyne  
MODEL/TYPE : Sensor WS-02F  
SERIAL NUMBER : Data logger: 110 WS-2501-D  
ID NUMBER : Sensor: WSD-A5911  
CONDITION AS-RECEIVED : Data logger: AS911  
CUSTOMER : RYG, F50610  
Used item  
ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanaburi Rd, Kwang Suan Luang  
Khet Suan Luang, Bangkok 10250 Thailand

RECEIVED DATE : 10 Jun 2024  
MEASUREMENT DATE : 26 Jun 2024  
ISSUE DATE : 26 Jun 2024

ENVIRONMENTAL CONDITIONS:  
Ambient condition in the laboratory are as follow  
Temperature : 23.0 ± 0.1 °C  
Relative Humidity : 55.0 ± 15.0 %RH  
Atmospheric Pressure : 1010 ± 10 hPa

PLACE OF CALIBRATION : Effel type wind tunnel of Jiranae Associates Co., Ltd.

CALIBRATION CONDITIONS : Wind tunnel cross section area<sup>1</sup> : 900 cm<sup>2</sup>  
Wind direction frontal area<sup>2</sup> : 100 cm<sup>2</sup>  
Diameter of mounting pole<sup>3</sup> : mm  
Blockage ratio of test object<sup>4</sup> : 0.111 [-]

Preconditioning : 24 hours at ambient conditions  
Measurement Condition : The average values during measurement are (24.6) °C, (41.4) %RH and (1002.0) hPa

TABULATION OF RESULTS:  
The table on next page give the measured values

Calibrated by:  
PTM: Sarawit Thachak  
TMS: Jiranae Associate



Approved signature : Mr. Panyia B. Jiranae  
Calibration Department Manager

#### Remark:

- <sup>1</sup> Nozzle cross-section area of the wind tunnel
- <sup>2</sup> Projected cross-section area of the tested object include mounting pole
- <sup>3</sup> Diameter of mounting pole
- <sup>4</sup> Ratio =  $\frac{A}{B}$

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Certificate Number
CWS-016-67

Page 2 of 2 Pages

#### MEASUREMENT RESULTS<sup>1</sup>

The Cup anemometer, Unit Under Calibration (UUC) was exercise at 10 m/s for 5 minutes prior to calibration being performed. The standard air velocity 0.5 m/s to 5 m/s was calculated by a standard air velocity transducer which was installed 50 mm away from wind tunnel nozzle and 10 mm away from top of the test section and the standard air velocity 5 m/s to 20 m/s was calculated by a pilot tube with precision differential pressure meter which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section. UUC was mounted on a round vertical tower of the lower plate at center of test section. The calibration was carried out under both rising and falling air velocity in the range of 1 m/s to 16 m/s at calibration interval of 1 m/s. The results of calibration and associated measurement uncertainties are reported in the table below.

Vel	Temp. wind tunnel	Temp. room	Vel	Error	U (k=2)
(m/s)	(°C)	(°C)	(m/s)	(m/s)	(m/s)
0.993	24.50	24.60	0.8	-0.2	0.31
2.014	24.70	24.60	1.7	-0.3	0.31
2.985	24.68	24.60	2.6	-0.2	0.31
4.133	24.64	24.60	3.8	-0.3	0.31
4.97	24.50	24.60	4.9	-0.2	0.31
5.98	24.46	24.60	6.0	0.0	0.31
7.04	24.50	24.60	7.1	0.0	0.31
7.96	24.32	24.60	8.1	0.1	0.31
9.02	24.70	24.60	9.1	0.1	0.31
9.98	24.30	24.60	10.2	0.7	0.31
11.02	24.70	24.60	11.3	0.3	0.31
11.99	24.30	24.60	12.3	0.3	0.31
13.03	24.70	24.60	13.3	0.3	0.31
14.05	24.30	24.60	14.4	0.4	0.31
15.05	24.70	24.60	15.4	0.4	0.31
15.99	24.46	24.60	16.4	0.4	0.31

#### Remark:

<sup>1</sup> Calibration results only count for the tested circumstances and environmental conditions during which calibration took place.

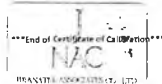
<sup>2</sup> Velocity of standard.

<sup>3</sup> Velocity of Unit Under Calibration.

PHOTO OF CALIBRATION SET-UP



Calibration set up of the Cup anemometer calibration in the wind tunnel of Jiranae Associates Co., Ltd. The Cup anemometer shown may differ from the calibrated one. The ratio of the proportion of U set up is not used to scale due to imaging geometry.



**J NAC**  
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Jiranae Associates Co., Ltd.  
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Tel: 02-006-8817  
Mobile: 090-000-1111  
E-mail: jiranae@jiranae.co.th  
www.jiranae.co.th

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS-16 17025  
CALIBRATION 0367  
Wind direction measurement laboratory  
Calibration services department



Certificate Number
CWD-016-67

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM : Wind Direction Sensor  
MANUFACTURER : Navalyne  
MODEL/TYPE : Sensor WS-02F  
SERIAL NUMBER : Data logger: 110 WS-2501-D  
ID NUMBER : Sensor: WSD-A5911  
CONDITION AS-RECEIVED : Data logger: AS911  
CUSTOMER : RYG, F50610  
Used item  
ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanaburi Rd, Kwang Suan Luang  
Khet Suan Luang, Bangkok 10250 Thailand

RECEIVED DATE : 10 Jun 2024  
MEASUREMENT DATE : 26 Jun 2024  
ISSUE DATE : 26 Jun 2024

ENVIRONMENTAL CONDITIONS:  
Ambient condition in the laboratory are as follow  
Temperature : 23.0 ± 0.1 °C  
Relative Humidity : 55.0 ± 15.0 %RH  
Atmospheric Pressure : 1010 ± 10 hPa

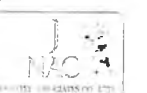
PLACE OF CALIBRATION : Effel type wind tunnel of Jiranae Associates Co., Ltd.

CALIBRATION CONDITION : Wind tunnel cross section area<sup>1</sup> : 900 cm<sup>2</sup>  
Wind direction frontal area<sup>2</sup> : 129 cm<sup>2</sup>  
Diameter of mounting pole<sup>3</sup> : mm  
Blockage ratio of test object<sup>4</sup> : 0.143 [-]

Preconditioning : 24 hours at ambient conditions  
Measurement Condition : The average values during measurement are (24.0) °C, (53.0) %RH and (1005.2) hPa

TABULATION OF RESULTS:  
The table on next page give the measured values

Calibrated by:  
PTM: Sarawit Thachak  
TMS: Jiranae Associate



Approved signature : Mr. Panyia B. Jiranae  
Calibration Department Manager

#### Remark:

- <sup>1</sup> Nozzle cross-section area of the wind tunnel
- <sup>2</sup> Projected cross-section area of the tested object include mounting pole
- <sup>3</sup> Diameter of mounting pole
- <sup>4</sup> Ratio =  $\frac{A}{B}$

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Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 °C to 40 °C

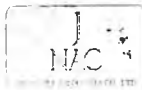
Function: Table 3: This equipment was connected with temperature sensor Model: HMP60 S/N: U3911245, Dimension: Diameter 12 mm, Length 80 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.054	19.8	-0.2	0.16
80	25.051	24.8	-0.2	0.16
80	30.046	29.9	-0.1	0.099
80	35.034	34.8	-0.2	0.099
80	40.043	39.8	-0.2	0.099

UUC\*: Unit Under Calibration

Remark: The reported uncertainty of measurement is 0.16 based on standard uncertainty multiplied by a coverage factor k=2.11 providing a level of confidence of approximately 95%.

\*\*\*End of Certificate of Calibration\*\*\*



## CERTIFICATE OF CALIBRATION

Certificate No.: CRT-015-67

Page 1 of 2 Pages

MEASUREMENT ITEM  
MANUFACTURER  
MODEL/TYPE  
SERIAL NUMBER  
ID NUMBER  
CONDITION AS-RECEIVED  
CUSTOMER

Relative humidity with data logger  
Novelty  
Data logger: 110-WS-250L-D  
Sensor: HMP60  
Data logger: AS911  
Sensor: U3911245  
RVG, F50610  
Used item  
ALS Laboratory group (Thailand) Co., Ltd.  
104 Phatthanasak 40, Phatthanasak Rd, Khwaeng Suan Luang  
Khet Suan Luang, Bangkok 10250 Thailand

RECEIVED DATE  
MEASUREMENT DATE  
ISSUE DATE

10 Jun 2024  
26 Jun 2024  
26 Jun 2024

### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

### TABULATION OF RESULTS:

The table on next page give the measured values.

Calibration procedure:  
The Relative Humidity and Air Temperature calibration was done by a Master calibration method as W1-C1-020 and W1-F1-020 according to comparison method with Standard Check Meter hygrometer with temperature wind and standard humidity generator chamber.

Traceability:  
The measurements are traceable to the international system of units (SI) through National Institute of Metrology Thailand (NIMT) Certificate number: TH-0079-23 and through Jiranan Associates Co., Ltd. Certificate number: CDT 001-67.

Uncertainty of Measurement:  
The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM. Evaluation of measurement data Guide to the expression of uncertainty in measurement.

Calibrated by:

☒ Mr. Jiranan Thachalad  
☒ Ms. Nattaporn Lerttongphol  
☐ Mr. Nattaporn Phatthanasak



Approved signature:

*Mr. Pannya Booncharoen*  
Calibration Department Manager

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### Measurement Results:

The results of calibration and associated measurement uncertainties are reported in the table below

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Table 1: The results of calibration of relative humidity at 30 °C are reported in table below  
Calibration Range: 20%RH to 80%RH

Air Temperature (°C)	Standard Reading (%RH)	UUC Reading (%RH)	Error (%RH)	Uncertainty 1 (%RH)
29.85	51.55	51.6	-2.0	0.81
29.80	50.48	41.4	3.0	1.3
29.61	81.52	77.5	4.0	2.3

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM  
MANUFACTURER  
MODEL/TYPE  
SERIAL NUMBER  
ID NUMBER  
CONDITION AS-RECEIVED  
CUSTOMER

Cup anemometer  
Novelty  
Sensor: WS-02FA  
Data logger: 110-WS-250L-D  
Sensor: WSD-AS180  
Data logger: AS180  
RVG, F50648  
New item  
ALS Laboratory group (Thailand) Co., Ltd.  
104 Phatthanasak 40, Phatthanasak Rd, Khwaeng Suan Luang  
Khet Suan Luang, Bangkok 10250 Thailand

RECEIVED DATE  
MEASUREMENT DATE  
ISSUE DATE

18 Jun 2023  
20 Jun 2023  
20 Jun 2023

### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH  
Atmospheric Pressure : 1010 ± 10 hPa

PLACE OF CALIBRATION : Eiffel type wind tunnel of Jiranan Associates Co., Ltd.

### CALIBRATION CONDITIONS

Wind tunnel cross section area<sup>1</sup> : 900 cm<sup>2</sup>  
Wind direction frontal area<sup>2</sup> : 100 cm<sup>2</sup>  
Diameter of mounting pipe<sup>3</sup> : mm  
Blockage ratio of test object<sup>4</sup> : 0.111 [-]

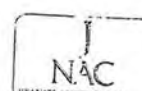
Preconditioning : 24 hours at ambient conditions  
Measurement Condition : The average values during measurement are (24.4) °C, (41.8) %RH and (1011.5) hPa

### TABULATION OF RESULTS:

The table on next page give the measured values.

Calibrated by:

☒ Mr. Soraw Thachalad  
☒ Miss Jiranan Lerttongphol



Approved signature:

*Mr. Pannya Booncharoen*  
Calibration Department Manager

Remarks:  
<sup>1</sup> Nozzle cross-section area of the wind tunnel  
<sup>2</sup> Projected cross-section area of the tested object include mounting pipe  
<sup>3</sup> Diameter of mounting pipe  
<sup>4</sup> Same as 1

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Certificate Number

CC-015-66

Page 2 of 2 Pages

MEASUREMENT RESULTS<sup>5</sup>

The cup anemometer, Unit Under Calibration (UUC) was exercised at 10 m/s for 5 minutes prior to calibration being performed. The standard air velocity 0.5 m/s to 5 m/s was calculated by a standard air velocity transducer and above 5 m/s to 10 m/s was calculated by a pilot tube with precision differential pressure meter which was installed 40 mm and 300 mm respect only away from wind tunnel nozzle, UUC was installed at center of the test section. The calibration was carried out under both rising and falling air velocity in the range of 1 m/s to 16 m/s at calibration interval of 1 m/s. The results of calibration and associated measurement uncertainties are reported in the table below.

$V_{ref}$ (m/s)	Temp. wind tunnel (°C)	Temp. room (°C)	$V_{UUC}$ (m/s)	Error (m/s)	$U$ (k=2) (m/s)
1.023	24.30	24.40	0.9	-0.1	0.31
2.025	24.50	24.40	1.9	-0.1	0.31
2.949	24.40	24.40	2.9	-0.1	0.31
4.109	24.34	24.40	4.0	-0.1	0.31
5.03	24.32	24.40	4.9	0.1	0.31
6.01	24.32	24.40	5.9	-0.1	0.31
7.05	24.24	24.40	7.0	-0.1	0.31
8.17	24.14	24.40	8.0	-0.2	0.31
9.10	24.20	24.40	9.0	-0.1	0.31
10.08	24.10	24.40	9.5	-0.1	0.31
11.14	24.20	24.40	11.0	-0.1	0.31
12.11	24.10	24.40	12.0	-0.2	0.31
13.19	24.14	24.40	13.0	-0.2	0.31
14.23	24.10	24.40	14.0	-0.2	0.31
15.33	24.10	24.40	15.1	-0.2	0.31
16.29	24.10	24.40	16.1	-0.2	0.32

## Remark:

<sup>5</sup> Calibration results only count for the tested circumstances and environmental conditions during which calibration took place.

<sup>6</sup> Velocity of standard.

<sup>7</sup> Velocity of Unit Under Calibration.

## PHOTO OF CALIBRATION SET-UP



Calibration set-up of the cup anemometer calibration in the wind tunnel of Jiranatee Associates Co., Ltd. The cup anemometer shown may differ from the calibrated one. Remark: The proportion of the set-up is not shown due to space limitation.



\*\*\*End of Certificate Calibration\*\*\*

Certificate Number

CD-015-66

Page 2 of 2 Pages

MEASUREMENT RESULTS<sup>5</sup>

The wind direction sensor was calibrated against standard rotary encoder by comparison method. During calibration, the measurement was carried out at 45° intervals in clockwise and counter-clockwise directions after offset adjustment has been made. The flow speed of wind tunnel (usually 5 m/s) is kept constant while the sensor is rotated around its vertical axis. The results of calibration and associated measurement uncertainties are reported in the table below.

Air speed m/s	$D^*_{ref}$ Degree (°)	$D^*_{UUC}$ Degree (°)	Error Degree (°)	$U$ (k=2) Degree (°)
	0.000	0	0	1.0
	45.000	43	-2	1.0
	90.000	87	-3	1.0
	135.000	133	-2	1.0
	180.000	180	0	1.0
	225.000	226	1	1.0
	270.000	272	2	1.0
	315.000	318	3	1.0

## Remark:

<sup>5</sup> Calibration results only count for the tested circumstances and environmental conditions during which calibration took place.

<sup>6</sup> Direction of standard.

<sup>7</sup> Direction of Unit Under Calibration.

\*\*\*End of Certificate Calibration\*\*\*



\*\*\*End of Certificate Calibration\*\*\*



Jiranatee Associates Co., Ltd.  
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Email: jiranatee@jiranatee.co.th  
Web: www.jiranatee.co.th

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TS-175 17025  
CALIBRATION 0367

Air speed measurement laboratory  
Calibration services department.

Certificate Number

CD-015-66

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

## MEASUREMENT ITEM

: Wind Direction Sensor

## MANUFACTURER

: Navalyra

## MODEL/TYPE

: Sensor: WS-02FA

: Data logger: 110-WS-250L-D

## SERIAL NUMBER

: Sensor: WS0-A5980

: Data logger: A5980

## ID NUMBER

: RYG\_FS0649

## CONDITION AS-RECEIVED

: New Item

## CUSTOMER

: ALS Laboratory group (Thailand) Co., Ltd.

: 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Suan Luang,

: Khet Suan Luang, Bangkok 10250 Thailand

## RECEIVED DATE

: 16 Jun 2023

## MEASUREMENT DATE

: 20 Jun 2023

## ISSUE DATE

: 30 Jun 2023

## ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follows:

Temperature :  $23.0 \pm 3.0$  °C

Relative Humidity :  $55.0 \pm 5.0$  %RH

Atmospheric Pressure :  $1010 \pm 10$  hPa

## PLACE OF CALIBRATION

: Effel type wind tunnel of Jiranatee Associates Co., Ltd.

## CALIBRATION CONDITION

: Wind tunnel cross-section area<sup>1</sup> 900 cm<sup>2</sup>: Win direction frontal area<sup>2</sup> 129 cm<sup>2</sup>: Diameter of mounting pipe<sup>3</sup> mm: Blockage ratio of test object<sup>4</sup> 0.143 [-]

## Preconditioning

: 24 hours at ambient conditions

## Measurement Condition

: The average values during measurement are (24.3) °C, (47.4) %RH and (1010.9) hPa.

## TABULATION OF RESULTS:

This table on next page give the measured values.

## Calibrated by:

☒ Mr. Sorawit Thachalao

☐ Miss Jiraporn Lertsomphol

☐ Miss Ruangsima Phommit



## Approved signatory

Mr. Paimya Booncharoen  
Calibration Department Manager

## Remark:

<sup>1</sup> Inside calibration area of the wind tunnel.

<sup>2</sup> Projected cross-section area of the tested object include mounting pipe.

<sup>3</sup> Diameter of mounting pipe.

<sup>4</sup> Ratio of

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Wathapra, Bangkokkhai, Bangkok 10600 Thailand.  
Tel: (66) 02-860812#13 Fax: (66) 02-8608060 www.jiranatee.com



## CERTIFICATE OF CALIBRATION

Certificate No.: CD-025-66  
Page 3 of 2

Equipment Name: Data Logger with Temperature sensor  
Manufacturer: Navalyra  
Model: 110 WS-250L-D  
Serial No.: A5980  
ID No.: RYG\_FS0649

## Customer

Name: ALS Laboratory group (Thailand) Co., Ltd.  
Address: 104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang, Bangkok  
10250 Thailand.

## Received date: 16 Jun 2023

Calibration date: 20 Jun 2023

Issue date: 22 Jun 2023

## Reference Used During Calibration

1. Standard Temperature Probe Model: STS-100-A500  
Serial No.: 687682-09 Due date: 28 Mar 2024  
2. Digital Temperature Indicator Model: DTI-1000-A MK II, Serial No.: 671407-00591 Due date: 22 July 2023

## Calibration Condition

Temperature: (23.3) °C

Relative Humidity: (53±15) %

## Calibration Procedure

The temperature calibration was done by In House calibration method as WLC-001 according to comparison method with standard digital temperature indicator and standard temperature probe. The temperature scale use was based on ITS-90.

## Traceability

The measurement results are traceable to the international system of units (SI) through National Institute of Metrology, Thailand (NIMT) Certificate number: TT 0038-23 Certificate number: ER 0052-22

Notes: This certificate is valid only to the item calibrated on date and place of calibration.

## Calibrated by:

☒ Mr. Sorawit Thachalao

☒ Miss Jiraporn Lertsomphol

☐ Miss Ruangsima Phommit



## Approved Signatory:

Mr. Paimya Booncharoen

Calibration Department Manager

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63/14-15,67/35-36, Soi Petchkasem 7/1, Petchkasem Rd,  
Walthapra, Bangkok, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranatee.com



Certificate No. CT-025 65  
Page 2 of 2

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment  
Calibration Range: 20-40 °C

#### Function:

This equipment was connected with temperature sensor Model: HMP60 S/N: V1920214

Dimension : Diameter 12 mm. Length 80 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
70	20.057	20.0	-0.1	0.099
70	25.051	24.9	-0.2	0.099
70	30.044	29.8	-0.2	0.099
70	35.039	34.8	-0.2	0.099
70	40.034	39.7	-0.3	0.099

UUC\* : Unit Under Calibration  
The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor  $k=2$  providing a level of confidence of approximately 95%.

★ End of Certificate ★



63/14-15,67/35-36, Soi Petchkasem 7/1, Petchkasem Rd,  
Walthapra, Bangkok, Bangkok 10600 Thailand.  
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## CERTIFICATE OF CALIBRATION

Calibration No. : RH-08062023  
Page 1 of 1 Pages

Measurement Item : Relative humidity with data logger  
Manufacturer : Novelynx  
Model/Type : 110-WS-25DL-D  
Serial Number : A5980  
ID No : RYG\_F50649  
Customer : ALS laboratory group (Thailand) Co., Ltd  
: 104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang, Khet Suan Luang, Bangkok 10250 Thailand

#### Environmental Condition:

The measurement was carried out in an ambient temperature of (25±3) °C, and relative humidity of (50±15)%

#### Measurement Method:

Unit Under Calibration (UUC) was calibrated by comparison method with standard chilled mirror hygrometer model 1600 3 in the humidity generator chamber to determine the errors

#### Traceability:

This instrument was calibrated using standard equipment whose accuracy is traceability through National Institute of Standards and Technology to the international system of units (SI) via MCS Calibration Inc. Certificate number: 20926-001 Due date: Sep 26, 2024

Measurement Date : Jun 20, 2023  
Issued Date : Jun 22, 2023

#### Measurement Results:

This equipment was connected with indoor air quality probe and Displayed (URI) on display Model: HMP60, Serial number: V1920214.

Calibration was performed in the range of 20%RH to 80%RH

The results of calibration are reported in table below.

Determined (%RH)	Standard (%RH)	UUC Reading (%RH)	Error (%RH)	Uncertainty ±1(%RH)
20	20.04	19.3	-0.7	0.62
50	50.25	49.5	-0.8	0.62
80	80.33	80.5	0.2	0.62

#### Performed by

- ☐ Mr. Sorawet Thachaiad  
☒ Miss Jitraporn Terksomphol  
☐ Miss Ruangsamrui Phoomnil



#### Approved Signatory:

Mr. Parinya Booncharoen  
Calibration Department Manager

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JIRANATEE ASSOCIATES CO., LTD.  
Jiranatee Associates Co., Ltd.  
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Bangkok 10600 Thailand  
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E mail : jiranatee@jiranatee.com  
Website : www.jiranatee.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS-17025  
CALIBRATION 0367



Pressure measurement laboratory  
Calibration services department

## CERTIFICATE OF CALIBRATION

Certificate No. : CP-005-66

Page 1 of 2 Pages

#### MEASUREMENT ITEM MANUFACTURER MODEL/TYPE

: Digital barometer  
: Novelynx  
: Sensor: 110 WS 25BP  
: Data logger: 110-WS-25DL-D

#### SERIAL NUMBER

: Sensor: BP-A5980

#### ID NUMBER

: Data logger: A5980

#### CONDITION AS-RECEIVED

#### CUSTOMER

: RYG\_F50649  
: New item  
: ALS laboratory group (Thailand) Co., Ltd  
: 104 Phatthanakan 40, Phatthanakan Rd,  
: Khwaeng Suan Luang, Khet Suan Luang,  
: Bangkok 10250 Thailand

#### RECEIVED DATE

: 16 Jun 2023

#### MEASUREMENT DATE

: 20 Jun 2023

#### ISSUE DATE

: 20 Jun 2023

#### Calibration procedure:

The pressure calibration was done by in-house calibration method as W1-C1-C3 according to comparison method with Digital pressure calibrator based on DIX-P 6-1

#### Traceability:

The measurement results are traceable to the international system of units (SI) through the NIMT (National Metrology Institute of Thailand) via Certificate number: MP-0205-22

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95%

#### CONDITION OF THIS RESULT OF CALIBRATION:

1 Reference Standard Instrument

Instrument Model Serial No. Certificate No. Due Date  
Absolute Pressure Transducer CPG2500 4100126P MP 0205-22 02 Dec 2023

1 Calibration effort for calibration sequence C

2 The UUC\* was installed in vertical orientation above reference standard instrument and center of UUC\* was used as the reference level

3 Calibration conditions:

- 4 Condition  
Pressure transmitting medium : ☒ Normal ☐ Abnormal  
 $P_{ref}$  (20°C, 1 bar) : 1.19 kg/m<sup>3</sup>  
 $H_{ref}$  : (55±15) %  
 $T_{ref}$  : (23±3) °C  
 $P_{amb}$  : (1010±10) mbar

5 The certificate is valid only to the item calibrated on date and place of calibration

#### Calibrated by:

- ☒ Mr. Sorawet Thachaiad  
☐ Miss Jitraporn Terksomphol



#### Approved signatory

Mr. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



JIRANATEE ASSOCIATES CO., LTD.  
Jiranatee Associates Co., Ltd.  
62/14-15, 67/35-36,  
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E mail : jiranatee@jiranatee.com  
Website : www.jiranatee.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS-17025  
CALIBRATION 0367



Pressure measurement laboratory  
Calibration services department

## CERTIFICATE OF CALIBRATION

Certificate No. : CP-009-66

Page 2 of 2 Pages

#### MEASUREMENT RESULTS

: ☒ Without adjustment ☐ With adjustment

CALIBRATION IN THE RANGE OF : 950 mbar to 1050 mbar

The results of calibration and associated measurement uncertainties are reported in the table below.

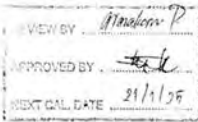
STD (mbar)	UUC* (mbar)	Error (mbar)	Uncertainty (k=2) (mbar)
950.13	950.8	0.6	0.84
970.04	970.4	0.4	0.50
990.10	990.3	0.2	0.46
1010.08	1010.1	0.0	0.37
1030.10	1029.8	-0.3	0.50
1050.08	1049.5	-0.5	0.73

Note: UUC\* Unit Under Calibration

: To convert the result in report unit to Pa should be multiply by 100

\*End of certificate\*





Certificate Number

CWS-001-66

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

**MEASUREMENT ITEM** : Cup anemometer  
**MANUFACTURER** : Novatime  
**MODEL/TYPE** : Sensor: WS-02F  
Data logger: 110-WS-250, D  
**SERIAL NUMBER** : Sensor: WSD-A5662  
Data logger: A5662  
**ID NUMBER** : RVG: F52544  
**CONDITION AS-RECEIVED** : Used item  
**CUSTOMER** : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang,  
Khet Suan Luang, Bangkok 10250 Thailand

**RECEIVED DATE** : 11 Jul 2023  
**MEASUREMENT DATE** : 21 Jul 2023  
**ISSUE DATE** : 21 Jul 2023

### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH  
Atmospheric Pressure : 1010 ± 10 hPa

### PLACE OF CALIBRATION

: Effel-type wind tunnel of Jirante Associates Co., Ltd

**CALIBRATION CONDITIONS**  
: Wind tunnel cross-section area : 900 cm<sup>2</sup>  
Win direction frontal area<sup>1</sup> : 100 cm<sup>2</sup>  
Diameter of mounting pipe<sup>2</sup> : mm  
Blockage ratio of test object<sup>3</sup> : 0.11 [-]

**Preconditioning** : 24 hours at ambient conditions  
**Measurement Condition** : The average values during measurement are (24.0) °C, (43.7) %RH and (1010.1) hPa

### TABULATION OF RESULTS:

The table on next page give the measured values

Calibrated by:  
[X] Mr. Sorawit Thachalad  
[X] Miss Jittaporn Lertsumrit



Approved signatory

Mr. Parinya Booncharoen  
Calibration Department Manager

**Remark:**  
<sup>1</sup> Inside cross-section area of the wind tunnel  
<sup>2</sup> Inside cross-section area of the tested object include mounting pipe  
<sup>3</sup> Diameter of mounting pipe  
<sup>4</sup> Ratio (%)

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Page 2 of 2 Pages

### MEASUREMENT RESULTS<sup>5</sup>

The cup anemometer, Unit Under Calibration (UUC) was exercised at 30 m/s for 5 minutes prior to calibration being performed. The standard air velocity 0.5 m/s to 5 m/s was calculated by a standard air velocity transducer and shown 5 m/s to 30 m/s was calculated by a pitot tube with pressure difference pressure meter which was installed 40 mm and 300 mm respectively away from wind tunnel nozzle. UUC was installed at center of the test section. The calibration was carried out under both rising and falling air velocity in the range of 1 m/s to 16 m/s at calibration interval of 1 m/s. The results of calibration and associated measurement uncertainties are reported in the table below

V <sub>ref</sub> (m/s)	Temp. wind tunnel (°C)	Temp. room (°C)	V <sub>uuc</sub> (m/s)	Error (m/s)	U (k=2) (m/s)
1.004	23.94	23.95	0.8	-0.2	0.31
2.079	24.08	23.95	1.8	-0.3	0.31
3.019	24.04	23.95	2.8	-0.2	0.31
4.150	24.12	23.95	3.9	-0.3	0.31
5.00	23.72	23.95	4.8	-0.2	0.31
5.99	23.88	23.95	5.8	-0.2	0.31
7.04	23.68	23.95	6.9	-0.2	0.31
8.15	23.64	23.95	7.9	-0.2	0.31
9.09	23.30	23.95	9.0	-0.1	0.31
10.05	23.40	23.95	9.9	0.1	0.31
11.13	23.48	23.95	11.0	-0.2	0.31
12.11	23.40	23.95	12.0	-0.1	0.31
13.16	23.50	23.95	13.0	-0.1	0.31
14.22	23.40	23.95	14.0	-0.2	0.31
15.22	23.50	23.95	15.0	-0.2	0.31
16.27	23.44	23.95	16.1	-0.2	0.31

### Remark:

<sup>5</sup> Calibration results only valid for the tested circumstances and environmental conditions during which calibration took place

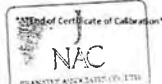
<sup>6</sup> Velocity of standard

Velocity of Unit Under Calibration

### PHOTO OF CALIBRATION SET-UP



Calibration set-up of the cup anemometer calibration in the wind tunnel of Jirante Associates Co., Ltd. The cup anemometer shown may differ from the calibrated one. Remark: The proportion of the set-up is not true to scale due to imaging geometry



Certificate Number

CWD-001-66

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

**MEASUREMENT ITEM** : Wind Direction Sensor  
**MANUFACTURER** : Novatime  
**MODEL/TYPE** : Sensor: WS-02F  
Data logger: 110-WS-250, D  
**SERIAL NUMBER** : Sensor: WSD-A5662  
Data logger: A5662  
**ID NUMBER** : RVG: F52544  
**CONDITION AS-RECEIVED** : Used item  
**CUSTOMER** : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang,  
Khet Suan Luang, Bangkok 10250 Thailand

**RECEIVED DATE** : 11 Jul 2023  
**MEASUREMENT DATE** : 21 Jul 2023  
**ISSUE DATE** : 21 Jul 2023

### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH  
Atmospheric Pressure : 1010 ± 10 hPa

### PLACE OF CALIBRATION

: Effel-type wind tunnel of Jirante Associates Co., Ltd

**CALIBRATION CONDITION**  
: Wind tunnel cross-section area<sup>1</sup> : 900 cm<sup>2</sup>  
Win direction frontal area<sup>2</sup> : 129 cm<sup>2</sup>  
Diameter of mounting pipe<sup>3</sup> : mm  
Blockage ratio of test object<sup>4</sup> : 0.143 [-]

**Preconditioning** : 24 hours at ambient conditions  
**Measurement Condition** : The average values during measurement are (23.87) °C, (43.0) %RH and (1011.6) hPa

### TABULATION OF RESULTS:

The table on next page give the measured values

Calibrated by:  
[X] Mr. Sorawit Thachalad  
[X] Miss Jittaporn Lertsumrit



Approved signatory

Mr. Parinya Booncharoen  
Calibration Department Manager

**Remark:**  
<sup>1</sup> Inside cross-section area of the wind tunnel  
<sup>2</sup> Inside cross-section area of the tested object include mounting pipe  
<sup>3</sup> Diameter of mounting pipe  
<sup>4</sup> Ratio (%)

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Certificate Number

CWD-001-66

Page 2 of 2 Pages

### MEASUREMENT RESULTS<sup>5</sup>

The wind direction sensor was calibrated against standard rotary encoder by comparison method. During calibration, the measurement was carried out at 45° intervals in clockwise and counterclockwise directions after offset adjustment has been made. The flow speed of wind tunnel (usually 5 m/s) is kept constant while the sensor is rotated around its vertical axis. The results of calibration and associated measurement uncertainties are reported in the table below

Air speed m/s	D <sub>1</sub> Degree (°)	D <sub>2</sub> Degree (°)	Error Degree (°)	U (k=2) Degree (°)
5.00	45.000	41	-4	1.0
	90.000	87	-3	1.4
	135.000	132	-3	1.0
	180.000	180	0	1.0
	225.000	228	3	1.0
	270.000	279	3	1.0
	315.000	318	3	1.0
	360.000	359	-1	1.0

### Remark:

<sup>5</sup> Calibration results only valid for the tested circumstances and environmental conditions during which calibration took place

<sup>6</sup> Direction of standard

Direction of Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*







63/14-15,67/35-36, Soi Petchkasem7,7/1, Petchkasem Rd,  
Wathapra, Bangkokyai, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranatee.com



## CERTIFICATE OF CALIBRATION

Certificate No.: CDT 037-66  
Page 1 of 2

Equipment Name: Data Logger with Temperature sensor  
Manufacturer: Novalyx  
Model: 110-WS-25DL-D  
Serial No.: A5662  
ID No.: RYG\_FS0544

Customer  
Name: ALS laboratory group (Thailand) Co., Ltd.  
Address: 104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang, Bangkok  
10250 Thailand.

Received date: 11 Jul 2023  
Calibration date: 21 Jul 2023  
Issue date: 21 Jul 2023

Reference Used During Calibration  
1. Standard Temperature Probe Model: STS-100 A500  
Serial No.: 6676B2-09, Due date: 28 Mar 2024  
2. Digital Temperature Indicator Model: DTI 1000 A MK  
II, Serial No.: 671407-00591 Due date: 22 July 2023

Calibration Condition  
Temperature: (23±3) °C  
Relative Humidity: (55±15)%

Calibration Procedure  
The temperature calibration was done by In House  
calibration method as WI-CL-001 according to  
comparator method with standard digital temperature  
indicator and standard temperature probe. The  
temperature scale use was based on ITS-90.

Traceability  
The measurement results are traceable to the  
international system of units (SI) through National  
Institute of Metrology Thailand (NIMT) Certificate  
number: TT-003-23, Certificate number: E-10092  
22

Noted: The certificate is valid only to the item calibrated on date and place of calibration.

Calibrated by  
1. Mr. Sorawit Thachalad  
2. Miss Jitraporn Lertsomphol  
3. Miss Ruangrumpai Phoommit



Approved Signatory:  
Mr. Pannya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS  
BEEN OBTAINED IN WRITING FROM THE LABORATORY.



63/14-15,67/35-36, Soi Petchkasem7,7/1, Petchkasem Rd,  
Wathapra, Bangkokyai, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranatee.com

## CERTIFICATE OF CALIBRATION

Calibration No.: RH 01072023  
Page 1 of 1 Pages

Measurement Item : Relative humidity with data logger  
Manufacturer : Novalyx  
Model/Type : 110-WS-25DL-D  
Serial Number : A5662  
ID No : RYG\_FS0544  
Customer : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Suan Luang, Khet Suan Luang, Bangkok  
10250 Thailand

Environmental Condition  
The measurement was carried out in an ambient temperature of (25±3)°C, and relative humidity of (50±15)%.

Measurement Method  
This instrument was calibrated by comparison method with standard chilled mirror hygrometer model 1RA0  
3 in the humidity generator chamber to determine the errors.

Traceability  
This instrument was calibrated using standard equipment whose accuracy is traceability through National Institute of  
Standards and Technology to the international system of units (SI) via MCS Calibration, Inc. Certificate number: 20926  
601. Due date: Sep 20, 2024

Measurement Date : Jul 21, 2023  
Issued Date : Jul 21, 2023

Measurement Results  
This equipment was connected with indoor air quality probe and Displayed (URI) on display. Model: HMP60, Serial num  
ber: T2320591.  
Calibration was performed in the range of 20%RH to 80%RH  
The results of calibration are reported in table below.

Determined (%RH)	Standard Reading (%RH)	UUC Reading (%RH)	Error (%RH)	Uncertainty ±(%RH)
20	20.07	16.3	-3.6	0.51
50	50.23	45.0	-5.2	0.51
80	80.23	73.5	-6.7	0.51

Performed by  
☒ Mr. Sorawit Thachalad  
☒ Miss Jitraporn Lertsomphol  
☒ Miss Ruangrumpai Phoommit



Approved Signatory:  
Mr. Pannya Booncharoen  
Calibration Department Manager

THIS CALIBRATION REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS  
BEEN OBTAINED IN WRITING FROM THE LABORATORY.



63/14 15,67/35-36, Soi Petchkasem7,7/1, Petchkasem Rd,  
Wathapra, Bangkokyai, Bangkok 10600 Thailand.  
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranatee.com



Certificate No.: CDT 037-66  
Page 2 of 2

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment  
Calibration Range: 20-40 °C

### Function:

This equipment was connected with temperature sensor Model: HMP60 S/N: T2320591.

Dimension : Diameter 12 mm, Length 80 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
70	20.060	19.6	-0.5	0.099
70	25.054	24.6	-0.5	0.099
70	30.050	29.7	-0.3	0.14
70	35.043	34.5	-0.5	0.099
70	40.036	39.5	-0.5	0.14

UUC\* : Unit Under Calibration

The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2  
providing a level of confidence of approximately 95%.

★ End of Certificate ★



Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TIS TIS 17025  
CALIBRATION 0367  
An speed measurement laboratory  
(Calibration services department)



NSC-TIS TIS 17025  
CALIBRATION 0367

Certificate Number

CWS-036-67

## CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM  
MANUFACTURER  
MODEL/TYPE

SERIAL NUMBER

ID NUMBER  
CONDITION AS-RECEIVED  
CUSTOMER

RECEIVED DATE  
MEASUREMENT DATE  
ISSUE DATE

### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow  
Temperature : 25.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH  
Atmospheric Pressure : 1010 ± 30 hPa

PLACE OF CALIBRATION : EMel type wind tunnel of Jiranatee Associates Co., Ltd

CALIBRATION CONDITIONS : Wind tunnel cross section area<sup>1</sup> : 900 cm<sup>2</sup>  
Wind direction tunnel area<sup>2</sup> : 100 cm<sup>2</sup>  
Diameter of measuring pipe<sup>3</sup> : 100 mm  
Blockage ratio of test object<sup>4</sup> : 0.111 [-]

Preconditioning : 24 hours at ambient conditions  
Measurement Condition : The average values during measurement are (23.8) °C, (43.2) %RH and (1000) hPa.

TABULATION OF RESULTS:  
The table on next page give the measured values.

Calibrated by  
☒ Mr. Sorawit Thachalad  
☒ Miss Jitraporn Lertsomphol



Approved signatory  
Mr. Pannya Booncharoen  
Calibration Department Manager

Remarks:  
<sup>1</sup> Inside cross-section area of the wind tunnel  
<sup>2</sup> Inside cross-section area of the tested object include mounting pipe  
<sup>3</sup> Diameter of measuring pipe  
<sup>4</sup> Ratio: Test

Calibration procedure  
The Cup anemometer was calibrated against  
Standard air velocity transducer model: 8455-32  
and pitot tube with precision differential pressure  
meter model: DP442500 in an closed test section of  
Pitot type wind tunnel with 500 cm<sup>2</sup> cross test  
section area. The WS Co. 007 basic - HC E400  
22-1. Wind energy generation system - Part 32  
1. Power performance measurements of  
electricity producing wind turbines, March 2017  
was used as a reference source.

Traceability  
This certificate provides a traceability of the  
measurement to recognized the national  
standards, and to realization of the international  
system of units (SI) through the NIMT National  
Metrology Institute of Thailand via Certificate  
number: MW 0007-24 and MW 0055-23

Uncertainty of Measurement:  
The reported uncertainty of measurement is  
based on the standard uncertainty multiplied by a  
coverage factor k=2, which for a normal  
distribution corresponds to a coverage probability  
of approximately 95%. The standard uncertainty  
has been determined in accordance with the Guide to the  
expression of uncertainty in measurement.

REVIEW BY :   
APPROVED BY :   
NEXT CAL DATE : 25/12/26

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IN WRITING FROM THE LABORATORY.





Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 °C to 40 °C

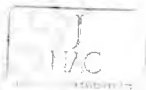
**Function**

Table 3: This equipment was connected with temperature sensor Model: HMP60 S/N: T0210901.  
Dimension: Diameter 12 mm. Length 80 mm

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.049	19.6	0.4	0.099
80	25.053	24.6	-0.5	0.099
80	30.044	29.7	-0.3	0.099
80	35.027	34.5	-0.5	0.099
80	40.019	39.5	-0.5	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



Jirathat Associates Co., Ltd.  
63/14 12, 67/35-36  
Petchburi 170, 16 Waiwathay Rangsi  
Bangkok 10160 (Thailand)  
Tel: 08-8940813  
Mobile: 09-0999953  
E-mail: nac.calibration@jirathat.com  
Web site: www.jirathat.com

**CERTIFICATE OF CALIBRATION**

Certificate No.: CRT-033-67

Page 1 of 2 Pages

**MEASUREMENT ITEM**

**MANUFACTURER**

**MODEL/TYPE**

**SERIAL NUMBER**

**ID NUMBER**

**CONDITION AS-RECEIVED**

**CUSTOMER**

Relative humidity with data logger

Novelint

Data Logger: 110-W5-250L-D

Sensor: HMP60

Data Logger: AS781

Sensor: T0210901

RHG\_F50531

Used item

ALS laboratory group (Thailand) Co., Ltd

104 Phatthanasak 40, Phatthanasak Rd, Khwaeng Suan Luang,

Khet Suan Luang, Bangkok 10250 Thailand.

RECEIVED DATE: 08 Aug 2024

MEASUREMENT DATE: 28 Aug 2024

ISSUE DATE: 28 Aug 2024

**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follows:

Temperature: 23.0 ± 3.0 °C

Relative Humidity: 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

**TABULATION OF RESULTS:**

The table on next page give the measured values

Calibration procedure:  
The relative humidity and Air Temperature  
calibration was done by an in-house calibration  
method as WS-CL-003 and WS-CL-030 according to  
comparison method with Standard: Class A Master  
Hygrometer with Temperature sensor and standard  
Humidity generator chamber.

Traceability:  
The measurements are traceable to the  
international system of units (SI) through National  
Institute of Metrology, Thailand (NIMT). Certificate  
number: TH-0070-23 and through Jirathat  
Associates Co., Ltd. Certificate number: CRT-001-67.

Uncertainty of Measurement:  
The reported uncertainty of measurement is based  
on the standard uncertainty multiplied by a  
coverage factor k=2, which for a normal distribution  
corresponds to a coverage probability of  
approximately 95%. The standard uncertainty has  
been determined in accordance with the GUM  
(Evaluation of measurement data - Guide to the  
expression of uncertainty in measurement).

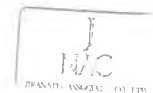
**Calibrated by:**

☒ Mr. Sorawit Thongcharoen  
☒ Miss Jiraporn Lertbunphol  
☐ Miss Ruangsakul Phoomvit

**Approved signatory**

Mr. Parinya Booncharoen  
Calibration Department Manager

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Jirathat Associates Co., Ltd.  
63/14 12, 67/35-36  
Petchburi 170, 16 Waiwathay Rangsi  
Bangkok 10160 (Thailand)  
Tel: 08-8940813  
Mobile: 09-0999953  
E-mail: nac.calibration@jirathat.com  
Web site: www.jirathat.com

**Measurement Results:**

The results of calibration and associated measurement uncertainties are reported in the table below

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Table 1: The results of calibration of relative humidity at 30 °C are reported in table below  
Calibration Range: 20%RH to 80%RH

Air Temperature (°C)	Standard Reading (%RH)	UUC Reading (%RH)	Error (%RH)	Uncertainty (%RH)
29.82	59.61	17.9	1.7	0.83
29.98	50.70	47.5	3.2	1.8
29.91	67.37	77.6	4.8	2.3

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



Page 1 of 2 Pages

**MEASUREMENT ITEM**

**MANUFACTURER**

**MODEL/TYPE**

**SERIAL NUMBER**

**ID NUMBER**

**CONDITION AS-RECEIVED**

**CUSTOMER**

Cup anemometer

Novelint

Sensor: WS-02F

Data logger: WS-250L

Sensor: WSD A4562

Data logger: A4562

600\_F50143

Used item

ALS laboratory group (Thailand) Co., Ltd.

104 Phatthanasak 40, Phatthanasak Rd, Khwaeng Suan Luang,

Khet Suan Luang, Bangkok 10250 Thailand.

RECEIVED DATE: 08 Aug 2024

MEASUREMENT DATE: 20 Aug 2024

ISSUE DATE: 20 Aug 2024

**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follows:

Temperature: 23.0 ± 3.0 °C

Relative Humidity: 55.0 ± 15.0 %RH

Atmospheric Pressure: 1010 ± 10 hPa

**PLACE OF CALIBRATION**

Effort-type wind tunnel of Jirathat Associates Co., Ltd.

**CALIBRATION CONDITIONS**

Wind tunnel cross-section area<sup>a</sup>: 900 cm<sup>2</sup>  
Wind direction frequency<sup>b</sup>: 100 cm<sup>2</sup>  
Diameter of mounting pipe<sup>c</sup>: 1 mm  
Blockage ratio of test object<sup>d</sup>: 0.111 [-]

**Preconditioning**

24 hours at ambient conditions

**Measurement Condition**

The average values during measurement are (24.2) °C, (41.9) %RH and (1007.9) hPa

**TABULATION OF RESULTS:**

The table on next page give the measured values

**Calibrated by:**

☒ Mr. Sorawit Thongcharoen  
☒ Miss Jiraporn Lertbunphol

**Approved signatory**

Mr. Parinya Booncharoen  
Calibration Department Manager

**Remarks:**

<sup>a</sup> Available cross-section area of the wind tunnel  
<sup>b</sup> Projected cross-section area of the test object include mounting pipe  
<sup>c</sup> Diameter of mounting pipe  
<sup>d</sup> Ratio Top

REVIEW BY: *Parinya B*  
APPROVED BY: *Parinya B*  
NEXT CAL DATE: 20/12/26

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED  
IN WRITING FROM THE LABORATORY







Lot No 24118790-1

## SYSTEM CALIBRATION BIAS AND DRIFT DATA

Client Gulf NLL2 Co., Ltd. Location HRS011  
Date 24 Oct 24 Test Operator Sakitt P.O<sub>2</sub> ANALYZER  
Cylinder Conc. (%) : 16.02 Span (%) : 25

	O <sub>2</sub> Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.15	0.15	0.00	0.05	0.40	0.40
Upscale Gas	16.17	16.17	0.00	16.07	0.40	0.40

NO<sub>x</sub> ANALYZER  
Cylinder Conc. (ppm) : 164.40 Span (ppm) : 200

	NO <sub>x</sub> Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.50	0.50	0.00	0.15	0.16	0.16
Upscale Gas	164.50	164.50	0.00	164.55	0.17	0.17

SO<sub>2</sub> ANALYZER  
Cylinder Conc. (ppm) : 159.90 Span (ppm) : 200

	SO <sub>2</sub> Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	-0.03	-0.05	0.00	-0.01	0.01	0.03
Upscale Gas	159.87	159.84	0.02	159.89	0.01	0.02

CO ANALYZER  
Cylinder Conc. (ppm) : 407.40 Span (ppm) : 800

	CO Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	-0.05	-0.05	0.00	-0.01	0.01	0.01
Upscale Gas	407.35	407.35	0.00	407.39	0.01	0.01

Calibrated by

*Sakitt P.*

(Mr. Sakitt Phaisanphistul)

Environmental Field Scientist (4)

FORM NO. F-06-060 REVISION NO. 4 ISSUE DATE 18/01/04

ALS Laboratory Group



## EMISSION TEST RESULT

Client Gulf NLL2 Co., Ltd. Run # 1  
Date 24 Oct 24 Location HRS011  
Start Time 14:00 Test Operator Sakitt P.  
SO<sub>2</sub> Analyzer Model TELEDYNE API 100EH Finish Time 14:20  
NO<sub>x</sub>/O<sub>2</sub> Analyzer Model TELEDYNE API 200EH Serial No 437  
CO/CO<sub>2</sub> Analyzer Model TELEDYNE API 300EH Serial No 774  
Serial No 451

Time (min)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	NO <sub>x</sub> (ppm)	SO <sub>2</sub> (ppm)	CO (ppm)	Remark
14:00	14.19	3.83	9.44	0.12	0.37	
14:01	14.18	3.84	9.40	0.08	0.36	
14:02	14.19	3.85	9.43	0.04	0.35	
14:03	14.20	3.84	9.44	0.04	0.35	
14:04	14.19	3.84	9.41	0.05	0.35	
14:05	14.20	3.83	9.43	0.05	0.37	
14:06	14.20	3.83	9.45	0.05	0.35	
14:07	14.19	3.84	9.50	0.07	0.35	
14:08	14.22	3.83	9.47	0.04	0.41	
14:09	14.23	3.82	9.42	0.07	0.37	
14:10	14.23	3.80	9.45	0.08	0.38	
14:11	14.22	3.81	9.58	0.08	0.42	
14:12	14.19	3.82	9.65	0.09	0.37	
14:13	14.21	3.83	9.54	0.10	0.37	
14:14	14.21	3.84	9.54	0.09	0.35	
14:15	14.23	3.82	9.51	0.11	0.48	
14:16	14.25	3.80	9.49	0.10	0.38	
14:17	14.25	3.80	9.48	0.10	0.43	
14:18	14.24	3.81	9.60	0.11	0.48	
14:19	14.24	3.80	9.66	0.12	0.43	
14:20	14.24	3.80	9.67	0.13	0.47	
Average	14.21	3.82	9.50	0.09	0.39	

*Sakitt P.*

(Mr. Sakitt Phaisanphistul)

Environmental Field Scientist (4)

FORM NO. F-06-060 REVISION NO. 1 ISSUE DATE 18/01/04

ALS Laboratory Group



## EMISSION TEST RESULT

Client Gulf NLL2 Co., Ltd. Run # 2  
Date 24 Oct 24 Location HRS011  
Start Time 14:21 Test Operator Sakitt P.  
SO<sub>2</sub> Analyzer Model TELEDYNE API 100EH Finish Time 14:41  
NO<sub>x</sub>/O<sub>2</sub> Analyzer Model TELEDYNE API 200EH Serial No 437  
CO/CO<sub>2</sub> Analyzer Model TELEDYNE API 300EH Serial No 774  
Serial No 451

Time (min)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	NO <sub>x</sub> (ppm)	SO <sub>2</sub> (ppm)	CO (ppm)	Remark
14:21	14.24	3.80	9.33	0.13	0.44	
14:22	14.25	3.79	9.11	0.11	0.45	
14:23	14.25	3.79	9.27	0.10	0.47	
14:24	14.26	3.81	9.46	0.09	0.48	
14:25	14.26	3.82	9.76	0.11	0.23	
14:26	14.27	3.81	9.64	0.08	0.18	
14:27	14.28	3.79	9.87	0.10	0.21	
14:28	14.28	3.79	9.91	0.11	0.25	
14:29	14.28	3.79	9.95	0.09	0.17	
14:30	14.28	3.80	9.95	0.10	0.20	
14:31	14.27	3.78	10.01	0.12	0.23	
14:32	14.27	3.78	9.98	0.07	0.19	
14:33	14.27	3.78	10.00	0.07	0.28	
14:34	14.26	3.78	10.03	0.08	0.24	
14:35	14.27	3.80	10.11	0.07	0.24	
14:36	14.27	3.79	10.13	0.08	0.22	
14:37	14.27	3.79	10.29	0.09	0.25	
14:38	14.28	3.79	10.35	0.09	0.24	
14:39	14.28	3.79	10.43	0.10	0.26	
14:40	14.27	3.78	10.42	0.10	0.28	
14:41	14.28	3.78	10.43	0.10	0.30	
Average	14.27	3.79	9.99	0.09	0.28	

*Sakitt P.*

(Mr. Sakitt Phaisanphistul)

Environmental Field Scientist (4)

FORM NO. F-06-060 REVISION NO. 1 ISSUE DATE 18/01/04

ALS Laboratory Group



## EMISSION TEST RESULT

Client Gulf NLL2 Co., Ltd. Run # 3  
Date 24 Oct 24 Location HRS011  
Start Time 14:42 Test Operator Sakitt P.  
SO<sub>2</sub> Analyzer Model TELEDYNE API 100EH Finish Time 15:02  
NO<sub>x</sub>/O<sub>2</sub> Analyzer Model TELEDYNE API 200EH Serial No 437  
CO/CO<sub>2</sub> Analyzer Model TELEDYNE API 300EH Serial No 774  
Serial No 451

Time (min)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	NO <sub>x</sub> (ppm)	SO <sub>2</sub> (ppm)	CO (ppm)	Remark
14:42	14.26	3.79	10.35	0.12	0.36	
14:43	14.26	3.79	10.20	0.12	0.25	
14:44	14.26	3.80	10.19	0.12	0.30	
14:45	14.27	3.79	10.17	0.12	0.33	
14:46	14.26	3.79	10.16	0.13	0.32	
14:47	14.25	3.80	10.11	0.13	0.32	
14:48	14.25	3.81	10.03	0.11	0.29	
14:49	14.26	3.79	9.98	0.10	0.31	
14:50	14.26	3.79	10.05	0.10	0.27	
14:51	14.25	3.80	10.01	0.11	0.38	
14:52	14.24	3.80	10.08	0.10	0.31	
14:53	14.23	3.80	10.14	0.11	0.38	
14:54	14.26	3.80	10.24	0.10	0.36	
14:55	14.27	3.79	10.30	0.10	0.34	
14:56	14.27	3.79	10.29	0.10	0.38	
14:57	14.27	3.79	10.21	0.09	0.42	
14:58	14.26	3.80	10.18	0.09	0.34	
14:59	14.25	3.80	10.08	0.08	0.27	
15:00	14.26	3.79	10.00	0.09	0.38	
15:01	14.25	3.78	9.93	0.09	0.31	
15:02	14.24	3.81	10.09	0.07	0.41	
Average	14.26	3.79	10.13	0.10	0.34	

*Sakitt P.*

(Mr. Sakitt Phaisanphistul)

Environmental Field Scientist (4)

FORM NO. F-06-060 REVISION NO. 1 ISSUE DATE 18/01/04

ALS Laboratory Group



Lot No. 24118799-1

## ANALYZER CALIBRATION DATA

Client : Gulf NLL2 Co., Ltd. Location : HRS012  
Date : 24 Oct 24 Test Operator : Sathaporn T.  
O<sub>2</sub> ANALYZER  
Model : TELEDYNE API 200EH Serial No. : 735  
Span (%) : 25

	Cylinder Value (%)	Initial Analyzers Calibration Response (%)	Final Analyzers Calibration Response (%)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	8.19	8.20	8.22	0.00
Span Gas	16.07	16.08	16.09	0.04

NO<sub>x</sub> ANALYZER  
Model : TELEDYNE API 200EH Serial No. : 735  
Span (ppm) : 100

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.02	0.01
Low-Level Gas	54.56	54.95	54.95	0.00
Span Gas	62.51	62.50	62.48	0.02

SO<sub>2</sub> ANALYZER  
Model : TELEDYNE API 100EH Serial No. : 410  
Span (ppm) : 100

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	55.55	55.53	55.53	0.00
Span Gas	79.76	79.75	79.74	0.01

CO ANALYZER  
Model : TELEDYNE API 300EM Serial No. : 425  
Span (ppm) : 100

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.02	0.01
Low-Level Gas	54.84	54.82	54.81	0.01
Span Gas	79.74	79.74	79.73	0.01

Calibrated by

Sathaporn.T

(Mr.Sathaporn Thakaew)

Environmental Field Scientist (3)

FORM NO. F 06-062 REVISION NO. 4 ISSUE DATE 15/01/24  
ALS Laboratory Group

Lot No. 24118799-1

## SYSTEM CALIBRATION BIAS AND DRIFT DATA

Client : Gulf NLL2 Co., Ltd. Location : HRS012  
Date : 24 Oct 24 Test Operator : Sathaporn T.

O<sub>2</sub> ANALYZER  
Cylinder Conc. (%) : 16.07 Span (%) : 25

	O <sub>2</sub> Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.05	0.04	0.05	0.04	0.00
Upscale Gas	16.08	16.12	0.16	16.12	0.16	0.00

NO<sub>x</sub> ANALYZER  
Cylinder Conc. (ppm) : 82.51 Span (ppm) : 100

	NO <sub>x</sub> Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.03	0.02	0.03	0.02	0.00
Upscale Gas	82.50	82.45	0.05	82.45	0.05	0.00

SO<sub>2</sub> ANALYZER  
Cylinder Conc. (ppm) : 79.76 Span (ppm) : 100

	SO <sub>2</sub> Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.02	0.01	0.02	0.01	0.00
Upscale Gas	79.75	79.72	0.03	79.72	0.03	0.00

CO ANALYZER  
Cylinder Conc. (ppm) : 79.74 Span (ppm) : 100

	CO Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.02	0.01	0.02	0.01	0.00
Upscale Gas	79.74	79.70	0.04	79.70	0.04	0.00

Calibrated by

Sathaporn.T

(Mr.Sathaporn Thakaew)

Environmental Field Scientist (3)

FORM NO. F 06-063 REVISION NO. 4 ISSUE DATE 15/01/24  
ALS Laboratory Group

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## EMISSION TEST RESULT

Client : Gulf NLL2 Co., Ltd. Run # : 1  
Date : 24 Oct 24 Location : HRS012  
Start Time : 14:05 Test Operator : Sathaporn T.  
SO<sub>2</sub> Analyzer Model : TELEDYNE API 100EH Finish Time : 14:25  
NO<sub>x</sub>/O<sub>2</sub> Analyzer Model : TELEDYNE API 200EH Serial No. : 410  
CO/CO<sub>2</sub> Analyzer Model : TELEDYNE API 300EM Serial No. : 735  
Serial No. : 425

Time (min)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	NO <sub>x</sub> (ppm)	SO <sub>2</sub> (ppm)	CO (ppm)	Remark
14:05	14.41	3.93	17.41	0.05	2.23	
14:06	14.19	3.92	17.46	0.04	2.26	
14:07	14.41	3.90	17.48	0.04	2.24	
14:08	14.44	3.90	17.44	0.04	2.21	
14:09	14.44	3.87	17.39	0.05	2.23	
14:10	14.45	3.85	17.47	0.05	2.18	
14:11	14.43	3.93	17.52	0.05	2.22	
14:12	14.41	3.90	17.56	0.05	2.29	
14:13	14.42	3.88	17.51	0.04	2.23	
14:14	14.42	3.89	17.50	0.03	2.19	
14:15	14.44	3.89	17.49	0.04	2.21	
14:16	14.41	3.99	17.51	0.04	2.23	
14:17	14.45	3.87	17.55	0.05	2.25	
14:18	14.44	3.93	17.76	0.05	2.16	
14:19	14.40	3.91	17.15	0.06	2.19	
14:20	14.45	3.88	17.70	0.06	2.28	
14:21	14.47	3.87	17.74	0.06	2.15	
14:22	14.46	3.87	17.78	0.06	2.17	
14:23	14.45	3.88	17.84	0.05	2.18	
14:24	14.46	3.89	17.90	0.05	2.17	
14:25	14.47	3.94	17.95	0.05	2.18	
Average	14.44	3.90	17.61	0.06	2.21	

Sathaporn.T

(Mr.Sathaporn Thakaew)

Environmental Field Scientist (3)

FORM NO. F 06-069 REVISION NO. 1 ISSUE DATE 18/01/24  
ALS Laboratory Group

## EMISSION TEST RESULT

Client : Gulf NLL2 Co., Ltd. Run # : 2  
Date : 24 Oct 24 Location : HRS012  
Start Time : 14:26 Test Operator : Sathaporn T.  
SO<sub>2</sub> Analyzer Model : TELEDYNE API 100EH Finish Time : 14:46  
NO<sub>x</sub>/O<sub>2</sub> Analyzer Model : TELEDYNE API 200EH Serial No. : 410  
CO/CO<sub>2</sub> Analyzer Model : TELEDYNE API 300EM Serial No. : 735  
Serial No. : 425

Time (min)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	NO <sub>x</sub> (ppm)	SO <sub>2</sub> (ppm)	CO (ppm)	Remark
14:26	14.49	3.88	18.00	0.05	2.07	
14:27	14.49	3.88	18.06	0.05	2.03	
14:28	14.50	3.87	18.12	0.04	2.15	
14:29	14.50	3.86	18.16	0.05	2.10	
14:30	14.49	3.90	18.16	0.05	2.17	
14:31	14.49	3.86	18.14	0.04	2.04	
14:32	14.49	3.88	18.16	0.04	2.07	
14:33	14.49	3.89	18.19	0.04	2.05	
14:34	14.48	3.89	18.19	0.05	2.14	
14:35	14.48	3.87	18.20	0.05	2.15	
14:36	14.51	3.82	18.44	0.05	2.18	
14:37	14.51	3.87	18.53	0.05	2.10	
14:38	14.50	3.90	18.53	0.04	2.07	
14:39	14.50	3.86	18.68	0.03	2.07	
14:40	14.45	3.87	18.62	0.03	2.15	
14:41	14.47	3.87	18.55	0.04	2.08	
14:42	14.47	3.91	18.35	0.05	2.09	
14:43	14.48	3.85	18.33	0.05	2.06	
14:44	14.48	3.90	18.37	0.06	2.13	
14:45	14.45	3.89	18.47	0.06	2.07	
14:46	14.44	3.89	18.48	0.06	2.14	
Average	14.49	3.88	18.32	0.05	2.10	

Sathaporn.T

(Mr.Sathaporn Thakaew)

Environmental Field Scientist (3)

FORM NO. F 06-063 REVISION NO. 3 ISSUE DATE 18/01/24  
ALS Laboratory Group

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## EMISSION TEST RESULT

Client	Gulf NLL Co., Ltd.	Run #	3
Date	24 Oct 24	Location	HRSG12
Start Time	14:47	Test Operator	Sathaporn T.
SO <sub>2</sub> Analyzer Model	TELEDYNE API 100EH	Finish Time	15:07
NO <sub>x</sub> Analyzer Model	TELEDYNE API 200EH	Serial No	410
CO/CO <sub>2</sub> Analyzer Model	TELEDYNE API 300EM	Serial No	735
		Serial No	425

Time (min)	O <sub>2</sub> (%)	CO <sub>2</sub> (%)	NO <sub>x</sub> (ppm)	SO <sub>2</sub> (ppm)	CO (ppm)	Remark
14:47	14.45	3.85	18.35	0.06	2.14	
14:48	14.46	3.90	18.19	0.05	2.14	
14:49	14.47	3.93	18.16	0.05	2.06	
14:50	14.47	3.89	18.15	0.05	2.11	
14:51	14.47	3.88	18.14	0.05	2.12	
14:52	14.48	3.87	18.25	0.04	2.15	
14:53	14.48	3.87	18.26	0.04	2.05	
14:54	14.49	3.88	18.28	0.05	2.13	
14:55	14.48	3.90	18.33	0.04	2.10	
14:56	14.48	3.95	18.20	0.04	1.98	
14:57	14.46	3.88	18.10	0.04	2.08	
14:58	14.45	3.89	18.03	0.05	2.05	
14:59	14.45	3.89	18.06	0.05	2.14	
15:00	14.46	3.91	18.07	0.05	2.12	
15:01	14.45	3.92	18.14	0.05	1.97	
15:02	14.45	3.91	18.11	0.04	1.91	
15:03	14.44	3.93	18.03	0.03	2.09	
15:04	14.44	3.90	18.07	0.03	2.02	
15:05	14.43	3.87	18.14	0.04	2.02	
15:06	14.45	3.89	18.14	0.05	1.93	
15:07	14.44	3.90	18.20	0.05	2.01	
Average	14.46	3.89	18.16	0.05	2.06	

Sathaporn T.

(Mr Sathaporn Thakaw)

Environmental Field Scientist (3)

FORM NO. F06-00, REVISION 01, 1/2014

ALS Laboratory Official

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Airgas Specialty Gases  
Airgas USA LLC  
6141 Easton Road  
Plumsteadville, PA 18949  
Airgas.com

## CERTIFICATE OF ANALYSIS

## Grade of Product: EPA PROTOCOL STANDARD

Customer:	AIR LIQUIDE (THAILAND) LTD E04N198E3HA0002	Reference Number:	160-402340013-1
Part Number:	GN0027210	Cylinder Volume:	247.2 CF
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	2215 PSIG
PGVP Number:	A12022	Valve Outlet:	660
Gas Code:	CO,NO,NOX,SO <sub>2</sub> ,BALN	Certification Date:	Feb 11, 2022
Expiration Date: Feb 11, 2030			

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	80.00 PPM	82.39 PPM	G1	+/- 1.0% NIST Traceable	02/04/2022, 02/11/22
CARBON MONOXIDE	80.00 PPM	79.48 PPM	G1	+/- 0.6% NIST Traceable	02/04/2022
NITRIC OXIDE	80.00 PPM	82.38 PPM	G1	+/- 1.0% NIST Traceable	02/04/2022, 02/11/22
SULFUR DIOXIDE	80.00 PPM	78.75 PPM	G1	+/- 0.9% NIST Traceable	02/04/2022, 02/11/22
NITROGEN	Balance				

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	09010212	KAL004777	93.48 PPM CARBON MONOXIDE/NITROGEN	+/- 0.5%	Oct 16, 2024
NTRM	200610-15	CC733105	98.61 PPM NITRIC OXIDE/NITROGEN	+/- 0.5%	Oct 06, 2026
NTRM	200610-04	CC709044	88.81 PPM NITRIC OXIDE/NITROGEN	+/- 0.5%	Oct 06, 2026
GMIS	12420888139	CC323707	4.097 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Sep 03, 2024
NTRM	11010419	KAL004813	99.6 PPM SULFUR DIOXIDE/NITROGEN	+/- 0.5%	Jul 28, 2023

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet iS50 FTIR AUP2010245 CO	FTIR	Feb 03, 2022
Nicolet iS50 FTIR AUP2010245 NO	FTIR	Feb 10, 2022
Nicolet iS50 FTIR AUP2010245 NO2	FTIR	Jan 27, 2022
Nicolet iS50 FTIR AUP2010245 SO2	FTIR	Jan 20, 2022

Triad Data Available Upon Request

NOTES: Gross Weight: 48.5 Kg

Net Weight: 8.1 Kg



Airgas Specialty Gases  
Airgas USA LLC  
6151 Easton Road  
Plumsteadville, PA 18949  
Airgas.com

## CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E04N198E15A021C	Reference Number:	160-402020199-1
Cylinder Number:	CC709069	Cylinder Volume:	144.4 CF
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	2015 PSIG
PGVP Number:	A12021	Valve Outlet:	960
Gas Code:	CO,NO,NOX,SO <sub>2</sub> ,BALN	Certification Date:	Feb 22, 2021
Expiration Date: Feb 22, 2029			

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	55.00 PPM	54.96 PPM	G1	+/- 1.4% NIST Traceable	02/15/2021, 02/22/2021
CARBON MONOXIDE	55.00 PPM	54.34 PPM	G1	+/- 0.7% NIST Traceable	02/15/2021
NITRIC OXIDE	55.00 PPM	54.69 PPM	G1	+/- 1.1% NIST Traceable	02/15/2021, 02/22/2021
SULFUR DIOXIDE	55.00 PPM	55.55 PPM	G1	+/- 1.0% NIST Traceable	02/15/2021, 02/22/2021
NITROGEN	Balance				

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	14060753	CC434555	49.88 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Feb 13, 2026
PRM	12386	D655025	9.51 PPM AIR/NITROGEN DIOXIDE	2.0%	Feb 20, 2020
NTRM	200611-04	CC707985	48.82 PPM NITRIC OXIDE/NITROGEN	+/- 1.0%	Feb 02, 2025
GMIS	124208889	CC323707	4.028 PPM NITROGEN DIOXIDE/NITROGEN	2.1%	Aug 15, 2021
NTRM	0141709	KAL003180	49.67 PPM SULFUR DIOXIDE/NITROGEN	+/- 1.0%	Jun 20, 2022

The CRM, PRM or GMIS listed above is only in reference to the GMIS used in the assay and not part of the analysis.

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet iS50 FTIR AUP2010245 CO	FTIR	Feb 04, 2021
Nicolet iS50 FTIR AUP2010245 NO	FTIR	Feb 11, 2021
Nicolet iS50 FTIR AUP2010245 NO2	FTIR	Feb 22, 2021
Nicolet iS50 FTIR AUP2010245 SO2	FTIR	Feb 16, 2021

Triad Data Available Upon Request

NOTES:  
Gross Weight: 28.6 Kg  
Net Weight: 4.8 Kg



Approved for Release

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Airgas Specialty Gases  
Airgas USA, LLC  
600 Union Landing Road  
Cinnaminson, NJ 08077-0000  
Airgas.com

## CERTIFICATE OF ANALYSIS

## Grade of Product: EPA Protocol

Part Number:	E04N198E3HA0026	Reference Number:	82-401257890-1
Cylinder Number:	ND62877	Cylinder Volume:	247.2 CF
Laboratory:	124 - Riverton (SAP) - NJ	Cylinder Pressure:	2215 PSIG
PGVP Number:	B52018	Valve Outlet:	660
Gas Code:	CO,NO,NOX,SO <sub>2</sub> ,BALN	Certification Date:	Aug 07, 2018
Expiration Date: Aug 07, 2026			

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	180.0 PPM	164.4 PPM	G1	+/- 1.1% NIST Traceable	07/30/2018, 08/07/2018
NITRIC OXIDE	180.0 PPM	164.4 PPM	G1	+/- 1.1% NIST Traceable	07/30/2018, 08/07/2018
SULFUR DIOXIDE	180.0 PPM	159.9 PPM	G1	+/- 1.1% NIST Traceable	07/30/2018, 08/07/2018
CARBON MONOXIDE	400.0 PPM	407.4 PPM	G1	+/- 1.1% NIST Traceable	07/30/2018
NITROGEN	Balance				

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	17060241	E19079587	100.3 PPM NITRIC OXIDE/NITROGEN	+/- 1.0%	May 11, 2019
PRM	12388	5604118	26.88 PPM NITROGEN DIOXIDE/AIR	+/- 1.5%	Jun 02, 2017
GMIS	7042010104	CC539941	5.101 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Jan 01, 2020
NTRM	11010414	KAL004782	89.6 PPM SULFUR DIOXIDE/NITROGEN	+/- 0.6%	Jul 28, 2023
NTRM	16060538	CC453507	48.1 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Jan 08, 2021

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 APW1100391 CO	FTIR	Jul 19, 2018
Nicolet 6700 APW1100391 NO	FTIR	Jul 12, 2018
Nicolet 6700 APW1100391 NO2	FTIR	Aug 03, 2018
Nicolet 6700 APW1100391 SO2	FTIR	Aug 02, 2018

Triad Data Available Upon Request

NOTES:  
Net weight: 8107 grams  
Gross weight: 47980 grams

This calibration std. has been certified in accordance with the May 2012 EPA Traceability Document EPA-600/R-12/531. All testing processes and measurements conform to the ISO/IEC 17025 and to Airgas ISO 9001:2008 and relate only to items identified on this cert. are certified to be NIST Traceable with total uncertainty as detailed under Analytical Uncertainty. This document shall not be reproduced in full without written approval of the issuer.



TESTING CERT No. 3082.05

Approved for Release

Page 1 of 82-401257890-1

## CERTIFICATE OF ANALYSIS

### Grade of Product: EPA Protocol

Part Number: E04N199E3HA0002 Reference Number: 160-402138465-1  
Cylinder Number: ND11222 Cylinder Volume: 247.2 Cubic Feet  
Laboratory: 124 - Plumsteadville - PA Cylinder Pressure: 2215 PSIG  
PGVP Number: A12021 Valve Outlet: 660  
Gas Code: CO,NO,NOX,SO2,BALN Certification Date: Jul 15, 2021

Expiration Date: Jul 15, 2029

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/031, using the assay procedures listed. Analytical Metrology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS				
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
NOX	80.00 PPM	82.51 PPM	G1	+/- 1.4% NIST Traceable
CARBON MONOXIDE	80.00 PPM	79.74 PPM	G1	+/- 0.5% NIST Traceable
NITRIC OXIDE	80.00 PPM	82.51 PPM	G1	+/- 1.4% NIST Traceable
SULFUR DIOXIDE	80.00 PPM	79.75 PPM	G1	+/- 1.0% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS				
Type	Lot ID	Cylinder No	Concentration	Uncertainty
NTRM	11010130	KAL004536	97.31 PPM CARBON MONOXIDE/NITROGEN	+/- 0.4%
PRM	12355	D085025	9.51 PPM ARGON/NITROGEN DIOXIDE	2.0%
NTRM	200610-50	CC73426	58.61 PPM NITRIC OXIDE/NITROGEN	+/- 0.5%
GMIS	124206989	CC323707	4.025 PPM NITROGEN DIOXIDE/NITROGEN	2.1%
NTRM	15010224	KAL003538	97.59 PPM SULFUR DIOXIDE/NITROGEN	+/- 0.9%

The SRM, PRM or RQM noted above is only in reference to the GMS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multi-point Calibration
Nicolet iS50 FTIR AUP2010245 CO	FTIR	Jun 24, 2021
Nicolet iS50 FTIR AUP2010245 NO	FTIR	Jul 01, 2021
Nicolet iS50 FTIR AUP2010245 NO2	FTIR	Jun 30, 2021
Nicolet iS50 FTIR AUP2010245 SO2	FTIR	Jul 09, 2021

Triad Data Available Upon Request

NOTES:  
Gross Weight: 48.0 Kg  
Net Weight: 7.8 Kg



*Muhunda Kulu*  
Approved for Release

Page 1 of 160-402138465-1

## CERTIFICATE OF ANALYSIS

### Grade of Product: EPA Protocol

Part Number: E02N192E3HA0000 Reference Number: 82-401016725-1  
Cylinder Number: ND60018 Cylinder Volume: 248.4 CF  
Laboratory: 124 - Riverton (SAP) - NJ Cylinder Pressure: 2214 PSIG  
PGVP Number: B52017 Valve Outlet: 590  
Gas Code: O2,BALN Certification Date: Oct 23, 2017

Expiration Date: Oct 23, 2025

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/031, using the assay procedures listed. Analytical Metrology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS				
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	8.000 %	8.003 %	G1	+/- 0.4% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS				
Type	Lot ID	Cylinder No	Concentration	Uncertainty
NTRM/SL	09002208	CC282337	9.961 % OXYGEN/NITROGEN	+/- 0.3%

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multi-point Calibration
Vertec MPA 510-Q2-77MMJ41	Paramagnetic	Sep 28, 2017

Triad Data Available Upon Request

NOTES:  
This calibration std. has been certified in accordance with the May 2012 EPA Traceability Protocol, Document EPA-600/R-12/031. All testing processes and measurements conform to the requirements of ISO/IEC 17025 and to NIST ISO 9001:2000 and relate only to items identified on this certificate. All values are certified to be NIST Traceable with total uncertainty as detailed under Analytical Uncertainty. This document shall not be reproduced in full without written approval of the issuer.



TESTING CERT No. 2000.02

*D. Marra*  
Approved for Release

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## CERTIFICATE OF ANALYSIS

### Grade of Product: EPA PROTOCOL STANDARD

Customer: AIR LIQUIDE (THAILAND) LTD  
Part Number: E02N194E3HA0001 Reference Number: 160-402340010-1  
Cylinder Number: GN0027197 Cylinder Volume: 249.8 CF  
Laboratory: 124 - Plumsteadville - PA Cylinder Pressure: 2214 PSIG  
PGVP Number: A12022 Valve Outlet: 580  
Gas Code: O2,BALN Certification Date: Feb 02, 2022

Expiration Date: Feb 02, 2030

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/031, using the assay procedures listed. Analytical Metrology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS				
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	16.00 %	16.02 %	G1	+/- 0.4% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS				
Type	Lot ID	Cylinder No	Concentration	Uncertainty
NTRM	05012730	K005228	23.20 % OXYGEN/NITROGEN	+/- 0.4%

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multi-point Calibration
SIEMENS OXYMAT 6-N1WS-951-O2	PARAMAGNETIC	Jun 27, 2022

Triad Data Available Upon Request

NOTES: Gross Weight: 48.9 Kg  
Net Weight: 8.2 Kg



*chi*  
Approved for Release

Page 1 of 160-402340010-1

## CERTIFICATE OF ANALYSIS

### Grade of Product: EPA PROTOCOL STANDARD

Customer: AIR LIQUIDE (THAILAND) LTD  
Part Number: E02N194E3HA0001 Reference Number: 160-402630555-1  
Cylinder Number: GN0028555 Cylinder Volume: 250.0 CF  
Laboratory: 124 - Plumsteadville - PA Cylinder Pressure: 2214 PSIG  
PGVP Number: A12023 Valve Outlet: 590  
Gas Code: O2,BALN Certification Date: Sep 05, 2023

Expiration Date: Sep 05, 2031

Certification performed in accordance with EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA 600/R-12/031, using the assay procedures listed. Analytical Metrology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

ANALYTICAL RESULTS				
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	16.00 %	16.07 %	G1	+/- 0.4% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS				
Type	Lot ID	Cylinder No	Concentration	Uncertainty
NTRM	05012730	K005228	23.20 % OXYGEN/NITROGEN	+/- 0.4%

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multi-point Calibration
SIEMENS OXYMAT 6-N1WS-951-O2	PARAMAGNETIC	Aug 16, 2023

Triad Data Available Upon Request

NOTES: Gross Weight: 50.0 Kg  
Net Weight: 8.4 Kg



*John Ahern*  
Approved for Release

Page 1 of 160-402630555-1



## CERTIFICATE OF ANALYSIS

### Grade of Product: EPA Protocol

Part Number: E02N192E3HA0000 Reference Number: 160-401948144-1  
Cylinder Number: GN0025086 Cylinder Volume: 248.4 CF  
Laboratory: 124 - Plumsteadville - PA Cylinder Pressure: 5214 PSIG  
PGVP Number: A12020 Valve Outlet: 590  
Gas Code: O2,BALN Certification Date: Nov 11, 2020

Expiration Date: Nov 11, 2028

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/9-12-031, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are in mole/mole basis unless otherwise noted.  
Do Not Use This Cylinder below 100 psia, i.e. 6.7 megapascals.

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
OXYGEN	8.000 %	8.186 %	G1	+/- 0.3% NIST Traceable	11/11/20
NITROGEN	Balance				

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	10010602	1038055	9.957 % OXYGEN/NITROGEN	+/- 0.3%	Apr 19, 2022

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
SIEMENS OXYMAT 6 - N1-WS-551 - 02	PARAMAGNETIC	Oct 26, 2020

Triad Data Available Upon Request

NOTES:  
Gross Weight: 48.1 Kg  
Net Weight: 8.2 Kg



Approved for Release

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### CONSOLE CONTROL UNIT CALIBRATION TEST REPORT

Barometric Pressure (mmHg): 749.1  
Relative Humidity (%): 46.2  
Temperature (°C): 33.8

Calibration Date: 10-Jul-24  
Next Cal Date: 10-Jan-25

#### Reference Dry Gas Meter Data

Reference Dry Gas Meter ID: BKK\_FS1122  
Serial No: A2003240  
Correction Factor (Y): 0.9824  
Next Calibration Date: 7-Nov-24

#### Console Control Meter Data

Calibration No: C-100724-BKK\_FS0556  
Dry Gas Meter ID: BKK\_FS0556  
Serial No: 1606041  
Model No: XC-572-V

ΔH	ΔH (mm H <sub>2</sub> O)	Min/Sec	Reference Dry Gas Meter Calibration				Console Control - Dry Gas Meter				Office Calibration
			Final	Total	Tr	Tr (°C)	Final	Total	Tr	Tr (°C)	
15	11.75	150.00	0.00	150.00	23.0	303544.0	303400.0	148.00	30.0	30.0	0.9975
25	9.24	150.00	0.00	150.00	29.0	303697.0	303550.0	147.00	30.0	30.0	1.0033
50	6.53	150.00	0.00	150.00	29.0	303848.0	303700.0	146.00	31.0	31.0	0.9978
80	5.19	150.00	0.00	150.00	30.0	303997.0	303850.0	147.00	31.0	31.0	0.9979
120	4.20	150.00	0.00	150.00	30.0	304146.0	304000.0	146.00	31.0	31.0	1.0009
											0.9984
											0.9984

Y: Rate of reading of reference to dry gas meter: tolerance for individual values: ± 0.02 from average  
ΔH: Once pressure differential that equals to 21.24 in. of air @ 25°C and 760 mm of mercury. mmH<sub>2</sub>O: tolerance for individual values: ± 5.08 from average

Procedure: 40 CFR 80 APP A METH. SECS 2 & 7

Calibrated by: Sakshi Phansanphut

Approved by: Mr. Nathapol Jengwarewong  
RYG Field Service Specialist (1)



### Stopwatch Calibration Test Report

Calibration Date: 10 Jul 24 Next Cal Date: 10 Jan 25  
Barometric Pressure (mmHg): 749.1 Temperature (°C): 33.8  
Relative Humidity (%): 46.2

Reference Stopwatch Data  
Stopwatch ID No: RYG\_FS0540  
Model: F808  
Serial No: E18061  
Calibration Date: 4 Jul 24  
Certificate No: E-2407022

Console Control Meter Data  
Dry Gas Meter No: BKK\_FS0556  
Model: XC-572-V  
Serial No: 1606041

Run No	Time Actual (m:ss.ms)	Time Reading (m:ss)	Diff. (ms)	Diff. (min)
1	5:00:03	5:00	3	0.00005
2	5:00:07	5:00	7	0.00012
3	5:00:07	5:00	7	0.00012
4	5:00:08	5:00	8	0.00013
5	5:00:05	5:00	5	0.00008
6	5:00:07	5:00	7	0.00012
7	5:00:06	5:00	6	0.00010
8	5:00:08	5:00	8	0.00013
9	5:00:08	5:00	8	0.00013
10	5:00:07	5:00	7	0.00012
			Average	0.00011
			SD	0.00003

Calibrate by: Sakshi Phansanphut Approved by: Mr. Nathapol Jengwarewong  
Mr. Sakshi Phansanphut Mr. Nathapol Jengwarewong  
RYG Field Service Scientist (1) RYG Field Service Specialist (1)



### DIGITAL TEMPERATURE CALIBRATION DATA SHEET

Calibration Date :	10 Jul 24	Ambient Temperature (°C):	33.8		
Calibration sheet No : C-100724-BKK_FS0557		Relative Humidity (%) :	46.2		
Digital Temperature ID : BKK_FS0557		Reference Temperature ID	RYG_FS0681		
Serial No. : 1606041		Serial No :	201090014918		
Model : XC-572-V		Model :	Digicon-CC-VT-MS		
		Next Calibrate :	13 Nov 24		
Location	Reference Temperature °C	Digital Temperature °C	Error °C	MPE	Pass / Fail
Stack	0	0	0	±3	Pass
	25	24	-1	±3	Pass
	50	49	-1	±3	Pass
	100	99	-1	±3	Pass
	150	149	-1	±3	Pass
Probe	200	199	-1	±3	Pass
	250	249	-1	±3	Pass
	300	299	-1	±3	Pass
	500	499	-1	±3	Pass
	100	99	-1	±3	Pass
Oven	120	119	-1	±3	Pass
	140	139	-1	±3	Pass
	100	99	-1	±3	Pass
Filter	120	119	-1	±3	Pass
	140	139	-1	±3	Pass
	100	100	0	±3	Pass
Exit	120	120	0	±3	Pass
	140	141	1	±3	Pass
	0	0	0	±3	Pass
Meter	10	10	0	±3	Pass
	20	20	0	±3	Pass
	0	0	0	±3	Pass
AUX	25	25	0	±3	Pass
	50	50	0	±3	Pass
	0	0	0	±3	Pass
	25	24	-1	±3	Pass
	50	49	-1	±3	Pass

MPE: (Maximum permissible error of measurement) ค่าความคลาดเคลื่อนสูงสุดของการวัด

Calibrated by: Sakshi Phansanphut Approved by: Mr. Nathapol Jengwarewong  
Mr. Sakshi Phansanphut Mr. Nathapol Jengwarewong  
RYG Field Service Scientist (1) RYG Field Service Specialist (1)



PROBE NOZZLE DIAMETER  
CALIBRATION DATA SHEET

Calibration Date : 10 Jul 24 Nozzle Set ID : BKK\_FS0562  
Calibration Sheet No : C-100724-BKK\_FS0562 Verner Caliper ID : BKK\_FS1123

Nozzle ID #	Nozzle Diameter (cm)			Hi - Lo $\Delta D$	$(D_1 + D_2 + D_3) / 3$ $D_{avg}$
	$D_1$	$D_2$	$D_3$		
1	0.305	0.302	0.302	0.003	0.303
2	0.465	0.475	0.485	0.010	0.462
3	0.620	0.635	0.635	0.015	0.630
4	0.765	0.765	0.765	0.000	0.765
5	0.970	0.980	0.975	0.010	0.975
6	1.085	1.085	1.081	0.004	1.084
7	1.275	1.275	1.275	0.000	1.275
8	1.610	1.610	1.615	0.005	1.612

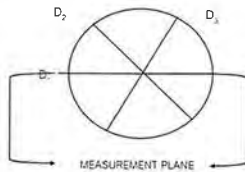
Where :

$D_1, D_2, D_3$  : There different nozzle diameters at 60 degrees to

each other, each measured the nearest 0.025 mm.

$\Delta D$  : Maximum distance between any two diameters,  
must be  $\leq 0.100$  mm.

$D_{avg}$  :  $(D_1 + D_2 + D_3) / 3$



Calibrated by : Saksit Phaisanphusit  
( Mr Saksit Phaisanphusit )  
RYG Field Service Scientist (4)

Approved by : Nattapon Jengwareewong  
( Mr Nattapon Jengwareewong )  
RYG Field Service Specialist (1)

RYG Field Service Specialist (1)



CONSOLE CONTROL UNIT CALIBRATION TEST REPORT

Barometric Pressure (mmHg) : 749.1  
Relative Humidity (%) : 46.2  
Temperature (°C) : 33.8

Reference Dry Gas Meter Data

Reference Dry Gas Meter ID : BKK\_FS1122  
Serial No : A2003240  
Correction Factor (%) : 0.9824  
Next Calibration Date : 7-Nov-24

Console Control Meter Data

Calibration No : C-100724-BKK\_FS0468  
Dry Gas Meter ID : BKK\_FS0468  
Serial No : 1302005  
Model No : XC-572-V

Calibration of Date : 10-Jul-24  
Next Cal Date : 10-Jun-25

$\Delta H$ (mm H <sub>2</sub> O)	$\Theta$ Minutes	Reference Dry Gas Meter Calibration				Console Control Dry Gas Meter				Dry Gas Meter Correction Factor (%)	Orifice Calibration Factor $\Delta H_{ref}$
		Final	Initial	Total	Tr (°C)	Final	Initial	Total	Ta (°C)		
15	11.90	150.00	0.00	150.00	29.0	566750.0	566750.0	148.00	29.0	0.9842	43.8072
25	8.80	150.00	0.00	150.00	31.0	567067.0	567067.0	147.00	32.0	1.0033	49.9751
50	6.30	150.00	0.00	150.00	31.0	567208.0	567208.0	148.00	32.0	0.9941	41.0631
80	4.84	150.00	0.00	150.00	31.0	567357.0	567357.0	147.00	32.0	0.9979	40.5965
120	4.10	150.00	0.00	150.00	31.0	567507.0	567507.0	147.00	33.0	0.9973	41.0033
									Avg	0.9974	41.5690

Y : Ratio of reading of reference to dry gas meter : tolerance for individual values : 0.02 from average

$\Delta H_{ref}$  : Orifice pressure differential that equals to 21.24 in of air @ 25°C and 760 mm of mercury : tolerance for individual values  $\pm 5.08$  from average

Procedure : 40 CFR 80 APP A METH SEC 5.3 & 7

Calibrated by : Saksit Phaisanphusit  
( Mr Saksit Phaisanphusit )  
RYG Field Service Scientist (4)

Approved by : Nattapon Jengwareewong  
( Mr Nattapon Jengwareewong )  
RYG Field Service Specialist (1)

RYG Field Service Specialist (1)



Stopwatch Calibration Test Report

Calibration Date : 10 Jul 24 Next Cal. Date : 10 Jan 25  
Barometric Pressure (mmHg) : 749.1 Temperature (°C) : 33.8  
Relative Humidity (%) : 46.2

Reference Stopwatch Data

Stopwatch ID No : RYG\_FS0540  
Model : F808  
Serial No : E18061  
Calibration Date : 4 Jul 24  
Certificate No : E-2407022

Console Control Meter Data

Dry Gas Meter No : BKK\_FS0468  
Model : XC-572-V  
Serial No : 1302005

Run No	Time Actual (m:ss.ms)	Time Reading (m:ss)	Diff. (ms)	Diff. (min)
1	5:00.04	5:00	3	0.00005
2	5:00.08	5:00	8	0.00013
3	5:00.07	5:00	7	0.00012
4	5:00.08	5:00	8	0.00013
5	5:00.06	5:00	6	0.00010
6	5:00.06	5:00	6	0.00010
7	5:00.06	5:00	6	0.00010
8	5:00.08	5:00	8	0.00013
9	5:00.07	5:00	7	0.00012
10	5:00.07	5:00	7	0.00012
Average				0.00011
SD				0.00003

Calibrate by : Saksit Phaisanphusit  
( Mr Saksit Phaisanphusit )  
RYG Field Service Scientist (4)

Approved by : Nattapon Jengwareewong  
( Mr Nattapon Jengwareewong )  
RYG Field Service Specialist (1)



DIGITAL TEMPERATURE CALIBRATION DATA SHEET

Calibration Date : 10 Jul 24		Ambient Temperature (°C) : 33.8	
Calibration sheet No : C-100724-BKK_FS0469		Relative Humidity (%) : 46.2	
Digital Temperature ID : BKK_FS0469		Reference Temperature ID RYG_FS0681	
Serial No : 1302005		Serial No : 201090014918	
Model : XC-572-V		Model : Digicon-CC-VT-MS	
		Next Calibrate : 13 Nov 24	

Location	Reference Temperature °C	Digital Temperature °C	Error °C	MPE	Pass / Fail
Stack	0	0	0	±3	Pass
	25	25	0	±3	Pass
	50	50	0	±3	Pass
	100	101	1	±3	Pass
	150	150	0	±3	Pass
Probe	200	201	1	±3	Pass
	250	251	1	±3	Pass
	300	301	1	±3	Pass
	500	501	1	±3	Pass
	100	101	1	±3	Pass
Oven	120	121	1	±3	Pass
	140	141	1	±3	Pass
	100	101	1	±3	Pass
Filter	120	121	1	±3	Pass
	140	141	1	±3	Pass
	100	101	1	±3	Pass
Exit	120	121	1	±3	Pass
	140	141	1	±3	Pass
	0	0	0	±3	Pass
Meter	10	10	0	±3	Pass
	20	20	0	±3	Pass
	0	0	0	±3	Pass
AUX	25	25	0	±3	Pass
	50	49	-1	±3	Pass
	0	0	0	±3	Pass
	25	25	0	±3	Pass
	50	50	0	±3	Pass

MPE : (Maximum permissible error of measurement) ค่าความคลาดเคลื่อนสูงสุดของการวัด

Calibrated by : Saksit Phaisanphusit  
( Mr Saksit Phaisanphusit )  
RYG Field Service Scientist (4)

Approved by : Nattapon Jengwareewong  
( Mr Nattapon Jengwareewong )  
RYG Field Service Specialist (1)





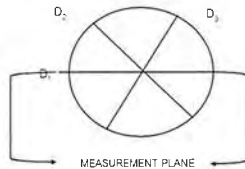
# PROBE NOZZLE DIAMETER CALIBRATION DATA SHEET

Calibration Date : 10-Jul-24	Nozzle Set ID : BKK_FS0474
Calibration Sheet No : C-100724-BKK_FS0474	Vernier Caliper ID : BKK_FS1123

Nozzle ID #	Nozzle Diameter (cm)			H <sub>1</sub> - L <sub>0</sub> ΔD	(D <sub>1</sub> - D <sub>2</sub> - D <sub>3</sub> ) / 3 D <sub>avg</sub>
	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>		
1	0.305	0.300	0.305	0.005	0.303
2	0.455	0.455	0.455	0.000	0.455
3	0.604	0.602	0.601	0.003	0.602
4	0.760	0.765	0.770	0.010	0.765
5	0.935	0.945	0.935	0.010	0.938
6	1.095	1.098	1.092	0.006	1.095
7	1.260	1.260	1.260	0.000	1.260
8	1.605	1.600	1.610	0.010	1.605

Where:

- D<sub>1</sub>, D<sub>2</sub>, D<sub>3</sub> : There different nozzle diameters at 60 degrees to each other, each measured the nearest 0.025 mm.
- ΔD : Maximum distance between any two diameters, must be ≤ 0.100 mm.
- D<sub>avg</sub> : (D<sub>1</sub> + D<sub>2</sub> + D<sub>3</sub>) / 3



Calibrated by: Saksit Phaisanphisit  
(Mr. Saksit Phaisanphisit)  
RYG Field Services Scientist (4)

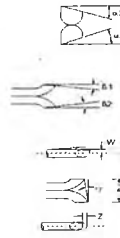
Approved by: Nattapon Jengwarewong  
(Mr. Nattapon Jengwarewong)  
RYG Field Services Specialist

FORM NO : F 06 124 REVISION NO : 0 ISSUE DATE : 25/12/23



## Type S Pitot Tube Calibration

Date Calibration	10-Jul-24	Due Date	10-Jan-25
Pitot ID	BKK_FS0561	Inclinometer ID	BKK_FS1131
Pitot SN		Vernier ID	RYG_FS0539



Parameter	Value	Allowable Range	Check
α1	-2.4	-10° < α1 < +10°	OK
α2	-1.2	-10° < α2 < +10°	OK
β1	-2.0	-5° < β1 < +5°	OK
β2	1.3	-5° < β2 < +5°	OK
γ	0.3	-	-
θ	0.2	-	-
Z = A tan γ	0.005	Z ≤ 0.125"	OK
W = A tan θ	0.003	W ≤ 0.031"	OK
Dt	0.310	0.188" to 0.375"	OK
A/2Dt	1.468	1.05 ≤ PA/Dt ≤ 1.5	OK
A	0.91	2.1Dt ≤ A ≤ 3Dt	OK

Certify that pitot tube/probe meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube certification fact of 0.84. See 40 CFR Pt. 60, App. A, EPA Method 2.

Calibrated by: Saksit Phaisanphisit  
(Mr. Saksit Phaisanphisit)  
RYG Field Services Scientist (4)

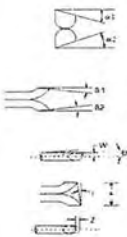
Approved by: Nattapon Jengwarewong  
(Mr. Nattapon Jengwarewong)  
RYG Field Services Specialist (1)

FORM NO : F 06 124 REVISION NO : 0 ISSUE DATE : 25/12/23



## Type S Pitot Tube Calibration

Date Calibration	10-Jul-24	Due Date	10-Jan-25
Pitot ID	BKK_FS0473	Inclinometer ID	BKK_FS1131
Pitot SN		Vernier ID	RYG_FS0539



Parameter	Value	Allowable Range	Check
α1	2.5	-10° < α1 < +10°	OK
α2	1.4	-10° < α2 < +10°	OK
β1	-0.8	-5° < β1 < +5°	OK
β2	-0.4	-5° < β2 < +5°	OK
γ	0.3	-	-
θ	0.2	-	-
Z = A tan γ	0.005	Z ≤ 0.125"	OK
W = A tan θ	0.003	W ≤ 0.031"	OK
Dt	0.310	0.188" to 0.375"	OK
A/2Dt	1.484	1.05 ≤ PA/Dt ≤ 1.5	OK
A	0.92	2.1Dt ≤ A ≤ 3Dt	OK

Certify that pitot tube/probe meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube certification fact of 0.84. See 40 CFR Pt. 60, App. A, EPA Method 2.

Calibrated by: Saksit Phaisanphisit  
(Mr. Saksit Phaisanphisit)  
RYG Field Services Scientist (4)

Approved by: Nattapon Jengwarewong  
(Mr. Nattapon Jengwarewong)  
RYG Field Services Specialist (1)

FORM NO : F 06 124 REVISION NO : 0 ISSUE DATE : 25/12/23

testo

## Calibration certificate Kalibrier-Zertifikat

5753561

Object Gegenstand	Control Unit t350	Measuring Box testo 350	<p>Hereby we confirm that the performing calibration laboratory is working with a management system according to ISO 9001:2015 and DIN EN ISO/IEC 17025:2018. Accreditation certificates can be found under <a href="http://www.testo.de">www.testo.de</a>. The measuring instruments used for calibration are regularly calibrated and traceable to the national standards of the German Federal Physical Technical Institute (PTB) or other national standards. Should no national standards exist, the measuring procedure corresponds with the technical regulations and norms valid at the time of the measurement. The documents established for this procedure are available for viewing. All the necessary measured data can be found on this calibration certificate.</p> <p>Hiermit bestätigen wir, dass das durchführende Kalibrierlabor mit einem Managementsystem nach ISO 9001:2015 sowie DIN EN ISO/IEC 17025:2018 akkreditiert ist. Die Urkunden finden Sie auf <a href="http://www.testo.de">www.testo.de</a>. Die für die Kalibrierung verwendeten Messanrichtungen werden regelmäßig kalibriert und sind rückführbar auf die nationalen Normale der Physikalisch-Technischen Bundesanstalt (PTB) oder andere nationale Normen. Wo keine nationalen Normen existieren, entspricht das Messverfahren den derzeit gültigen technischen Regeln und Normen. Die für diesen Vorgang angelegten Dokumentationen liegen eingesehen werden. Alle erforderlichen Messdaten sind in diesem Kalibrierzertifikat aufgeführt.</p>
Manufacturer Hersteller	TESTO SE & Co. KGaA	TESTO SE & Co. KGaA	
Type description Typ	0632 3511	0632 3510	
Serial no. Serien Nr.	64554897	64749498	
Inventory no. Inventar Nr.	---	---	
Test equipment no. Prüfmittel Nr.	---	---	<p>Die erweiterte Unsicherheit der Messung wurde nach EA-402:2022 mit einer Überdeckungsrate von ca. 95% und enthält die Unsicherheit der Referenz, die Unsicherheit der Methode und die Unsicherheit der Testspezifikationen. Die Übereinstimmung ist gemäß der ISO 9001:2015 und der DIN EN ISO/IEC 17025:2018 zu bestätigen. Die Messergebnisse sind nur für die Messung der angegebenen Parameter gültig. Die Messergebnisse sind nur für die Messung der angegebenen Parameter gültig. Die Messergebnisse sind nur für die Messung der angegebenen Parameter gültig.</p>
Equipment no. Equipment Nr.	15862485	15861584	
Location Standort	---	---	
Customer Auftraggeber	ALS Laboratory Group (Thailand) Co., Ltd 104 Phatthanasri-an 40, Phatthanasri-an Rd., Khwaeng Phatthanasri-an, Khet Suan Luang TH Bangkok 10250 Thailand		
Customer ID no. Kunden Nr.	1031994		
Order no. Auftrags Nr.	12459724 / 0520 0055		<p>REVIEW BY: <u>Andreas P.</u></p> <p>APPROVED BY: <u>[Signature]</u></p> <p>NEXT CAL DATE: <u>12/9/26</u></p>
Date of calibration Datum der Kalibrierung	16.07.2024		
Date of the recommended re-calibration Datum der empfohlenen Rekalibrierung	16.07.2025		
Conformity statement Konformitätsaussage	Pass		<p>The expanded uncertainty of measurement was calculated according to EA-402:2022 with a coverage probability of about 95% and contains the uncertainty of the reference, the uncertainty of the method and the uncertainty of the test specifications. The conformity statement is made according to the rules of the ISO 9001:2015 and the DIN EN ISO/IEC 17025:2018. The measurement results are only valid for the measurement of the specified parameters. The measurement results are only valid for the measurement of the specified parameters. The measurement results are only valid for the measurement of the specified parameters.</p>
Supervisor Überwachungsbeauftragter	[Signature]		
Technician Bearbeiter	S. Garcia		

Seal Stamp



Supervisor Fachverantwortlicher

Martin Forderer

Technician Bearbeiter

Samuel Garcia Zloti

Testo Industrial Services GmbH

Deverwegstraße 6  
78196 Kirchzarten

Tel: +49 781 80901-8000  
Fax: ---

www.testo.de  
info@testo.de

Page 1/2

# Calibration certificate Kalibrier-Zertifikat

5753561

## Measuring equipment Messeinrichtungen

Reference	Traceability	Next cal.	Certificate no.	Ex. no.
1. Test gas medium 1 ProGas Medium 1	MSL-SC00009 2024-02	2025-02	551447C	13 000076
2. Test gas medium 2 ProGas Medium 2	MSL-SC00009 2024-02	2025-02	551448C	13 000077
3. Test gas medium 3 ProGas Medium 3	MSL-SC00009 2024-02	2025-02	551449C	13 000078
4. Test gas medium 4 ProGas Medium 4	MSL-SC00009 2024-02	2025-02	551450C	13 000079
5. Test gas medium 5 ProGas Medium 5	MSL-SC00009 2024-02	2025-02	551451C	13 000080
6. Test gas medium 6 ProGas Medium 6	MSL-SC00009 2024-02	2025-02	551452C	13 000081
7. Test gas medium 7 ProGas Medium 7	MSL-SC00009 2024-02	2025-02	551453C	13 000082
8. Test gas medium 8 ProGas Medium 8	MSL-SC00009 2024-02	2025-02	551454C	13 000083
9. Test gas medium 9 ProGas Medium 9	MSL-SC00009 2024-02	2025-02	551455C	13 000084
10. Test gas medium 10 ProGas Medium 10	MSL-SC00009 2024-02	2025-02	551456C	13 000085
11. Test gas medium 11 ProGas Medium 11	MSL-SC00009 2024-02	2025-02	551457C	13 000086

Reference certificates are available at [www.primasonline.com](http://www.primasonline.com) Referenzzertifikate sind auf [www.primasonline.com](http://www.primasonline.com) verfügbar

## Ambient conditions Umgebungsbedingungen

Temperature Temperatur (20 ± 0.2) °C Humidity Feuchte (20...80) % RH % F

## Measuring procedure Messverfahren

The calibration was carried out by comparison measurement with calibrated test gases  
Die Kalibrierung erfolgte durch Vergleichsmessung mit kalibrierten Prüfgasen

## Measuring results Messergebnisse

Channel Kanal

Reference value Bezugswert	Indicated measured value angezeigter Messwert	Deviation Abweichung	Allowed deviation <sup>2</sup> Zulässige Abweichung <sup>2</sup>	Measurement uncertainty (k=2) Messunsicherheit (k=2)	Confirmation Bestätigung
ppm	Vol.-%	ppm	Vol.-%	ppm	Vol.-%
CO					
100.0 <sup>a</sup>	---	100	---	± 1.1	---
401.0 <sup>a</sup>	---	403	---	± 2.1	---
700.0 <sup>a</sup>	---	702	---	± 3.6	---
NO					
150.0 <sup>a</sup>	---	151	---	± 0.8	---
300.0 <sup>a</sup>	---	302	---	± 1.6	---
NO <sub>2</sub>					
100.0 <sup>a</sup>	---	102.3	---	± 5.1	---
SO <sub>2</sub>					
57.5 <sup>a</sup>	---	56	---	± 6	---
O <sub>2</sub>					
0.00 <sup>a</sup>	---	0.00	---	± 0.21	---
2.50 <sup>a</sup>	---	2.57	---	± 0.21	---
5.01 <sup>a</sup>	---	5.17	---	± 0.21	---

<sup>a</sup> in accordance with the manufacturer's data Hersteller

## Remarks Bemerkungen

Sartorius (Thailand) Co., Ltd.  
125 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310  
Tel: +66 2043 5251-6, e-mail: [service.thailand@sartorius.com](mailto:service.thailand@sartorius.com)



SARTORIUS

NSC-TIS-TIS 17025  
CALIBRATION 0426

# Certificate of Calibration

REVIEW BY: Thamkai  
APPROVED BY: [Signature]  
NEXT CAL. DATE: 22/02/2025

Model Number: MSU224S-100-DU Certificate No.: 24BCI0073  
Description: Analytical Balance Issued Date: Friday, February 23, 2024  
Serial Number: 0031709552 Reference No.: 229196  
ID No.: RYG\_EN0003  
Manufacturer: Sartorius Page No.: 1 of 2

Customer Name: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5 T.Maenam Khu, A.Pluak Daeng, Rayong 21140, Thailand.

Calibrated Place: ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)  
616/10 Moo 5 T.Maenam Khu, A.Pluak Daeng, Rayong 21140, Thailand.

Calibrated By: Mr.Chonchai Inthana  
Calibration Date: Thursday, February 22, 2024

Calibration Procedure No.: This calibration was conducted by  
Using in-house calibration procedure number (WI-003)  
Based on UKAS LAB 14 : 2019

Metrological data :  
Capacity : 220 g Readability : 0.0001 g  
Reasons for calibration  
☐ New Installation ☐ Service / Repair ☒ Re-calibration / Maintenance  
Ambients Conditions:  
Temperature : 23.7 °C ± 5.0 °C  
Humidity : 62.0 % RH ± 10.0 % RH  
Pressure : --- ± ---  
Equipment Condition: ☒ Good Operate ☐ Fail

Measurement Method UKAS Publication Ref :Lab 14  
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance came from list of Sartorius Metrological Specifications.

## Traceability:

Model Number	Description	Traceability	Certificate No.	Due Date
YCS011-522-00	Sartorius weight set 1mg - 5000g E2 YCS011-522-00	TCS	M2308197S	23-Aug-2025
MHB-382SD	Humidity/Balometer/Temp. Lutron MHB-382SD	DKSH	C1923184S	23-Aug-2024

This certificate relate and apply this equipment only  
This certificate may not be reproduced other than in full except with the prior written approval of the Verification Operation Division  
Sartorius (Thailand) Co., Ltd.

[Signature]

Mr.chonchai Inthana(Technical Manager)

SOP FM 33 03 February 2022



Sartorius (Thailand) Co., Ltd.  
125 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310  
Tel: +66 2043 5251-6 Fax: +66 2043 8367, e-mail: [service.thailand@sartorius.com](mailto:service.thailand@sartorius.com)

SARTORIUS

# Certificate of Calibration

Model Number: MSU224S-100-DU Certificate No.: 24BCI0073  
Description: Analytical Balance Issued Date: Friday, February 23, 2024  
Serial Number: 0031709552 Reference No.: 229196  
ID No.: RYG\_EN0003  
Manufacturer: Sartorius Page No.: 2 of 2

## Calibration Results : Without Adjustment

<b>Repeatability</b> The repeatability is the ability of a weighing instrument to display nearly identical readouts under constant test conditions when the same load within a measurement range is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express repeatability quantitatively.		<b>Eccentricity (Off-center loading error)</b> The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R76)	
Nominal Value : (Low Load)	20.0000	200.0001	
20 g	20.0000	200.0000	
Tolerance	20.0001	200.0001	
0.0001 g	20.0000	200.0001	
	20.0000	200.0001	
Nominal Value : (High Load)	20.0000	200.0001	
200 g	19.9999	200.0001	
Tolerance	20.0000	200.0000	
0.0001 g	20.0000	200.0000	
	20.0000	200.0001	
Standard Deviation	0.00005	0.00005	

**Linearity**  
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.

Tolerance		g		
Nominal Value	Conventional Mass Value	Displayed Value	Deviation	Uncertainty
(g)	(g)	(g)	(g)	(g)
0.01	0.0100	0.0100	0.0000	0.00013
0.1	0.1000	0.1000	0.0000	0.00013
0.5	0.5000	0.5000	0.0000	0.00013
1	1.0000	1.0000	0.0000	0.00013
5	5.0000	5.0000	0.0000	0.00013
10	10.0000	10.0000	0.0000	0.00013
20	20.0000	20.0000	0.0000	0.00013
50	50.0000	50.0000	0.0000	0.00024
100	100.0000	99.9999	-0.0001	0.00018
200	200.0000	199.9999	-0.0001	0.00029

End of Report.

SITHIPORN ASSOCIATES CO., LTD.  
CALIBRATION LABORATORY

SITHIPORN



45/45/1 Sithiporn Road, Bangpattana, Bangkok 10710, Thailand  
Tel: +66 2453 8331 Email: [info@sithiporn.com](mailto:info@sithiporn.com)

Cert. No.: ACC24008  
Pages: 1 of 3

# Calibration Certificate

Equipment : SOUND CALIBRATOR  
Manufacturer : RION  
Model : NC-75  
Serial No.: 35002736  
ID No.: RYG FS0496

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40 PHATTHANAKAN ROAD,  
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 19 JANUARY 2024  
Calibration Date : 26 JANUARY 2024  
Date of Issue : 29 JANUARY 2024

Calibrated by : Nathakorn Pisutpan

Approved by : [Signature]  
( Thanakul Peichurai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full except with the prior written approval of the head of Calibration Laboratory.



**SITHIPORN ASSOCIATES CO., LTD.**  
**CALIBRATION LABORATORY**

451/451/1 Srinthorn Road, Bangburnu, Bangplad, Bangkok, 10700 Thailand  
Tel : +66 2433 8331 Email : calibration@sithiporn.com

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associates



Cert. No. : ACC24008  
Job No. : VC67AC0058  
Pages : 2 of 3

Calibration Procedure : CP-AC-03

**Calibration Method :**

This equipment was calibrated by follow on IEC-60942-2003 Standard.  
The sound pressure level, frequency and total distortion of the sound calibrator was measured using the reference microphone.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33511B	MY53202742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EELBP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EELBP 30/0267	13-FEB-24
Digital Multimeter	33461A	MY60024273	EELBP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560495	AA-3002-23	14-FEB-24
Audio Analyzer	AVR-3360A	V744B6069	EF-0012-23	10-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petchur*

**SITHIPORN ASSOCIATES CO., LTD.**  
**CALIBRATION LABORATORY**

451/451/1 Srinthorn Road, Bangburnu, Bangplad, Bangkok, 10700 Thailand  
Tel : +66 2433 8331 Email : calibration@sithiporn.com

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Cert. No. : ACC24008  
Job No. : VC67AC0058  
Pages : 3 of 3

**Result of calibration :**

1. Sound pressure level

Specified sound pressure level (dB)	Measured value (dB)	Deviated value (dB)	Uncertainty (dB)	Acceptance limit (dB)
94	93.98	-0.02	0.14	0.40

2. Frequency

Specified Frequency (Hz)	Measured value (Hz)	Deviated value (%)	Uncertainty (%)	Acceptance limit (%)
1000	1000.0	0.0	0.1	1.0

3. Total distortion

Measured value (%)	Uncertainty (%)	Acceptance limit (%)
0.83	0.10	3.0

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

*T. Petchur*

**SITHIPORN ASSOCIATES CO., LTD.**  
**CALIBRATION LABORATORY**

451/451/1 Srinthorn Road, Bangburnu, Bangplad, Bangkok, 10700 Thailand  
Tel : +66 2433 8331 Email : calibration@sithiporn.com

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associates



Cert. No. : ACL24036  
Pages : 1 of 8

**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-42A / Microphone UC-52 / Preamplifier NH-24  
**Serial No.:** 00623395 / 198642 / 26423  
**ID No.:** RYG\_FS0620

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PIATTHANAKAN 40, PIATTHANAKAN ROAD,  
KIJWAENG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** -  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 05 JANUARY 2024  
**Calibration Date :** 12-15 JANUARY 2024  
**Date of Issue :** 16 JANUARY 2024

**Calibrated by :** Natlakorn Pisutpaisan

**Approved by :**

*T. Petchur*  
( Thanakul Petchurai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

**SITHIPORN ASSOCIATES CO., LTD.**  
**CALIBRATION LABORATORY**

451/451/1 Srinthorn Road, Bangburnu, Bangplad, Bangkok, 10700 Thailand  
Tel : +66 2433 8331 Email : calibration@sithiporn.com

SITHIPORN  
associates



Cert. No. : ACL24036  
Job No. : VC67AC0052  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY53202742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EELBP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EELBP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EELBP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petchur*

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Cert. No. : ACL24036  
Job No. : VC67AC0052  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Job No. : VC67AC0052  
Pages : 4 of 8

**Result of calibration :**

**1. Absolute sensitivity**

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

**2. Self-generated noise**

**2.1 Normal test**

Measured Value (dB)
14.2

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	9.9
C - weight	16.5
Flat	22.3

**3. Acoustical signal tests of frequency weightings**

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.3	0.3	0.4	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	0.7	0.8	0.8	± 5.0

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**4. Electrical signal tests of frequency weightings**

Weighting network response with relative to 1 kHz

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	± 2.0
125	0.0	0.0	0.0	± 1.5
250	0.0	0.0	0.0	± 1.5
500	0.0	0.0	-0.1	± 1.5
1000	0.0	0.0	0.0	± 1.0
2000	0.0	0.0	0.0	± 2.0
4000	0.0	0.0	0.0	± 3.0
8000	0.0	0.1	0.1	± 5.0

**5. Frequency and time weightings at 1 kHz**

**5.1 Frequency weightings at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

**5.2 Time weighting at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

**6. Long - term stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.1	0.1	± 1.1
84.0	84.1	0.1	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.1	0.1	± 1.1
69.0	69.1	0.1	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.1	0.1	± 1.1
54.0	54.0	0.0	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	39.0	0.0	± 1.1
34.0	34.0	0.0	± 1.1
30.0	30.0	0.0	± 1.1
29.0	29.0	0.0	± 1.1
28.0	28.0	0.0	± 1.1
27.0	27.0	0.0	± 1.1
26.0	26.0	0.0	± 1.1
25.0	24.9	-0.1	± 1.1

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8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 : -5.0
	2	8	117.0	117.0	0.0	1.0 : -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 : -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5 : -5.0
SEL	2	8	108.0	108.0	0.0	1.0 : -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	136.1	-0.3	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.1	0.1	±2.0
Positive half cycle	135.4	135.3	-0.1	±2.0
Negative half cycle	135.4	135.3	-0.1	±2.0

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11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.7	0.0	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24037  
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42A / Microphone UC-52 / Preamplifier N11-24  
Serial No. : 00623396 / 198643 / 26424  
ID No. : RYG\_FS0621

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTJANAKAN 40, PHATTJANAKAN ROAD,  
KHWAENG PHATTJANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location : -  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 05 JANUARY 2024  
Calibration Date : 12-15 JANUARY 2024  
Date of Issue : 16 JANUARY 2024

Calibrated by : Nathakorn Pisutpaisan

Approved by :

T. Petchur  
( Thanakul Petchurai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Job No. : VC67AC0052  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by follow on IEC-61672-2 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	FF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL-BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAJ	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR)

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Job No. : VC67AC0052  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

*T. Petch*

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Job No. : VC67AC0052  
Pages : 4 of 8

**Result of calibration :**

**1. Absolute sensitivity**

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.9%)	93.9	0.0	±0.3

**2. Self-generated noise**

**2.1 Normal test**

Measured Value (dB)
14.6

**2.2 The microphone of the sound level meter was replaced by electrical signal input device.**

Frequency Weighting	Measured value (dB)
A - weight	10.8
C - weight	18.7
Flat	23.6

**3. Acoustical signal tests of frequency weightings**

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	0.4	0.5	0.5	± 5.0

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Job No. : VC67AC0052  
Pages : 5 of 8

**4. Electrical signal tests of frequency weightings**

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

**5. Frequency and time weightings at 1 kHz**

**5.1 Frequency weightings at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

**5.2 Time weighting at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

**6. Long - term stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

*T. Petch*

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Job No. : VC67AC0052  
Pages : 6 of 8

**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	54.0	0.0	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	38.9	-0.1	± 1.1
34.0	33.9	-0.1	± 1.1
30.0	29.9	-0.1	± 1.1
29.0	28.9	-0.1	± 1.1
28.0	27.9	-0.1	± 1.1
27.0	26.9	-0.1	± 1.1
26.0	25.9	-0.1	± 1.1
25.0	24.8	-0.2	± 1.1

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Pages : 7 of 8

**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 : -5.0
	2	8	117.0	117.0	0.0	1.0 : -2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 : -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5 : -5.0
SEL	2	8	108.0	108.0	0.0	1.0 : -2.5
	200	800	128.0	128.0	0.0	±1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	136.3	-0.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

*7. P. P. P.*

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.6	0.1	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

*7. P. P. P.*



THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-67/0232

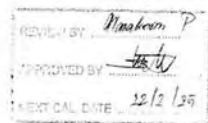
MTC No. EEL BP. 178/0167

**CALIBRATION CERTIFICATE**

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
Address : 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250.  
Calibrated at : Electrical and Electronic Standards Laboratory, Industrial Metrology and Testing Service Centre, Soi 1C, Bangpoo Industrial Estate, Sukhumvit Rd., A-Muang, Samutprakan 10280.

Instrument Calibrated :  
Description : Sound Level Meter  
Manufacturer : Rion  
Model : NL-42  
Serial No. : 00900073 (ID:RYG\_FS0494)  
Microphone : UC-52 No.188466  
Preamplifier : NH-24 No.01735  
Standards used :

Ambient Environment  
Temperature : (23 ± 3) °C  
Relative Humidity : (50 ± 15) %  
Ambient Pressure : (101.325 ± 1.5) kPa



- Band Pass Filter Wavetek 752A S/N 90010494.
- Condenser Microphone Brüel&Kjær 4180 S/N 2889871.
- Decade Attenuator Ando AL-205 S/N 00464602.
- Function/Arbitrary Waveform Generator Agilent 33220A S/N MY44042668.
- Digital Function Synthesizer NF Electronic Instruments DF 193A S/N 120337.
- Digital Multimeter Fluke 8520A S/N 4985007.
- Pistonphone Rion NC-72 S/N 00402446.
- Measuring Amplifier Brüel&Kjær 2636 S/N 1537484.

Date of Receipt : 24 Jan. 2024

Date of Calibration : 23 Feb. 2024 - 1 Mar. 2024

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THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-67/0232

MTC No. EEL BP. 178/0167

- Power Amplifier Brüel&Kjær 2706 S/N 1517650.
- Speaker Tannoy Limited, Great Britain British Patent No. 215300.
- Digital Multimeter Agilent 34401A S/N MY44005560.
- Programmable Attenuator Tainagawa TPA-303A S/N 2212.

**Calibration Procedure :**

This instrument was calibrated by using calibration procedures no CP-102-02 and CP-102-03, which were based on IEC 61672-3 Electroacoustics - Sound Level Meters - Part 3 : Periodic tests (2013). These calibration procedures were related to the electrical and acoustic signal tests. The electrical signal test was carried out with the direct measurement method. The acoustic signal test was performed in an anechoic room with the comparison measurement method.

This instrument has been calibrated against standards maintained at the Electrical and Electronic Standards Laboratory (EEL), which are traceable to the International System of Units through the National Institute of Metrology (Thailand).

The information on actual reading is attached herewith and the uncertainty limits quoted refer to the measured values only.

The reported expanded uncertainty is based upon a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95%.

Date of Calibration : 23 Feb. 2024 - 1 Mar. 2024

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THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-67/0232

MITC No. EEL, BP. 178/0167

### 1. Absolute Sensitivity

Reference Acoustic Signal (dB)	Measured value (dB)		Deviation value (dB)	Acceptance limit Class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
	Before adjust	After adjust				
113.91	114.1	113.9	0.0	1.0	0.30	N/A

Note: The external calibration adjustment was firstly performed. The internal calibration adjustment was then completed at the display of 124.6 dB.

### 2. Self-generated noise

#### 2.1 Normal test

Measured value (dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
17.8	0.10	N/A

#### 2.2 The microphone of the sound level meter was replaced by electrical signal input device

Frequency Weighting	Measured value (dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
A-Weight	12.9	0.10	N/A
C-Weight	18.5	0.10	N/A
Flat	24.2	0.10	N/A

Date of Calibration : 23 Feb 2024-1 Mar, 2024

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Request No. 21-67/0232

MITC No. EEL, BP. 178/0167

### 3. Acoustical signal test of frequency weightings

Frequency (Hz)	Deviation from frequency response (dB)			Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
	A-weight	C-weight	Flat			
125	0.1	0.2	0.2	1.5	0.45	0.6
1 000	-0.1	-0.1	-0.1	1.0	0.45	0.6
8 000	-0.7	-0.7	-0.7	5.0	0.45	0.7

### 4. Electrical signal test of frequency weightings

Frequency (Hz)	Deviation from frequency response (dB)			Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum permitted uncertainty of measurement (±dB)
	A-weight	C-weight	Flat			
63	-0.1	0.0	0.0	2.0	0.20	0.6
125	-0.1	0.0	0.0	1.5	0.20	0.6
250	-0.1	0.0	0.0	1.5	0.20	0.6
500	0.0	0.0	0.0	1.5	0.20	0.6
1 000	0.0	0.0	0.0	1.0	0.20	0.6
2 000	+0.1	0.0	0.0	2.0	0.20	0.6
4 000	+0.1	0.0	0.0	3.0	0.20	0.6
8 000	0.0	0.0	0.0	5.0	0.20	0.7

Date of Calibration : 23 Feb 2024-1 Mar, 2024

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Request No. 21-67/0232

MITC No. EEL, BP. 178/0167

### 5. Long-term stability

Time	Measured Value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
Begin	94.0	0.0	0.3	0.10	0.1
End	94.0				

### 6. Frequency and time weightings at 1 kHz

#### 6.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
A-weight	94.0	0.0	0.2	0.20	0.2
C-weight	94.0	0.0	0.2	0.20	0.2
Flat	94.0	0.0	0.2	0.20	0.2

#### 6.2 Time weightings at 1 kHz

Frequency Weighting	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
Fast	94.0	0.0	0.1	0.20	0.2
Slow	94.0	0.0	0.1	0.20	0.2
Leq	94.0	0.0	0.1	0.20	0.2

Date of Calibration : 23 Feb 2024-1 Mar, 2024

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Request No. 21-67/0232

MITC No. EEL, BP. 178/0167

### 7. Level linearity on the reference level range

Anticipated value (dB)	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
136	136.0	0.0	1.1	0.30	0.3
135	135.0	0.0	1.1	0.30	0.3
134	134.0	0.0	1.1	0.30	0.3
133	133.0	0.0	1.1	0.30	0.3
132	132.0	0.0	1.1	0.30	0.3
131	131.0	0.0	1.1	0.30	0.3
130	130.0	0.0	1.1	0.30	0.3
129	129.0	0.0	1.1	0.30	0.3
124	124.0	0.0	1.1	0.30	0.3
119	119.0	0.0	1.1	0.30	0.3
114	114.0	0.0	1.1	0.30	0.3
109	109.0	0.0	1.1	0.30	0.3
104	104.0	0.0	1.1	0.30	0.3
99	99.0	0.0	1.1	0.30	0.3
94	94.0	0.0	1.1	0.30	0.3
89	89.0	0.0	1.1	0.30	0.3
84	84.0	0.0	1.1	0.30	0.3
79	79.0	0.0	1.1	0.30	0.3
74	74.0	0.0	1.1	0.30	0.3
69	68.9	-0.1	1.1	0.30	0.3

Date of Calibration : 23 Feb 2024-1 Mar, 2024

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Request No. 21-67/0232

MTC No. EEL BP, 178/0167

7. Level linearity on the reference level range (cont.)

Anticipated value (dB)	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
64	63.9	-0.1	1.1	0.30	0.3
59	58.9	-0.1	1.1	0.30	0.3
54	53.9	-0.1	1.1	0.30	0.3
49	49.0	0.0	1.1	0.30	0.3
44	44.0	0.0	1.1	0.30	0.3
39	38.9	-0.1	1.1	0.30	0.3
34	33.9	-0.1	1.1	0.30	0.3
29	28.9	-0.1	1.1	0.30	0.3
28	27.9	-0.1	1.1	0.30	0.3
27	26.9	-0.1	1.1	0.30	0.3
26	25.9	-0.1	1.1	0.30	0.3
25	24.9	-0.1	1.1	0.30	0.3

8. Level linearity including the level range control

At reference sound level on the reference level range

Range	Anticipated value (dB)	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
30-130	94.0	94.0	0.0	1.1	0.30	0.3

Date of Calibration : 23 Feb.2024-1 Mar.2024

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Request No. 21-67/0232

MTC No. FEL BP, 178/0167

8. Level linearity including the level range control

At reference level at 5 dB greater than the under-range on a level range

Range	Anticipated value (dB)	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
30-130	35.0	35.0	0.0	1.1	0.30	0.3

9. Tone burst response

Time Weighing	Toneburst Duration, T <sub>b</sub> (ms)	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
Fast	200	126.0	0.0	±1.0	0.20	0.3
	2	109.0	0.0	+1.0; -2.5	0.20	0.3
	0.25	99.9	-0.1	+1.5; -5.0	0.20	0.3
Slow	200	119.6	0.0	±1.0	0.20	0.3
	2	100.0	0.0	+1.0; -5.0	0.20	0.3
	0.25	90.9	-0.1	+1.5; -5.0	0.20	0.3
SFL	200	120.0	0.0	±1.0	0.20	0.3
	2	100.0	0.0	+1.0; -2.5	0.20	0.3
	0.25	90.9	-0.1	+1.5; -5.0	0.20	0.3

Date of Calibration : 23 Feb.2024-1 Mar.2024

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Request No. 21-67/0232

MTC No. FEL BP, 178/0167

10. Peak C sound level

Number of cycles in test signal	Anticipated value (dB)	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
Complete cycle	125.4	125.3	-0.1	3.0	0.20	0.35
Positive half cycle	124.4	124.1	-0.3	2.0	0.20	0.35
Negative half cycle	124.4	124.1	-0.3	2.0	0.20	0.35

11. Overload indication

Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
Positive one-half cycle	135.5	0.0	1.5	0.20
Negative one-half cycle	135.5	0.0	1.5	0.20

12. High-level stability

Time	Measured value (dB)	Deviated value (dB)	Acceptance limit class 2 (±dB)	Uncertainty (±dB)	Maximum-permitted uncertainty of measurement (±dB)
Begin	129.0	0.0	0.3	0.10	0.1
End	129.0	0.0	0.3	0.10	0.1

Calibrated by :

Approved by :

(Mr. Tawakiat Iam-amran)

(Mr. Pinyak Klaiyap)

Electrical and Electronic Standards Laboratory

Industrial Metrology and Testing Service Centre

Date of Calibration : 23 Feb.2024-1 Mar.2024

Date of Issue : 1 Mar.2024

Ref: 2011267012400347008

End of Certificate

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Cert. No. : ACL24034  
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42A / Microphone UC-52 / Preamplifier NH-24  
Serial No.: 00623393 / 198640 / 26421  
ID No.: RYG\_FS0618

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHUANG PHATTHANAKAN, KHUANG SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %  
Received Date : 05 JANUARY 2024  
Calibration Date : 12-15 JANUARY 2024  
Date of Issue : 16 JANUARY 2024

Calibrated by : Nakhom Pisupaisan

Approved by :  
( Thanakul Petchurai )

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Cert. No. : ACL24034  
Job No. : VC67AC0052  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL-BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EI-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KA1	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Pich*

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Cert. No. : ACL24034  
Job No. : VC67AC0052  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Cert. No. : ACL24034  
Job No. : VC67AC0052  
Pages : 4 of 8

**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.6

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	10.8
C-weight	17.4
Flat	23.3

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.3	0.3	0.3	± 1.5
1000	0.1	0.1	0.1	± 1.0
8000	-0.3	-0.2	-0.2	± 5.0

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Job No. : VC67AC0052  
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4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.3

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	53.9	-0.1	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	39.0	0.0	± 1.1
34.0	34.0	0.0	± 1.1
30.0	29.9	-0.1	± 1.1
29.0	28.9	-0.1	± 1.1
28.0	28.0	0.0	± 1.1
27.0	27.0	0.0	± 1.1
26.0	26.1	0.1	± 1.1
25.0	24.9	-0.1	± 1.1

*T. Petchum*

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	± 1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 : -5.0
	2	8	117.0	117.0	0.0	1.0 : -2.5
	200	800	134.0	134.1	0.1	± 1.0
Slow	2	8	108.0	108.0	0.0	1.5 : -5.0
	200	800	127.6	127.6	0.0	± 1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5 : -5.0
	2	8	108.0	108.0	0.0	1.0 : -2.5
	200	800	128.0	128.1	0.1	± 1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	± 3.0
One	136.4	135.5	-0.9	± 3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	± 2.0
Positive half cycle	135.4	135.2	-0.2	± 2.0
Negative half cycle	135.4	135.2	-0.2	± 2.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.6	-0.1	± 1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	± 0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k=2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

*T. Petchum*

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Cert. No. : ACL24035  
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**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-42A / Microphone UC-52 / Preamplifier NH-24  
**Serial No.:** 00623394 / 198641 / 26422  
**ID No.:** RYG\_FS0619

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHUAEANG PHATTANAKAN, KHUET SUAN 1 UANG,  
BANGKOK, 10250 THAILAND.

**Location :** \*  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 05 JANUARY 2024  
**Calibration Date :** 12-15 JANUARY 2024  
**Date of Issue :** 16 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaison

**Approved by :** *T. Petchum*  
( Thanakul Petchum )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Job No. : VC67AC0052  
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Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EI-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 30/0266	13-11-B-24
Digital Multimeter	33461A	MY53220076	EEL-BP 30/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EI-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAJ	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained as :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.6

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	10.8
C-weight	17.1
Flat	22.9

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	0.1	0.1	0.2	± 5.0

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4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.3

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	29.9	-0.1	±1.1
29.0	28.9	-0.1	±1.1
28.0	27.9	-0.1	±1.1
27.0	26.9	-0.1	±1.1
26.0	25.9	-0.1	±1.1
25.0	24.8	-0.2	±1.1

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 : -5.0
	2	8	117.0	117.0	0.0	1.0 : -2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 : -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5 : -5.0
	2	8	108.0	108.0	0.0	1.0 : -2.5
	200	800	128.0	128.1	0.1	±1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lcpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	135.6	-0.8	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.5	-0.2	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value (following calculation, providing a level of confidence of approximately 95 %)

End of Calibration Certificate

*T. Petchar*

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Cert. No. : ACL24077  
Pages : 1 of 8

**Calibration Certificate**

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-52A / Microphone UC-59 / Preamplifier NH-25  
Serial No.: 00920831 / 22191 / 22220  
ID No.: RYG\_FS0622

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHWAENG PHATTANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 11 JANUARY 2024  
Calibration Date : 22-24 JANUARY 2024  
Date of Issue : 24 JANUARY 2024

Calibrated by : Nathakorn Pisutpaisan

Approved by : *T. Petchar*  
( Thanakul Petcharai )

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Cert. No. : ACL24077  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL_BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL_BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL_BP 31/0266	14-FEB-24
Programmable Attenuator	MA11-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAJ	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petch*

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Job No. : VC67AC0054  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Tel : +66 2433 8331 Email : calibration@sithiporn.com

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Cert. No. : ACL24077  
Job No. : VC67AC0054  
Pages : 4 of 8

**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	94.0	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
13.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	8.7
C - weight	13.7
Flat	19.6

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.2	0.2	± 1.0
1000	0.2	0.2	0.2	± 0.7
8000	0.4	0.5	0.5	+ 1.5, - 2.5

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Job No. : VC67AC0054  
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±1.0
125	0.1	0.1	0.0	±1.0
250	0.0	0.0	0.0	±1.0
500	0.0	0.0	0.0	±1.0
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±1.0
4000	0.0	0.0	0.0	±1.0
8000	0.0	0.1	0.1	+ 1.5, - 2.5
16000	0.0	-1.2	-1.2	+ 2.5, -16.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.1

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7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±0.8
136.0	136.0	0.0	±0.8
135.0	135.0	0.0	±0.8
134.0	134.0	0.0	±0.8
133.0	133.0	0.0	±0.8
132.0	132.0	0.0	±0.8
131.0	131.0	0.0	±0.8
129.0	129.0	0.0	±0.8
124.0	124.0	0.0	±0.8
119.0	119.0	0.0	±0.8
114.0	114.0	0.0	±0.8
109.0	109.0	0.0	±0.8
104.0	104.0	0.0	±0.8
99.0	99.0	0.0	±0.8
94.0	94.0	0.0	±0.8
89.0	89.0	0.0	±0.8
84.0	84.0	0.0	±0.8
79.0	79.0	0.0	±0.8
74.0	74.0	0.0	±0.8
69.0	69.0	0.0	±0.8
64.0	64.0	0.0	±0.8
59.0	59.0	0.0	±0.8
54.0	53.9	-0.1	±0.8
49.0	49.0	0.0	±0.8
44.0	44.0	0.0	±0.8
39.0	38.9	-0.1	±0.8
34.0	33.9	-0.1	±0.8
30.0	29.9	-0.1	±0.8
29.0	28.9	-0.1	±0.8
28.0	27.9	-0.1	±0.8
27.0	26.9	-0.1	±0.8
26.0	25.9	-0.1	±0.8
25.0	24.9	-0.1	±0.8

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Job No. : VC67AC0054  
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±0.8

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.0 ; -3.0
	2	8	117.0	117.0	0.0	1.0 ; -1.5
	200	800	134.0	134.1	0.1	±0.5
Slow	2	8	108.0	108.0	0.0	1.0 ; -3.0
	200	800	127.6	127.6	0.0	±0.5
SEL	0.25	1	99.0	98.9	-0.1	1.0 ; -3.0
	2	8	108.0	108.0	0.0	1.0 ; -1.5
	200	800	128.0	128.0	0.0	±0.5

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
One	136.4	135.4	-1.0	±2.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±1.0
Positive half cycle	135.4	135.2	-0.2	±1.0
Negative half cycle	135.4	135.2	-0.2	±1.0

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11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits
Positive one-half cycle	Negative one-half cycle		
89.6	89.6	0.0	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.1

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$   
or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

T. Petchur

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Cert. No. : ACL24081  
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-52A / Microphone UC-59 / Preamplifier NH-25  
Serial No. : 01120936 / 21737 / 22325  
ID No. : RYG FS0627

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHWAENG PHATTHANAKAN, KIJET SUAN LUANG,  
RANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 11 JANUARY 2024  
Calibration Date : 22-24 JANUARY 2024  
Date of Issue : 24 JANUARY 2024

Calibrated by : Nathakorn Pisutpaisan

Approved by : T. Petchur  
( Thanakul Petchurai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Cert. No. : ACL24081  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL-BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.  
3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).  
3.2 Thailand Institute of Scientific and Technological Research (TISTR)

*Signature*

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Job No. : VC67AC0054  
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**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Pages : 4 of 8

**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	94.0	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
13.4

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	8.7
C-weight	13.7
Flat	19.3

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.3	0.3	± 1.0
1000	0.2	0.2	0.2	± 0.7
8000	0.4	0.5	0.5	+ 1.5, - 2.5

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Job No. : VC67AC0054  
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.1	±1.0
125	0.1	0.1	0.0	±1.0
250	0.1	0.0	0.0	±1.0
500	0.1	0.1	0.0	±1.0
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±1.0
4000	0.0	0.0	0.0	±1.0
8000	0.0	0.1	0.1	+ 1.5, - 2.5
16000	0.0	-1.2	-1.1	+ 2.5, -16.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.1	0.1	± 0.1

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Pages : 6 of 8

**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±0.8
136.0	136.0	0.0	±0.8
135.0	135.1	0.1	±0.8
134.0	134.0	0.0	±0.8
133.0	133.0	0.0	±0.8
132.0	132.0	0.0	±0.8
131.0	131.0	0.0	±0.8
129.0	129.0	0.0	±0.8
124.0	124.0	0.0	±0.8
119.0	119.0	0.0	±0.8
114.0	114.0	0.0	±0.8
109.0	109.0	0.0	±0.8
104.0	104.0	0.0	±0.8
99.0	99.0	0.0	±0.8
94.0	94.0	0.0	±0.8
89.0	89.0	0.0	±0.8
84.0	84.0	0.0	±0.8
79.0	79.0	0.0	±0.8
74.0	74.0	0.0	±0.8
69.0	69.0	0.0	±0.8
64.0	64.0	0.0	±0.8
59.0	59.0	0.0	±0.8
54.0	54.0	0.0	±0.8
49.0	49.0	0.0	±0.8
44.0	44.0	0.0	±0.8
39.0	39.0	0.0	±0.8
34.0	34.0	0.0	±0.8
30.0	29.9	-0.1	±0.8
29.0	28.9	-0.1	±0.8
28.0	27.9	-0.1	±0.8
27.0	26.9	-0.1	±0.8
26.0	26.0	0.0	±0.8
25.0	24.9	-0.1	±0.8

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Job No. : VC67AC0054  
Pages : 7 of 8

**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±0.8

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.0 ; -3.0
	2	8	117.0	116.9	-0.1	1.0 ; -1.5
	200	800	134.0	134.0	0.0	±0.5
Slow	2	8	108.0	107.9	-0.1	1.0 ; -3.0
	200	800	127.6	127.5	-0.1	±0.5
SEL	0.25	1	99.0	98.8	-0.2	1.0 ; -3.0
	2	8	108.0	107.9	-0.1	1.0 ; -1.5
	200	800	128.0	128.0	0.0	±0.5

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
One	136.4	136.1	-0.3	±2.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±1.0
Positive half cycle	135.4	135.1	-0.3	±1.0
Negative half cycle	135.4	135.1	-0.3	±1.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.5	0.0	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.1

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$   
or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24082  
Pages : 1 of 8

**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-52A / Microphone UC-59 / Preamplifier NH-25  
**Serial No.:** 01120937 / 21845 / 22326  
**ID No.:** RYG\_FS0628

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN, ROAD,  
KHWAENG PHATTANAKAN, KHEI SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** -  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 11 JANUARY 2024  
**Calibration Date :** 22-24 JANUARY 2024  
**Date of Issue :** 24 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaian

**Approved by :** *T. Petchur*  
( Thanakul Petchur )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Tel: +66 2433 8331 Email: calibration@sithiporn.com



Cert. No. : ACL24082  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL_BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL_BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL_BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand),

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petchum*

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Cert. No. : ACL24082  
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**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

*T. Petchum*

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**CALIBRATION LABORATORY**

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Cert. No. : ACL24082  
Job No. : VC67AC0054  
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**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	94.0	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.2

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	9.9
C - weight	14.3
Flat	19.9

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.2	0.2	± 1.0
1000	0.2	0.2	0.2	± 0.7
8000	0.4	0.5	0.5	+1.5, -2.5

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4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±1.0
125	0.0	0.1	0.1	±1.0
250	0.0	0.0	0.0	±1.0
500	0.0	0.1	0.0	±1.0
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±1.0
4000	0.0	0.0	0.0	±1.0
8000	0.0	0.1	0.1	+1.5, -2.5
16000	0.0	-1.2	-1.1	-2.5, -16.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	+0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.1

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.1	0.1	±0.8
136.0	136.0	0.0	±0.8
135.0	135.1	0.1	±0.8
134.0	134.0	0.0	±0.8
133.0	133.0	0.0	±0.8
132.0	132.0	0.0	±0.8
131.0	131.0	0.0	±0.8
129.0	129.0	0.0	±0.8
124.0	124.0	0.0	±0.8
119.0	119.0	0.0	±0.8
114.0	114.0	0.0	±0.8
109.0	109.0	0.0	±0.8
104.0	104.0	0.0	±0.8
99.0	99.0	0.0	±0.8
94.0	94.0	0.0	±0.8
89.0	89.0	0.0	±0.8
84.0	84.0	0.0	±0.8
79.0	79.0	0.0	±0.8
74.0	74.0	0.0	±0.8
69.0	69.0	0.0	±0.8
64.0	64.0	0.0	±0.8
59.0	59.0	0.0	±0.8
54.0	54.0	0.0	±0.8
49.0	49.0	0.0	±0.8
44.0	44.0	0.0	±0.8
39.0	39.0	0.0	±0.8
34.0	34.0	0.0	±0.8
30.0	30.0	0.0	±0.8
29.0	28.9	-0.1	±0.8
28.0	28.0	0.0	±0.8
27.0	26.9	-0.1	±0.8
26.0	25.9	-0.1	±0.8
25.0	24.9	-0.1	±0.8

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±0.8

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.0 ; -3.0
	2	8	117.0	117.0	0.0	1.0 ; -1.5
	200	800	134.0	134.1	0.1	±0.5
Slow	2	8	108.0	108.0	0.0	1.0 ; -3.0
	200	800	127.6	127.6	0.0	±0.5
SFL	0.25	1	99.0	98.9	-0.1	1.0 ; -3.0
	2	8	108.0	108.0	0.0	1.0 ; -1.5
	200	800	128.0	128.1	0.1	±0.5

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
One	136.4	136.4	0.0	±2.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±1.0
Positive half cycle	135.4	135.1	-0.3	±1.0
Negative half cycle	135.4	135.1	-0.3	±1.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.6	0.1	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.1

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24083  
Pages : 1 of 8

**Calibration Certificate**

**Equipment :** SOUND LEVEL MEIER  
**Manufacturer :** RION  
**Model :** NL-52A / Microphone UC-59 / Preamplifier NH-25  
**Serial No.:** 01120938 / 21888 / 22327  
**ID No.:** RYG\_FS0629

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHUANG PHA THANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** -  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 11 JANUARY 2024  
**Calibration Date :** 22-24 JANUARY 2024  
**Date of Issue :** 24 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaian

**Approved by :** *T. Petchurui*  
( Thanakul Petchurui )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL-BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-BP 31/0266	14-FEB-24
Programmable Attenuator	MA1-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KA1	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petch*

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Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	94.0	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.4

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	9.9
C-weight	14.5
Flat	20.2

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	± 1.0
1000	0.2	0.2	0.2	± 0.7
8000	0.7	0.8	0.8	+ 1.5, - 2.5

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4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±1.0
125	0.0	0.0	0.0	±1.0
250	0.0	0.0	-0.1	±1.0
500	0.0	0.0	-0.1	±1.0
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±1.0
4000	0.0	0.0	0.0	±1.0
8000	0.0	0.1	0.1	+ 1.5, - 2.5
16000	0.0	+1.2	+1.2	+ 2.5, -16.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.1

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±0.8
136.0	136.0	0.0	±0.8
135.0	135.0	0.0	±0.8
134.0	134.0	0.0	±0.8
133.0	133.0	0.0	±0.8
132.0	132.0	0.0	±0.8
131.0	131.0	0.0	±0.8
129.0	129.0	0.0	±0.8
124.0	124.0	0.0	±0.8
119.0	119.0	0.0	±0.8
114.0	114.0	0.0	±0.8
109.0	109.0	0.0	±0.8
104.0	104.0	0.0	±0.8
99.0	99.0	0.0	±0.8
94.0	94.0	0.0	±0.8
89.0	89.0	0.0	±0.8
84.0	84.0	0.0	±0.8
79.0	79.0	0.0	±0.8
74.0	74.0	0.0	±0.8
69.0	69.0	0.0	±0.8
64.0	64.0	0.0	±0.8
59.0	59.0	0.0	±0.8
54.0	54.0	0.0	±0.8
49.0	49.0	0.0	±0.8
44.0	44.0	0.0	±0.8
39.0	39.0	0.0	±0.8
34.0	34.0	0.0	±0.8
30.0	30.0	0.0	±0.8
29.0	29.0	0.0	±0.8
28.0	28.0	0.0	±0.8
27.0	27.0	0.0	±0.8
26.0	26.0	0.0	±0.8
25.0	25.0	0.0	±0.8

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±0.8

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.0 ; -3.0
	2	8	117.0	117.0	0.0	1.0 ; -1.5
	200	800	134.0	134.0	0.0	±0.5
Slow	2	8	108.0	108.0	0.0	1.0 ; -3.0
	200	800	127.6	127.6	0.0	±0.5
SEL	0.25	1	99.0	98.9	-0.1	1.0 ; -3.0
	2	8	108.0	108.0	0.0	1.0 ; -1.5
	200	800	128.0	128.0	0.0	±0.5

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
One	136.4	136.3	-0.1	±2.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	132.9	-0.1	±1.0
Positive half cycle	135.4	135.1	-0.3	±1.0
Negative half cycle	135.4	135.1	-0.3	±1.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.7	0.1	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.1

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$   
or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24084  
Pages : 1 of 8

**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-52A / Microphone UC-59 / Preamplifier NH-25  
**Serial No.:** 01120939 / 21940 / 22328  
**ID No.:** RYG FS0630

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHWAENG PHATTANAKAN, KHUET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** -  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 11 JANUARY 2024  
**Calibration Date :** 22-24 JANUARY 2024  
**Date of Issue :** 24 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaisan

**Approved by :** *T. Petchur*  
( Thanakul Petchurai )

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Cert. No. : ACL24084  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL.BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL.BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL.BP 31/0266	14-FEB-24
Programmable Attenuator	MA7-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petch*

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Cert. No. : ACL24084  
Job No. : VC67AC0054  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Pages : 4 of 8

**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	94.0	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
13.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	8.7
C-weight	14.0
Flat	19.8

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.2	0.2	± 1.0
1000	0.2	0.2	0.2	± 0.7
8000	0.6	0.6	0.6	+ 1.5, - 2.5

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Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	0.0	0.0	±1.0
125	0.0	0.0	0.0	±1.0
250	0.0	0.0	0.0	±1.0
500	0.0	0.0	0.0	±1.0
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±1.0
4000	0.0	0.0	0.0	±1.0
8000	0.0	0.1	0.1	+ 1.5, - 2.5
16000	0.0	-1.2	-1.2	+ 2.5, -16.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.1

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7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±0.8
136.0	136.0	0.0	±0.8
135.0	135.0	0.0	±0.8
134.0	134.0	0.0	±0.8
133.0	133.0	0.0	±0.8
132.0	132.0	0.0	±0.8
131.0	131.0	0.0	±0.8
129.0	129.0	0.0	±0.8
124.0	124.0	0.0	±0.8
119.0	119.0	0.0	±0.8
114.0	114.0	0.0	±0.8
109.0	109.0	0.0	±0.8
104.0	104.0	0.0	±0.8
99.0	99.0	0.0	±0.8
94.0	94.0	0.0	±0.8
89.0	89.0	0.0	±0.8
84.0	84.0	0.0	±0.8
79.0	79.0	0.0	±0.8
74.0	74.0	0.0	±0.8
69.0	69.0	0.0	±0.8
64.0	63.9	-0.1	±0.8
59.0	59.0	0.0	±0.8
54.0	53.9	-0.1	±0.8
49.0	48.9	-0.1	±0.8
44.0	43.9	-0.1	±0.8
39.0	38.9	-0.1	±0.8
34.0	33.9	-0.1	±0.8
30.0	29.9	-0.1	±0.8
29.0	28.9	-0.1	±0.8
28.0	27.9	-0.1	±0.8
27.0	26.9	-0.1	±0.8
26.0	25.9	-0.1	±0.8
25.0	24.8	-0.2	±0.8

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8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±0.8

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	106.0	107.9	-0.1	1.0 ; -3.0
	2	8	117.0	117.0	0.0	1.0 ; -1.5
	200	800	134.0	134.0	0.0	±0.5
Slow	2	8	108.0	108.0	0.0	1.0 ; -3.0
	200	800	127.6	127.6	0.0	±0.5
	0.25	1	99.0	98.9	-0.1	1.0 ; -3.0
SEL	2	8	108.0	108.0	0.0	1.0 ; -1.5
	200	800	128.0	128.1	0.1	±0.5

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>cp</sub> peak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
One	136.4	136.3	-0.1	±2.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±1.0
Positive half cycle	135.4	135.2	-0.2	±1.0
Negative half cycle	135.4	135.2	-0.2	±1.0

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11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.5	0.0	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.1

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACC24038  
Pages : 1 of 3

Calibration Certificate

Equipment : SOUND CALIBRATOR  
Manufacturer : RION  
Model : NC-74  
Serial No. : 34178124  
ID No. : RYG-FS0216

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHUWAENG PHATTANAKAN, KHUET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 09 AUGUST 2024  
Calibration Date : 23 AUGUST 2024  
Date of Issue : 26 AUGUST 2024

Calibrated by : Nathakorn Pisutpaisan

Approved by : T. Petch  
( Thanakul Petchurai )

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Cert. No. : ACC24038  
Job No. : VC67AC0140  
Pages : 2 of 3

Calibration Procedure : CP-AC-03

**Calibration Method :**

This equipment was calibrated by follow on IEC-60942-2003 Standard.

The sound pressure level, frequency and total distortion of the sound calibrator was measured using the reference microphone.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33511B	MY52302742	EF-0007-24	05-FEB-25
Digital Multimeter	33461A	MY53220104	EEL_BP 21/0267	13-FEB-25
Digital Multimeter	33461A	MY53220076	EEL_BP 20/0267	15-FEB-25
Digital Multimeter	33461A	MY60024273	EEL_BP 22/0267	15-FEB-25
Programmable Attenuator	MAT-1070	62100114	EF-0008-24	05-FEB-25
Condenser Microphone	4180	2977900	AA-1001-24	12-FEB-25
Measuring Amplifier	NA-42KA1	34560495	AA-3001-24	05-FEB-25
Audio Analyzer	AVR-3360A	V744B6069	EF-0009-24	09-FEB-25

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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Cert. No. : ACC24038  
Job No. : VC67AC0140  
Pages : 3 of 3

**Result of calibration :**

1. Sound pressure level

Specified sound pressure level (dB)	Measured value (dB)	Deviated value (dB)	Uncertainty (dB)	Acceptance limit (dB)
94	94.17	0.17	0.80	0.40

2. Frequency

Specified Frequency (Hz)	Measured value (Hz)	Deviated value (%)	Uncertainty (%)	Acceptance limit (%)
1000	1001.3	0.1	0.1	1.0

3. Total distortion

Measured value (%)	Uncertainty (%)	Acceptance limit (%)
2.16	0.10	3.0

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24095  
Pages : 1 of 9

**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-21 / Microphone UC-52 / Preamplifier NH-21  
**Serial No.:** 00376364 / 71486 / 23142  
**ID No.:** RYG\_FS0012

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHWAENG PHATTHANAKAN, KHEET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** -  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 19 JANUARY 2024  
**Calibration Date :** 25-26 JANUARY 2024  
**Date of Issue :** 29 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaisan

**Approved by :**

*T. Petch*  
( Thanakul Petchurai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Cert. No. : ACL24096  
Job No. : VC67AC0058  
Pages : 2 of 9

Calibration Procedure : CP-AC-02

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For test results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL_BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL_BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL_BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KA1	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR)

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Job No. : VC67AC0058  
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**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.1	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

*7. Return*

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**Result of calibration :**

**1. Absolute sensitivity**

Reference Acoustic Signal ( dB )	Measured Value ( dB )	Deviation ( dB )	Acceptance Limit ( dB )
93.9 (93.98)	93.9	0.0	±0.3

**2. Self-generated noise**

**2.1 Normal test**

Measured Value ( dB )
26.2

**2.2 The microphone of the sound level meter was replaced by electrical signal input device.**

Frequency Weighting	Measured value ( dB )
A - weight	22.9
C - weight	24.2
Flat	27.6

**3. Acoustical signal tests of frequency weightings**

Meter free-field acoustic response at a level of 84 dB

Frequency ( Hz )	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.3	0.3	± 1.5
1000	0.1	0.1	0.1	± 1.0
8000	0.5	0.6	0.6	±5.0

*7. Return*

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**4. Electrical signal tests of frequency weightings**

Weighting network response with relative to 1 kHz.

Frequency ( Hz )	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	0.0	0.0	±2.0
125	0.0	0.0	-0.1	±1.5
250	0.0	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.1	0.1	0.0	±2.0
4000	0.1	0.1	0.0	±3.0
8000	0.1	0.1	0.1	±5.0

**5. Frequency and time weightings at 1 kHz**

**5.1 Frequency weightings at 1 kHz**

Frequency Weighting	Anticipated Value ( dB )	Measured Value ( dB )	Deviated Value ( dB )	Acceptance Limits ( dB )
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

**5.2 Time weighting at 1 kHz**

Frequency Weighting	Anticipated Value ( dB )	Measured Value ( dB )	Deviated Value ( dB )	Acceptance Limits ( dB )
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Lsq	94.0	94.0	0.0	± 0.1

**6. Long - term stability**

Frequency Weighting	SLM Display at initial ( dB )	SLM Display at final ( dB )	Deviated Value ( dB )	Acceptance Limits ( dB )
A - weight	94.0	94.0	0.0	± 0.3

*7. Return*

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**7. Level linearity on the reference level range**

Anticipated Value ( dB )	Measured Value ( dB )	Deviated Value ( dB )	Acceptance Limits ( dB )
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	54.0	0.0	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	38.9	-0.1	± 1.1

*7. Return*

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	94.0	94.0	0.0	±1.1
120	94.0	94.0	0.0	±1.1
110	94.0	94.0	0.0	±1.1
100	94.0	94.0	0.0	±1.1
90	94.0	94.0	0.0	±1.1

**Level linearity on each level range**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	41.6	41.9	0.3	±1.1
120	32.0	31.9	-0.1	±1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, 1h (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	±1.0
SCL	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.0	0.0	±1.0

*T. Petru*

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Job No. : VC67AC0058  
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**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	130.0	130.0	0.0	±3.0
One	133.4	132.8	-0.6	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	130.0	130.0	0.0	±2.0
Positive half cycle	132.4	132.1	-0.3	±2.0
Negative half cycle	132.4	132.1	-0.3	±2.0

**11. Overload indication**

Measured value (dB)		Deviated Value	Acceptance Limits
Positive one-half cycle	Negative one-half cycle	(dB)	(dB)
89.3	89.3	0.0	±1.5

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**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24074  
Pages : 1 of 8

**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-42 / Microphone UC-52 / Preamplifier NH-24  
**Serial No.:** 01122607 / 145554 / 34373  
**ID No.:** RYG\_FS0019

**Condition As Found :** GOOD

**Customer :** ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KJWAENG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** -  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 11 JANUARY 2024  
**Calibration Date :** 22-24 JANUARY 2024  
**Date of Issue :** 24 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaisan

**Approved by :** *T. Petru*  
( Thanakul Peichurui )

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Cert. No. : ACL24074  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EELBP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EELBP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EELBP 31/0266	14-FEB-24
Programmable Attenuator	MA1-1070	62100114	EF-0011-23	08 FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAJ	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand)
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*7. Peter*

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Job No. : VC67AC0054  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Pages : 4 of 8

**Result of calibration :**

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
17.0

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	10.8
C-weight	17.0
Flat	22.7

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.4	0.4	0.4	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	-1.4	-1.4	-1.3	± 5.0

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4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.1	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.1	0.0	±3.0
8000	0.1	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.1	0.1	± 0.3

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Job No. : VC67AC0054  
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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.1	0.1	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	54.0	0.0	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	39.0	0.0	± 1.1
34.0	34.0	0.0	± 1.1
30.0	30.0	0.0	± 1.1
29.0	29.0	0.0	± 1.1
28.0	28.0	0.0	± 1.1
27.0	27.0	0.0	± 1.1
26.0	26.0	0.0	± 1.1
25.0	25.0	0.0	± 1.1

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	± 1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, Th (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	134.0	134.1	0.1	± 1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	± 1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.1	0.1	± 1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lcpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	± 3.0
One	136.4	135.7	-0.7	± 3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.1	0.1	± 2.0
Positive half cycle	135.4	135.2	-0.2	± 2.0
Negative half cycle	135.4	135.2	-0.2	± 2.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.5	0.0	± 1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	± 0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24075  
Pages : 1 of 8

**Calibration Certificate**

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NI-42 / Microphone UC-52 / Pre-amplifier NH-24  
Serial No. : 01222716 / 143832 / 22763  
ID No. : RYG\_F50020

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHWAENG PHATTANAKAN, KHEU SUAN LUANG,  
BANGKOK, 10250 THAILAND

Location : -  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %

Received Date : 11 JANUARY 2024  
Calibration Date : 22-24 JANUARY 2024  
Date of Issue : 24 JANUARY 2024

Calibrated by : Nathakorn Pisutpaisan

Approved by : *T. Petchur*  
( Thanakul Petchur )

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# SITHIPORN ASSOCIATES CO., LTD. CALIBRATION LABORATORY

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Cert. No. : ACL24075  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

## Calibration Method :

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.  
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

## Condition of this result of calibration :

### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL-BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petch*

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Cert. No. : ACL24075  
Job No. : VC67AC0054  
Pages : 3 of 8

## Summary of Measurement Result :

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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## Result of calibration :

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
14.4

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	11.6
C-weight	17.7
Flat	23.6

### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.5	0.5	0.5	± 1.5
1000	0.1	0.1	0.1	± 1.0
8000	-0.7	-0.6	-0.6	± 5.0

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Job No. : VC67AC0054  
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### 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	-0.1	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

### 5. Frequency and time weightings at 1 kHz

#### 5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.2
C-weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

#### 5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

### 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	± 0.3

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	53.9	-0.1	± 1.1
49.0	49.0	0.0	± 1.1
44.0	43.9	-0.1	± 1.1
39.0	38.9	-0.1	± 1.1
34.0	33.9	-0.1	± 1.1
30.0	29.9	-0.1	± 1.1
29.0	28.9	-0.1	± 1.1
28.0	27.9	-0.1	± 1.1
27.0	26.9	-0.1	± 1.1
26.0	25.9	-0.1	± 1.1
25.0	24.9	-0.1	± 1.1

*T. Petchur*

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**CALIBRATION LABORATORY**

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Tel : +66 2433 8331 Email : calibration@sithiporn.com

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Cert. No. : ACL24075  
Job No. : VC67AC0054  
Pages : 7 of 8

**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.0	0.0	±1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L <sub>peak</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	135.3	-1.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

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**11. Overload indication**

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.5	-0.2	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

*T. Petchur*

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Cert. No. : ACL24071  
Pages : 1 of 8

**Calibration Certificate**

**Equipment :** SOUND LEVEL METER  
**Manufacturer :** RION  
**Model :** NL-42 / Microphone UC-52 / Preamplifier NH-24  
**Serial No.:** 01232724 / 143486 / 22620  
**ID No.:** RYG\_JS0023

**Condition As Found :** GOOD

**Customer :** A.I.S.T. LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHWAENG PHATTANAKAN, KHET SUAN LUANG,  
BANGKOK, 10250 THAILAND.

**Location :** +  
**Ambient Temperature :** ( 23.0 ± 3 ) °C  
**Pressure :** ( 101.3 ± 3 ) kPa  
**Relative Humidity :** ( 50.0 ± 20 ) %

**Received Date :** 11 JANUARY 2024  
**Calibration Date :** 22-24 JANUARY 2024  
**Date of Issue :** 24 JANUARY 2024

**Calibrated by :** Nathakorn Pisutpaisan

**Approved by :** *T. Petchur*  
( Thanakul Petchurai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.



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Cert. No. : ACL24071  
Job No. : VC67AC0054  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

**1. Reference Standard Instruments :**

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL BP 30/0266	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL BP 29/0266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL BP 31/0266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KA1	34560495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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Cert. No. : ACL24071  
Job No. : VC67AC0054  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Pages : 4 of 8

**Result of calibration :**

**1. Absolute sensitivity**

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

**2. Self-generated noise**

**2.1 Normal test**

Measured Value (dB)
17.3

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	14.8
C - weight	20.6
Flat	26.4

**3. Acoustical signal tests of frequency weightings**

Metor free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.0	0.0	0.0	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	1.4	1.5	1.5	± 5.0

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Job No. : VC67AC0054  
Pages : 5 of 8

**4. Electrical signal tests of frequency weightings**

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	+0.1	0.0	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

**5. Frequency and time weightings at 1 kHz**

**5.1 Frequency weightings at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

**5.2 Time weighting at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

**6. Long - term stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

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Cert. No. : ACL24071  
Job No. : VC67AC0054  
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	$\pm 1.1$
136.0	136.0	0.0	$\pm 1.1$
135.0	135.0	0.0	$\pm 1.1$
134.0	134.0	0.0	$\pm 1.1$
133.0	133.0	0.0	$\pm 1.1$
132.0	132.0	0.0	$\pm 1.1$
131.0	131.0	0.0	$\pm 1.1$
129.0	129.0	0.0	$\pm 1.1$
124.0	124.0	0.0	$\pm 1.1$
119.0	119.0	0.0	$\pm 1.1$
114.0	114.0	0.0	$\pm 1.1$
109.0	109.0	0.0	$\pm 1.1$
104.0	104.0	0.0	$\pm 1.1$
99.0	99.0	0.0	$\pm 1.1$
94.0	94.0	0.0	$\pm 1.1$
89.0	89.0	0.0	$\pm 1.1$
84.0	84.0	0.0	$\pm 1.1$
79.0	79.0	0.0	$\pm 1.1$
74.0	74.0	0.0	$\pm 1.1$
69.0	69.0	0.0	$\pm 1.1$
64.0	64.0	0.0	$\pm 1.1$
59.0	59.0	0.0	$\pm 1.1$
54.0	53.9	-0.1	$\pm 1.1$
49.0	48.9	-0.1	$\pm 1.1$
44.0	43.9	-0.1	$\pm 1.1$
39.0	38.9	-0.1	$\pm 1.1$
34.0	33.9	-0.1	$\pm 1.1$
30.0	29.9	-0.1	$\pm 1.1$
29.0	28.9	-0.1	$\pm 1.1$
28.0	27.9	-0.1	$\pm 1.1$
27.0	26.9	-0.1	$\pm 1.1$
26.0	25.8	-0.2	$\pm 1.1$
25.0	24.9	-0.1	$\pm 1.1$

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Cert. No. : ACL24071  
Job No. : VC67AC0054  
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	$\pm 1.1$

9. Tone burst response

Time Weighing	Tone burst duration, Th (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	134.0	134.0	0.0	$\pm 1.0$
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	$\pm 1.0$
SEL	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.1	0.1	$\pm 1.0$

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	$\pm 3.0$
One	136.4	135.9	-0.5	$\pm 3.0$

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	$\pm 2.0$
Positive half cycle	135.4	135.2	-0.2	$\pm 2.0$
Negative half cycle	135.4	135.2	-0.2	$\pm 2.0$

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11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle	-0.2	$\pm 1.5$
89.7	89.5		

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	$\pm 0.3$

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

T. Petchu

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Cert. No. : ACL24228  
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42 / Microphone UC-52 / Preamplifier NH-24  
Serial No. : 00734223 / 169439 / 72460  
ID No. : RYG PS0029

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHAI THANAKAN ROAD,  
KHUWAENG PHATTANAKAN, KHE1 SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location : -  
Ambient Temperature : ( 23.0  $\pm$  3 ) °C  
Pressure : ( 101.3  $\pm$  3 ) kPa  
Relative Humidity : ( 50.0  $\pm$  20 ) %

Received Date : 10 JULY 2024  
Calibration Date : 11 JULY 2024  
Date of Issue : 15 JULY 2024

REVIEW BY :	<i>Dinokorn P.</i>
APPROVED BY :	<i>T. Petchu</i>
NEXT CAL DATE :	11/12/25

Calibrated by : Nathakorn Pisutpaissan

Approved by : *T. Petchu*  
( Thanakul Petchurai )

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Cert. No. : ACL24228  
Job No. : VC67AC0127  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

**Condition of this result of calibration :**

**1. Reference Standard Instruments :**

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-24	05-FEB-25
Waveform Generator	33511B	MY52302742	EF-0007-24	05-FEB-25
Digital Multimeter	33461A	MY53220104	EEL-BP 21/0267	13-FEB-25
Digital Multimeter	33461A	MY53220076	EEL-BP 20/0267	15-FEB-25
Digital Multimeter	34461A	MY60024273	EEL-BP 22/0267	15-FEB-25
Programmable Attenuator	MA1-1070	62100114	EF-0008-24	05-FEB-25
Condenser Microphone	4180	2977900	AA-1001-24	12-FEB-25
Measuring Amplifier	NA-42KAI	34560495	AA-3001-24	05-FEB-25

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

*T. Petch*

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Cert. No. : ACL24228  
Job No. : VC67AC0127  
Pages : 3 of 8

**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Cert. No. : ACL24228  
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**Result of calibration :**

**1. Absolute sensitivity**

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.94)	93.9	0.0	±0.3

**2. Self-generated noise**

**2.1 Normal test**

Measured Value (dB)
14.6

**2.2 The microphone of the sound level meter was replaced by electrical signal input device**

Frequency Weighting	Weighting (dB)
A - weight	9.9
C - weight	16.7
Flat	22.4

**3. Acoustical signal tests of frequency weightings**

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.4	0.4	0.4	± 1.5
1000	-0.1	-0.1	-0.1	± 1.0
8000	-1.7	-1.6	-1.6	± 5.0

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**4. Electrical signal tests of frequency weightings**

Weighting network response with relative to 1 kHz

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	-0.1	±2.0
125	0.0	0.0	-0.1	±1.5
250	0.0	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

**5. Frequency and time weightings at 1 kHz**

**5.1 Frequency weightings at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.2
C - weight	94.0	94.0	0.0	± 0.2
Flat	94.0	94.0	0.0	± 0.2

**5.2 Time weighting at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	± 0.1
Slow	94.0	94.0	0.0	± 0.1
Leq	94.0	94.0	0.0	± 0.1

**6. Long - term stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

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**CALIBRATION LABORATORY**

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Tel : +66 2433 8331 Email : calibration@sithiporn.com

SITHIPORN  
associates



Cert. No. : ACL24228  
Job No. : VC67AC0127  
Pages : 6 of 8

**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.1	0.1	± 1.1
136.0	136.1	0.1	± 1.1
135.0	135.1	0.1	± 1.1
134.0	134.1	0.1	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.1	0.1	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.1	0.1	± 1.1
114.0	114.1	0.1	± 1.1
109.0	109.1	0.1	± 1.1
104.0	104.1	0.1	± 1.1
99.0	99.1	0.1	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	54.0	0.0	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	39.0	0.0	± 1.1
34.0	34.0	0.0	± 1.1
30.0	30.0	0.0	± 1.1
29.0	29.0	0.0	± 1.1
28.0	28.1	0.1	± 1.1
27.0	27.0	0.0	± 1.1
26.0	26.1	0.1	± 1.1
25.0	25.1	0.1	± 1.1

*T. Petch*

**SITHIPORN ASSOCIATES CO., LTD.**  
**CALIBRATION LABORATORY**

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Cert. No. : ACL24228  
Job No. : VC67AC0127  
Pages : 7 of 8

**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	± 1.1

**9. Tone burst response**

Time Weighting	Tone burst duration, T <sub>b</sub> (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 : -5.0
	2	8	117.0	117.0	0.0	1.0 : -2.5
	200	800	134.0	134.0	0.0	± 1.0
Slow	2	8	108.0	108.0	0.0	1.5 : -5.0
	200	800	127.6	127.6	0.0	± 1.0
	0.25	1	99.0	98.9	-0.1	1.5 : -5.0
SEL	2	8	108.0	108.0	0.0	1.0 : -2.5
	200	800	128.0	128.0	0.0	± 1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	± 3.0
One	136.4	135.3	-1.1	± 3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	± 2.0
Positive half cycle	135.4	135.1	-0.3	± 2.0
Negative half cycle	135.4	135.1	-0.3	± 2.0

*T. Petch*

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**CALIBRATION LABORATORY**

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associates



Cert. No. : ACL24228  
Job No. : VC67AC0127  
Pages : 8 of 8

**11. Overload indication**

Measured value ( dB )		Deviated Value ( dB )	Acceptance Limits ( dB )
Positive one-half cycle	Negative one-half cycle		
89.5	89.6	0.1	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	137.0	137.0	0.0	± 0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$   
or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

*T. Petch*



THANATTA ASSOCIATES CO., LTD.  
Temperature measurement laboratory  
Calibration services department

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TISI-TIS 17025  
CALIBRATION 0367

Temperature measurement laboratory  
Calibration services department



NSC - TISI - TIS 17025  
CALIBRATION 0367

**CERTIFICATE OF CALIBRATION**

Certificate No. : CDT-015-67

Page 1 of 2 Pages

MEASUREMENT ITEM : Heat Stress Monitor  
MANUFACTURER : Delta OHM  
MODEL/TYPE : HD32.2  
SERIAL NUMBER : 15006715  
ID NUMBER : RYG\_F50220  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS Laboratory group (Thailand) Co., Ltd.  
204 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand

RECEIVED DATE : 11 Jan 2024  
MEASUREMENT DATE : 11 Jan 2024  
ISSUE DATE : 17 Jan 2024

ENVIRONMENTAL CONDITIONS:  
Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

TABULATION OF RESULTS:  
The table on next page give the measured values.

Calibration procedure:  
The temperature calibration was done by:  
In-house calibration method as JN-CL-033  
according to comparison with standard  
digital temperature indicator and standard  
temperature probe. The temperature scale use  
was based on ITS-90.

Traceability  
The measurement results are traceable to the  
international system of units (SI) through  
National Institute of Metrology Thailand (NIMT).  
Certificate number: TT 0059 23. Certificate  
number: LR 0101-23

Reference Used During Calibration:  
1. Standard Temperature Probe  
Model: STS 190 A300, Serial No: 667682-05,  
Due date: 28 Mar 2024  
2. Digital Temperature Indicator  
Model: DTI 1000 A MK II, Serial No: 671407,  
00581 Due date: 14 Sep 2024

Uncertainty of Measurement:  
The reported uncertainty of measurement is  
based on the standard uncertainty multiplied by  
a coverage factor  $k = 2$ , which for a normal  
distribution corresponds to a coverage  
probability of approximately 95%. The standard  
uncertainty has been determined in accordance  
with the GUM Evaluation of measurement data  
Guide to the expression of uncertainty in  
measurement.

Calibrated by:  
Mr. Sorawit Thachulad  
Ms. Jitraporn Lertkornphol  
Ms. Ruangsiraporn Phoomrit



Approved signature

Mr. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 ~ 40 °C

Function:

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 17022563.  
Dimension: Diameter 3.3 mm, Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.050	20.0	0.0	0.099
80	25.042	25.0	0.0	0.099
80	30.040	30.0	0.0	0.099
80	35.034	35.0	0.0	0.099
80	40.026	40.0	0.0	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 20019632.  
Dimension: Diameter 3.3 mm, Length 205 mm.

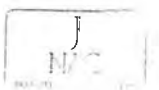
Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.050	20.0	0.0	0.099
110	25.042	25.0	0.0	0.099
110	30.040	30.1	0.1	0.099
110	35.034	35.1	0.1	0.099
110	40.026	40.0	0.0	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 15015507.  
Dimension: Diameter 14 mm, Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.050	20.2	0.2	0.099
75	25.042	25.0	0.0	0.099
75	30.040	30.0	0.0	0.099
75	35.034	35.0	0.0	0.099
75	40.026	39.9	-0.1	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 ~ 40 °C

Function:

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 16008206.  
Dimension: Diameter 3.3 mm, Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.059	20.2	0.1	0.099
80	25.051	25.2	0.1	0.099
80	30.047	30.2	0.2	0.099
80	35.039	35.2	0.2	0.099
80	40.035	40.2	0.2	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 17015123.  
Dimension: Diameter 3.3 mm, Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.059	20.2	0.1	0.099
110	25.052	25.2	0.1	0.099
110	30.047	30.2	0.2	0.099
110	35.039	35.2	0.2	0.099
110	40.035	40.2	0.2	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 17003390.  
Dimension: Diameter 14 mm, Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.059	20.2	0.1	0.099
75	25.052	25.1	0.0	0.099
75	30.047	29.9	-0.1	0.099
75	35.040	34.8	-0.2	0.099
75	40.036	39.7	-0.3	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



## CERTIFICATE OF CALIBRATION

Certificate No. : CDT-010-67

MEASUREMENT ITEM : Heat Stress Monitor  
MANUFACTURER : Delta OHM  
MODEL/TYPE : HD32.2  
SERIAL NUMBER : 15006711  
ID NUMBER : RVG\_FS0217  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand

RECEIVED DATE : 05 Jan 2024  
MEASUREMENT DATE : 08 Jan 2024  
ISSUE DATE : 09 Jan 2024

### ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

### TABULATION OF RESULTS:

The table on next page give the measured values.

Mr. Sorawit Thachalad  
Miss Nitraporn Lertsomphol  
Miss Ruangrumpai Phoomm  
9/1/25



Approved signatory

Mr. Pannya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED  
IN WRITING FROM THE LABORATORY

## CERTIFICATE OF CALIBRATION

Certificate No. : CDT-054-67

MEASUREMENT ITEM : Heat Stress Monitor  
MANUFACTURER : Delta OHM  
MODEL/TYPE : HD32.2  
SERIAL NUMBER : 15006713  
ID NUMBER : RVG\_FS0218  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS laboratory group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand

RECEIVED DATE : 17 Feb 2024  
MEASUREMENT DATE : 15 Feb 2024  
ISSUE DATE : 20 Feb 2024

### ENVIRONMENTAL CONDITIONS:

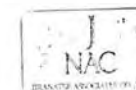
Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

### TABULATION OF RESULTS:

The table on next page give the measured values

Mr. Sorawit Thachalad  
Miss Nitraporn Lertsomphol  
Miss Ruangrumpai Phoomm  
15/2/25



Approved signatory

Mr. Pannya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED  
IN WRITING FROM THE LABORATORY

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 – 40 °C

**Function:**

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 22035270.  
Dimension: Diameter 3.3 mm. Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
50	20.064	20.1	0.0	0.099
80	25.053	25.1	0.0	0.099
80	30.043	30.1	0.1	0.099
80	35.033	35.1	0.1	0.099
80	40.018	40.1	0.1	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 22035462.  
Dimension: Diameter 3.3 mm. Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.064	20.1	0.0	0.099
110	25.053	25.1	0.1	0.16
110	30.043	30.2	0.2	0.099
110	35.033	35.2	0.2	0.099
110	40.018	40.2	0.2	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 15015499.  
Dimension: Diameter 14 mm. Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.064	20.3	0.2	0.099
75	25.053	25.2	0.1	0.099
75	30.043	30.0	0.0	0.099
75	35.033	35.0	0.0	0.099
75	40.019	39.8	-0.2	0.099

UUC\*: Unit Under Calibration

Remark: The reported uncertainty of measurement is 0.16, based on standard uncertainty multiplied by a coverage factor k=2.21 providing a level of confidence of approximately 95%.

\*\*\*End of Certificate of Calibration\*\*\*



Branches Association Co., Ltd.  
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Fax: +662-293453  
Email: jiracalibration@jiracal.com  
Web site: www.jiracal.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TISI-TIS 17025  
CALIBRATION 0367

Temperature measurement laboratory  
Calibration services department.

**CERTIFICATE OF CALIBRATION**

Certificate No. : CDT-055-67

Page 1 of 2 Pages

**MEASUREMENT ITEM**

MANUFACTURER : Heat Stress Monitor  
MODEL/TYPE : Delta OHM  
SERIAL NUMBER : HD32.2  
ID NUMBER : 15006714  
CONDITION AS-RECEIVED : RYG\_F50219  
CUSTOMER : Used Item  
ALS laboratory group (thailand) Co., Ltd  
104 Phatthakan 40, Phatthakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand

RECEIVED DATE : 12 Feb 2024  
MEASUREMENT DATE : 15 Feb 2024  
ISSUE DATE : 20 Feb 2024

**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

**TABULATION OF RESULTS:**

The table on next page give the measured values.

**Calibration procedure:**

The temperature calibration was done by in-house calibration method as WH-CL-002 according to comparison method with standard digital temperature indicator and standard temperature probe. The temperature scale was based on ITS-90

**Traceability**

The measurement results are traceable to the international system of units (SI) through National Institute of Metrology Thailand (NIMT) Certificate number: TT-0038-23, Certificate number: ER-0101-23

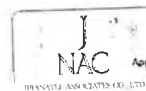
**Reference Used During Calibration:**

1. Standard Temperature Probe  
Model: STS 100 A500, Serial No.: 667682 09,  
Due date: 28 Mar 2024  
2. Digital Temperature Indicator  
Model: DTI-1000-A MK II, Serial No.: 671407  
00591 Due date: 14 Sep 2024

**Uncertainty of Measurement:**

The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM Evaluation of measurement data - Guide to the expression of uncertainty in measurement

Calibrated by:  
☒ Mr. Sorawit Thachalad  
☐ Miss. Ittraporn Lertsomphon  
☐ Miss Ruangrumpai Phoommit



Approved signatory:

Mr. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 – 40 °C

**Function:**

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 22035263.  
Dimension: Diameter 3.3 mm. Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.063	20.4	0.3	0.099
80	25.054	25.4	0.3	0.099
80	30.040	30.4	0.4	0.099
80	35.026	35.4	0.4	0.099
80	40.015	40.4	0.4	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 17023217.  
Dimension: Diameter 3.3 mm. Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.064	20.3	0.2	0.099
110	25.054	25.3	0.2	0.099
110	30.040	30.3	0.3	0.099
110	35.027	35.3	0.3	0.099
110	40.018	40.3	0.3	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 15015491.  
Dimension: Diameter 14 mm. Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.064	20.5	0.4	0.099
75	25.054	25.4	0.3	0.099
75	30.041	30.4	0.4	0.099
75	35.076	35.3	0.3	0.099
75	40.018	40.2	0.2	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



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Web site: www.jiracal.com

Accredited calibration laboratory  
ISO/IEC 17025:2017  
NSC-TISI-TIS 17025  
CALIBRATION 0367

Temperature measurement laboratory  
Calibration services department.

**CERTIFICATE OF CALIBRATION**

Certificate No. : CDT-028-67

Page 1 of 2 Pages

**MEASUREMENT ITEM**

MANUFACTURER : Heat Stress Monitor  
MODEL/TYPE : Delta OHM  
SERIAL NUMBER : HD32.2  
ID NUMBER : 20032240  
CONDITION AS-RECEIVED : RYG\_F50520  
CUSTOMER : Used Item  
ALS laboratory group (thailand) Co., Ltd  
104 Phatthakan 40, Phatthakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand.

RECEIVED DATE : 24 Jan 2024  
MEASUREMENT DATE : 25 Jan 2024  
ISSUE DATE : 30 Jan 2024

**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

**TABULATION OF RESULTS:**

The table on next page give the measured values.

**Calibration procedure:**

The temperature calibration was done by in-house calibration method as WH-CL-002 according to comparison method with standard digital temperature indicator and standard temperature probe. The temperature scale was based on ITS 90

**Traceability**

The measurement results are traceable to the international system of units (SI) through National Institute of Metrology Thailand (NIMT) Certificate number: TT-0038-23, Certificate number: ER-0101-23

**Reference Used During Calibration:**

1. Standard Temperature Probe  
Model: STS 100 A500, Serial No.: 667682 09,  
Due date: 28 Mar 2024  
2. Digital Temperature Indicator  
Model: DTI 1000-A MK II, Serial No.: 671407  
00591 Due date: 14 Sep 2024

**Uncertainty of Measurement:**

The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM Evaluation of measurement data - Guide to the expression of uncertainty in measurement

Calibrated by:  
☒ Mr. Sorawit Thachalad  
☐ Miss. Ittraporn Lertsomphon  
☐ Miss Ruangrumpai Phoommit



Approved signatory:

Mr. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 – 40 °C

**Function:**

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 21001213.  
Dimension: Diameter 3.3 mm. Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.054	20.1	0.0	0.099
80	25.054	25.2	0.1	0.099
80	30.046	30.2	0.2	0.099
80	35.043	35.2	0.2	0.099
80	40.033	40.2	0.2	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 21001245.  
Dimension: Diameter 3.3 mm. Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.054	20.1	0.0	0.099
110	25.055	25.1	0.0	0.099
110	30.046	30.1	0.1	0.099
110	35.043	35.1	0.1	0.099
110	40.033	40.1	0.1	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 21001785.  
Dimension: Diameter 14 mm. Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.053	20.1	0.0	0.16
75	25.055	25.0	-0.1	0.099
75	30.046	30.0	0.0	0.099
75	35.043	35.0	0.0	0.099
75	40.033	39.9	-0.1	0.099

UUC\*: Unit Under Calibration

Remark: The reported uncertainty of measurement is 0.16, based on standard uncertainty multiplied by a coverage factor k=2.21 providing a level of confidence of approximately 95%

\*\*\*End of Certificate of Calibration\*\*\*



**CERTIFICATE OF CALIBRATION**

Certificate No. : CDT-029-67

MEASUREMENT ITEM : Heat Stress Monitor  
MANUFACTURER : Delta OHM  
MODEL/TYPE : HD32.2  
SERIAL NUMBER : 20032241  
ID NUMBER : RYG\_F50521  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS laboratory group (thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand

RECEIVED DATE : 24 Jan 2024  
MEASUREMENT DATE : 25 Jan 2024  
ISSUE DATE : 30 Jan 2024

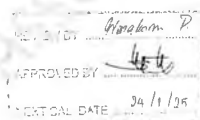
**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

**TABULATION OF RESULTS:**

The table on next page give the measured values



Approved signatory:

Mr. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 – 40 °C

**Function:**

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 21001217.  
Dimension: Diameter 3.3 mm. Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.052	20.1	0.0	0.099
80	25.054	25.1	0.0	0.099
80	30.047	30.1	0.1	0.099
80	35.041	35.1	0.1	0.099
80	40.035	40.1	0.1	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 21001242.  
Dimension: Diameter 3.3 mm. Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.052	20.0	-0.1	0.099
110	25.055	25.0	-0.1	0.099
110	30.047	30.0	0.0	0.099
110	35.041	35.0	0.0	0.099
110	40.035	40.0	0.0	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 21001783.  
Dimension: Diameter 14 mm. Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.052	20.1	0.0	0.099
75	25.054	25.1	0.0	0.099
75	30.047	30.0	0.0	0.099
75	35.041	34.9	-0.1	0.099
75	40.035	39.8	-0.2	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



**CERTIFICATE OF CALIBRATION**

Certificate No. : CDT-030-67

MEASUREMENT ITEM : Heat Stress Monitor  
MANUFACTURER : Delta OHM  
MODEL/TYPE : HD32.2  
SERIAL NUMBER : 20032242  
ID NUMBER : RYG\_F50522  
CONDITION AS-RECEIVED : Used item  
CUSTOMER : ALS laboratory group (thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khwaeng Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand

RECEIVED DATE : 24 Jan 2024  
MEASUREMENT DATE : 25 Jan 2024  
ISSUE DATE : 30 Jan 2024

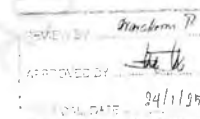
**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration

**TABULATION OF RESULTS:**

The table on next page give the measured values



Approved signatory:

Mr. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 – 40 °C

**Function:**

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 21001206  
Dimension: Diameter 3.3 mm, Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.055	20.0	-0.1	0.099
80	25.051	25.0	-0.1	0.099
80	30.040	30.1	0.1	0.099
80	35.032	35.1	0.1	0.099
80	40.022	40.1	0.1	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276 2 S/N: 21001250  
Dimension: Diameter 3.3 mm, Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.055	20.0	-0.1	0.099
110	25.051	25.1	0.0	0.099
110	30.040	30.1	0.1	0.099
110	35.032	35.1	0.1	0.099
110	40.023	40.1	0.1	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 21001796  
Dimension: Diameter 14 mm, Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.055	20.1	0.0	0.099
75	25.051	25.0	-0.1	0.099
75	30.040	30.0	0.0	0.099
75	35.032	34.9	-0.1	0.099
75	40.023	39.8	-0.2	0.099

UUC\*: Unit Under Calibration

\*\*\*End of Certificate of Calibration\*\*\*



**CERTIFICATE OF CALIBRATION**

Certificate No : CDT-031-67

Page 1 of 2 Pages

**MEASUREMENT ITEM**

MANUFACTURER : Heat Stress Monitor  
MODEL/TYPE : Delta OHM  
SERIAL NUMBER : HD32.2  
ID NUMBER : 20032243  
CONDITION AS-RECEIVED : RYG\_F50523  
CUSTOMER : Used item  
ALS laboratory group (thailand) Co., Ltd  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khuang Suan Luang, Khet Suan Luang,  
Bangkok 10250 Thailand.

RECEIVED DATE : 24 Jan 2024  
MEASUREMENT DATE : 26 Jan 2024  
ISSUE DATE : 30 Jan 2024

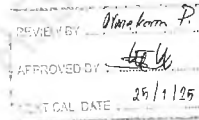
**ENVIRONMENTAL CONDITIONS:**

Ambient condition in the laboratory are as follow:  
Temperature : 23.0 ± 3.0 °C  
Relative Humidity : 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

**TABULATION OF RESULTS:**

The table on next page give the measured values.



Calibrated by:  
☒ M. Sorawit Thachalad  
☒ Miss J. Itaporn Lertsomphol  
☒ Ms. Ruangrumpal Phoommit

Approved signatory:  
M. Parinya Booncharoen  
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED  
IN WRITING FROM THE LABORATORY

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 – 40 °C

**Function:**

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 21001219.  
Dimension: Diameter 3.3 mm, Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.056	19.9	-0.1	0.16
80	25.047	25.0	0.0	0.099
80	30.041	30.0	0.0	0.099
80	35.032	35.0	0.0	0.099
80	40.023	40.0	0.0	0.099

Table 2: This equipment was connected with Globe thermometer probe Model: TP3276 2 S/N: 22023935.  
Dimension: Diameter 3.3 mm, Length 205 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.056	20.1	0.0	0.099
110	25.047	25.1	0.1	0.099
110	30.040	30.1	0.1	0.099
110	35.033	35.0	0.0	0.099
110	40.023	40.0	0.0	0.099

Table 3: This equipment was connected with temperature probe Model: TP3207.2 S/N: 21001786.  
Dimension: Diameter 14 mm, Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
75	20.056	20.1	0.0	0.099
75	25.047	25.0	0.0	0.099
75	30.040	30.0	0.0	0.099
75	35.033	34.9	-0.1	0.099
75	40.023	39.9	-0.1	0.099

UUC\*: Unit Under Calibration

Remark: The reported uncertainty of measurement is 0.16, based on standard uncertainty multiplied by a coverage factor k=2.21 providing a level of confidence of approximately 95%

\*\*\*End of Certificate of Calibration\*\*\*



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG, BANGKOK 10250  
TEL: 0-2717-3009-24 FAX: 0-2719-9484

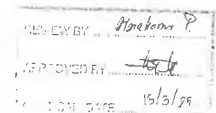


**Certificate of Calibration**

Certificate No : 24PH145  
Page : 1 of 2

Equipment : Lux Meter  
Manufacturer : Tonmars  
Model : TM-201L  
Serial No : 190702490  
ID No : RYG\_F50471  
Condition As-Received : Used Item  
Received Date : 12 March 2024  
Calibration Date : 14 March 2024  
Reference : 2403-0362WSG  
Ambient Temperature : ( 23 ± 2 ) °C  
Relative Humidity : ( 50 ± 15 ) %

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except with the prior written approval of the head of  
Corporate Services 3: Equipment Calibration and Testing Services.



Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.

104 Phatthanakan 40, Phatthanakan Rd.,  
Khuang Suan Luang, Khet Suan Luang  
Bangkok 10250 Thailand

Procedure used: Calibration were conducted using calibration procedure No CP-PH01 based on inverse square law technique

**Condition of this result of calibration**

1. Reference standards instruments:

Instrument	Model	Serial No.	Certificate No.	Due Date
1) Photometry & Encoder	LMguide 9.6 m	120RC003	DL-0064-22	20 Jul 2025
2) Luminous Intensity standard lamp	OL FEL-U	F-1543	TP-1030-23	08 Jun 2024

2. This result of calibration was made on requested at the point specified by customer.

3. Test Equipment : Programmable Voltage/Current Source ( Model : OLB3A, SN : 16221394 )

4. Test Equipment : Illuminance Meter ( Model : 51002, SN : 080129 )

5. The certificate is valid only to the item calibrated on date and place of calibration.

6. This Certification is traceable to the International System of Unit maintained through:-

- National Institute of Metrology Thailand (NIMT)

- National Institute of Metrology (Thailand), NSC-ONSC Accredited No: Calibration 0144

Calibrated by : Nival Niss  
Issue Date : 18 March 2024

Approved Signatory :

☐ Phalino Prabsapal  
☐ Wanlop Larkhem  
☐ Nulawet Khemchar





Cert. No.: 24PH145  
Page: 2 of 2

Result of calibration: ( \* ) Without adjustment ( ) After adjustment

Function : Illuminance Measurement		Range :	200 lx	
Standard Value	UUC* Reading	Error	Uncertainty	
( lx )	( lx )	( lx )	( ± lx )	
0	0.0	0.0	+	
20	20.1	0.1	0.26	
50	50.0	0.0	0.65	
100	100.0	0.0	1.3	
150	150.0	0.0	2.0	
190	190.0	0.0	2.5	

Function : Illuminance Measurement		Range :	2000 lx	
Standard Value	UUC* Reading	Error	Uncertainty	
( lx )	( lx )	( lx )	( ± lx )	
200	199	-1	2.6	
500	499	-1	6.5	
1000	1000	0	13	
1500	1501	1	20	
1900	1901	1	25	

Function : Illuminance Measurement		Range :	20000 lx	
Standard Value	UUC* Reading	Error	Uncertainty	
( lx )	( lx )	( lx )	( ± lx )	
2000	1990	-10	26	
3000	3000	0	39	
4000	4000	0	52	
5000	5000	0	65	

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor  $k = 2$ , providing a level of confidence of approximately 95 %

UUC\* = Unit Under Calibration.

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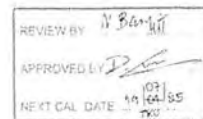
TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICE & EQUIPMENT CALIBRATION & TESTING SERVICES  
2400/171, Moo 5, T. Maenam Khu, A. Phrakdaeng, Rayong 21140, Thailand  
Tel: 09-271-00000, 09-271-00001



Cert No.: 24CH96  
Page: 1 of 3

## Certificate of Calibration

Equipment : pH Meter  
Manufacturer : Mettler Toledo  
Model : SevenCompact S220  
Serial No. : C104059460  
ID No. : RYG EN0185  
Condition As-Received: Used Item  
Received Date : 10 January 2024  
Calibration Date : 19 January 2024  
Reference : 2401-0579DSC-2  
Submitted by : ALS Laboratory Group (Thailand) Co. Ltd (Rayong Branch)  
616/10 Moo 5, T. Maenam Khu,  
A. Phrakdaeng, Rayong 21140, Thailand



Ambient Temperature : (25 ± 2.5) °C  
Relative Humidity : (50 ± 15) %  
Calibration Procedure : In-house method  
- CP-CH5 by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)  
- CP-CH8 by comparison with temperature standard

Calibrated by : Warakorn Lerngagrakul

Approved by :

( ✓ ) Saitip Meangmai  
( ) Warakorn Lerngagrakul  
( ) Ponpan Pajim

Issue Date : 24 January 2024

The uncertainty is for a confidence probability of approximately 95 %

A 0062854



Cert. No.: 24CH96  
Page: 2 of 3

### Condition of this calibration result

#### 1. Reference Standard Instrument

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	54030349	130RC116	23E2802	27 Aug 2024
2) Ref. Standard Thermometer	4982054	110RC044	231908	26 July 2024

This certification is traceable to the International System of Unit maintained through -  
- Technology Promotion Association (Thailand-Japan)

2. Certified Reference Materials The measurement results are traceable to SI through CPA chem Ltd.,  
ANSI-ASQ National Accreditation Board Accredited No. ANL-135

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	940102	27 Nov 2025
pH 6.986	CPA chem	940104	02 Nov 2024
pH 9.997	CPA chem	940106	02 Nov 2024

3. This certificate is valid only to the item calibrated on date and place of calibration

### Calibration Results

#### Function : mV Measurement

Performing standard curve by Fluke at pH (4.7,10)

Unit Under Calibration	Nominal Value		Standard Voltage Input		Actual Reading		Uncertainty of Measurement ( ± mV )	Coverage factor k
	pH	mV	mV	pH	mV	pH		
pH Meter S/N : C104059460	4.000	177.48	177.4	4.000	0.058	2.00		
	7.000	0.00	0.0	7.000	0.058	2.00		
	10.000	-177.48	-177.5	10.000	0.058	2.00		



Cert. No.: 24CH96  
Page: 3 of 3

### Calibration Results

#### Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4.01,7.00,10.01)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH Measurement ( ± )	Coverage factor k
pH Electrode S/N : 3225367	4.008	4.013	176.0	0.0054	2.07
	6.986	6.983	2.2	0.0084	2.00
	9.997	9.995	-174.1	0.0065	2.00

#### Function : Temperature Measurement

( \* ) Without adjustment

This equipment was connected with Temperature Probe,

- Model : InLab®Expert Pro-ISM

- Serial No : 3225367

Dimension of probe

- Length : 120 mm

- Diameter : 12 mm

- Immersion Depth : 100 mm

Calibration Point ( °C )	Standard Temperature ( °C )	UUC* Reading ( °C )	Error ( °C )	Uncertainty of measurement ( ± °C )	Coverage factor k
25.0	25.001	25.2	0.199	0.13	2.00

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor  $k$ , providing a level of confidence of approximately 95 %

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a 1198287

a 1198288



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3 : EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL: 0-2717-3000 FAX: 0-2719-9484



## Certificate of Calibration

Certificate No.: 24E289  
Page: 1 of 2

Equipment: pH Meter  
Manufacturer: Mettler Toledo  
Model: SevenCompact S220  
Serial No.: C194059460  
ID No.: RYG-EN0183  
Condition As-Received: Used Item  
Received Date: 18 January 2024  
Calibration Date: 25 January 2024  
Reference: 2401-05790SC  
Ambient Temperature: (23 ± 2) °C  
Relative Humidity: (50 ± 10) %

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Corporate Services 3: Equipment Calibration and Testing Services.

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5, T.Mae Nam Khu, A.Pluakdaeng,  
Rayong 21140, Thailand

Procedure used: Calibration were conducted using calibration procedure No. CP-F17 According to EURAMET-09-15

### Condition of this result of calibration

1 Reference Standard Instruments

Instrument	Model	Serial No.	Certificate No.	Due Date
1) Multi-Product Calibrator	5500A	63150411	C2J2300035	29 May 2024

2 The result of calibration was made on requested at the point specified by customer

3 The certificate is valid only to the item calibration on date and place of calibration

4 This Calibration is traceable to the International System of Unit maintained through

NA Calibration Co., Ltd. ANAB Accredited No. G-1: AC-2468

Calibrated by: Wutthichai Wongkham  
Issue Date: 24 January 2024

Approved Signatory:  
[Signature]  
[Signature]  
[Signature]

B 0333296

Cert. No.: 24E289  
Page: 2 of 2



Result of calibration:- ( ) Without adjustment ( ) After adjustment

Function	DC voltage measurement	Range	2000 mV	
	Standard Value	UUC* Reading	Error	Uncertainty
	( mV )	( mV )	( mV )	( ± mV )
	-200.0000	-200.0	0.0	68
	-150.0000	-150.0	0.0	65
	-100.0000	-100.0	0.0	63
	-50.0000	-50.0	0.0	61
	0.0000	0.0	0.0	58
	50.0000	50.0	0.0	61
	100.0000	99.9	-0.1	63
	150.0000	149.9	-0.1	65
	200.0000	199.9	-0.1	68

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95 %

UUC\* = Unit Under Calibration

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a 1188963

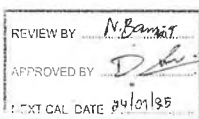


TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3 : EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL: 0-2717-3000 FAX: 0-2719-9484

Cert.No.: 23TW168  
Page: 1 of 2

## Certificate of Testing

Equipment: DO Meter  
Manufacturer: YSI  
Model: 5000-115V  
Serial No.: 15E102796  
ID No.: RYG-EN0032  
Received Date: 21 July 2023  
Test Date: 24 July 2023  
Reference: 2307-0713DSC-1  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.  
Rayong Branch  
616/10 Moo 5, T.Mae Nam Khu, A.Pluakdaeng,  
Rayong 21140, Thailand



Laboratory Condition: Temperature (25 ± 5) °C  
Humidity (50 ± 20) %  
Test Procedure: In-house method: CP-CH9  
by Comparison Technique with Azide Modification Method

Tested by: Walailak Sirilhean

Approved by: [Signature]  
Approved Signatory

( ) Malee Butkrues  
(x) Sailhip Meangmai  
( ) Warakom Lerngagrakul

Issue Date: 26 July 2023

B 0320211



Cert.No.: 23TW168  
Page: 2 of 2

### Condition of this result of calibration

1. Reference Standard Instruments:

This certification is traceable to the International System of Unit through the reference standards  
laboratory of Industrial Calibration Center, Technology Promotion Association (Thailand-Japan).

Instruments	Serial No.	ID No.	Certificate No.	Due Date
1) Burette	-	130BU10	23CG1172	22 Mar 2025
2) Balance	1126143764	140RC004	22MM50	20 Sep 2023

2. Standard Material:

Material	Manufacturer	Lot No.	Assay
Sodium Thiosulfate pentahydrate	Morck	AM1763316	100.2%

Result: Dissolved Oxygen Meter Adjustment With Air 100 %

Dissolved Oxygen Probe No.: 15E100464

Titration Method (Azide Modification Method)	DO Meter Reading	Standard Deviation
(mg/L)	(mg/L)	(mg/L)
8.18	8.17	0.0055

This report was certified only for the instrument we tested. It is allowable to use for study  
the system efficiency. The environmental impact control and present to organization it may concerned  
Intend to use for advertising and referral purpose is prohibited. This report may not be reproduced  
other in full, without written approval of the laboratory

-00-

a 1172155





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
334/4 PATTANAKARN ROAD SOI 18 SUANLIANG SUANLAIANG BANGKOK 10250  
TEL 0 2717 3491/29 FAX 0 2715 9164



Cert. No.: 23LM125  
Page.: 1 of 2

## Certificate of Calibration

Equipment : DO Meter with Sensor  
Manufacturer : YSI  
Model : 5000-115V  
Serial No. : 15E102796  
ID No. : RYG\_EN0032  
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
Rayong Branch  
616/10 Moo 5 T. Maenam Khu, A. Pluakdaeng,  
Rayong 21140 Thailand  
Location : TPA On Site Calibration Laboratory  
Received Order : 25 July 2023  
Calibrated Date : 27 July 2023  
Ambient Temperature : ( 26 ± 10 ) °C  
Relative Humidity : ( 50 ± 30 ) %  
AC Line Voltage : ( 220 ± 22 ) V

Calibrated by : Preecha Hiahib

Approved by :

( ) Pornthippa Tameyakul  
( ) Malee Butkruea  
(✓) Suwit Imjai

Issue Date : 31 July 2023

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the Head of Corporate Services & Equipment Calibration and Testing Services

A 0053616



Equipment : DO Meter with Sensor  
Condition As-Received : Used Item  
Reference : 2307-0713DSC-2

Cert. No.: 23LM125  
Page.: 2 of 2

Procedure Used :-

Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer ( IPRT ) into Temperature Bath.  
The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1) Digital Thermometer	2188080	221285	TPA	21 Oct 2023

2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.

Remark : TPA : Technology Promotion Association ( Thailand - Japan )

Result of Calibration :- ( \* ) Without Adjustment

Function : Temperature measurement.

This instrument was connected with temperature sensor, S/N.: 1228475367

Calibration Point ( °C )	Immersion Depth ( mm )	Standard Temperature ( °C )	UUC* Reading ( °C )	Error ( °C )	Uncertainty ( ± °C )	Coverage Factor k
20.00	100	20.011	19.91	-0.101	0.15	2.00

UUC\* : Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor *k*, providing a level of confidence of approximately 95 %.

-00-

a 1159515



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
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TEL 0 2717 3491/29 FAX 0 2715 9164



Cert. No.: 23TM962  
Page.: 1 of 3

## Certificate of Calibration

Equipment : Low Temp. Incubator  
Manufacturer : Memmert  
Model : IPP750  
Serial No. : V81B.0084  
ID No. : RYG\_EN0154  
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
(Rayong Branch)  
616/10 Moo 5 T. Maenam Khu,  
A. Pluakdaeng, Rayong 21140 Thailand  
Location : BOD Room  
Received Order : 29 May 2023  
Calibration Date : 29 May 2023  
Ambient Temperature : ( 26 ± 10 ) °C  
Relative Humidity : ( 50 ± 30 ) %

Calibrated by : Man Paltanapongpaiboon

Approved by :

( ) Pornthippa Tameyakul  
( ) Malee Butkruea  
(✓) Suwit Imjai

Issue Date : 7 June 2023

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the Head of Corporate Services & Equipment Calibration and Testing Services

A 0054967



Equipment : Low Temp. Incubator  
Condition As-Received : Used Item  
Reference : 2305-0898OC-2

Cert. No.: 23TM962  
Page.: 2 of 3

Procedure Used :-

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector ( RTD ).  
The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

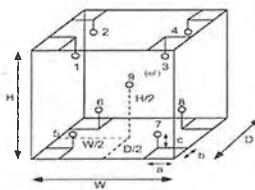
Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34972A	MY57013711	22LM93	02 Jul 2023

2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.

Result of Calibration :- ( \* ) Without Adjustment

Function of UUC\* : Temperature Source

Fresh air setting : Close



Probe Installation Details :

a = 10 cm	D = 0.60 m
b = 10 cm	W = 1.0 m
c = 10 cm	H = 1.2 m
	Capacity = 0.75 m <sup>3</sup>

Environment during calibration		
	Beginning	Finished
Temp. ( °C )	23	23
REL Humid. ( % )	54	56
AC Supply ( Volt )	223	222

Position :	Ref. Std. ID No. :
1	18-18RTD-01
2	18-18RTD-02
3	18-18RTD-03
4	18-18RTD-04
5	18-18RTD-05
6	18-18RTD-10
7	18-18RTD-07
8	22-18RTD-08
9 (ref.)	18-18RTD-09

a 1165130



Equipment : Low Temp. Incubator  
Condition As-Received : Used Item  
Reference : 2305-0898OC-2  
Result of Calibration :- ( ° ) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Cert. No : 23TM962  
Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
20.0	20.0	20.0	0.019	0.72	1.0	2

Calibration Point (°C)	Measured Temperature (°C)									Uncertainty (± °C)
	1	2	3	4	5	6	7	8	9 (ref.)	
20.0	19.547	19.780	19.487	19.529	19.408	20.139	20.112	20.406	20.116	0.30

Average\* : The average of 30 values in each position.

Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.

Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.

UUC\* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %

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a 1165129



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## Certificate of Calibration

Cert. No.: 24TM1663  
Page : 1 of 3

Equipment : Low Temp. Incubator

Manufacturer : Memmert

Model : IPP750

Serial No. : V818.0084

ID No. : RYG\_EN0154

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd, Rayong Branch  
616/10 Moo 5, T.Maenam Khu,  
A.Pluakdaeng,  
Rayong 21140, Thailand

Location : BOD Room

Received Order : 01 November 2024

Calibration Date : 01 November 2024

Ambient Temperature : ( 26 ± 10 ) °C

Relative Humidity : ( 50 ± 30 ) %

AC Line Voltage : ( 220 ± 22 ) V

Calibrated by : Krisda Malee

Approved by :

( ) Ponpan Paipim  
( ) Suwit Imjai  
(✓) Kunchit Promprat

Issue Date : 07 November 2024

The Uncertainties are for a confidence probability of approximately 95%

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Equipment : Low Temp. Incubator  
Condition As-Received : Used Item  
Reference : 2411-0002OC-1

Cert. No.: 24TM1663  
Page : 2 of 3

### Procedure Used :-

Calibration were conducted using calibration procedure CP-OT02 based on TLAS G-20 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector ( RTD ).

The temperature scale used was based on ITS-90.

### Condition of this result of calibration

#### 1. Reference standard Instrument-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1 ) Data Acquisition	MY44073381	24LM73	TPA	18 May 2025

2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

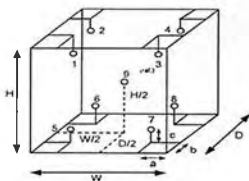
Remark : TPA : Technology Promotion Association ( Thailand - Japan )

Result of Calibration :- ( ° ) Without Adjustment

Function of UUC\* : Temperature Source

Fresh air setting : Close

Environment during calibration		
	Beginning	Finished
Temp. ( °C )	24	25
REL.Humid. ( % )	55	53
AC Supply ( Volt )	220	221



### Probe Installation Details :

### Dimension of Chamber :

a = 10 cm	D = 0.60 m
b = 10 cm	W = 1.0 m
c = 10 cm	H = 1.2 m
	Capacity = 0.72 m³

Position :	Ref. Std. ID No.:
1	1RTD-2/1
2	1RTD-2/2
3	22-01RTD-03
4	1RTD-2/4
5	1RTD-2/5
6	1RTD-2/6
7	23-01RTD-07
8	1RTD-2/8
9 (ref.)	23-01RTD-09



Equipment : Low Temp. Incubator  
Condition As-Received : Used Item  
Reference : 2411-0002OC-1  
Result of Calibration :- ( ° ) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Cert. No.: 24TM1663  
Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
20.0	20.0	20.0	0.026	0.26	0.53	2

Calibration Point (°C)	Measured Temperature (°C)									Uncertainty (± °C)
	1	2	3	4	5	6	7	8	9 (ref.)	
20.0	20.071	19.915	20.273	20.179	19.977	19.782	20.056	20.026	20.033	0.30

Average\* : The average of 30 values in each position.

Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.

Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.

UUC\* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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SARTORIUS

# Certificate of Calibration

REVIEW BY *Tharitak*  
APPROVED BY *D*  
NEXT CAL DATE 02/02/2025

Model Number: MSE224S-100-DU  
Description: Analytical Balance  
Serial Number: 0026207038  
ID No: RYG\_EN0002  
Manufacturer: Sartorius  
Certificate No: 24BC0069  
Issued Date: Friday, February 23, 2024  
Reference No: 229196  
Page No: 1 of 2

Customer Name: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5 T. Maenam Khu, A. Pluakdaeng, Rayong 21140, Thailand.

Calibrated Place: ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)  
616/10 Moo 5 T. Maenam Khu, A. Pluakdaeng, Rayong 21140, Thailand.

Calibrated By: Mr. Chonchai Inthana  
Calibration Date: Thursday, February 22, 2024  
Calibration Procedure No.: This calibration was conducted by Using in-house calibration procedure number (WI-003) Based on UKAS LAB 14: 2019

Metrological data:  
Capacity: 220 g Readability: 0.0001 g  
Ambient Conditions:  
Temperature: 24.2 °C ± 5.0 °C  
Humidity: 57.0 % RH ± 10.0 % RH  
Pressure: ±

Reasons for calibration  
☐ New Installation ☐ Service / Repair ☒ Re-calibration / Maintenance  
Equipment Condition: ☒ Good Operate ☐ Fair

Measurement Method UKAS Publication Ref: Lab 14  
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance came from list of Sartorius Metrological Specifications.

## Traceability:

Model Number	Description	Traceability	Certificate No.	Due Date
YCS011-522-00	Sartorius weight set 100g - 5000g E2.YCS011-522-00	TCS	M2308197S	23-Aug-2025
MHB-382SD	Humidity/Balometer/Temp Lulron MHB-382SD	DKSH	C1923184S	23-Aug-2024

This certificate relate and apply this equipment only.  
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Mr. Chonchai Inthana (Technical Manager)



SOP FM 33 03 February 2022

SARTORIUS

# Certificate of Calibration

Model Number: MSE224S-100-DU  
Description: Analytical Balance  
Serial Number: 0026207038  
ID No: RYG\_EN0002  
Manufacturer: Sartorius  
Certificate No: 24BC0069  
Issued Date: Friday, February 23, 2024  
Reference No: 229196  
Page No: 2 of 2

## Calibration Results : Without Adjustment

Repeatability			Eccentricity (Off-center loading error)		
The repeatability is the ability of a weighing instrument to display nearly identical readouts under constant test conditions when the same load with a measurement series is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express reproducibility quantitatively.					
Nominal Value : (Low Load)	20.0000	199.9999			
20 g	20.0000	200.0000			
Tolerance	20.0001	200.0000			
0.0001 g	20.0000	199.9999			
Nominal Value : (High Load)	20.0001	200.0000			
200 g	19.9999	200.0000			
Tolerance	20.0000	200.0000			
0.0001 g	19.9999	200.0001			
	19.9999	200.0000			
Standard Deviation	0.00007	0.00006			

Eccentricity (Off-center loading error)		
The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed at the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R76)		
Nominal value:	100 g	
Tolerance	0.0004 g	
		Difference
1	-	
2	-0.0001	
3	-0.0001	
4	0.0000	
5	-0.0001	
6	-	

Linearity					
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.					
Tolerance	0.0002 g				
Nominal Value	Conventional Mass Value	Displayed Value	Deviation	Uncertainty	
(g)	(g)	(g)	(g)	(g)	
0.01	0.0100	0.0100	0.0000	0.00018	
0.05	0.0500	0.0500	0.0000	0.00018	
0.1	0.1000	0.1000	0.0000	0.00018	
0.5	0.5000	0.5000	0.0000	0.00018	
1	1.0000	1.0000	0.0000	0.00018	
5	5.0000	5.0000	0.0000	0.00018	
10	10.0000	10.0000	0.0000	0.00018	
20	20.0000	20.0000	0.0000	0.00024	
50	50.0000	49.9999	-0.0001	0.00019	
100	100.0000	100.0000	0.0000	0.00023	
200	200.0000	199.9999	-0.0001	0.00032	

End of Report

SOP FM 33 03 February 2022



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## Certificate of Calibration

Cert. No: 24TM632  
Page: 1 of 3

Equipment: Hot Air Oven  
Manufacturer: Memmert  
Model: UFE 500  
Serial No.: G511.1572  
ID No: RYG\_EN0010  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5 T. Maenam Khu, A. Pluakdaeng, Rayong 21140 Thailand  
Location: Oven Room  
Received Order: 21 March 2024  
Calibration Date: 21 March 2024  
Ambient Temperature: (26 ± 10) °C  
Relative Humidity: (50 ± 30) %  
Calibrated by: Man Pattanapongpaiboon  
Approved by: *Suwit*  
Approved Signatory  
( ) Ponthipha Tameyakul  
( ) Unnopphol Harachai  
(x) Suwit Imjai  
Issue Date: 22 March 2024

Tharitak



Equipment: Hot Air Oven  
Condition As-Received: Used Item  
Reference: 2403-0563OC-1

Cert. No: 24TM632  
Page: 2 of 3

## Procedure Used :-

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T.

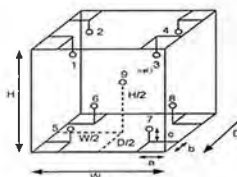
The temperature scale used was based on ITS-90.

## Condition of this result of calibration

- Reference standard instrument:  
Instrument Serial No. Cert. No. Traceable Due Date  
1) Data Acquisition MY57013711 23LM115 TPA 11 Jul 2024
- This certificate is valid only to the item calibrated on date and place of calibration.
- This certification is traceable to the International System of Unit.

Remark: TPA: Technology Promotion Association (Thailand - Japan)

Result of Calibration :- ( ) Without Adjustment  
Function of UUC\*: Temperature Source  
Fresh air setting: Close



Probe Installation Details: Dimension of Chamber:  
a = 50 cm D = 0.40 m  
b = 50 cm W = 0.56 m  
c = 50 cm H = 0.48 m  
Capacity = 0.11 m³

Environment during calibration		
	Beginning	Finished
Temp (°C)	27	27
REL Humid. (%)	57	59
AC Supply (Volt)	222	224

Ref. Std. ID No.: @ Calibration Point		
Position:	(180) °C	(104) °C
1	18-18TC-01	18-18RTD-01
2	18-18TC-02	18-18RTD-02
3	18-18TC-03	18-18RTD-03
4	18-18TC-04	18-18RTD-04
5	18-18TC-05	18-18RTD-05
6	18-18TC-06	23-18RTD-06
7	18-18TC-07	18-18RTD-07
8	18-18TC-08	22-18RTD-08
9 (ref.)	18-18TC-09	18-18RTD-09

The Uncertainties are for a confidence probability of approximately 95%

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Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2403-0563OC-1  
Result of Calibration : ( \* ) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Cert. No.: 24TM632  
Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
104.0	104.0	104.0	0.051	0.59	0.62	2
180.0	180.0	180.0	0.15	1.3	1.7	2

Calibration Point (°C)	Measured Temperature (°C)									Uncertainty (± °C)
	1	2	3	4	5	6	7	8	9 (ref.)	
104.0	103.921	103.766	103.757	103.759	103.950	103.817	104.213	103.672	103.673	0.42
180.0	179.614	179.270	179.145	179.599	180.001	180.423	180.293	180.629	179.429	1.1

Average\* : The average of 30 values in each position.  
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.  
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.  
UUC\* : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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## Certificate of Calibration

Cert. No.: 24TM634  
Page : 1 of 3

Equipment : Hot Air Oven

Manufacturer : Memmert

Model : UF 110

Serial No. : B423.0853

ID No. : RYG\_EN0213

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd. (Rayong Branch)  
618/10 Moo 5 T. Maenam Kru,  
A. Pluakdaeng,  
Rayong 21140 Thailand

Location : Oven Room

Received Order : 21 March 2024

Calibration Date : 21 - 22 March 2024

Ambient Temperature : ( 28 ± 10 ) °C

Relative Humidity : ( 50 ± 30 ) %

Calibrated by : Man Pattanapongpaiboon

Approved by :   
Approved Signatory

( ) Ponthippa Tameyakul  
( ) Unnopphol Harachai  
(x) Suwit Imjai

Issue Date : 23 March 2024

The Uncertainties are for a confidence probability of approximately 95%

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Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2403-0563OC-3  
Procedure Used :

Cert. No.: 24TM634  
Page : 2 of 3

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector ( RTD ) and Thermocouple Type T.

The temperature scale used was based on ITS-90.

### Condition of this result of calibration

1. Reference standard instrument-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1 ) Data Acquisition	MY57013711	23LM115	TPA	11 Jul 2024

2. This certificate is valid only to the item calibrated on date and place of calibration.

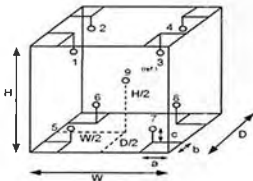
3. This certification is traceable to the International System of Unit.

Remark : TPA : Technology Promotion Association ( Thailand - Japan )

Result of Calibration : ( \* ) Without Adjustment

Function of UUC\* : Temperature Source

Fresh air setting : Close



Probe Installation Details : Dimension of Chamber :

a = 5.0 cm	D = 0.40 m
b = 5.0 cm	W = 0.56 m
c = 5.0 cm	H = 0.48 m
Capacity = 0.11 m <sup>3</sup>	

Environment during calibration		
	Beginning	Finished
Temp. ( °C )	27	27
REL.Humid. ( % )	59	59
AC Supply ( Volt )	224	223

Ref. Std. ID No. : @  
Calibration Point

Position :	( 180 ) °C	( 104 ) °C
1	18-18TC-01	18-18RTD-01
2	18-18TC-02	18-18RTD-02
3	18-18TC-03	18-18RTD-03
4	18-18TC-04	18-18RTD-04
5	18-18TC-05	18-18RTD-05
6	18-18TC-06	23-18RTD-06
7	18-18TC-07	18-18RTD-07
8	18-18TC-08	22-18RTD-08
9 (ref.)	18-18TC-09	18-18RTD-09



Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2403-0563OC-3  
Result of Calibration : ( \* ) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Cert. No.: 24TM634  
Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
104.0	104.0	104.0	0.065	0.52	0.90	2
180.0	180.0	180.0	0.20	1.2	2.0	2

Calibration Point (°C)	Measured Temperature (°C)									Uncertainty (± °C)
	1	2	3	4	5	6	7	8	9 (ref.)	
104.0	104.169	103.506	103.898	103.712	103.772	103.730	104.289	103.605	103.798	0.42
180.0	180.701	179.239	179.935	179.999	180.127	180.138	180.895	179.313	180.211	1.1

Average\* : The average of 30 values in each position.

Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.

Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.

UUC\* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %

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## Certificate of Calibration

Cert. No.: 24TM635  
Page : 1 of 3

Equipment : Water Bath  
Manufacturer : Memmert  
Model : WNB22  
Serial No. : L513.0648  
ID No. : RYG\_EN0061  
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd. (Rayong Branch)  
616/10 Moo 5, T. Maenam Khu,  
A. Pluakdaeng,  
Rayong 21140, Thailand  
Location : Wet Chemistry Lab  
Received Order : 21 March 2024  
Calibration Date : 21 March 2024  
Ambient Temperature : (26 ± 10) °C  
Relative Humidity : (50 ± 30) %  
Calibrated by : Man Pattanapongpaiboon  
Approved by :   
( ) Pomthippa Tameyakul  
( ) Unnopphol Harachai  
(✓) Suwit Imjai

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.



Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2403-0563OC-4  
Procedure Used :-

Cert. No.: 24TM635  
Page : 2 of 3

Calibration were conducted using in-house calibration procedure CP-OT04 Based on ASTM E715 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer (IPRT).

The temperature scale used was based on ITS-90.

### Condition of this result of calibration

#### 1. Reference standard instrument:-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1) Data Acquisition	MYS7013711	23LM115	TPA	11 Jul 2024

2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit

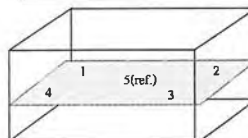
Remark : TPA : Technology Promotion Association (Thailand - Japan)

Result of Calibration :- ( \* ) Without Adjustment

Function of UUC\* : Temperature Source

Heat transfer medium used : Water

	Environmental		AC Voltage Supply
	( °C )	( %R.H. )	( Volt )
Beginning of Calibration	25	55	222
Finished of Calibration	25	57	223



Front

Position :	Ref. Std. ID No.:
1	4803988-001
2	4803988-002
3	4803988-003
4	4803988-004
5(ref.)	4803988-005



Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2403-0563OC-4  
Result of Calibration :- ( \* ) Without Adjustment  
Function of UUC\* : Temperature Source

Cert. No.: 24TM635  
Page : 3 of 3

Calibration point ( °C )	UUC* Setting ( °C )	UUC* Reading ( °C )	Average* Standard Reading ( °C )					Uncertainty ( ± °C )
			1	2	3	4	5 (ref.)	
85.0	85.0	85.0	84.426	84.424	84.489	84.507	84.477	0.18

Calibration point ( °C )	Uniformity ( °C )	Stability ( ± °C )	Coverage Factor
85.0	0.19	0.11	2

Average\* : The average of 30 values in each position.

Uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Stability : One-half of the greatest maximum difference of measured temperature at any one probe.

UUC\* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity.

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor  $k$ , providing a level of confidence of approximately 95 %.

-000-



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534-4 PATTANAKARN ROAD SOI 18, SUANLIANG, SUANLIANG BANGKOK 10250  
TEL 0-2717-3000-29 FAX 0-2719-9484



Cert.No.: 23CH1540  
Page : 1 of 2

## Certificate of Calibration

Equipment : pH Meter  
Manufacturer : Mettler Toledo  
Model : SevenGo S2  
Serial No. : C232588422  
ID No. : RYG\_FS0607  
Condition As-Received : Used Item  
Received Date : 04 December 2023  
Calibration Date : 06 December 2023  
Reference : 2312-0070DSC-1  
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd. Rayong Branch  
616/10 Moo 5, T. Maenam Khu,  
A. Pluakdaeng, Rayong 21140, Thailand  
Ambient Temperature : (25 ± 2.5) °C  
Relative Humidity : (50 ± 15) %  
Calibration Procedure : In-house method :  
- CP-CH5 by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)

Calibrated by : Warakorn Lerngagrakul

Approved by :   
Approved Signatory

(✓) Saitip Meangmai  
( ) Warakorn Lerngagrakul  
( ) Ponpan Paipim

Issue Date : 8 December 2023

The Uncertainties are for a confidence probability of approximately 95%

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A 0061470



Cert. No.: 23CH1540  
Page: 2 of 2

#### Condition of this calibration result

1. Reference Standard Instrument :-

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	54030049	130RC116	23E2802	27 Aug 2024

This certification is traceable to the International System of Unit maintained through:-  
- Technology Promotion Association (Thailand-Japan)

2. Certified Reference Materials : The measurement results are traceable to SI through CPA chem Ltd., ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	913598	14 July 2025
pH 6.985	CPA chem	913599	14 July 2024
pH 9.997	CPA chem	940106	02 Nov 2024

3. This certificate is valid only to the item calibrated on date and place of calibration.

#### Calibration Results

Function : mV Measurement

Performing standard curve by Fluke at pH (4.7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement	Coverage factor
	pH	mV	mV	pH	( $\pm$ mV)	k
pH Meter S/N: C232588422	4.00	177.48	178	4.00	0.58	2.00
	7.00	0.00	0	7.00	0.58	2.00
	10.00	-177.48	-177	10.00	0.58	2.00

Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4.7,10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH measurement ( $\pm$ )	Coverage factor k
pH Electrode S/N: 2465870	4.008	4.01	178	0.0071	2.00
	6.985	6.99	2	0.0099	2.00
	9.997	10.00	-173	0.0095	2.00

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %

-00-

Signature

a 1192692



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
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Cert. No.: 23LM197  
Page: 1 of 2

## Certificate of Calibration

Equipment : pH Meter with Sensor  
Manufacturer : Mettler Toledo  
Model : Seven2Go S2  
Serial No. : C232588422  
ID No. : RYG\_FS0607  
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd  
Rayong Branch  
616/10 Moo 5 T. Maenam Khu, A. Pluakdaeng,  
Rayong 21140 Thailand  
Location : TPA On Site Calibration Laboratory  
Received Order : 04 December 2023  
Calibrated Date : 08 December 2023  
Ambient Temperature : ( $26 \pm 10$ ) °C  
Relative Humidity : ( $50 \pm 30$ ) %  
AC Line Voltage : ( $220 \pm 22$ ) V

Calibrated by : Khri Rutanaprapachai

Approved by :   
Approved Signatory

( ) Pornthipha Temeyakul  
( ) Ponpan Paipim  
(✓) Suwit Imjai

Issue Date : 15 December 2023

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the head of Corporate Services & Equipment Calibration and Testing Services

A 0061579



Equipment : pH Meter with Sensor  
Condition As-Received : Used Item  
Reference : 2312-0070DSC-4

Cert. No.: 23LM197  
Page: 2 of 2

#### Procedure Used :-

Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer (IPRT) into Temperature Bath  
The temperature scale used was based on ITS-90

#### Condition of this result of calibration

1. Reference standard Instrument:-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1) Digital Thermometer	A7B843	23I24	TPA	04 Jan 2024

2. This certificate is valid only to the item calibrated on date and place of calibration

3. This certification is traceable to the International System of Unit.

Remark : TPA : Technology Promotion Association (Thailand - Japan)

Result of Calibration :- ( ) Without Adjustment

Function : Temperature measurement

This instrument was connected with temperature sensor, S/N: 2465870

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty ( $\pm$ °C)	Coverage Factor k
25.0	100	25.003	25.2	0.197	0.16	2.00
30.0	100	30.004	30.2	0.196	0.16	2.00
40.0	100	40.003	40.2	0.197	0.16	2.00
50.0	100	50.005	50.2	0.195	0.16	2.00

UUC\* : Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %

-00-

Signature

a 1193732



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TEL 0-2717-3000-29 FAX 0-2719-9484



## Certificate of Calibration

Cert.No.: 24CH1489  
Page.: 1 of 3

Equipment : pH Meter  
Manufacturer : Mettler Toledo  
Model : Seven2Go S2  
Serial No. : C232588422  
ID No. : RYG\_FS0607  
Condition As-Received : Used Item  
Received Date : 27 November 2024  
Calibration Date : 28 November 2024  
Reference : 2411-0871DSC-3  
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd. Rayong Branch  
616/10 Moo 5, T. Maenam Khu, A. Pluakdaeng,  
Rayong 21140, Thailand  
Ambient Temperature : ( $25 \pm 2.5$ ) °C  
Relative Humidity : ( $50 \pm 15$ ) %  
Calibration Procedure : In - house method :  
- CP-CH5 by direct measurement with DC voltage standard and direct measurement with certified reference material (CRM)  
- CP-CH8 by comparison with temperature standard

Calibrated by : Walalak Srihean

Approved by :   
Approved Signatory

( ) Unnopphol Harachai  
( ) Ponpan Paipim  
(✓) Sathip Meangmai

Issue Date : 30 November 2024

The Uncertainties are for a confidence probability of approximately 95%

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Cert.No.: 24CH1489  
Page: 2 of 3

#### Condition of this calibration result

##### 1. Reference Standard Instrument

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	54030049	130RC116	24E2759	25 Aug 2025
2) Ref. Standard Thermometer	4982054	110RC044	24I757	14 July 2025

- This Certification is traceable to SI Through Technology Promotion Association (Thailand - Japan)

##### 2. Certified Reference Materials

The measurement results are traceable to SI through Hach Lange GmbH Ltd.,  
Deutsche Akkreditierungsstelle, Accredited No. D-15184-01-00  
The measurement results are traceable to SI through CPA chem Ltd.,  
ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	1034203	27 Sep 2026
pH 6.999	Hach Lange GmbH	C03145	28 Feb 2026
pH 10.010	CPA chem	1034205	27 Sep 2025

3. This certificate is valid only to the item calibrated on date and place of calibration.

#### Calibration Results

##### Function : mV Measurement

Performing standard curve by Document Process Calibrator at pH (4,7,10)

Unit Under Calibration	Nominal Value		Standard Voltage Input		Actual Reading		Uncertainty of Measurement ( $\pm$ mV)	Coverage factor k
	pH	mV	mV	pH	mV	pH		
pH Meter S/N: C232598422	4.00	177.48	178	4.00	0.58	2.00	0.58	2.00
	7.00	0.00	0	7.00	0.58	2.00	0.58	2.00
	10.00	-177.48	-177	10.00	0.58	2.00	0.58	2.00



Cert.No.: 24CH1489  
Page: 3 of 3

#### Calibration Results

##### Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4,7,10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH Measurement ( $\pm$ )	Coverage factor k
pH Electrode S/N: 2465870	4.008	4.01	160	0.0071	2.00
	6.999	7.00	-16	0.0085	2.00
	10.010	10.01	-187	0.0085	2.00

##### Function : Temperature Measurement

(\*) Without adjustment

This equipment was connected with Temperature Probe;

- Model : InLabExpert Go-ISM

- Serial No. : 2465870

Dimension of probe

- Length : 120 mm,

- Diameter : 12 mm,

- Immersion Depth : 100 mm,

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement ( $\pm$ °C)	Coverage factor k
25.0	25.000	25.2	0.200	0.13	2.00
45.0	45.001	45.3	0.299	0.13	2.00

Remark - UUC\* = Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-00-



## Certificate of Calibration

Equipment: SPECTROPHOTOMETER  
Model: DR6000  
Serial No. (or ID.): 1627845 (RYG\_EN0037)  
Manufacturer: HACH  
Condition: In Condition

Certificate No.: C06230441  
Issued Date: 19 September 2023  
Job No.: WO-00005382  
Page: 1 of 3

Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5 T.Maenam Khu,  
A.Pluakdaeng, Rayong 21140, Thailand.

Environment Condition: Temperature 23.9 °C  $\pm$  0.2  
Humidity 65.3 %RH  $\pm$  1.4

Calibration Place: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch) (Wet Chemistry)  
616/10 Moo 5 T.Maenam Khu,  
A.Pluakdaeng, Rayong 21140, Thailand.

Calibration By: Mr. Nattapal Rungrueang  
Calibration Date: 18 September 2023

The Method used: In house method, CAL-WI-24, base on ASTM E 275-08 and ASTM E 387-04

Traceability: This certificate is traceable to the CRM maintained by National Institute of Standards and Technology (NIST) through Starna Scientific Limited.

The standard for Wavelength Certificate No. 111583 and 111584  
The standard for Photometric Certificate No. 9114984 and 111588  
The standard for Stray light Certificate No. 111586 and 111585  
The standard for Spectral resolution Certificate No. 111587

(Mr. Nattapal Rungrueang)

Person in charge

(Mr. Nitnun Srihawan)

Authorized signatory

This certificate is issued the units of measurement according to the International System of Units (SI) is provides traceability of measurement to international or national standard or other recognized national standard laboratories.  
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM).  
These results may be affected by deviations from specified conditions. The results relate only to the items tested, calibrated or sampled. The report shall not be reproduced except in full without approval of DKSH Technology Limited.

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CAL-FM-C06-15 12 Sep 2022



Certificate No : C06230441 Page 2 of 3

#### Calibration Results:

##### Without Adjustment

Wavelength Accuracy (nm), The spectral bandwidth of Std at 2 nm and UUC at 2 nm

Standard Wavelength	Unit Under Calibration	Correction	Uncertainty
418.61	418.3	0.31	0.13
536.86	536.6	0.06	0.13
637.98	638.3	-0.32	0.13
748.48	748.7	-0.22	0.13
807.03	807.4	-0.37	0.13

Photometric Accuracy (Absorbance)

Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
420 nm	0.0000	0.000	0.0000	0.0045
	0.2930	0.289	0.0040	0.0045
	0.5188	0.519	-0.0022	0.0045
	1.0298	1.029	0.0008	0.0045
440 nm	0.0000	0.000	0.0000	0.0045
	0.2867	0.283	0.0037	0.0045
	0.5073	0.509	-0.0017	0.0045
	1.0083	1.007	0.0013	0.0045
465 nm	0.0000	0.000	0.0000	0.0045
	0.2516	0.250	0.0016	0.0045
	0.4595	0.462	-0.0025	0.0045
	0.9334	0.933	0.0004	0.0045
546.1 nm	0.0000	0.000	0.0000	0.0045
	0.2461	0.245	0.0011	0.0045
	0.4652	0.466	-0.0008	0.0045
	0.9468	0.946	0.0008	0.0045
590 nm	0.0000	0.000	0.0000	0.0045
	0.2584	0.258	0.0004	0.0045
	0.5040	0.505	-0.0010	0.0045
	1.0032	1.002	0.0012	0.0045
635 nm	0.0000	0.000	0.0000	0.0045
	0.2579	0.257	0.0009	0.0045
	0.4971	0.497	0.0001	0.0045
	0.9720	0.971	0.0010	0.0045

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Calibration Results:  
Without Adjustment

Photometric Accuracy (Absorbance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
235 nm	0.0000	0.000	0.0000	0.0080
	0.7355	0.737	-0.0015	0.0080
257 nm	0.0000	0.000	0.0000	0.0080
	0.8574	0.857	0.0004	0.0080
313 nm	0.0000	0.000	0.0000	0.0080
	0.2864	0.290	-0.0036	0.0080
350 nm	0.0000	0.000	0.0000	0.0080
	0.6374	0.637	0.0004	0.0080

## Stray light \*

Standard: cut-off	UUC: Wavelength (nm)	UUC: Transmission (%)	Absorbance (A)
260.62 +/- 0.11 nm	260.6	1.3	1.886
391.44 +/- 0.11 nm	391.4	1.3	1.886

## Spectral Resolution \*

Nominal Concentration 0.02 % w/v	Peak	Trough	Ratio	SBW
Standard Wavelength (nm)	268.66	268.69	1.38	2.00
UUC: Wavelength (nm)	268.2	266.1		
Sid Absorbance (A)	0.4566	0.2780		
Absorbance (A)	0.413	0.390		

\* Calibration Marked \* Not TISI Accredited \* In this Certificate have been included for completeness.

The End of Certificate

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CAL-FM-C06-15: 12 Sep 2022

## ใบตรวจสอบสภาพเครื่องวัดสิ่งแวดล้อม

เลขที่ใบงาน: WO-0005382

ชนิดเครื่องมือ: SPECTROPHOTOMETER รุ่น: DR6000

หมายเลขเครื่อง: 1627845

ตรวจสอบ (รับ)		รายการตรวจสอบ	ตรวจสอบ (ส่ง)		หมายเหตุ
18 Sep 2023			18 Sep 2023		
ปกติ	ไม่ปกติ		ปกติ	ไม่ปกติ	
General					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. ความสมบูรณ์เครื่อง	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. ความสะอาด ( ช่องใส่ตัวอย่าง, ภายใน-นอกเครื่อง)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. สวิตช์ ปิด – เปิด เครื่อง (On-Off Switch)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. ปุ่มกด (Keypad)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. หน้าจอ (Display, Screen Contrast)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Spectrophotometer					
<input type="checkbox"/>	<input type="checkbox"/>	6. แบตเตอรี่ไฟฟ้า (Battery Backup) >= 2.5 VDC	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	7. ตัวหมุนเลือกความยาวคลื่น (Wavelength Control)	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. ความยาวคลื่น (Wavelength Check)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	*
<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. แสงยูวีเหนือแสง (UV < 3,000 hour)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9.2 Hours
<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. แสงที่มองเห็นแสง (Visible < 5,000 hour)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	741.5 Hours
<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. ช่องจัดหลายตัวอย่าง (Carousel Module)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
pH Meter and Conductivity Meter					
<input type="checkbox"/>	<input type="checkbox"/>	12. อิเล็กโทรด ( Electrode and Connection Cable )	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	13. ระดับสารละลายใน Electrode (Level KCl )	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	14. ฝาปิดกันปลาย Electrode (Dust Protection Hood)	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	15. ขาตั้งอิเล็กโทรด (Stand)	<input type="checkbox"/>	<input type="checkbox"/>	
Turbidimeter					
<input type="checkbox"/>	<input type="checkbox"/>	16. ค่าความขุ่นที่ต่ำสุด (No Sample)	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	17. ระบบการส่องสว่างของแสง (>= 2.5 ไม่นาน 3.0)	<input type="checkbox"/>	<input type="checkbox"/>	
Automatic titrator					
<input type="checkbox"/>	<input type="checkbox"/>	18. สลัก Piston Burettes	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	19. Function Rinsing and Dosing	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	20. ระบบท่อสายยาและอุปกรณ์ประกอบ	<input type="checkbox"/>	<input type="checkbox"/>	

เงื่อนไขข้อแนะนำ: \*656.1nm=656.1nm

\*486.0nm=486.5nm

Mr.Nattapat Rungrueang  
Service Engineer

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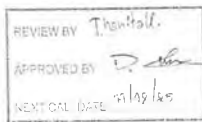
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Saraburi Tel: +66 3627 3096 Fax: +66 3627 3100  
Bangkok Tel: +66 9205 6851 +669 6247 2360  
Website: www.scieco.co.th E-Mail: calibrate@scg.com

Certificate No. T241120

Page 1 of 4

## Certificate of Calibration

Equipment : Chamber ( Cold Room )  
Manufacturer : MODULAR  
Model : IREVCOHCOO  
Serial No. : C00351459  
Customer Code : RYG\_EN0184  
ID No. : T1939A5  
Customer : ALS Laboratory Group (Thailand) Co.,Ltd. ( Rayong Branch )  
616/10 Moo 5 T.Maenam Khu,  
A.Pluakdaeng, Rayong 21140



Customer Location : Laboratory  
Date of Receipt : 5 June 2024  
Calibrated By : Sujjar Nakkakred ( Site Calibration Manager )  
Approved By : Preecha Phisassutthikul (Temperature Calibration Manager)  
Date of Issue : 12 JUN 2024

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrology.

33/2 Moo 3, T. Banpa, A. Kaengkhro, Saraburi 18110, Thailand

Certificate No. T241120

Page 2 of 4

## Calibration Report

Equipment : Chamber ( Cold Room )  
Date of Calibration : 11 June 2024  
Environment : Temperature : 23.1-24.1 °C  
Line Voltage : 222.3-226.3 V  
Relative Humidity : 55 - 65 %RH

## Condition of this results of calibration :

1. This equipment was calibrated by insert nine standard thermocouples type T into its chamber , the other one standard thermocouples type T use for ambient temperature measurement. The calibration was done in accordance to WI-T201 ( based on ASTM E115-94 ( Reapproved 2001 ) and AS2953-1986 )  
All data show below were final values and the initial data from customer request . The temperature scale used was based on ITS - 90 .

## 2. Reference Standard Instrument :

Instrument	Model	Instrument No	Certificate No	Due Date
TC	TYPE T	TN161-TN170	T240713	19 April 2025
TC	TYPE T	TN171-TN180	T240713	19 April 2025
DATA LOGGER	34970A	T149	T240713	19 April 2025

## 3. This certificate is traceable to

National Institute of Metrology ( 1 ) ( Land ) through Metrology of Center ( NSC-TIS-T15 T1625 CALIBRATION 0244 )

## 4. Condition of calibrated item : good

## Equipment Description :

Time Constant : 3 Hour 30 Minute At 3 °C  
Fresh Air Damper : ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available

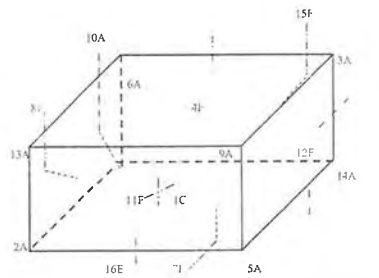
## 5. Adjustment :

( ) without adjustment ( X ) after adjustment

Approved By:



## Calibration Report



C = Centre, F = Centre of Face, A = Corner, E = Centre of Edge

1C =	TN161	11F =	TN171
2A =	TN162	12F =	TN172
3A =	TN163	13A =	TN173
4F =	TN164	14A =	TN174
5A =	TN165	15F =	TN175
6A =	TN166	16E =	TN176
7F =	TN167		
8F =	TN168		
9A =	TN169		
10A =	TN170		

Approved By:

PM1.011.000

## Calibration Report

## Measurement Results:

Calibration Point	Average Standard Reading at each position (°C)									
	TN161	TN162	TN163	TN164	TN165	TN166	TN167	TN168	TN169	TN170
3	2.73	2.70	2.77	2.78	2.99	2.35	3.09	3.21	3.08	2.90
	TN171	TN172	TN173	TN174	TN175	TN176				
	3.39	3.01	2.92	2.81	3.42	3.42				

Chamber ( Cold Room )			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (±°C)	Uniformity (°C)	Uncertainty (±°C)	Coverage Factor k
	Min.	Max					
3.0	2.9	4.4	3.7	2.97	1.32	1.13	2.02

\* The quoted uncertainty exclude " uniformity "

The calibration result apply only the above calibrated item

The result of test was found accurate as shown on date and place of test only

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k, which for a t-distribution, providing a level of confidence of approximately 95 %

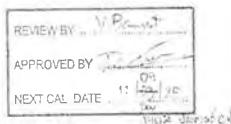
Approved By:

T241120 Page 4

## Certificate of Calibration

Represent to Certificate of Calibration No. C29240007

Equipment:	Block Digestion Unit	Certificate No.	C29240011
Mode:	KT-20s	Issued Date:	22 March 2024
Serial No. (or ID):	5720210009/5770200073	Job No.:	WO-00020429
Manufacturer:	Gerhardt	Page:	1 of 4
Condition:	In Condition	Digestion Block:	20 holes

Customer: ALS Laboratory Group (Thailand) Co.,Ltd (Rayong Branch)  
616/10 Moo 5 T.Maenam Khu, A Pluakdaeng, Rayong 21140, ThailandEnvironment Condition: Temperature: 25 °C ± 0.7 °C  
Humidity 54 %RH ± 4.1 %RH  
Voltage 225 VAC ± 1.7 VACCalibration Place: ALS Laboratory Group (Thailand) Co.,Ltd (Rayong Branch)  
( Wet Chemistry Lab )  
616/10 Moo 5 T.Maenam Khu, A Pluakdaeng, Rayong 21140, Thailand

Calibration By: Mr. Thanathorn Phunook

Calibration Date: 11 March 2024

The Method used: In house method, base on by comparison with standard

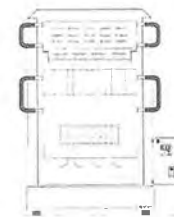
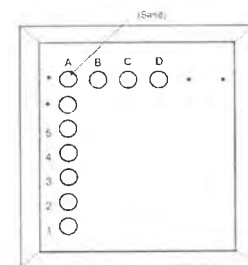
Traceability: This certificate is traceable to the SI Units maintained by National Institute of Metrology (NIMT), Thailand through N.M. Technical Center Laboratory (NTL)  
Certificate No. TC22/0080(Mr. Thanathorn Phunook)  
Person in charge(Mr. Uoon Srichana)  
Authorized signatory

Fig. 1 Front view



Location of standard

Fig. 2 Digestion block

## Definitions

Indicating Temperature: The average reading of indicating device which form a integral part of the digestion block

Measured Temperature: The average reading of working standard at a position of location

Calibration Results:  
Pre Calibration

Locations	Desired (°C)	Setting (°C)	Indicating (°C)	Measured Temperature (°C)	Correction of UUC (°C)	Uncertainty (± °C)
A1	300	380	390	401.5	21.5	1.5
A2				401.2	21.2	1.5
A3				399.1	19.1	1.5
A4				397.8	17.8	1.5
A5				395.1	15.1	1.5
B1				396.6	16.6	1.5
B2				396.1	16.1	1.5
B3				392.9	12.9	1.5
B4				391.6	11.6	1.5
B5				390.7	10.7	1.5
C1				395.3	15.3	1.5
C2				395.6	15.6	1.5
C3				392.8	12.8	1.5
C4				391.7	11.7	1.5
C5				390.3	10.3	1.5
D1				387.6	12.6	1.5
D2				395.6	15.6	1.5
D3				395.0	15.0	1.5
D4				394.2	14.2	1.5
D5				393.6	13.6	1.5

บริษัท ดีเคเอส อีซี จำกัด  
DKSH Technology Limited  
25/1 หมู่ 10 ถนนสุขุมวิท แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร 10110  
Phone: 02-26221000 Fax: 02-26221001 E-mail: info@dksh.co.th Website: www.dksh.co.th

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CAL-FM-C29-07-20 Jul 2022

Calibration Results:  
Without adjustment

Locations	Desired (°C)	Setting (°C)	Indicating (°C)	Measured Temperature (°C)	Correction of UUC (°C)	Uncertainty (± °C)
A1	380	365	355	382.5	17.5	1.5
A2				382.4	17.4	1.5
A3				382.1	17.1	1.5
A4				379.7	14.7	1.5
A5				378.3	13.3	1.5
B1				380.1	15.1	1.5
B2				380.1	15.1	1.5
B3				378.5	13.5	1.5
B4				376.3	13.3	1.5
B5				379.1	14.1	1.5
C1				380.1	15.1	1.5
C2				380.1	15.1	1.5
C3				378.9	13.9	1.5
C4				378.2	13.2	1.5
C5				377.3	12.3	1.5
D1				380.5	15.5	1.5
D2				390.6	15.6	1.5
D3				378.1	13.1	1.5
D4				376.7	13.7	1.5
D5				377.7	12.7	1.5

The End of Certificate

บริษัท ดีเคเอส อีซี จำกัด  
DKSH Technology Limited  
25/1 หมู่ 10 ถนนสุขุมวิท แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร 10110  
Phone: 02-26221000 Fax: 02-26221001 E-mail: info@dksh.co.th Website: www.dksh.co.th

Delivering Growth in Asia and Beyond

CAL-FM-C29-07-20 Jul 2022

ใบตรวจสอบสภาพเครื่องควบคุมอุณหภูมิ

เลขที่ใบงาน WO-00020429

ชนิดเครื่องมือ Block Digestion Unit รุ่น KT-205  
หมายเลขเครื่อง 5720210009/5770200073

ตรวจสอบ (รับ)	รายการตรวจเช็ค	ตรวจสอบ (ส่ง)	หมายเหตุ
ปกติ	ไม่ปกติ	ปกติ	ไม่ปกติ
General			
<input checked="" type="checkbox"/>	1. สายไฟ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	2. การทำงาน Main Switch	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	3. การทำงาน Selector Key	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	4. การแสดงค่า Display	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	5. สภาพ Hole	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	6. สภาพฝาปิด	<input checked="" type="checkbox"/>	ไม่มี
<input checked="" type="checkbox"/>	7. สภาพตัวเครื่อง	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8. สภาพแวดล้อม ณ สถานที่ตั้งเครื่อง	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

ชื่อเจ้าหน้าที่

Mr. Thanatnorr Phunook  
Service Engineer

บริษัท ดีเคเอส อีซี จำกัด  
DKSH Technology Limited  
25/1 หมู่ 10 ถนนสุขุมวิท แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร 10110  
Phone: 02-26221000 Fax: 02-26221001 E-mail: info@dksh.co.th Website: www.dksh.co.th

Delivering Growth in Asia and Beyond



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
53/114 หมู่ 10 ถนนสุขุมวิท แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร 10110  
Phone: 02-2717-4009 Fax: 02-2719-9181



Certificate of Calibration

Certificate No.: 23E3024  
Page: 1 of 2

Equipment: pH Meter  
Manufacturer: Mettler Toledo  
Model: SevenExcellence  
Serial No: B834201445  
ID No: RYG-EN0152

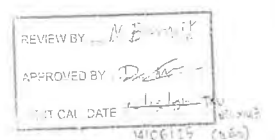
Condition As-Received: Used Item  
Received Date: 06 December 2023  
Calibration Date: 14 December 2023

Reference: 2312-C151DSC Submitted by: AIS Laboratory Group (Thailand) Co. Ltd. Rayong Branch  
Ambient Temperature: (23 ± 2) °C 6/6/10 Moo 5, T. Maediam Khri, A. Phumprachon  
Relative Humidity: (50 ± 10) % Rayong 21140 Thailand

Procedure used: Calibration were conducted using calibration procedure No. GP-E17 according to EURAMET cg 15

Condition of this result of calibration

1. Reference standards used:
2. The result of calibration was made on request at the point specified by customer
3. The certificate is valid only to the item calibrated on date and place of calibration
4. This Calibration is traceable to the International System of Unit maintained through:
  - National Institute of Metrology Thailand (NIMT)



Calibrated by: Napatnaree Prasomsopon Approved Signatory: Nuntawat Khamcha  
Issue Date: 15 December 2023

0331106







## Agilent CrossLab Start Up Services

### Agilent 5100 5110 ICP-OES Preventive Maintenance

REVIEW BY	Theresa B.
APPROVED BY	[Signature]
NEXT CAL. DATE	25/02/2025

Agilent Preventive Maintenance provides factory recommended service for your analytical instruments to assure reliable operation and the accuracy of your results.

Delivered by highly trained and certified service engineers using genuine Agilent parts and supplies, Agilent Preventive Maintenance provides what you need to reduce unplanned downtime and keep your systems operating at their peak performance.

This checklist is used as a guide for completing the preventive maintenance tasks. A signed copy of this checklist is provided for your records.



## Introduction

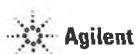
### Customer Information

- Customers should provide all necessary operating supplies upon request of the engineer.
- A customer representative should be available to the engineer while performing the preventive maintenance procedures. Customers are responsible for regular maintenance and are encouraged to observe the service representative.
- Any parts not included in the Parts Lists section of this document are not part of the recommended Preventive Maintenance service nor are they included in the price of this service.
- If a system requires the use of extra or special procedures and/or parts for the maintenance service, then these must be ordered separately and charged as a repair, which may incur additional costs.
- For customers using HF applications, the instrument should be returned to its standard sample introduction system.



### Important Customer Web Links

- To access **Agilent University**, visit <http://www.agilent.com/crosslab/university/> to learn about training options, which include online, classroom and on-site delivery. A training specialist can work directly with you to help determine your best options.
- To access the **Agilent Resource Center** web page, visit <https://www.agilent.com/en-us/agilentresources>. The following information topics are available:
  - Sample Prep and Containment
  - Chemical Standards
  - Analysis
  - Service and Support
  - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit <https://community.agilent.com/welcome>.
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at <https://www.youtube.com/user/agilent>.
- Need to place a service call? Flexible Repair Options | Agilent



### Service Engineer's Responsibilities

- Contact the customer and ensure that all necessary supplies are available before the preventive maintenance visit.
- Only select those pages that relate to the system or module being serviced.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using either a "X" or tick mark "✓".
- Check "**Service not applicable**" check boxes to indicate services/tasks not delivered, as appropriate.
- Complete the Preventive Maintenance services in the most logical order relevant to the individual system service in the order of the tasks listed.
- Complete the **Service Review** section together with the customer.
- Complete the fields for page numbers at the foot of each selected page.
- Add relevant page numbers to selected pages and complete the total number of pages field in the Service Completion section.
- Ask the customer to sign the **Service Verification** section including the customer's and your signature.





## Instrument Maintenance

## System Information

- ☒ Check this box if an instrument configuration report is attached instead of completing the table

Instrument System Name and ID	G5010A / M716010005
Instrument System Site and Location	RLS Laboratory Group (Tribolond) Co., LTD.

List System Component Product Numbers	List the Serial Numbers of each Component
1 G5010A	M716010005
2 G5410A	AU15440764
3 G5241-80001	1003 00159
4	
5	
6	
7	
8	

ICP-OES Configuration Table	Circle the type or write in the type if other
Nebulizer Type	Sea Spray / Shevel / Conical / Other
Spray Chamber	Cyclonic Single Pass / Cyclonic Double Pass / Other
Torch	Radial / Dual View / Other
Torch Type	One Piece (Semi Dismountable) / Fully Dismountable / Other
Injector Diameter	2.4mm / 1.8mm / 1.4mm / 0.8mm / Other
Injector Material	Quartz / Ceramic / Other

## Preparation

- ☒ Discuss any specific issues with the customer before starting
- ☒ Review the instrument logbook for recorded problems and comments
- ☒ Save instrument control settings before starting the procedure
- ☒ Perform a general inspection of the system for cleanliness
- ☒ Check for proper installation of parts, assemblies, sensors etc
- ☒ Check system for required installation of components and implementation of Service Notes
- ☒ Check for required firmware/software updates and verify with customers if they would like them installed
- ☒ For HF application systems, if standard sample introduction system was not installed, ask the customer to install it *or*
- ☒ Ask the customer to remove any samples from the ICP-OES sample introduction area auto sampler or around the ICP-OES

## Preventive Maintenance Procedures

## Record Pre-PM instrument performance

- ☒ Run Instrument Performance test
- ☒ Record results in Instrument Performance Test Results Table – Pre-PM

## Clean and inspect ICP-OES system

- ☒ Look for any obvious external damage or problems
- ☒ Inspect water cooling hoses, gas lines and power cord for excessive wear or damage
- ☒ Perform a general internal inspection of the system for excessive dust accumulation, clean if necessary
- ☒ Inspect sample introduction components and record any required maintenance in the Service Engineer Comments and notify the customer as the required actions required
- ☒ Record the instrument operating conditions in the ICP-OES Status Results Table
- ☒ Replace the polychromator purge filter
- ☒ Replace the radial pre-optics window
- ☒ Replace the axial pre-optics window for SVDV and VDV instruments
- ☒ Check exhaust flow for the correct positive extraction at the exhaust duct to insure they meet minimum specifications
- ☒ Replace air inlet dust filter
- ☒ Replace high capacity air inlet dust filter element if installed
- ☒ Remove and clean instrument water inlet filter

## Agilent Water Recirculator

- ☐ Service not applicable
- ☒ Drain cooling fluid and remove any particles from the chiller reservoir
- ☒ Remove, clean and reinstall water inlet metal mesh filter if present
- ☒ Re fill with Agilent Cool Clear cooling fluid
- ☒ Clean the cooling system Air filter and the condenser

## SPS 3 Auto Sampler

- ☒ Service not applicable
- ☐ Power cycle the autosampler and verify successful initialization
- ☐ Inspect X and Z axis belts for wear. Replace is necessary
- ☐ Clean X and Z axis slide shafts
- ☐ Using customer's racks and the Agilent software move the sample probe to the 4 outermost corners and rinse port, ensure that the probe is approximately centered in the vial

## SPS 4 Auto sampler

- ☐ Service not applicable
- ☒ Clean the spill tray, rack location mat, end frames and chassis with a damp soft cloth and diluted mild detergent
- ☒ Clean the auto sampler cover panels, if cover kit is installed, with domestic window cleaner
- ☒ Check the X-axis and Z-axis drive belts for cracks, splits, damaged teeth, excessive fraying, color changes or degradation from fumes
- ☒ Check the X-axis, theta-axis and Z-axis IFC cables for cracks, incorrect positioning, damaged edges or damaged connectors
- ☒ Pump Tubing Replacement. Replace peristaltic pump tubing. Replace all tubing that goes from the rinse station to the pump and from the pump to the waste/rinse bottles
- ☒ Test using customer's tray and move the sample probe to the sample vial 1, wash vial and rinse port and ensure that the probe is centered in the vial. If not use calibration wizard and calibrate the position

## AVS 4, 6, 7 Advanced Valve System

- ☒ Service not applicable
- ☐ Replace valve rotor seal
- ☐ Check fittings for signs of leaks
- ☐ Check tubing including autosampler tubing for kinks or excessive wear
- ☐ Check high flow pump for signs of leaks

## ICP-OES adjustment

- ☒ Check position of Zn peak, adjust if required
- ☒ Check Argon Ratio, adjust to specified value if required
- ☒ Perform Detector Calibration
- ☒ Perform Instrument Calibration

## Record Post-PM instrument performance

- ☒ Run Instrument Performance test
- ☒ Record results in Instrument Performance Test Results Table - Post PM
- ☒ For systems using ICP Expert version 7.3 and above, run the following Instrument tests
  - ☒ Subsystem Communications Test
  - ☒ Air Flow
  - ☒ Water Flow
  - ☒ Gas Flows
  - ☒ RF Generator
  - ☒ Camera Test
  - ☒ Optics Test
  - ☒ Nebulizer Test
- ☒ Record the result in the Instrument Test Results Table

## Restore Instrument

- ☒ For HF applications, ask the customer to reinstall their sample introduction system
- ☒ Leave system in an idle state on and purging
- ☒ Guidance: If the PM service is performed prior to a qualification service, then use the qualification procedure as a guide for final instrument set up and checkout

## Service Review

- ☒ Attach available reports/printouts of all tests to this documentation
- ☒ Record the Preventive Maintenance service activity in the customer's records/logbook
- ☒ Record the PM event in the Smart Alerts logbook, if applicable
- ☒ Update/reset instrument maintenance counters as appropriate
- ☒ Affix the PM sticker to the system or instrument logbook based on the customer's request
- ☒ Complete the Service Engineer Comments section if there are additional comments
- ☒ Review this service, parts replaced, and test results obtained with the customer
- ☒ If the instrument firmware was updated, record the details of the change in the Service Engineer's Comments box. Systems in a compliant environment may need additional documentation
- ☒ Complete the Signature Page with both Service Engineer and Customer signatures.

## Test Results

## Instrument Performance Test Results Table

Note: These measurements do not form part of any specification and are for reference only.

	Pre PM Sensitivity Check		Post PM Sensitivity Check	
	Radial	Axial*	Radial	Axial*
Zn 213.857 nm SRR	1591.2	3444.3	1550.0	3421.8
Mn 257.610 nm SRR	1351.1	1355.2	2148.3	11959.3
Al 396.157 nm SRR	4.2	15.0	5.6	10.3
K 766.491 nm SRR	5.3	64.0	3.4	92.0

\* Axial result is not applicable for G80164A, G8012AA Radial View instruments.

## Instrument Test Results Table

Note: The Instrument Test results are for systems using ICP Expert version 7.3 and above only.

Instrument Test	Result
Subsystem Communications Test	Pass
Air Flow	Pass
Water Flow	Pass
Gas Flows	Pass
RF Generator	Pass
Camera Test	Pass
Optics Test	Pass
Nebulizer test	Pass

## ICP-OES Status Results Table

Note: These measurements do not form part of any specification and are for reference only.

Measurement	Standby Mode	Plasma On
Mains Voltage	215.35 V	215.12 V
Mains Current	0.00 A	0.11 A
Instrument Temperature	21.9 °C	23.1 °C
RF Air Flow (sensor speed)	19.0 Hz	23.0 Hz
Plasma Exhaust Temperature	No measurement	50.1 °C
Water Flow Oscillator	No measurement	1.10 L/min
Water Flow Detector	1.14 L/min	1.09 L/min
Water Inlet Temperature	22.5 °C	23.1 °C
Polychromator Temperature	35.0 °C	25.0 °C
CCD Temperature	-40.1 °C	-40.0 °C
Thermal Stability	3.1 S	3.4 S
Argon Supply Pressure	6.14 kPa	55.1 kPa
Purge Gas Supply Pressure*1	6.10 kPa	5.74 kPa
Option Gas Supply Pressure*1	— kPa	— kPa
Nebulizer Flow	No measurement	0.70 L/min
Nebulizer Back Pressure	No measurement	2.3 kPa
Plasma Gas Flow	No measurement	11.09 L/min
Auxiliary Gas Flow	No measurement	1.00 L/min
RF Power	No measurement	1196 W
RF Supply Current	No measurement	9.66 A
RF Supply Voltage	No measurement	194.6 V

\*1 If option installed







## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110

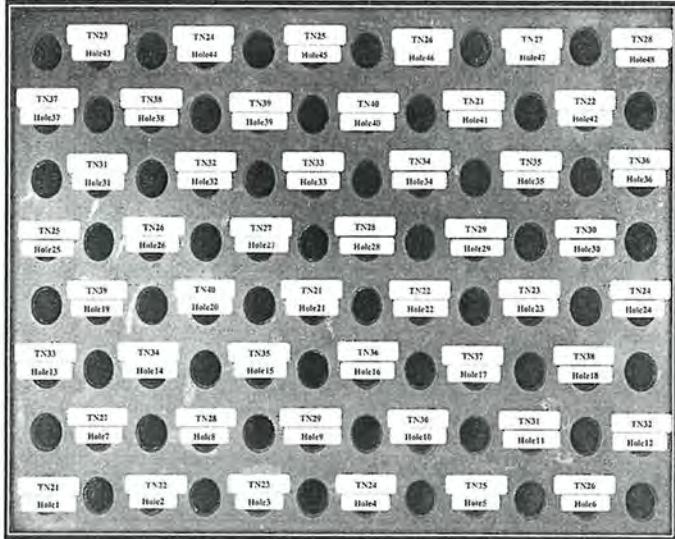
Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T231676

Page 3 of 6

### Calibration Report



FRONT CONTROL

Approved By. \_\_\_\_\_

FM-L13 108/30-05-57



## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No T231676

Page 4 of 6

### Calibration Report

#### Measurement Results

Calibration Point		Average Standard Reading at each position (°C)					
R1 Hole1-Hole6		TN21	TN22	TN23	TN24	TN25	TN26
CAL POINT	Max	95.01	94.41	95.20	95.41	94.51	95.17
	Min	94.57	93.95	94.75	94.92	94.00	94.72
95	Average	94.79	94.18	94.98	95.17	94.26	94.95
R2 Hole7-Hole12		TN27	TN28	TN29	TN30	TN31	TN32
	Max	95.36	95.43	95.19	95.16	95.35	94.97
	Min	94.94	94.95	94.72	94.71	94.90	94.57
	Average	95.15	95.19	94.96	94.94	95.13	94.77
R3 Hole13-Hole18		TN33	TN34	TN35	TN36	TN37	TN38
	Max	95.37	95.50	95.22	95.21	95.33	95.31
	Min	94.99	95.09	94.78	94.82	94.88	94.96
	Average	95.18	95.30	95.00	95.02	95.11	95.13
R4 Hole19-Hole24		TN39	TN40	TN21	TN22	TN23	TN24
	Max	95.59	94.42	94.52	94.24	94.63	94.67
	Min	95.21	94.06	94.13	93.88	94.28	94.27
	Average	95.40	94.24	94.33	94.06	94.45	94.47
R5 Hole25-Hole30		TN25	TN26	TN27	TN28	TN29	TN30
	Max	95.19	95.38	92.93	95.30	95.14	95.03
	Min	94.83	95.03	92.56	94.95	94.79	94.70
	Average	95.01	95.20	92.75	95.12	94.96	94.87
R6 Hole31-Hole36		TN31	TN32	TN33	TN34	TN35	TN36
	Max	94.63	94.90	94.77	94.31	94.24	93.87
	Min	94.24	94.55	94.44	93.98	93.92	93.56
	Average	94.43	94.72	94.60	94.14	94.08	93.71
R7 Hole37-Hole42		TN37	TN38	TN39	TN40	TN21	TN22
	Max	94.30	94.44	94.04	93.81	94.89	95.35
	Min	93.95	94.05	93.67	93.48	94.39	94.90
	Average	94.13	94.24	93.86	93.65	94.64	95.12
R8 Hole43-Hole48		TN23	TN24	TN25	TN26	TN27	TN28
	Max	95.99	95.63	95.28	95.29	95.45	94.87
	Min	95.57	95.15	94.82	94.84	94.99	94.48
	Average	95.78	95.39	95.05	95.07	95.22	94.68

Approved By. \_\_\_\_\_

FM-L13 108/30-05-57



## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No T231676

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### Calibration Report

#### Measurement Results

Calibration Point		Average Standard Reading at each position (°C)					
R1 Hole1-Hole6		TN21	TN22	TN23	TN24	TN25	TN26
CAL POINT	Max	105.23	104.32	105.43	105.25	104.44	105.27
	Min	104.94	103.95	105.15	105.04	104.11	104.96
	Average	105.09	104.13	105.29	105.15	104.28	105.12
R2 Hole7-Hole12		TN27	TN28	TN29	TN30	TN31	TN32
	Max	105.30	105.12	105.18	105.22	105.12	105.16
	Min	105.11	104.92	104.96	105.00	104.92	104.97
	Average	105.20	105.02	105.07	105.11	105.02	105.06
R3 Hole13-Hole18		TN33	TN34	TN35	TN36	TN37	TN38
	Max	105.37	105.63	105.02	104.50	104.69	105.19
	Min	105.17	105.37	104.75	104.59	104.50	105.00
	Average	105.27	105.50	104.88	104.69	104.60	105.09
R4 Hole19-Hole24		TN39	TN40	TN21	TN22	TN23	TN24
	Max	105.31	104.43	106.41	104.71	105.63	105.82
	Min	105.08	104.22	106.15	104.41	105.37	105.56
	Average	105.19	104.33	106.28	104.56	105.50	105.69
R5 Hole25-Hole30		TN25	TN26	TN27	TN28	TN29	TN30
	Max	104.95	106.26	103.34	105.78	105.59	105.87
	Min	104.67	105.96	103.08	105.56	105.36	105.68
	Average	104.81	106.11	103.21	105.67	105.48	105.77
R6 Hole31-Hole36		TN31	TN32	TN33	TN34	TN35	TN36
	Max	104.75	104.86	104.80	105.20	104.50	104.39
	Min	104.54	104.63	104.59	105.00	104.32	104.18
	Average	104.65	104.75	104.69	105.10	104.41	104.28
R7 Hole37-Hole42		TN37	TN38	TN39	TN40	TN21	TN22
	Max	104.30	104.90	104.85	104.65	104.88	104.85
	Min	104.09	104.72	104.66	104.49	104.63	104.52
	Average	104.19	104.81	104.75	104.57	104.76	104.68
R8 Hole43-Hole48		TN23	TN24	TN25	TN26	TN27	TN28
	Max	105.71	105.85	105.39	105.61	105.42	105.19
	Min	105.45	105.61	105.14	105.27	105.18	104.94
	Average	105.58	105.73	105.27	105.44	105.30	105.07

Approved By. \_\_\_\_\_

FM-L13 108/30-05-57



## Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110

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Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T231676

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### Calibration Report

#### Measurement Results:

HEATING BLOCK			Temperature Distribution	
Setting (°C)	Reading (°C)		Stability (±°C)	Uncertainty (±°C)
	Min - Max	Average		
100.0	100.3 , 100.5	100.4	0.26	0.81
107.0	107.0 , 107.1	107.1	0.19	0.78

\* The quoted uncertainty exclude " uniformity "

The calibration result apply only the above calibrated item

The result of test was found accurate as shown on date and place of test only

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 %

Approved By. \_\_\_\_\_

FM-L13 108/30-05-57





## Metrology


SCI ECO Services Company Limited  
33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110, Thailand.  
Saraburi Tel : +66 3627 3096 Fax : +66 3627 3100  
Bangkok Tel : +668 9205 6851 , +669 8247 2360  
Website : www.scieco.co.th E-Mail : calibrate@scg.com

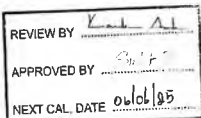


Certificate No. T232160

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### Certificate of Calibration

Equipment : Chamber ( Cooling Room )  
Manufacturer : KOLDTECH  
Model : KM 320  
Serial No. : TBN-1012061/05  
Customer Code : BKK\_EN0167  
ID No. : T2463A3  
Customer : ALS Laboratory Group (Thailand) Co.,Ltd.  
104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,  
Khet Suan Luang, Bangkok 10250  
Customer Location : Laboratory  
Date of Receipt : 29 November 2023  
Calibrated By : Atiphong Rongrat ( Technician )  
Approved By :  / Boonchai Suriyawong (Site Calibration Manager)  
Date of Issue : 09 JAN 2024



The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrology.

FM-L14 119/18-08-66



## Metrology

SCI ECO Services Company Limited  
33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110, Thailand.



Certificate No. T232160

Page 2 of 4

### Calibration Report

Equipment : Chamber ( Cooling Room )  
Date of Calibration : 6 December 2023  
Environment : Temperature : 23.4-24.9 °C  
Line Voltage : 221.4-230.2 V  
Relative Humidity : 55 - 65 %RH

#### Condition of this results of calibration :

1. This equipment was calibrated by insert 16 standard thermocouples type T into its chamber, the other one standard thermocouples type T use for ambient temperature measurement. The calibration was done in according to WI-T20 ( based on ASTM E145-94 ( Reapproved 2001) and AS2853-1986 ).  
All data show below were final values and the initial data from customer request. The temperature scale used was based on ITS - 90.

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN161-TN170	T230773	10 April 2024
TC	TYPE T	TN171-TN180	T230773	10 April 2024
DATA LOGGER	34970A	T149	T230773	10 April 2024

3. This certificate is traceable to :  
National Institute of Metrology ( Thailand ) through Metrological Center ( NSC-TIS-TIS 17025 CALIBRATION 0244 )

#### 4. Condition of calibrated item : good

##### Equipment Description :

Time Constant : 1 Hour 30 Minute At 3 °C  
Fresh Air Damper : ☐ Open ☐ Min ☐ Medium ☐ Max  
☐ Close  
☒ Not Available

5. Adjustment :  
( X ) without adjustment ( ) after adjustment

Approved By. 

FM-L15 118/18-08-66



## Metrology

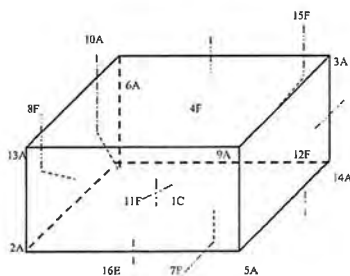
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Certificate No. T232160

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### Calibration Report



C = Centre, F = Centre of Face, A = Corner, E = Centre of Edge

1C = TN161	12F = TN172
2A = TN162	13A = TN173
3A = TN163	14A = TN174
4F = TN164	15F = TN175
5A = TN165	16E = TN176
6A = TN166	
7F = TN167	
8F = TN168	
9A = TN169	
10A = TN170	
11F = TN171	

Approved By. 

FM-L15 118/18-08-66



## Metrology

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Certificate No. T232160

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### Calibration Report

#### Measurement Results

Calibration Point	Average Standard Reading at each position (°C)										
	TN161	TN162	TN163	TN164	TN165	TN166	TN167	TN168	TN169	TN170	TN171
3.0	2.83	3.34	2.95	3.46	3.45	3.76	3.25	3.46	3.39	3.50	3.58
	TN172	TN174	TN175	TN176							
	3.33	3.39	3.15	3.43							

Chamber ( Cooling Room )	Temperature Distribution				
	Reading (°C)			Stability (± °C)	Coverage Factor k
Setting (°C)	Min	Max	Average		
3.0	2.8	4.1	3.5	3.36	1.10

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on data and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 %.

Approved By. 

FM L15 118/18 08 66

ภาคผนวก จ

สำเนาหนังสืออนุญาตขึ้นทะเบียน

ห้องปฏิบัติการวิเคราะห์



๗๕) นายประเสริฐ...





ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
20	Cyanide	Distillation, Colorimetric Method <sup>(4)</sup>
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
33	Formaldehyde	Distillation, Colorimetric Method <sup>(4)</sup>
34	Free Chlorine	1) DPD Ferrous Titrimetric Method <sup>(4)</sup> 2) DPD Colorimetric Method <sup>(4)</sup>
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
36	Heptachlor Epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
37	Hexavalent Chromium	Colorimetric Method <sup>(4)</sup>
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
39	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>

40 Manganese...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
40	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
42	Methiocarb	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
44	Methomyl	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
45	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method <sup>(4)</sup> 2) Soxhlet Extraction Method <sup>(4)</sup>
47	Oxamyl	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
48	Propoxur	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
49	pH	Electrometric Method <sup>(4)</sup>
50	Phenols	1) Distillation, Chloroform Extraction Method <sup>(4)</sup> 2) Distillation, Direct Photometric Method <sup>(4)</sup>
51	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
52	Sulfide	Iodometric Method <sup>(4)</sup>
53	Temperature	Laboratory and Field Methods <sup>(4)</sup>
54	Total Dissolved Solids	Dried at 180 °C <sup>(4)</sup>
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method <sup>(4)</sup>
56	Total Phosphorous	Digestion, Colorimetric Method <sup>(4)</sup>
57	Total Suspended Solids	Dried from 103-105 °C <sup>(4)</sup>
58	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
59	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation <sup>(4)</sup>
60	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(4)</sup>

น้ำใต้ดิน...

น้ำใต้ดิน จำนวน 126 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
4	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
5	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
8	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
11	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
12	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
15	Benzo(g,h,i)perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
17	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

18 Bis(2-ethylhexyl)phthalate...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
22	Butyl benzyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
25	Carbon disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation <sup>(4)</sup>
35	Chromium (VI)	Colorimetric Method <sup>(4)</sup>

36 Chrysene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
37	Cyanide	Distillation, Colorimetric Method <sup>(4)</sup>
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
39	DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
40	DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
41	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

56 1,3-Dichloropropene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
63	Di-n-octyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

76 γ-HCH...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
83	Mercury	1) Digestion, Cold Vapor Atomic Absorption Spectrometric Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
84	Methanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
86	Methyl bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
87	Methylene chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
88	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
90	Methyl tert-butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
91	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
92	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

94 N-Nitrosodiphenylamine...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
96	Polychlorinated Biphenyls - PCB 1016 - PCB 1221 - PCB 1232 - PCB 1242 - PCB 1248 - PCB 1254 - PCB 1260	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
98	pH	Electrometric Method <sup>(4)</sup>
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
100	Phenol	1) Distillation, Chloroform Extraction Method <sup>(4)</sup> 2) Distillation, Direct Photometric Method <sup>(4)</sup> 3) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
102	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
103	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
109	TPH (C <sub>5</sub> -C <sub>6</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(18,23)</sup>

110 TPH (C<sub>5</sub>-C<sub>16</sub>)...



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
110	TPH (C <sub>9</sub> -C <sub>16</sub> )	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(9,22)</sup>
111	TPH (C <sub>9</sub> -C <sub>35</sub> )	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(9,22)</sup>
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(4)</sup>
120	Vinyl acetate	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
121	Vinyl chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
122	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
123	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
124	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(6)</sup>
126	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(4)</sup>

อากาศเสีย

อากาศเสีย (ปล่องระบาย) จำนวน 28 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
2	Arsenic	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
3	Beryllium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
4	Cadmium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
5	Carbon Monoxide	1) Instrumental Analyzer Method <sup>(5)</sup> 2) Sampling Bag Non-Dispersive Infrared Method <sup>(5)</sup>
6	Chlorine	1) Absorption Sampling, Ion Chromatographic Method <sup>(5)</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>(5)</sup>
7	Chromium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
8	Cobalt	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
9	Copper	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
10	Cresol	Adsorption Sampling, Gas Chromatographic Method <sup>(5)</sup>
11	Dioxins	Isokinetic Sampling <sup>(3)</sup>
12	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method <sup>(5)</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>(5)</sup>
13	Hydrogen Fluoride	1) Absorption Sampling, Ion Chromatographic Method <sup>(5)</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>(5)</sup>
14	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>(5)</sup>

15 Lead...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	Lead	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
16	Manganese	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
17	Mercury	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(3)</sup>
18	Nickel	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
19	Opacity	Ringelmann's Method <sup>(2)</sup>
20	Oxides of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>(5)</sup> 2) Absorption Sampling, Alkaline Permanganate/Colorimetric Method <sup>(5)</sup> 3) Instrumental Analyzer Method <sup>(5)</sup>
21	Selenium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
22	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Method <sup>(5)</sup> 2) Instrumental Analyzer Method <sup>(5)</sup>
23	Sulfuric Acid	Isokinetic Sampling, Barium-Thorin Titrimetric Method <sup>(5)</sup>
24	Tellurium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
25	Tin	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
26	Total Suspended Particulate	1) Isokinetic Sampling, Gravimetric Method <sup>(3)</sup> 2) Paired Train, Isokinetic Sampling, Gravimetric Method <sup>(3)</sup>

27 Vanadium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Vanadium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(3)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(3)</sup>
28	Xylene	Absorption Sampling, Gas Chromatographic Method <sup>(5)</sup>

สิ่งปกคลุมหรือวัสดุที่ไม่ใช่ตัว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,9,20)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,20)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,20)</sup>
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>

5 Beryllium...

ลำดับที่	สารมลพิษ	วิธีการตรวจ
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>(1.6.16.19)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>(1.6.17.19)</sup> 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7.16.19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7.17.19)</sup>

10 Chromium (VI)...

ลำดับที่	สารมลพิษ	วิธีการตรวจ
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method <sup>(1.6.19)</sup> 2) Alkaline Digestion, Colorimetric Method <sup>(1.6.19)</sup>
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
16	DOT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup>

2) Soxhlet...

ลำดับที่	สารมลพิษ	วิธีการตรวจ
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup> 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>

22 Mercury...

ลำดับที่	สารมลพิษ	วิธีการตรวจ
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(1.6.20)</sup> 2) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(1.6.20)</sup> 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(20)</sup> 4) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(20)</sup> 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method <sup>(21)</sup>
23	Methoxychlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
27	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic Method <sup>(10.26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic Method <sup>(11.26)</sup>

- 2-Chlorobiphenyl...



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
28	- 2-Chlorobiphenyl - 2,3-Dichlorobiphenyl - 2,2',5-Trichlorobiphenyl - 2,4',5-Trichlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6-Heptachlorobiphenyl - 2,2',3,4',5,5',6-Heptachlorobiphenyl - 2,2',3,3',4,4',5,6-Nonachlorobiphenyl Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,9,26)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup> Electrometric Method <sup>(23,24)</sup> 1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,17)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
29	pH	
30	Selenium	

31 Silver...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,9,26)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
35	Zinc	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>

ดิน

## ดิน จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
2	Acetone	1) Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup> 2) Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method <sup>(13)</sup>
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
4	Anthracene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
5	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
8	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
9	Benz(a)anthracene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
10	Benzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>

11 Benzo(b)fluoranthene

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
11	Benzo(b)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
12	Benzo(k)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
13	Benzoic acid	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
14	Benzo(a)pyrene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
15	Benzo(g,h,i)perylene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
17	Bis(2-chloroethyl)ether	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
18	Bis(2-ethylhexyl)phthalate	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
21	Butanol	Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method <sup>(13,23)</sup>
22	Butyl Benzyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>

23 Cadmium...

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
24	Carbazole	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
28	p-Chloroaniline	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
32	2-Chlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7,8,16,19)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7,8,17,19)</sup>
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method <sup>(8,19)</sup>

36 Chrysene...

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
36	Chrysene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
37	Cyanide	Extraction, Distillation, Colorimetric Method <sup>(27,28,29)</sup>
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
39	DDD	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
40	DDE	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
41	DDT	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
42	Dibenz(a,h)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
43	Di-n-Butyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
47	3,3-Dichlorobenzidine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>

49 1,2-Dichloroethane...

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
53	2,4-Dichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
58	Diethyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
59	2,4-Dimethylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
60	2,4-Dinitrophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
61	2,4-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
62	2,6-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>

63 Di-n-Octyl Phthalate...

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ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
63	Di-n-Octyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
67	Fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
68	Fluorene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
70	Heptachlor epoxide	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
73	n-Hexane	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(13)</sup>

73 n-Hexane...



ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
74	$\alpha$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
75	$\beta$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
76	$\gamma$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
77	Hexachlorocyclopentadiene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
78	Hexachloroethane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
79	Indeno(1,2,3-cd)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
80	Isophorone	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(20)</sup> 2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry <sup>(21)</sup> 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(20)</sup>

84 Methanol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(13,25)</sup>
85	Methoxychlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
88	2-methylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
89	2-Methylnaphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
91	Naphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
92	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
93	Nitrobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
94	N-Nitrosodiphenylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
95	N-Nitrosodi-n-propylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>

96 Polychlorinated biphenyls (PCBs)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
96	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3',3',4,6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5,6-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl - Pentachlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
97	Phenanthrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>

99 Phenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
99	Phenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
100	Pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
101	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
102	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
108	TPH (C <sub>9</sub> -C <sub>6</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
109	TPH (C <sub>8</sub> -C <sub>10</sub> )	1) Automate Extraction, Gas Chromatographic Method <sup>(11,22)</sup> 2) Solvent Extraction, Gas Chromatographic Method <sup>(12,22)</sup> 3) Ultrasonic Extraction, Gas Chromatographic Method <sup>(22,31)</sup>
110	TPH (C <sub>11</sub> -C <sub>33</sub> )	1) Automate Extraction, Gas Chromatographic Method <sup>(11,22)</sup> 2) Solvent Extraction, Gas Chromatographic Method <sup>(12,22)</sup> 3) Ultrasonic Extraction, Gas Chromatographic Method <sup>(22,31)</sup>
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,25)</sup>

115 2,4,5-Trichlorophenol...

ลำดับที่	สารเคมี	วิธีการวิเคราะห์
115	2,4,5-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(15,28)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,28)</sup>
116	2,4,6-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,28)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,28)</sup>
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,18)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
121	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
122	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
123	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,23)</sup>
125	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(7,18)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>

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31. United States...



ที่ อก ๐๓๑๐(๓)/ ๔ ๑ ๒๑

กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๒๕ เมษายน ๒๕๖๗

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารเคมีของห้องปฏิบัติการวิเคราะห์เอกชน ลงวันที่ ๒๕ มีนาคม ๒๕๖๓

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๑๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากร ความละเอียดแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ให้งดเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๓ ราย

๑) นางสาววรรณธิศา พุ่มคง ทะเบียนเลขที่ ๖-๒๐๑๔-๙-๐๐๖๕

๒) นายอัษฎ์ สุทธิยะ ทะเบียนเลขที่ ๖-๒๐๑๔-๙-๐๑๒๑

๓) นางสาวศุภาดา ปิ่นมุกดา ทะเบียนเลขที่ ๖-๒๐๑๔-๙-๐๑๘๘

๒. ให้เพิ่มเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๑๒ ราย

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๔) นายอำนาจ วาจาสมบัติ ทะเบียนเลขที่ ๖-๒๐๑๔-๙-๐๑๘๕

๕) นายฤทธิเดช ปัญญาทะ ทะเบียนเลขที่ ๖-๒๐๑๔-๙-๐๑๘๖

๖) นายณชากร พรระยา ทะเบียนเลขที่ ๖-๒๐๑๔-๙-๐๑๘๗

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อนึ่ง หนังสือฉบับนี้จะหมดอายุพร้อพหังสือต่ออายุวันขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
ในวันที่ ๒ กันยายน ๒๕๖๓

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

  
(นายพรยศ กอน์กรอง)  
รองเลขาธิการ  
อธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเฝ้าระวังมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบผลิตภัณฑ์และทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๕๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๕๓๐ ๖๓๑๖ ต่อ ๒๑๑๕๔

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๑๙) นายวิญญู นิมาภัส  
๒๐) นายศุภณัฐ สุกกิตติมงคล  
๒๑) นายเอกชัย ถิ่นทอง  
๒๒) นายพงษ์เทพ สิริพิลา  
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๒๔) นางสาววันทิยา เบญจชัย  
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๒๖) นางสาวปภาณีน พลอทอง  
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๒๘) นางสาวจิตตา กุลศิริวงศ์  
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๓๒) นายวรวิทย์ พิพิธ  
๓๓) นายศักดิ์นรินทร์ จรัสกาย  
๓๔) นายสุรศักดิ์ สาธิน  
๓๕) นายสถาพร ดาวแก้ว  
๓๖) นายสุทธิสาร โชคประดิษฐ์  
๓๗) นายวิมลกร พันไชยแก้ว  
๓๘) นางสาวนาถา เจริญพรกุล  
๓๙) นายธนสิทธิ์ วงศ์ไชย  
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๔๓) นายจักรินทร์ อธิกุลจินดา  
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๔๗) นางสาวอติพรรัตน์ ศิริมงคล  
๔๘) นายพิพัฒน์ นิกัณฐะธรรม  
๔๙) นายศิริวิทย์ เรืองสม  
๕๐) นายปารณศ สัตยาคูณ  
๕๑) นายปณพ ธรรมสระ  
๕๒) นางสาวสุภาวรัตน์ ไส้จันทร์

ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๗  
ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๘  
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ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๓

๕๒) นายพรชกร...



ปี ๒๐ ๐๖๑๐/ ๗ ๕๓ ๘

กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๖๐๐

๐๘ สิงหาคม ๒๕๖๓

เรื่อง ต่ออายุหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์  
เอกชน ลงวันที่ ๒๗ พฤษภาคม ๒๕๖๓

สิ่งที่ส่งมาด้วย เอกสารแนบท้ายหนังสือต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด จำนวน ๓ แผ่น

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุ  
หนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖ ๒๒๓-๖-๐๐๒๓ ลงวันที่ ๒๗/๕๐ หมู่ที่ ๕  
ตำบลแม่คำ อำเภอปลวกแดง จังหวัดระยอง ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย)  
จำกัด ต่ออายุหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีคำประกอบดังนี้

ก. ผู้ควบคุมห้องปฏิบัติการวิเคราะห์เอกชน

๑) นายเดช ช่างชน	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๑
๒) นายวิวัฒน์ บริรักษ์	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๒
๓) นายสุพจน์ สกลนาค	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๓

ข. เจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน

๑) นายณัฐพงษ์ เพ็ชรขรรษา	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๔
๒) นางสาวกัญญารัตน์ วัชริน	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๕
๓) นางสาวจุฑาทิพย์ สิริทองกลาง	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๖
๔) นางสาวจิราภรณ์ ประทีปสุข	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๗
๕) นายสรวิศ คุ้มกุล	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๘
๖) นายณัฐพล อภิธรรมราช	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๐๙
๗) นายจิตรกร สิมสา	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๐
๘) นายสิทธินันท์ สุวรรณรัตน์	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๑
๙) นายสิทธิชัย เสนาธิ	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๒
๑๐) นายอนุวัฒน์ เสงมา	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๓
๑๑) นายสุวิทย์ นราพงษ์	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๔
๑๒) นายณัฐพล เขียววิจิตร	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๕
๑๓) นายชานนท์ บุญชัย	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๖
๑๔) นายณัฐกร วงศ์อินทร์	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๗
๑๕) นายอานนท์ โพธิ์พระทอง	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๑๘

๑๖) นายณัฐพล...

๕๑) นายพรชกร เจริญ	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๔
๕๒) นายจิตรกร เข็มทอง	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๕
๕๓) นายณัฐกร ทองระยาศักดิ์	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๖
๕๔) นายอภิชาติ วิสาข	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๗
๕๕) นายจิรวิทย์ ศรีวิเศษ	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๘
๕๖) นายประสาธน์ เจริญพร	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๕๙
๕๗) นายณัฐวัฒน์ วิ่ง	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๖๐
๕๘) นายสันติ ชัยชนะ	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๖๑
๕๙) นายพนกร กุลชัย	ทะเบียนเลขที่ ๖-๒๒๓-๖-๐๐๖๒

ค. ขอแจ้งขอปิดสารมลพิษที่ได้รับขึ้นทะเบียนวิเคราะห์ในน้ำเสีย น้ำใต้ดิน อากาศเสีย  
ตามสิ่งที่ส่งมาด้วย

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒๕ มิถุนายน ๒๕๖๓ หากประสงค์จะต่ออายุหนังสือ  
ขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอต่อกรม  
อุตสาหกรรมภายใน ๖๐ วัน ก่อนวันสิ้นสุดอายุของหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

  
(นายพรยศ กอน์กรอง)  
รองเลขาธิการ  
อธิบดีกรมโรงงานอุตสาหกรรม

ศูนย์วิจัยและเฝ้าระวังมลพิษโรงงานภาคตะวันออก

โทร. ๐ ๓๓๑๓ ๒๐๕๔ ต่อ ๕๐๐๓-๑

ไปรษณีย์อิเล็กทรอนิกส์ givaw@dvj.mail.go.th



"อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว"



เอกสารแนบท้ายหนังสือเปลี่ยนแปลงสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอนแอล แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ๖-๓๒๓  
ที่ออก ๐๓๒๐/ ๗ ๕๓ ๘ ลงวันที่ ๐๔ สิงหาคม ๒๕๖๗

ขอช่วยสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๒๔ รายการ  
น้ำเสีย จำนวน 14 รายการ

ลำดับ ที่	สารมลพิษ	วิธีวิเคราะห์
1	Biochemical Oxygen Demand	1) 5-Day BOD Test, Membrane Electrode Method <sup>22</sup> 2) 5-Day BOD Test, Azide Modification Method <sup>22</sup>
2	Chemical Oxygen Demand	1) Open Reflux, Titrimetric Method <sup>23</sup> 2) Closed Reflux, Colorimetric Method <sup>22</sup> 3) Closed Reflux, Titrimetric Method <sup>22</sup>
3	Color	APHA Weighted-Ordinate Spectrophotometric Method <sup>24</sup>
4	Cyanide	Distillation, Colorimetric Method <sup>25</sup>
5	Formaldehyde	Distillation, Colorimetric Method <sup>13</sup>
6	Free Chlorine	DPD - ferrous Titrimetric Method <sup>26</sup>
7	Oil and Grease	Liquid - Liquid, Partition Gravimetric Method <sup>27</sup>
8	pH	Electrometric Method <sup>28</sup>
9	Phenols	1) Distillation, Chloroform Extraction Method <sup>29</sup> 2) Distillation, Direct Photometric Method <sup>30</sup>
10	Sulfide	ZnS Precipitation, Iodometric Method <sup>31</sup>
11	Temperature	Field Method <sup>2</sup>
12	Total Dissolved Solids	Dried at 180 °C <sup>2</sup>
13	Total Kjeldahl Nitrogen	Semi-Macro Kjeldahl Method <sup>32</sup>
14	Total Suspended Solids	Dried at 103-105 °C <sup>2</sup>

น้ำใต้ดิน จำนวน 3 รายการ

ลำดับ ที่	สารมลพิษ	วิธีวิเคราะห์
1	Cyanide	Distillation, Colorimetric Method <sup>25</sup>
2	pH	Electrometric Method <sup>28</sup>
3	Phenols	Distillation, Direct Photometric Method <sup>30</sup>

อากาศเสีย...

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อากาศเสีย (ปล่องระบาย) จำนวน 7 รายการ

ลำดับ ที่	สารมลพิษ	วิธีวิเคราะห์
1	Carbon Monoxide	1) Sampling Bag, Non-Dispersive Infrared Method <sup>33</sup> 2) Instrumental Analyzer Method <sup>34</sup>
2	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>35</sup>
3	Opacity	Ringelmann's Method <sup>36</sup>
4	Oxide of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>37</sup> 2) Instrumental Analyzer Method <sup>38</sup>
5	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Acid Method <sup>39</sup> 2) Instrumental Analyzer Method <sup>40</sup>
6	Sulfuric Acid	Isokinetic Sampling, Barium - Titrimetric Method <sup>41</sup>
7	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method <sup>42</sup>

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7. United States...

-3-

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ที่ BR ๐๓๒๐/ ๑๐ ๐๕ ๕



กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๐๔ ตุลาคม ๒๕๖๗

เรื่อง แก้ไขรายชื่อเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอนแอล แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง หนังสือ บริษัท เอนแอล แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขที่ Env 2024/005 ลงวันที่ ๓๐ สิงหาคม ๒๕๖๗

ตามหนังสือที่อ้างถึง บริษัท เอนแอล แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖ ๓๒๓ สถานที่ตั้งเลขที่ ๖๑๖/๑๐ หมู่ที่ ๕ ตำบลแม่ไม้ผู้ อำเภอปลวกแดง จังหวัดระยอง ขอแก้ไขเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน เนื่องจากมีความคลาดเคลื่อน ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรม ได้รับทราบและดำเนินการแก้ไขรายชื่อเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๕ ราย ตามที่แจ้งเรียบร้อยแล้ว เป็นดังนี้

ลำดับที่ ๒๓ นางพวง สีดา

ลำดับที่ ๒๔ นางสาวณิศา กุลสุริวงค์

ลำดับที่ ๒๐ นางชลธิชา สูงเกษ

ลำดับที่ ๑๖ นายสุทธิดำรงค์ โชติปิลันันท์

ลำดับที่ ๑๒ นายกันตพล มณีสัมพันธ์

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

นางพรยศ กลิ่นกร่อง  
นายวิชาญ บุญศิริธรรม  
อธิบดีกรมโรงงานอุตสาหกรรม

ศูนย์วิจัยและประเมินค่ามลพิษโรงงานภาคตะวันออก  
โทร. ๐ ๓๓๓๓ ๖๐๕๔ ต่อ ๕๐๐๑-๖  
ไปรษณีย์อิเล็กทรอนิกส์ env@gcw.mail.go.th

Green Industry "อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า" ร่วมกันพัฒนา อุตสาหกรรมสีเขียว







บริษัท เอแอลเอส แลборาทอรี กรุ๊ป (ประเทศไทย) จำกัด (สำนักงานใหญ่)

104 ซอยพัฒนาการ 40 ถนนพัฒนาการ

แขวงพัฒนาการ เขตสวนหลวง กรุงเทพฯ 10250

ติดต่อเรา

