

ภาคผนวก ค

ใบรับรองผลการตรวจวิเคราะห์

ภาคผนวก ค-1

คุณภาพอากาศในบรรยากาศ



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447267
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976422-1

Page 1 of 1

Sample Description	Air Quality						
Location	บริเวณหมู่ 4 บ้านนาหว้า (A6) (47P 0737145, 1460076)						
Parameter	Nitrogen dioxide (mg/m3)						
Measurement Date	May 04, 2024 - May 11, 2024						
Measurement by	Mongkon Phalathip						
Time	2447267-36 May 04, 2024	2447267-37 May 05, 2024	2447267-38 May 06, 2024	2447267-39 May 07, 2024	2447267-40 May 08, 2024	2447267-41 May 09, 2024	2447267-42 May 10, 2024
01:00 PM - 02:00 PM	0.0109	0.0049	0.0147	0.0152	0.0310	0.0137	0.0120
02:00 PM - 03:00 PM	0.0135	0.0079	0.0156	0.0310	0.0320	0.0151	0.0075
03:00 PM - 04:00 PM	0.0128	0.0064	0.0135	0.0320	0.0382	0.0128	0.0034
04:00 PM - 05:00 PM	0.0109	0.0100	0.0139	0.0382	0.0132	0.0194	0.0034
05:00 PM - 06:00 PM	0.0049	0.0128	0.0147	0.0132	0.0233	0.0143	0.0028
06:00 PM - 07:00 PM	0.0028	0.0265	0.0130	0.0233	0.0164	0.0111	0.0041
07:00 PM - 08:00 PM	0.0132	0.0218	0.0175	0.0164	0.0188	0.0075	0.0075
08:00 PM - 09:00 PM	0.0045	0.0117	0.0128	0.0188	0.0190	0.0143	0.0128
09:00 PM - 10:00 PM	0.0028	0.0132	0.0119	0.0190	0.0152	0.0134	0.0056
10:00 PM - 11:00 PM	0.0024	0.0128	0.0079	0.0152	0.0109	0.0119	0.0083
11:00 PM - 12:00 AM	0.0024	0.0085	0.0120	0.0109	0.0073	0.0090	0.0036
12:00 AM - 01:00 AM	0.0053	0.0045	0.0068	0.0073	0.0053	0.0070	0.0036
01:00 AM - 02:00 AM	0.0060	0.0045	0.0111	0.0053	0.0087	0.0090	0.0017
02:00 AM - 03:00 AM	0.0040	0.0013	0.0075	0.0087	0.0043	0.0098	0.0017
03:00 AM - 04:00 AM	0.0013	0.0026	0.0162	0.0043	0.0043	0.0087	0.0024
04:00 AM - 05:00 AM	0.0032	0.0017	0.0175	0.0043	0.0130	0.0100	0.0019
05:00 AM - 06:00 AM	0.0036	0.0013	0.0194	0.0130	0.0186	0.0149	0.0015
06:00 AM - 07:00 AM	0.0087	0.0024	0.0130	0.0186	0.0183	0.0190	0.0040
07:00 AM - 08:00 AM	0.0053	0.0049	0.0119	0.0183	0.0171	0.0213	0.0056
08:00 AM - 09:00 AM	0.0115	0.0135	0.0194	0.0171	0.0228	0.0173	0.0120
09:00 AM - 10:00 AM	0.0128	0.0201	0.0190	0.0228	0.0260	0.0199	0.0128
10:00 AM - 11:00 AM	0.0122	0.0139	0.0181	0.0260	0.0215	0.0141	0.0137
11:00 AM - 12:00 PM	0.0181	0.0239	0.0169	0.0190	0.0181	0.0139	0.0160
12:00 PM - 01:00 PM	0.0132	0.0429	0.0190	0.0228	0.0128	0.0239	0.0117
Average (24 hrs)	0.0078	0.0114	0.0143	0.0175	0.0173	0.0142	0.0067
1hr - Maximum	0.0181	0.0429	0.0194	0.0382	0.0382	0.0239	0.0160
Standard 1hr - Average	0.32	0.32	0.32	0.32	0.32	0.32	0.32

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).
Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

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.

Approved by

Saranya C.

Saranya Chalerthamrong
Scientist (4)

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S:\Reports\Air SO₂NO_x_mg ppt (8:03PM)

354-22V EMAIL



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447267
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2995278-1

Page 1 of 1

Sample Description	Air Quality						
Location	บริเวณหมู่ 7 บ้านนาหว้า (A1) (GPS 47P 0734666, 1456798)						
Parameter	Nitrogen dioxide (mg/m3)						
Measurement Date	May 04, 2024 - May 11, 2024						
Measurement by	Mongkon Phalathip						
Time	2447267-1 May 04, 2024	2447267-2 May 05, 2024	2447267-3 May 06, 2024	2447267-4 May 07, 2024	2447267-5 May 08, 2024	2447267-6 May 09, 2024	2447267-7 May 10, 2024
12:00 PM - 01:00 PM	0.0181	0.0009	0.0053	0.0105	0.0105	0.0070	0.0280
01:00 PM - 02:00 PM	0.0183	0.0102	0.0041	0.0119	0.0119	0.0058	0.0267
02:00 PM - 03:00 PM	0.0237	0.0260	0.0036	0.0119	0.0120	0.0041	0.0194
03:00 PM - 04:00 PM	0.0211	0.0280	0.0040	0.0137	0.0139	0.0070	0.0286
04:00 PM - 05:00 PM	0.0216	0.0267	0.0066	0.0151	0.0151	0.0073	0.0151
05:00 PM - 06:00 PM	0.0156	0.0179	0.0085	0.0117	0.0117	0.0085	0.0175
06:00 PM - 07:00 PM	0.0070	0.0083	0.0130	0.0119	0.0119	0.0098	0.0128
07:00 PM - 08:00 PM	0.0058	0.0072	0.0248	0.0158	0.0158	0.0243	0.0064
08:00 PM - 09:00 PM	0.0088	0.0066	0.0085	0.0160	0.0160	0.0224	0.0053
09:00 PM - 10:00 PM	0.0062	0.0062	0.0166	0.0207	0.0207	0.0132	0.0058
10:00 PM - 11:00 PM	0.0051	0.0056	0.0107	0.0186	0.0186	0.0139	0.0043
11:00 PM - 12:00 AM	0.0088	0.0055	0.0107	0.0049	0.0047	0.0179	0.0075
12:00 AM - 01:00 AM	0.0075	0.0075	0.0036	0.0053	0.0053	0.0064	0.0045
01:00 AM - 02:00 AM	0.0040	0.0040	0.0028	0.0045	0.0045	0.0045	0.0056
02:00 AM - 03:00 AM	0.0040	0.0040	0.0068	0.0038	0.0038	0.0053	0.0073
03:00 AM - 04:00 AM	0.0045	0.0038	0.0040	0.0034	0.0036	0.0041	0.0045
04:00 AM - 05:00 AM	0.0040	0.0070	0.0030	0.0036	0.0038	0.0045	0.0038
05:00 AM - 06:00 AM	0.0043	0.0045	0.0036	0.0038	0.0036	0.0030	0.0053
06:00 AM - 07:00 AM	0.0051	0.0075	0.0041	0.0034	0.0034	0.0036	0.0073
07:00 AM - 08:00 AM	0.0051	0.0111	0.0058	0.0043	0.0043	0.0032	0.0102
08:00 AM - 09:00 AM	0.0088	0.0181	0.0072	0.0062	0.0062	0.0056	0.0190
09:00 AM - 10:00 AM	0.0075	0.0111	0.0073	0.0085	0.0085	0.0043	0.0058
10:00 AM - 11:00 AM	0.0100	0.0192	0.0077	0.0322	0.0320	0.0038	0.0156
11:00 AM - 12:00 PM	0.0103	0.0241	0.0068	0.0111	0.0111	0.0060	0.0154
Average (24 hrs)	0.0098	0.0113	0.0075	0.0105	0.0105	0.0081	0.0117
1hr - Maximum	0.0237	0.0280	0.0248	0.0322	0.0320	0.0243	0.0286
Standard 1hr - Average	0.32	0.32	0.32	0.32	0.32	0.32	0.32

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).
Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

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Saranya Chalerthamrong
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354-22V EMAIL



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447267
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2995279-1

Page 1 of 1

Sample Description	Air Quality						
Location	บริเวณพื้นที่โครงการ (A2) (GPS 47P 0733878, 1451154)						
Parameter	Nitrogen dioxide (mg/m3)						
Measurement Date	May 04, 2024 - May 11, 2024						
Measurement by	Mongkon Phalathip						
Time	2447267-8 May 04, 2024	2447267-9 May 05, 2024	2447267-10 May 06, 2024	2447267-11 May 07, 2024	2447267-12 May 08, 2024	2447267-13 May 09, 2024	2447267-14 May 10, 2024
11:00 AM - 12:00 PM	0.0085	0.0120	0.0103	0.0130	0.0141	0.0079	0.0070
12:00 PM - 01:00 PM	0.0350	0.0105	0.0169	0.0371	0.0158	0.0342	0.0075
01:00 PM - 02:00 PM	0.0152	0.0094	0.0102	0.0269	0.0245	0.0147	0.0087
02:00 PM - 03:00 PM	0.0145	0.0181	0.0181	0.0252	0.0237	0.0139	0.0085
03:00 PM - 04:00 PM	0.0183	0.0160	0.0263	0.0275	0.0389	0.0177	0.0103
04:00 PM - 05:00 PM	0.0105	0.0119	0.0124	0.0102	0.0175	0.0100	0.0083
05:00 PM - 06:00 PM	0.0051	0.0130	0.0102	0.0103	0.0115	0.0045	0.0117
06:00 PM - 07:00 PM	0.0103	0.0215	0.0198	0.0154	0.0235	0.0098	0.0280
07:00 PM - 08:00 PM	0.0096	0.0173	0.0081	0.0139	0.0164	0.0088	0.0237
08:00 PM - 09:00 PM	0.0090	0.0119	0.0062	0.0103	0.0215	0.0083	0.0216
09:00 PM - 10:00 PM	0.0135	0.0169	0.0119	0.0149	0.0162	0.0130	0.0254
10:00 PM - 11:00 PM	0.0100	0.0094	0.0058	0.0068	0.0077	0.0094	0.0087
11:00 PM - 12:00 AM	0.0072	0.0083	0.0066	0.0072	0.0070	0.0064	0.0051
12:00 AM - 01:00 AM	0.0070	0.0162	0.0105	0.0147	0.0139	0.0064	0.0062
01:00 AM - 02:00 AM	0.0060	0.0109	0.0083	0.0081	0.0316	0.0055	0.0062
02:00 AM - 03:00 AM	0.0087	0.0145	0.0122	0.0100	0.0177	0.0081	0.0056
03:00 AM - 04:00 AM	0.0169	0.0192	0.0120	0.0115	0.0303	0.0164	0.0068
04:00 AM - 05:00 AM	0.0060	0.0126	0.0088	0.0070	0.0073	0.0055	0.0053
05:00 AM - 06:00 AM	0.0075	0.0109	0.0096	0.0068	0.0075	0.0070	0.0073
06:00 AM - 07:00 AM	0.0113	0.0171	0.0181	0.0196	0.0151	0.0109	0.0184
07:00 AM - 08:00 AM	0.0115	0.0218	0.0188	0.0151	0.0107	0.0109	0.0117
08:00 AM - 09:00 AM	0.0166	0.0171	0.0177	0.0156	0.0137	0.0160	0.0109
09:00 AM - 10:00 AM	0.0196	0.0389	0.0143	0.0213	0.0156	0.0188	0.0149
10:00 AM - 11:00 AM	0.0088	0.0181	0.0113	0.0120	0.0100	0.0083	0.0139
Average (24 hrs)	0.0119	0.0156	0.0127	0.0150	0.0168	0.0113	0.0117
1hr - Maximum	0.0350	0.0389	0.0263	0.0371	0.0389	0.0342	0.0280
Standard 1hr - Average	0.32	0.32	0.32	0.32	0.32	0.32	0.32

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).
Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

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



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited

475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :

Project Name : Monitoring

Project Location : WHA ESIE 2

Lot ID: 2447267

Date Received : May 13, 2024

Date Reported : May 17, 2024

Report Number: 2995288-1

Page 1 of 1

Sample Description	Air Quality							
Location	ท่าเรือ 3 เขตบางนา (A4) (GPS 47P 0732763, 1450289)							
Parameter	Nitrogen dioxide (mg/m3)							
Measurement Date	May 04, 2024 - May 11, 2024							
Measurement by	Mongkon Phalathip							
Time	2447267-22 May 04, 2024	2447267-23 May 05, 2024	2447267-24 May 06, 2024	2447267-25 May 07, 2024	2447267-26 May 08, 2024	2447267-27 May 09, 2024	2447267-28 May 10, 2024	
10:00 AM - 11:00 AM	0.0105	0.0277	0.0149	0.0201	0.0201	0.0376	0.0166	
11:00 AM - 12:00 PM	0.0198	0.0278	0.0137	0.0215	0.0215	0.0365	0.0156	
12:00 PM - 01:00 PM	0.0356	0.0333	0.0132	0.0215	0.0215	0.0290	0.0137	
01:00 PM - 02:00 PM	0.0376	0.0305	0.0134	0.0233	0.0233	0.0384	0.0164	
02:00 PM - 03:00 PM	0.0363	0.0312	0.0162	0.0246	0.0246	0.0246	0.0171	
03:00 PM - 04:00 PM	0.0275	0.0252	0.0181	0.0213	0.0213	0.0273	0.0181	
04:00 PM - 05:00 PM	0.0181	0.0162	0.0226	0.0215	0.0215	0.0224	0.0194	
05:00 PM - 06:00 PM	0.0167	0.0154	0.0344	0.0254	0.0254	0.0339	0.0167	
06:00 PM - 07:00 PM	0.0164	0.0184	0.0181	0.0256	0.0256	0.0149	0.0320	
07:00 PM - 08:00 PM	0.0158	0.0156	0.0262	0.0303	0.0303	0.0154	0.0228	
08:00 PM - 09:00 PM	0.0152	0.0149	0.0205	0.0282	0.0282	0.0139	0.0235	
09:00 PM - 10:00 PM	0.0151	0.0184	0.0216	0.0145	0.0145	0.0171	0.0275	
10:00 PM - 11:00 PM	0.0171	0.0171	0.0132	0.0149	0.0149	0.0141	0.0158	
11:00 PM - 12:00 AM	0.0135	0.0135	0.0124	0.0141	0.0141	0.0154	0.0141	
12:00 AM - 01:00 AM	0.0135	0.0135	0.0164	0.0134	0.0134	0.0169	0.0149	
01:00 AM - 02:00 AM	0.0134	0.0139	0.0135	0.0130	0.0130	0.0141	0.0137	
02:00 AM - 03:00 AM	0.0167	0.0135	0.0126	0.0132	0.0132	0.0134	0.0139	
03:00 AM - 04:00 AM	0.0141	0.0141	0.0132	0.0134	0.0134	0.0149	0.0126	
04:00 AM - 05:00 AM	0.0171	0.0147	0.0137	0.0130	0.0130	0.0167	0.0132	
05:00 AM - 06:00 AM	0.0209	0.0151	0.0154	0.0139	0.0139	0.0198	0.0064	
06:00 AM - 07:00 AM	0.0277	0.0184	0.0166	0.0158	0.0158	0.0284	0.0152	
07:00 AM - 08:00 AM	0.0209	0.0171	0.0169	0.0181	0.0181	0.0154	0.0139	
08:00 AM - 09:00 AM	0.0288	0.0196	0.0173	0.0418	0.0418	0.0250	0.0135	
09:00 AM - 10:00 AM	0.0337	0.0199	0.0164	0.0207	0.0207	0.0250	0.0156	
Average (24 hrs)	0.0209	0.0194	0.0171	0.0201	0.0201	0.0214	0.0177	
1hr - Maximum	0.0376	0.0333	0.0344	0.0418	0.0418	0.0384	0.0339	
Standard 1hr - Average	0.32	0.32	0.32	0.32	0.32	0.32	0.32	

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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Saranya C.

Saranya Chalerhmahomg
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354-221V EMAIL



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited

475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :

Project Name : Monitoring

Project Location : WHA ESIE 2

Lot ID: 2447267

Date Received : May 13, 2024

Date Reported : May 17, 2024

Report Number: 2995289-1

Page 1 of 1

Sample Description	Air Quality							
Location	ท่าเรือ (A5) (GPS 47P 0727598, 1455574)							
Parameter	Nitrogen dioxide (mg/m3)							
Measurement Date	May 04, 2024 - May 11, 2024							
Measurement by	Mongkon Phalathip							
Time	2447267-29 May 04, 2024	2447267-30 May 05, 2024	2447267-31 May 06, 2024	2447267-32 May 07, 2024	2447267-33 May 08, 2024	2447267-34 May 09, 2024	2447267-35 May 10, 2024	
09:00 AM - 10:00 AM	0.0081	0.0092	0.0021	0.0282	0.0119	0.0190	0.0401	
10:00 AM - 11:00 AM	0.0107	0.0047	0.0051	0.0292	0.0128	0.0122	0.0282	
11:00 AM - 12:00 PM	0.0100	0.0006	0.0036	0.0354	0.0107	0.0100	0.0292	
12:00 PM - 01:00 PM	0.0081	0.0006	0.0072	0.0103	0.0111	0.0166	0.0354	
01:00 PM - 02:00 PM	0.0021	<0.0002	0.0100	0.0205	0.0119	0.0115	0.0103	
02:00 PM - 03:00 PM	<0.0002	0.0013	0.0237	0.0135	0.0102	0.0083	0.0205	
03:00 PM - 04:00 PM	0.0103	0.0047	0.0190	0.0160	0.0147	0.0139	0.0135	
04:00 PM - 05:00 PM	0.0017	0.0100	0.0088	0.0162	0.0100	0.0115	0.0160	
05:00 PM - 06:00 PM	<0.0002	0.0028	0.0103	0.0124	0.0090	0.0105	0.0162	
06:00 PM - 07:00 PM	0.0051	0.0055	0.0100	0.0081	0.0051	0.0090	0.0124	
07:00 PM - 08:00 PM	0.0028	0.0008	0.0056	0.0045	0.0092	0.0062	0.0081	
08:00 PM - 09:00 PM	0.0002	0.0008	0.0017	0.0024	0.0040	0.0041	0.0045	
09:00 PM - 10:00 PM	0.0021	0.0120	0.0017	0.0058	0.0083	0.0062	0.0024	
10:00 PM - 11:00 PM	0.0011	0.0117	0.0015	0.0015	0.0047	0.0070	0.0058	
11:00 PM - 12:00 AM	0.0023	0.0073	0.0107	0.0015	0.0134	0.0058	0.0015	
12:00 AM - 01:00 AM	0.0004	0.0034	0.0066	0.0102	0.0147	0.0072	0.0015	
01:00 AM - 02:00 AM	0.0008	0.0034	0.0107	0.0158	0.0166	0.0120	0.0102	
02:00 AM - 03:00 AM	0.0058	0.0004	0.0056	0.0154	0.0102	0.0162	0.0158	
03:00 AM - 04:00 AM	0.0024	0.0028	0.0100	0.0143	0.0090	0.0184	0.0154	
04:00 AM - 05:00 AM	0.0087	0.0092	0.0199	0.0166	0.0145	0.0143	0.0143	
05:00 AM - 06:00 AM	0.0100	0.0100	0.0151	0.0231	0.0162	0.0171	0.0199	
06:00 AM - 07:00 AM	0.0094	0.0109	0.0164	0.0186	0.0152	0.0113	0.0231	
07:00 AM - 08:00 AM	0.0152	0.0132	0.0211	0.0152	0.0141	0.0111	0.0162	
08:00 AM - 09:00 AM	0.0103	0.0088	0.0401	0.0156	0.0139	0.0211	0.0199	
Average (24 hrs)	0.0058	0.0058	0.0110	0.0147	0.0114	0.0117	0.0159	
1hr - Maximum	0.0152	0.0132	0.0401	0.0354	0.0166	0.0211	0.0401	
Standard 1hr - Average	0.32	0.32	0.32	0.32	0.32	0.32	0.32	

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

Saranya C.

Saranya Chalerhmahomg
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354-221V EMAIL



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited

475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :

Project Name : Monitoring

Project Location : WHA ESIE 2

Lot ID: 2447268

Date Received : May 13, 2024

Date Reported : May 17, 2024

Report Number: 2995290-1

Page 1 of 1

Sample Description	Air Quality							
Location	ท่าเรือ 3 เขตบางนา (A4) (GPS 47P 0737145, 140071)							
Parameter	Sulfur Dioxide (mg/m3)							
Measurement Date	May 04, 2024 - May 11, 2024							
Measurement by	Mongkon Phalathip							
Time	24472(8-3) May 04, 2024	24472(8-37) May 05, 2024	24472(8-38) May 06, 2024	24472(8-39) May 07, 2024	24472(8-40) May 08, 2024	24472(8-41) May 09, 2024	24472(8-42) May 10, 2024	
01:00 PM - 02:00 PM	0.0052	0.0047	0.0047	0.0058	0.0050	0.0042	0.0052	
02:00 PM - 03:00 PM	0.0058	0.0047	0.0055	0.0055	0.0034	0.0047	0.0052	
03:00 PM - 04:00 PM	0.0055	0.0045	0.0052	0.0052	0.0042	0.0047	0.0010	
04:00 PM - 05:00 PM	0.0058	0.0045	0.0052	0.0050	0.0042	0.0052	0.0013	
05:00 PM - 06:00 PM	0.0055	0.0047	0.0052	0.0050	0.0045	0.0052	0.0013	
06:00 PM - 07:00 PM	0.0050	0.0047	0.0058	0.0055	0.0037	0.0047	0.0013	
07:00 PM - 08:00 PM	0.0050	0.0052	0.0058	0.0052	0.0034	0.0052	0.0010	
08:00 PM - 09:00 PM	0.0045	0.0055	0.0058	0.0052	0.0039	0.0047	0.0010	
09:00 PM - 10:00 PM	0.0042	0.0055	0.0052	0.0055	0.0045	0.0045	0.0055	
10:00 PM - 11:00 PM	0.0045	0.0052	0.0052	0.0050	0.0042	0.0042	0.0042	
11:00 PM - 12:00 AM	0.0042	0.0052	0.0055	0.0050	0.0045	0.0055	0.0052	
12:00 AM - 01:00 AM	0.0045	0.0058	0.0058	0.0052	0.0047	0.0055	0.0013	
01:00 AM - 02:00 AM	0.0039	0.0055	0.0055	0.0052	0.0039	0.0050	0.0010	
02:00 AM - 03:00 AM	0.0034	0.0052	0.0055	0.0050	0.0034	0.0055	0.0010	
03:00 AM - 04:00 AM	0.0037	0.0055	0.0055	0.0055	0.0037	0.0052	0.0010	
04:00 AM - 05:00 AM	0.0045	0.0045	0.0055	0.0052	0.0034	0.0045	0.0013	
05:00 AM - 06:00 AM	0.0045	0.0047	0.0055	0.0052	0.0042	0.0052	0.0013	



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited

475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :

Project Name : Monitoring

Project Location : WHA ESIE 2

Lot ID: 2447268

Date Received : May 13, 2024

Date Reported : May 17, 2024

Report Number: 2995292-1

Page 1 of 1

Sample Description	Air Quality						
Location	บริเวณพื้นที่โครงการ (A2) (GPS 47P 0733878, 1451154)						
Parameter	Sulfur Dioxide (mg/m3)						
Measurement Date	May 04, 2024 - May 11, 2024						
Measurement by	Mongkon Phalathip						
Time	2447268-8 May 04, 2024	2447268-9 May 05, 2024	2447268-10 May 06, 2024	2447268-11 May 07, 2024	2447268-12 May 08, 2024	2447268-13 May 09, 2024	2447268-14 May 10, 2024
11:00 AM - 12:00 PM	0.0060	0.0052	0.0060	0.0052	0.0060	0.0050	0.0058
12:00 PM - 01:00 PM	0.0060	0.0052	0.0058	0.0052	0.0055	0.0050	0.0060
01:00 PM - 02:00 PM	0.0065	0.0029	0.0052	0.0052	0.0055	0.0047	0.0060
02:00 PM - 03:00 PM	0.0068	0.0029	0.0052	0.0052	0.0034	0.0047	0.0060
03:00 PM - 04:00 PM	0.0068	0.0029	0.0031	0.0052	0.0026	0.0042	0.0081
04:00 PM - 05:00 PM	0.0008	0.0034	0.0034	0.0055	0.0026	0.0042	0.0084
05:00 PM - 06:00 PM	0.0055	0.0034	0.0031	0.0055	0.0031	0.0042	0.0084
06:00 PM - 07:00 PM	0.0060	0.0031	0.0034	0.0055	0.0031	0.0034	0.0081
07:00 PM - 08:00 PM	0.0055	0.0031	0.0034	0.0060	0.0034	0.0034	0.0094
08:00 PM - 09:00 PM	0.0034	0.0034	0.0034	0.0060	0.0034	0.0034	0.0092
09:00 PM - 10:00 PM	0.0031	0.0034	0.0031	0.0055	0.0079	0.0079	0.0060
10:00 PM - 11:00 PM	0.0034	0.0031	0.0055	0.0058	0.0031	0.0079	0.0068
11:00 PM - 12:00 AM	0.0034	0.0060	0.0055	0.0058	0.0031	0.0060	0.0065
12:00 AM - 01:00 AM	0.0031	0.0060	0.0060	0.0060	0.0031	0.0060	0.0063
01:00 AM - 02:00 AM	0.0034	0.0055	0.0060	0.0060	0.0052	0.0052	0.0055
02:00 AM - 03:00 AM	0.0016	0.0055	0.0060	0.0060	0.0052	0.0055	0.0052
03:00 AM - 04:00 AM	0.0016	0.0055	0.0060	0.0081	0.0060	0.0060	0.0060
04:00 AM - 05:00 AM	0.0013	0.0052	0.0068	0.0081	0.0060	0.0052	0.0055
05:00 AM - 06:00 AM	0.0026	0.0052	0.0065	0.0060	0.0052	0.0060	0.0060
06:00 AM - 07:00 AM	0.0026	0.0052	0.0055	0.0052	0.0034	0.0060	0.0068
07:00 AM - 08:00 AM	0.0026	0.0052	0.0055	0.0052	0.0039	0.0055	0.0060
08:00 AM - 09:00 AM	0.0055	0.0052	0.0060	0.0060	0.0039	0.0060	0.0055
09:00 AM - 10:00 AM	0.0052	0.0055	0.0060	0.0060	0.0042	0.0060	0.0060
10:00 AM - 11:00 AM	0.0052	0.0060	0.0060	0.0060	0.0037	0.0060	0.0055
Average (24 hrs)	0.0041	0.0045	0.0051	0.0059	0.0043	0.0053	0.0066
1hr - Maximum	0.0068	0.0060	0.0068	0.0081	0.0079	0.0079	0.0094
Standard 24 hrs - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Standard : Notification of the National Environment Board No. 10, 1995 (B.E. 2538), No. 24, 2004 (B.E. 2547).

Reference Method : US EPA Method Part 53 and 58

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Approved by

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354-22V EMAIL



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited

475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :

Project Name : Monitoring

Project Location : WHA ESIE 2

Lot ID: 2447268

Date Received : May 13, 2024

Date Reported : May 17, 2024

Report Number: 2995293-1

Page 1 of 1

Sample Description	Air Quality						
Location	บริเวณพื้นที่โครงการ (A5) (GPS 47P 0735300, 1454617)						
Parameter	Sulfur Dioxide (mg/m3)						
Measurement Date	May 04, 2024 - May 11, 2024						
Measurement by	Mongkon Phalathip						
Time	244726G-15 May 04, 2024	244726G-16 May 05, 2024	244726G-17 May 06, 2024	244726G-18 May 07, 2024	244726G-19 May 08, 2024	244726G-20 May 09, 2024	244726G-21 May 10, 2024
02:00 PM - 03:00 PM	0.0026	0.0029	0.0034	0.0031	0.000G	0.0026	0.0024
03:00 PM - 04:00 PM	0.0026	0.0029	0.0029	0.0031	0.0026	0.0013	0.0026
04:00 PM - 05:00 PM	0.0026	0.0029	0.0029	0.0034	0.0026	0.0016	0.0026
05:00 PM - 06:00 PM	0.0024	0.0029	0.0029	0.0029	0.0024	0.0013	0.0026
06:00 PM - 07:00 PM	0.0042	0.0029	0.0031	0.0031	0.0026	0.0013	0.0026
07:00 PM - 08:00 PM	0.0021	0.0029	0.0029	0.0029	0.0026	0.0013	0.0026
08:00 PM - 09:00 PM	0.0029	0.0024	0.0031	0.0026	0.0013	0.0026	0.0024
09:00 PM - 10:00 PM	0.0029	0.0024	0.0024	0.0031	0.0026	0.0013	0.0026
10:00 PM - 11:00 PM	0.0029	0.0021	0.0029	0.0024	0.0013	0.0026	0.0024
11:00 PM - 12:00 AM	0.0029	0.0024	0.0026	0.0026	0.0013	0.0026	0.0026
12:00 AM - 01:00 AM	0.0031	0.0024	0.0021	0.0026	0.006G	0.0026	0.0026
01:00 AM - 02:00 AM	0.0034	0.0024	0.0024	0.0026	0.0021	0.0029	0.0026
02:00 AM - 03:00 AM	0.0037	0.0024	0.0026	0.0026	0.0021	0.0029	0.0026
03:00 AM - 04:00 AM	0.0034	0.0024	0.0026	0.0026	0.0021	0.0029	0.0026
04:00 AM - 05:00 AM	0.0031	0.0024	0.0026	0.001G	0.001G	0.0029	0.0024
05:00 AM - 06:00 AM	0.0029	0.0024	0.0024	0.0026	0.0024	0.0026	0.0024
06:00 AM - 07:00 AM	0.0029	0.0026	0.0024	0.0024	0.0026	0.0026	0.0024
07:00 AM - 08:00 AM	0.0031	0.0026	0.0026	0.0026	0.0026	0.0026	0.0024
08:00 AM - 09:00 AM	0.0029	0.0031	0.0026	0.0026	0.0026	0.0026	0.0024
09:00 AM - 10:00 AM	0.0026	0.0034	0.0026	0.0026	0.0026	0.0026	0.0024
10:00 AM - 11:00 AM	0.0026	0.0031	0.0026	0.0026	0.0026	0.0026	0.0024
11:00 AM - 12:00 PM	0.0026	0.0034	0.0026	0.0026	0.0026	0.0026	0.0024
12:00 PM - 01:00 PM	0.0026	0.0031	0.0026	0.0026	0.0024	0.0024	0.0024
01:00 PM - 02:00 PM	0.0026	0.0031	0.0026	0.0016	0.0026	0.0024	0.0029
Average #24 hrs	0.0029	0.0027	0.0027	0.0025	0.0021	0.0026	0.0024
1hr - Maximum	0.0042	0.0034	0.0034	0.0031	0.006G	0.0029	0.0029
Standard 24 hrs - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Standard : Notification of the National Environment Board No. 10, 1995 (B.E. 2538), No. 24, 2004 (B.E. 2547).

Reference Method : US EPA Method Part 53 and 58

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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354-22V EMAIL



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447270
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976434-1

Page 1 of 1

Sample Description	Air Quality				
Location	โรงโม่หินบ้านนาหว้า (A1) (GPS 47P 0734666, 1456798)				
Date Analysis Commenced	May 15, 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/m ³)	Particulate Matter (PM-10) (mg/m ³)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2447270-1	May 04 - May 05, 2024	0.055	0.024	759	33
2447270-2	May 05 - May 06, 2024	0.062	0.029	759	33
2447270-3	May 06 - May 07, 2024	0.058	0.030	759	33
2447270-4	May 07 - May 08, 2024	0.028	0.017	759	29
2447270-5	May 08 - May 09, 2024	0.059	0.023	759	32
2447270-6	May 09 - May 10, 2024	0.042	0.022	759	32
2447270-7	May 10 - May 11, 2024	0.051	0.027	759	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 : Mongkon Phalathip

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 : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447270
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976434-2

Page 1 of 1

Sample Description	Air Quality				
Location	โรงโม่หินบ้านนาหว้า (A2) (GPS 47P 0733878, 1451154)				
Date Analysis Commenced	May 15, 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/m ³)	Particulate Matter (PM-10) (mg/m ³)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2447270-8	May 04 - May 05, 2024	0.056	0.034	759	33
2447270-9	May 05 - May 06, 2024	0.063	0.041	759	33
2447270-10	May 06 - May 07, 2024	0.059	0.036	759	33
2447270-11	May 07 - May 08, 2024	0.033	0.024	759	29
2447270-12	May 08 - May 09, 2024	0.033	0.017	759	32
2447270-13	May 09 - May 10, 2024	0.043	0.026	759	32
2447270-14	May 10 - May 11, 2024	0.036	0.021	759	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 : Mongkon Phalathip

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 : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447270
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976434-3

Page 1 of 1

Sample Description	Air Quality				
Location	โรงโม่หินบ้านนาหว้า (A3) (GPS 47P 0735800, 1454617)				
Date Analysis Commenced	May 15, 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/m ³)	Particulate Matter (PM-10) (mg/m ³)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2447270-15	May 04 - May 05, 2024	0.042	0.029	759	33
2447270-16	May 05 - May 06, 2024	0.044	0.014	759	33
2447270-17	May 06 - May 07, 2024	0.032	0.026	759	33
2447270-18	May 07 - May 08, 2024	0.014	0.013	759	29
2447270-19	May 08 - May 09, 2024	0.037	0.028	759	32
2447270-20	May 09 - May 10, 2024	0.020	0.014	759	32
2447270-21	May 10 - May 11, 2024	0.034	0.023	759	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 : Mongkon Phalathip

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 : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447270
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976434-4

Page 1 of 1

Sample Description	Air Quality				
Location	โรงโม่หินบ้านนาหว้า (A4) (GPS 47P 0732763, 1450289)				
Date Analysis Commenced	May 15, 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/m ³)	Particulate Matter (PM-10) (mg/m ³)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2447270-22	May 04 - May 05, 2024	0.070	0.043	759	33
2447270-23	May 05 - May 06, 2024	0.067	0.049	759	33
2447270-24	May 06 - May 07, 2024	0.060	0.057	759	33
2447270-25	May 07 - May 08, 2024	0.027	0.012	759	29
2447270-26	May 08 - May 09, 2024	0.053	0.027	759	32
2447270-27	May 09 - May 10, 2024	0.033	0.019	759	32
2447270-28	May 10 - May 11, 2024	0.056	0.032	759	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 : Mongkon Phalathip

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 : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447270
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976434-5

Page 1 of 1

Sample Description	Air Quality
Location	โรงงาน (A5) (GPS 47P 0727598, 1455574)
Date Analysis Commenced	May 15, 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)
2447270-29	May 04 - May 05, 2024	0.038	0.032	759	33
2447270-30	May 05 - May 06, 2024	0.090	0.064	759	33
2447270-31	May 06 - May 07, 2024	0.039	0.034	759	33
2447270-32	May 07 - May 08, 2024	0.032	0.020	759	29
2447270-33	May 08 - May 09, 2024	0.040	0.030	759	32
2447270-34	May 09 - May 10, 2024	0.033	0.020	759	32
2447270-35	May 10 - May 11, 2024	0.069	0.034	759	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 : Mongkon Phalathip

Remark :

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

Approved by

Thanitak.
Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447270
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2976434-6

Page 1 of 1

Sample Description	Air Quality
Location	โรงงาน (A6) (GPS 47P 0737145, 1460076)
Date Analysis Commenced	May 15, 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)
2447270-36	May 04 - May 05, 2024	0.050	0.026	759	33
2447270-37	May 05 - May 06, 2024	0.040	0.027	759	33
2447270-38	May 06 - May 07, 2024	0.060	0.027	759	33
2447270-39	May 07 - May 08, 2024	0.037	0.013	759	29
2447270-40	May 08 - May 09, 2024	0.056	0.044	759	32
2447270-41	May 09 - May 10, 2024	0.044	0.025	759	32
2447270-42	May 10 - May 11, 2024	0.043	0.026	759	32
Guideline		0.33	0.12	-	-

Reference Method

Total Suspended Particulate : * S EPA 40 CFR Part 50 Appendix B

Particulate Matter (PM-10) : * S EPA 40 CFR Part 50 Appendix U

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

Sampled By : Mongkon Phalathip

Remark :

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

Approved by

Thanitak.
Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received : May 13, 2024
Date Reported : May 16, 2024
Report Number : 2976427-1

Page 1 of 2

Sample Number	2447269-1 to 7
Parameter	Wind Speed / Wind Direction
Location	โรงงานบ้านนาบึง (A1) (GPS 47P 0734666, 1456798)
Sampling Date	May 04 - May 11, 2024
Sampling by	Mongkon Phalathip

Time	May 04 - May 05, 2024		May 05 - May 06, 2024		May 06 - May 07, 2024		May 07 - May 08, 2024		May 08 - May 09, 2024		May 09 - May 10, 2024		May 10 - May 11, 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	1.7	262.0	W	5.2	212.0	SSW	1.2	359.0	N	0.5	100.0	E	1.6	247.0	WSW	0.0	-				
01:00 PM - 02:00 PM	0.2	-	-	1.8	266.0	W	1.2	66.0	ENE	0.4	268.0	W	1.2	308.0	NW	1.0	254.0	WSW	1.6	313.0	W
02:00 PM - 03:00 PM	1.0	236.0	SW	1.2	241.0	WSW	0.5	359.0	N	0.0	-	-	0.9	294.0	WNW	2.0	84.0	E	2.8	273.0	W
03:00 PM - 04:00 PM	1.4	216.0	SW	1.0	292.0	WNW	0.0	-	-	0.2	-	-	0.5	311.0	NW	0.6	272.0	W	1.6	120.0	ESE
04:00 PM - 05:00 PM	1.1	256.0	WSW	0.8	150.0	SSE	0.1	-	-	0.0	-	-	2.7	323.0	NW	0.0	-	-	0.3	15.0	NNE
05:00 PM - 06:00 PM	0.8	321.0	NW	0.6	223.0	SW	0.0	-	-	0.0	-	-	0.3	235.0	SW	0.0	-	-	0.0	-	-
06:00 PM - 07:00 PM	0.5	254.0	WSW	1.1	283.0	WNW	0.1	-	-	0.0	-	-	0.8	5.0	N	0.8	90.0	E	0.0	-	-
07:00 PM - 08:00 PM	1.1	207.0	SSW	0.6	247.0	WSW	1.0	221.0	SW	0.2	-	-	0.0	-	-	2.1	268.0	W	0.2	-	-
08:00 PM - 09:00 PM	0.3	188.0	S	0.0	-	-	0.2	-	-	0.0	-	-	0.5	148.0	SSE	1.0	216.0	SW	0.0	-	-
09:00 PM - 10:00 PM	0.4	225.0	SW	0.3	191.0	S	0.9	221.0	SW	0.0	-	-	0.0	-	-	0.3	203.0	SSW	0.1	-	-
10:00 PM - 11:00 PM	0.4	224.0	SW	0.2	-	-	0.3	197.0	SSW	0.0	-	-	0.1	-	-	0.2	-	-	0.0	-	-
11:00 PM - 12:00 AM	1.7	223.0	SW	1.1	235.0	SW	0.2	-	-	0.1	-	-	0.5	208.0	SSW	0.1	-	-	0.3	264.0	W
12:00 AM - 01:00 AM	0.4	243.0	WSW	0.9	352.0	N	0.3	226.0	SW	0.0	-	-	0.2	-	-	0.1	-	-	0.2	-	-
01:00 AM - 02:00 AM	0.4	207.0	SSW	0.3	171.0	S	0.0	-	-	0.0	-	-	0.2	-	-	0.3	273.0	W	0.2	-	-
02:00 AM - 03:00 AM	0.0	-	-	0.2	-	-	0.0	-	-	0.0	-	-	0.4	231.0	SW	0.6	130.0	SSE	0.3	268.0	W
03:00 AM - 04:00 AM	0.3	236.0	SW	0.5	248.0	WSW	0.1	-	-	0.3	90.0	E	0.5	240.0	WSW	0.3	209.0	SSW	0.1	-	-
04:00 AM - 05:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.2	-	-	0.4	212.0	SSW	0.3	337.0	NNW
05:00 AM - 06:00 AM	0.6	163.0	SSE	0.0	-	-	0.2	-	-	0.0	-	-	0.0	-	-	0.2	-	-	0.0	-	-
06:00 AM - 07:00 AM	0.8	226.0	SW	0.0	-	-	0.6	1.0	N	0.3	66.0	ENE	0.3	58.0	ENE	0.3	122.0	ESE	0.5	46.0	NE
07:00 AM - 08:00 AM	0.8	129.0	SE	0.6	238.0	WSW	0.8	179.0	S	0.3	359.0	N	0.4	134.0	SE	0.0	-	-	1.2	120.0	ESE
08:00 AM - 09:00 AM	2.5	169.0	S	1.5	187.0	S	0.4	54.0	NE	0.9	98.0	E	0.1	-	-	0.6	162.0	SSE	0.8	81.0	E
09:00 AM - 10:00 AM	0.6	290.0	WNW	0.6	173.0	S	0.7	359.0	N	0.3	90.0	E	0.4	158.0	SSE	0.4	278.0	W	0.3	97.0	E
10:00 AM - 11:00 AM	0.6	135.0	SE	0.6	163.0	SSE	0.5	47.0	NE	0.3	271.0	W	0.5	253.0	WSW	1.0	207.0	SSW	1.0	109.0	ESE
11:00 AM - 12:00 PM	0.5	307.0	NW	0.9	93.0	E	0.1	-	-	0.2	-	-	0.0	-	-	0.1	-	-	0.9	120.0	ESE

Reference Method : Cup Anemometer & Anodized Aluminum Vane Method

Approved by

Sarayuht Jittranoit
Assistant General Manager

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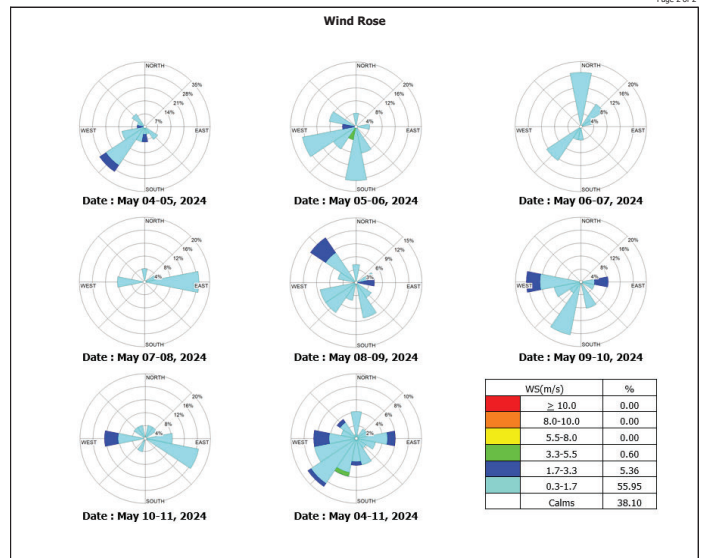
Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received : May 13, 2024
Date Reported : May 16, 2024
Report Number : 2976427-1

Page 2 of 2



Approved by

Sarayuht Jittranoit
Assistant General Manager

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Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received : May 13, 2024
Date Reported : May 16, 2024
Report Number : 2976427-1

Sample Number : 2447269-8 to 14
Parameter : Wind Speed / Wind Direction
Location : สถานีวิทยุคมนาคม (A2) (GPS 47P 0733878, 1451154)
Sampling Date : May 04 - May 11, 2024
Sampling by : Mongkon Phalathip

Time	May 04 - May 05, 2024		May 05 - May 06, 2024		May 06 - May 07, 2024		May 07 - May 08, 2024		May 08 - May 09, 2024		May 09 - May 10, 2024		May 10 - May 11, 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	2.9	177.0	S	0.6	216.0	SW	2.2	43.0	NE	1.1	356.0	N	0.5	2.0	N
12:00 PM - 01:00 PM	0.0	-	-	2.4	168.0	SSE	0.0	-	-	1.3	341.0	NNW	0.0	-	-
01:00 PM - 02:00 PM	0.0	-	-	2.8	72.0	ENE	0.0	-	-	2.5	201.0	SSW	1.1	215.0	SW
02:00 PM - 03:00 PM	4.0	151.0	SSE	1.1	161.0	SSE	2.1	18.0	NNE	0.0	-	1.1	191.0	S	3.2
03:00 PM - 04:00 PM	3.2	68.0	ENE	2.3	136.0	SE	0.0	-	0.0	-	2.3	182.0	S	1.6	170.0
04:00 PM - 05:00 PM	2.9	103.0	ESE	1.0	81.0	E	0.0	-	0.0	-	1.5	190.0	S	1.7	222.0
05:00 PM - 06:00 PM	1.5	115.0	ESE	0.0	-	-	0.0	-	0.7	264.0	W	1.0	184.0	S	0.0
06:00 PM - 07:00 PM	1.4	96.0	E	2.0	196.0	SSW	0.0	-	0.5	0.0	N	0.5	165.0	SSE	2.0
07:00 PM - 08:00 PM	1.1	156.0	SSE	1.7	140.0	SE	0.0	-	1.5	359.0	N	0.9	170.0	S	0.8
08:00 PM - 09:00 PM	1.2	147.0	SSE	0.0	-	-	0.0	-	0.0	-	-	0.0	-	-	0.4
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	0.0	-	1.5	184.0	S	1.0	164.0
10:00 PM - 11:00 PM	2.4	181.0	S	1.4	161.0	SSE	0.0	-	0.0	-	0.6	172.0	S	0.0	-
11:00 PM - 12:00 AM	1.7	156.0	SSE	1.9	174.0	S	0.0	-	0.0	-	1.4	182.0	S	0.0	-
12:00 AM - 01:00 AM	0.7	163.0	SSE	2.2	176.0	S	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	-	-
02:00 AM - 03:00 AM	0.0	-	-	0.9	211.0	SSW	0.0	-	1.6	346.0	NNW	0.0	-	0.7	188.0
03:00 AM - 04:00 AM	0.0	-	-	1.0	175.0	S	0.0	-	0.0	-	0.0	-	0.0	-	-
04:00 AM - 05:00 AM	0.0	-	-	0.0	-	-	0.0	-	0.0	-	1.1	162.0	SSE	0.0	-
05:00 AM - 06:00 AM	0.0	-	-	0.0	-	-	0.0	-	0.0	-	0.0	-	0.0	-	-
06:00 AM - 07:00 AM	1.3	181.0	S	0.0	-	-	1.9	6.0	N	1.7	0.0	N	0.0	-	-
07:00 AM - 08:00 AM	0.9	164.0	SSE	2.2	54.0	NE	0.8	85.0	E	1.5	356.0	N	1.9	169.0	S
08:00 AM - 09:00 AM	2.0	152.0	SSE	3.8	174.0	S	1.7	1.0	N	1.9	359.0	N	1.8	155.0	SSE
09:00 AM - 10:00 AM	2.2	193.0	SSW	0.0	-	-	2.2	37.0	NE	0.0	-	-	0.0	-	-
10:00 AM - 11:00 AM	1.5	178.0	S	0.0	-	-	0.4	288.0	VNW	0.0	-	-	1.1	166.0	SSE

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Assistant General Manager

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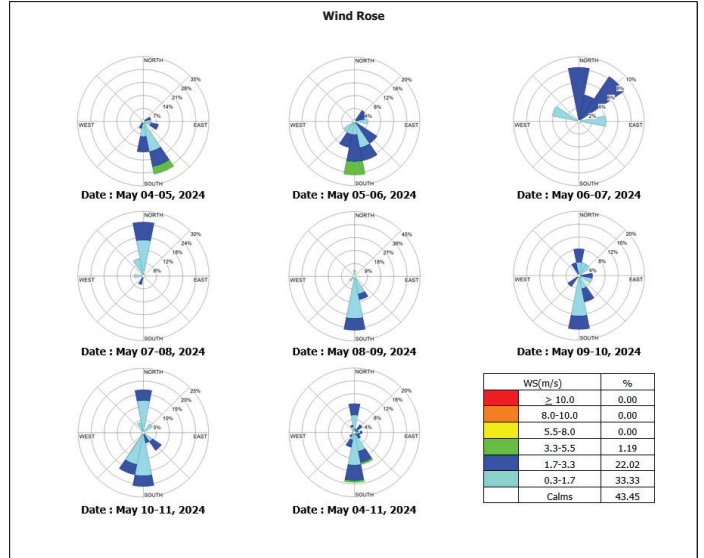


Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received : May 13, 2024
Date Reported : May 16, 2024
Report Number : 2976427-1



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Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received : May 13, 2024
Date Reported : May 16, 2024
Report Number : 2976427-1

Sample Number : 2447269-15 to 21
Parameter : Wind Speed / Wind Direction
Location : สถานีวิทยุคมนาคม (A3) (GPS 47P 0735800, 1454617)
Sampling Date : May 04 - May 11, 2024
Sampling by : Mongkon Phalathip

Time	May 04 - May 05, 2024			May 05 - May 06, 2024			May 06 - May 07, 2024			May 07 - May 08, 2024			May 08 - May 09, 2024			May 09 - May 10, 2024			May 10 - May 11, 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)	
02:00 PM - 03:00 PM	0.3	206.0	SSW	0.8	346.0	NNW	2.6	167.0	SSE	1.6	163.0	SSE	0.9	160.0	SSE	0.2	-	-	1.9	133.0	SE
03:00 PM - 04:00 PM	2.1	158.0	SSE	1.0	331.0	NNW	0.3	194.0	SSW	1.0	106.0	ESE	2.1	184.0	S	0.3	313.0	NW	1.3	116.0	S
04:00 PM - 05:00 PM	2.5	62.0	ENE	2.2	191.0	S	0.3	151.0	SSE	2.1	145.0	SE	0.3	167.0	SSE	0.8	205.0	SSW	0.3	33.0	NNE
05:00 PM - 06:00 PM	0.8	151.0	SSE	1.3	164.0	SSE	3.7	141.0	SE	2.9	9.0	N	2.8	156.0	SSE	0.8	181.0	S	1.8	8.0	N
06:00 PM - 07:00 PM	2.0	126.0	SE	0.3	115.0	ESE	2.9	58.0	ENE	1.3	160.0	SSE	0.0	-	-	2.0	172.0	S	1.0	66.0	ENE
07:00 PM - 08:00 PM	0.7	71.0	ENE	0.3	77.0	ENE	2.6	93.0	E	1.4	212.0	SSW	0.0	-	-	1.2	180.0	S	0.3	182.0	S
08:00 PM - 09:00 PM	0.3	152.0	SSE	0.4	254.0	WSW	1.2	105.0	ESE	0.0	-	-	0.0	-	-	0.7	174.0	S	0.2	-	-
09:00 PM - 10:00 PM	1.7	186.0	S	0.2	-	-	1.1	86.0	E	1.7	320.0	NW	0.6	190.0	S	0.2	-	-	0.3	184.0	S
10:00 PM - 11:00 PM	1.4	130.0	SE	1.2	349.0	N	0.8	146.0	SE	0.5	349.0	N	0.3	176.0	S	0.6	160.0	SSE	1.0	194.0	SSW
11:00 PM - 12:00 AM	1.3	62.0	ENE	0.3	9.0	N	0.9	137.0	SSE	0.3	152.0	SSE	0.1	-	-	0.0	-	-	0.3	182.0	S
12:00 AM - 01:00 AM	0.3	143.0	SE	1.0	37.0	NE	0.3	114.0	ESE	0.7	154.0	SSE	1.7	172.0	S	1.2	174.0	S	0.3	182.0	S
01:00 AM - 02:00 AM	1.1	151.0	SSE	0.0	-	-	2.1	171.0	S	0.0	-	-	0.9	185.0	S	0.3	162.0	SSE	0.0	-	-
02:00 AM - 03:00 AM	1.6	164.0	SSE	0.0	-	-	1.4	146.0	SE	0.0	-	-	0.9	169.0	S	1.1	172.0	S	0.0	-	-
03:00 AM - 04:00 AM	1.9	166.0	SSE	0.0	-	-	0.4	153.0	SSE	0.0	-	-	1.6	131.0	SE	0.0	-	-	0.0	-	-
04:00 AM - 05:00 AM	0.3	156.0	SSE	0.0	-	-	0.0	-	-	0.3	178.0	S	1.3	36.0	NE	0.0	-	-	0.0	-	-
05:00 AM - 06:00 AM	0.6	201.0	SSW	1.3	336.0	NNW	0.0	-	-	0.4	178.0	S	0.3	151.0	SSE	0.0	-	-	0.0	-	-
06:00 AM - 07:00 AM	0.7	165.0	SSE	0.0	-	-	0.0	-	-	0.3	152.0	SSE	0.2	-	-	0.0	-	-	0.0	-	-
07:00 AM - 08:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	1.3	147.0	SSE	1.7	8.0	N	0.8	152.0	SSE	0.0	-	-
08:00 AM - 09:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.0	349.0	N	0.0	-	-	0.0	-	-
09:00 AM - 10:00 AM	0.0	-	-	1.4	10.0	N	1.0	171.0	S	0.5	4.0	N	0.8	349.0	N	0.0	-	-	1.6	4.0	N
10:00 AM - 11:00 AM	1.9	44.0	NE	1.2	346.0	NNW	0.6	154.0	SSE	0.0	-	-	1.0	8.0	N	1.6	159.0	SSE	0.5	75.0	ENE
11:00 AM - 12:00 PM	3.5	164.0	SSE	1.6	349.0	N	1.7	142.0	SE	0.0	-	-	0.7	33.0	NNE	1.5	145.0	SE	1.4	9.0	N
12:00 PM - 01:00 PM	0.0	-	-	0.3	23.0	NNE	1.9	183.0	S	1.0	187.0	S	0.2	-	-	0.0	-	-	1.9	27.0	NNE
01:00 PM - 02:00 PM	1.2	103.0	ESE	1.0	135.0	SE	1.2	168.0	SSE	2.2	89.0	E	1.0	114.0	ESE	0.8	156.0	SSE	0.1	-	-

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Sarayuth Jittranoit
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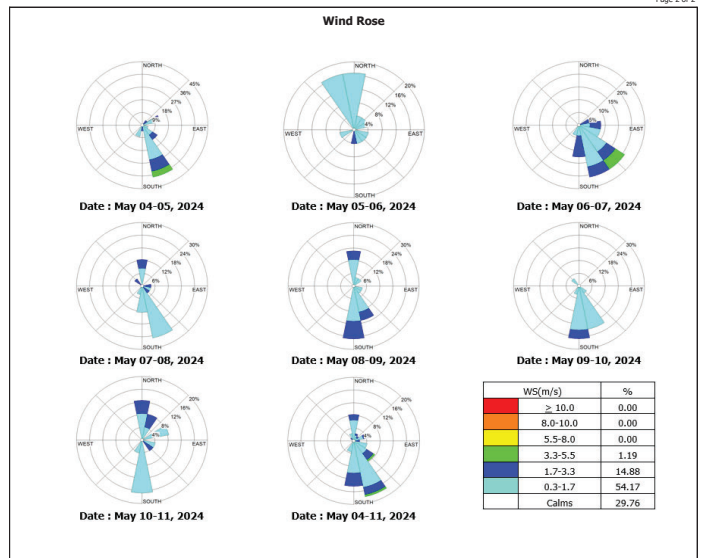


Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received : May 13, 2024
Date Reported : May 16, 2024
Report Number : 2976427-1



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Amphur Ban Bueng, Chonburi Thailand 20220

Lot ID: 2447269
Date Received :May 13, 2024
Date Reported :May 16, 2024
Report Number :2976427-1

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Page 1 of 2

Sample Number : 2447269-22 to 28
Parameter : Wind Speed / Wind Direction
Location : บ้านนาหว้า 3 ไร่ (WVWS (A4)) (GPS 47P 0732763, 1450289)
Sampling Date : May 04 - May 11, 2024
Sampling by : Mongkon Phalathip

Time	May 04 - May 05, 2024		May 05 - May 06, 2024		May 06 - May 07, 2024		May 07 - May 08, 2024		May 08 - May 09, 2024		May 09 - May 10, 2024		May 10 - May 11, 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)
10:00 AM - 11:00 AM	2.8	168.0	SSE	0.5	211.0	SSW	1.8	217.0	SW	1.6	312.0	NW	0.4	292.0
11:00 AM - 12:00 PM	6.3	146.0	SE	3.2	170.0	S	3.5	252.0	WSW	1.3	349.0	N	0.4	191.0
12:00 PM - 01:00 PM	1.5	299.0	WNW	2.1	127.0	SE	0.9	263.0	W	4.1	59.0	ENE	1.6	240.0
01:00 PM - 02:00 PM	0.5	292.0	WNW	1.9	112.0	ESE	1.1	312.0	NW	0.0	-	-	0.9	336.0
02:00 PM - 03:00 PM	4.8	182.0	S	1.6	114.0	ESE	1.7	81.0	E	1.0	311.0	NW	1.3	269.0
03:00 PM - 04:00 PM	2.6	113.0	SE	4.2	135.0	SE	0.4	122.0	ESE	0.0	-	-	2.1	241.0
04:00 PM - 05:00 PM	2.6	149.0	SSE	3.0	129.0	SE	1.5	145.0	SE	0.4	139.0	SE	2.0	260.0
05:00 PM - 06:00 PM	2.1	148.0	SSE	2.1	178.0	S	2.1	155.0	SSE	0.8	309.0	NW	0.6	310.0
06:00 PM - 07:00 PM	1.6	164.0	SSE	2.5	149.0	SSE	0.0	-	-	0.9	342.0	NNW	0.0	-
07:00 PM - 08:00 PM	1.5	164.0	SSE	2.2	161.0	SSE	0.0	-	-	0.4	307.0	NW	0.5	274.0
08:00 PM - 09:00 PM	0.2	-	-	0.8	134.0	SE	0.7	299.0	WNW	0.6	25.0	NNE	0.0	-
09:00 PM - 10:00 PM	0.8	142.0	SE	0.7	127.0	SE	0.0	-	-	0.0	-	-	1.3	304.0
10:00 PM - 11:00 PM	0.2	-	-	0.0	-	-	0.4	159.0	SSE	0.7	303.0	WNW	0.5	320.0
11:00 PM - 12:00 AM	1.0	159.0	SSE	0.2	-	-	0.2	-	-	0.5	304.0	NW	0.5	313.0
12:00 AM - 01:00 AM	0.7	148.0	SSE	0.7	235.0	SW	1.1	164.0	SSE	0.5	326.0	NW	0.7	309.0
01:00 AM - 02:00 AM	0.0	-	-	0.0	-	-	0.2	-	-	0.1	-	-	0.3	294.0
02:00 AM - 03:00 AM	0.6	334.0	NNW	0.7	261.0	W	0.0	-	-	1.0	324.0	NW	1.0	307.0
03:00 AM - 04:00 AM	0.0	-	-	0.9	265.0	W	0.0	-	-	0.6	329.0	NNW	0.0	-
04:00 AM - 05:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.4	309.0
05:00 AM - 06:00 AM	0.2	-	-	0.3	281.0	W	0.2	-	-	0.0	-	-	0.3	321.0
06:00 AM - 07:00 AM	1.3	171.0	S	0.1	-	-	0.6	28.0	NNE	0.3	340.0	NNW	0.0	-
07:00 AM - 08:00 AM	0.7	167.0	SSE	1.2	177.0	S	4.5	111.0	ESE	1.5	28.0	NNE	0.3	216.0
08:00 AM - 09:00 AM	2.4	120.0	ESE	0.5	228.0	SW	0.1	-	-	1.4	339.0	NNW	0.2	-
09:00 AM - 10:00 AM	1.1	223.0	SW	1.7	177.0	S	4.7	7.0	N	2.0	78.0	ENE	2.6	144.0

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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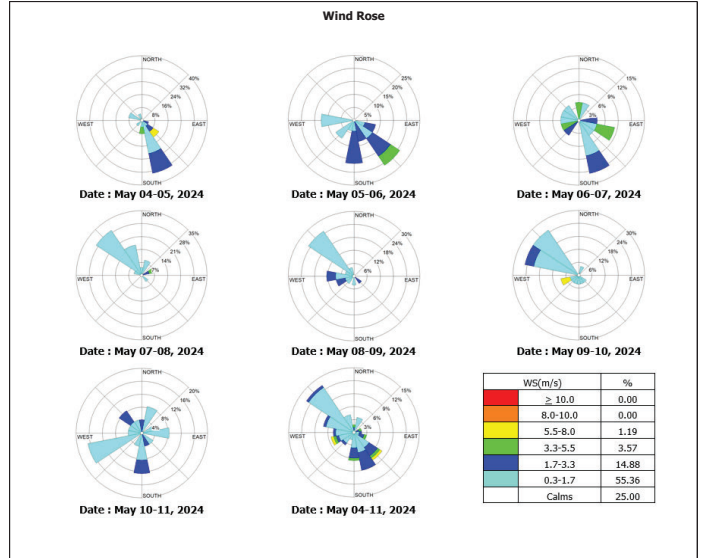
Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received :May 13, 2024
Date Reported :May 16, 2024
Report Number :2976427-1

Page 2 of 2



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Lot ID: 2447269
Date Received :May 13, 2024
Date Reported :May 16, 2024
Report Number :2976427-1

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Page 1 of 2

Sample Number : 2447269-29 to 35
Parameter : Wind Speed / Wind Direction
Location : บ้านนาหว้า (A5) (GPS 47P 0727598, 1455574)
Sampling Date : May 04 - May 11, 2024
Sampling by : Mongkon Phalathip

Time	May 04 - May 05, 2024		May 05 - May 06, 2024		May 06 - May 07, 2024		May 07 - May 08, 2024		May 08 - May 09, 2024		May 09 - May 10, 2024		May 10 - May 11, 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)
09:00 AM - 10:00 AM	1.2	154.0	SSE	1.0	191.0	S	0.6	98.0	E	2.5	0.0	N	0.9	47.0
10:00 AM - 11:00 AM	3.4	147.0	SSE	3.0	11.0	N	3.2	211.0	SSW	0.6	69.0	ENE	0.2	-
11:00 AM - 12:00 PM	0.8	109.0	ESE	2.5	214.0	SW	3.1	3.0	N	1.8	287.0	WNW	1.6	262.0
12:00 PM - 01:00 PM	1.0	55.0	NE	2.8	196.0	SSW	2.3	66.0	ENE	2.1	128.0	SE	1.4	225.0
01:00 PM - 02:00 PM	0.4	46.0	NE	0.2	-	-	0.6	57.0	ENE	0.7	329.0	NNW	1.2	123.0
02:00 PM - 03:00 PM	1.9	176.0	S	1.4	213.0	SSW	2.7	52.0	NE	0.0	-	-	0.5	0.0
03:00 PM - 04:00 PM	0.7	97.0	E	1.1	217.0	SW	1.0	107.0	ESE	0.0	-	-	0.8	356.0
04:00 PM - 05:00 PM	1.1	214.0	SW	0.2	-	-	0.8	187.0	S	0.1	-	-	0.5	59.0
05:00 PM - 06:00 PM	0.3	143.0	SE	2.5	183.0	S	0.5	29.0	NNE	0.4	56.0	NE	0.9	49.0
06:00 PM - 07:00 PM	0.3	170.0	S	0.8	134.0	SE	0.0	-	-	1.0	47.0	NE	0.0	-
07:00 PM - 08:00 PM	0.3	94.0	E	0.5	139.0	SE	0.0	-	-	0.0	-	-	0.7	63.0
08:00 PM - 09:00 PM	0.5	127.0	SE	0.3	115.0	ESE	0.0	-	-	0.0	-	-	0.4	115.0
09:00 PM - 10:00 PM	0.6	146.0	SE	0.4	154.0	SSE	0.0	-	-	0.8	72.0	ENE	0.0	-
10:00 PM - 11:00 PM	0.8	177.0	S	0.4	191.0	S	0.0	-	-	0.1	-	-	0.2	-
11:00 PM - 12:00 AM	0.1	-	-	0.0	-	-	0.7	196.0	SSW	0.8	28.0	NNE	0.0	-
12:00 AM - 01:00 AM	0.7	194.0	SSW	0.0	-	-	0.0	-	-	0.1	-	-	0.0	-
01:00 AM - 02:00 AM	0.0	-	-	0.0	-	-	0.1	-	-	0.1	-	-	0.0	-
02:00 AM - 03:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.1	-	-	0.0	-
03:00 AM - 04:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.5	75.0
04:00 AM - 05:00 AM	0.0	-	-	0.0	-	-	2.2	52.0	NE	0.0	-	-	0.0	-
05:00 AM - 06:00 AM	0.0	-	-	0.0	-	-	0.5	130.0	SE	0.0	-	-	0.0	-
06:00 AM - 07:00 AM	0.3	144.0	SE	0.3	115.0	ESE	0.1	-	-	1.4	59.0	ENE	0.0	-
07:00 AM - 08:00 AM	0.3	239.0	WSW	0.4	30.0	NNE	0.2	-	-	0.0	-	-	0.3	123.0
08:00 AM - 09:00 AM	0.7	163.0	S	0.4	138.0	SE	1.4	310.0	NW	0.2	-	-	0.5	168.0

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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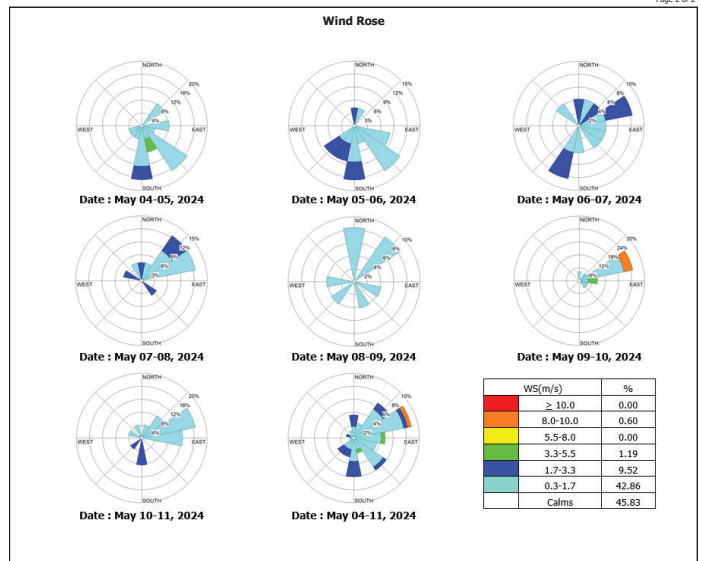
Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447269
Date Received :May 13, 2024
Date Reported :May 16, 2024
Report Number :2976427-1

Page 2 of 2



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Amphur Ban Bueng, Chonburi Thailand 20220

Lot ID: 2447269
Date Received :May 13, 2024
Date Reported :May 16, 2024
Report Number :2976427-1

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Page 1 of 2

Sample Number : 2447269-36 to 42
Parameter : Wind Speed / Wind Direction
Location : บ้านนาหว้า 4 บ้านนาหว้า (A6) (GPS 47P 0737145, 1460076)
Sampling Date : May 04 - May 11, 2024
Sampling by : Mongkon Phalathip

Time	May 04 - May 05, 2024			May 05 - May 06, 2024			May 06 - May 07, 2024			May 07 - May 08, 2024			May 08 - May 09, 2024			May 09 - May 10, 2024			May 10 - May 11, 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	0.4	176.0	S	2.1	168.0	SSE	1.3	196.0	SSW	1.0	48.0	NE	1.6	126.0	SE	1.3	117.0	ESE	0.5	138.0	SE
02:00 PM - 03:00 PM	0.2	-	-	1.2	142.0	SE	1.6	152.0	SSE	1.3	146.0	SE	0.7	204.0	SSW	0.5	270.0	W	1.2	146.0	SE
03:00 PM - 04:00 PM	0.6	276.0	W	0.9	156.0	SSE	1.3	205.0	SSW	2.3	181.0	S	0.3	206.0	SSW	0.6	110.0	ESE	1.9	193.0	SSW
04:00 PM - 05:00 PM	0.3	279.0	W	0.3	184.0	S	0.9	139.0	SE	0.3	174.0	S	1.4	116.0	ESE	2.1	144.0	E	2.9	136.0	SE
05:00 PM - 06:00 PM	0.2	-	-	1.9	186.0	S	1.3	159.0	SSE	2.6	110.0	ESE	0.1	-	-	0.5	161.0	SSE	0.4	235.0	SW
06:00 PM - 07:00 PM	1.1	116.0	ESE	1.4	174.0	S	0.3	214.0	SW	1.0	149.0	SSE	1.6	197.0	SSW	1.0	139.0	SE	0.3	159.0	SSE
07:00 PM - 08:00 PM	1.0	119.0	ESE	0.6	150.0	SSE	1.3	210.0	SSW	0.5	267.0	W	1.1	156.0	SSE	0.6	262.0	W	0.7	153.0	SSE
08:00 PM - 09:00 PM	0.9	145.0	SE	1.5	140.0	SE	0.9	115.0	ESE	0.0	-	-	0.8	137.0	SE	0.3	211.0	SSW	2.0	90.0	E
09:00 PM - 10:00 PM	1.2	106.0	ESE	0.0	-	-	1.3	115.0	ESE	0.9	132.0	SE	0.6	206.0	SSW	1.2	188.0	S	1.4	120.0	ESE
10:00 PM - 11:00 PM	2.3	219.0	SW	0.1	-	-	0.7	139.0	SE	0.2	-	-	0.9	126.0	SE	1.0	208.0	SSW	2.6	174.0	S
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.3	182.0	S	0.8	93.0	E	0.3	111.0	ESE	0.3	140.0	SE	1.0	158.0	SSE
12:00 AM - 01:00 AM	1.6	137.0	SE	0.2	-	-	0.5	172.0	S	0.4	156.0	SSE	0.8	125.0	SE	0.6	210.0	SSW	2.3	117.0	ESE
01:00 AM - 02:00 AM	0.3	179.0	S	0.3	137.0	SE	1.0	122.0	ESE	0.5	128.0	SE	1.0	277.0	W	1.0	240.0	WSW	0.1	-	-
02:00 AM - 03:00 AM	0.2	-	-	1.1	150.0	SSE	0.4	140.0	SE	0.5	165.0	SSE	0.3	49.0	NE	0.4	164.0	SSE	1.8	145.0	SE
03:00 AM - 04:00 AM	0.6	162.0	SSE	0.2	-	-	0.3	158.0	SSE	0.3	156.0	SSE	0.6	286.0	WNW	1.0	185.0	S	1.0	181.0	S
04:00 AM - 05:00 AM	0.3	266.0	W	0.3	217.0	SW	0.1	-	-	1.2	135.0	SE	0.4	288.0	WNW	1.8	147.0	SSE	0.2	-	-
05:00 AM - 06:00 AM	0.3	169.0	S	0.6	271.0	W	0.2	-	-	0.3	159.0	SSE	1.0	273.0	W	0.3	198.0	SSW	0.4	97.0	E
06:00 AM - 07:00 AM	0.1	-	-	0.0	-	-	0.3	169.0	S	1.0	105.0	ESE	1.2	264.0	W	0.1	-	-	0.9	89.0	E
07:00 AM - 08:00 AM	0.2	-	-	0.4	117.0	ESE	0.2	-	-	2.0	114.0	ESE	1.1	65.0	ENE	1.2	139.0	SW	0.5	134.0	SE
08:00 AM - 09:00 AM	1.4	127.0	SE	1.7	89.0	E	0.6	172.0	S	1.0	188.0	S	1.1	71.0	ENE	3.2	147.0	SSE	1.8	86.0	E
09:00 AM - 10:00 AM	0.0	-	-	3.0	164.0	SSE	1.6	143.0	SE	1.5	138.0	SE	1.8	176.0	S	1.2	255.0	SSW	0.3	120.0	ESE
10:00 AM - 11:00 AM	2.0	187.0	S	0.7	168.0	SSE	1.7	129.0	SE	0.6	199.0	SSW	0.4	184.0	S	0.2	-	-	0.2	-	-
11:00 AM - 12:00 PM	0.3	150.0	SSE	1.5	86.0	E	0.5	136.0	SE	3.2	179.0	S	1.0	87.0	E	3.3	173.0	S	1.2	106.0	ESE
12:00 PM - 01:00 PM	0.4	163.0	SSE	0.6	207.0	SSW	2.6	128.0	SE	2.5	184.0	S	0.9	203.0	SSW	1.2	214.0	SW	0.9	89.0	E

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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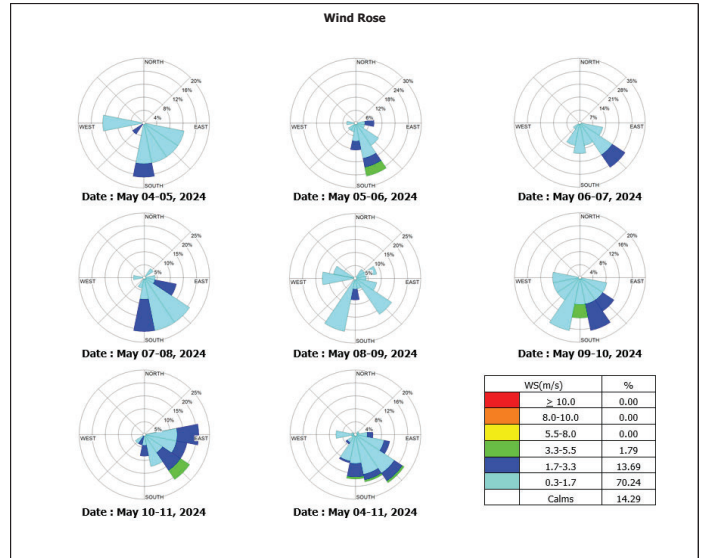
Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew,
Amphur Ban Bueng, Chonburi Thailand 20220

Lot ID: 2447269
Date Received :May 13, 2024
Date Reported :May 16, 2024
Report Number :2976427-1

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Page 2 of 2



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Assistant General Manager

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Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 242603
Date Received : Jan 09, 2024
Date Reported : Jan 15, 2024
Report Number : 2880348-1

Page 1 of 6

Sample Number	242603-1						
Sampled Date	Jan 09, 2024 11:00 AM						
Sample Description	Surface Water						
Location	SW1 : ห้วยนาบึง/คลองไหลผ่านพื้นที่โครงการ						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Red, odourless, some solid and a lot of turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
^[A] Copper	mg/L	0.0003	0.0005	Not Detected	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
^[A] Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
^[A] Nickel	mg/L	0.0003	0.0005	Not Detected	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Zinc	mg/L	0.003	0.005	Not Detected	≤1	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.05	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong

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475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 242603
Date Received : Jan 09, 2024
Date Reported : Jan 15, 2024
Report Number : 2880348-1

Page 2 of 6

Sample Number	242603-1						
Sampled Date	Jan 09, 2024 11:00 AM						
Sample Description	Surface Water						
Location	SW1 : ห้วยนาบึง/คลองไหลผ่านพื้นที่โครงการ						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Red, odourless, some solid and a lot of turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD *	mg/L	-	2	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.2	≥4	≥2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.12	≤5	≤5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C	-	-	-	7.7	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	16	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act. B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling By : Nattawut Athornprommarat รหัสเดิมสารที่ 7-323-~0006, Pattarapol Sawangjaitam รหัสเดิมสารที่ 7-204-~0002

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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Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 242603
Date Received : Jan 09, 2024
Date Reported : Jan 15, 2024
Report Number : 2880348-1

Page 3 of 6

Sample Number	242603-2						
Sampled Date	Jan 09, 2024 10:40 AM						
Sample Description	Surface Water						
Location	SW2 : ห้วยนาบึง ๒ จุดรวมน้ำทั้งโครงการ						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, odourless, some solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
^[A] Copper	mg/L	0.0003	0.0005	0.007	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
^[A] Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
^[A] Nickel	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Zinc	mg/L	0.003	0.005	0.04	≤1	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	0.02	0.05	<0.05	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong

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Analysis / Test Report

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Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 242603
Date Received : Jan 09, 2024
Date Reported : Jan 15, 2024
Report Number : 2880348-1

Page 4 of 6

Sample Number	242603-2						
Sampled Date	Jan 09, 2024 10:40 AM						
Sample Description	Surface Water						
Location	SW2 : ห้วยนาบึง ๒ จุดรวมน้ำทั้งโครงการ						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, odourless, some solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD *	mg/L	-	2	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Rayong
Dissolved Oxygen *	mg/L	-	0.1	8.7	≥4	≥2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.03	≤5	≤5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C	-	-	-	7.6	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	6	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act. B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling By : Nattawut Athornprommarat รหัสเดิมสารที่ 7-323-~0006, Pattarapol Sawangjaitam รหัสเดิมสารที่ 7-204-~0002

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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Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2



TESTING
No.0042
Lot ID: 242603
Date Received : Jan 09, 2024
Date Reported : Jan 15, 2024
Report Number : 2880348-1

Page 5 of 6

Sample Number	242603-3
Sampled Date	Jan 09, 2024 11:00 AM
Sample Description	Surface Water
Location	SW3 : ห้วยนาบึงหลวง/ห้วยนาบึงเหนือ/คลองกร
Date Analysis Commenced	Jan 09, 2024
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Colorless, odourless, no solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
^[A] Copper	mg/L	0.0003	0.0005	0.002	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
^[A] Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
^[A] Nickel	mg/L	0.0003	0.0005	0.003	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Zinc	mg/L	0.003	0.005	0.02	≤1	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	0.02	0.05	<0.05	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong

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Analysis / Test Report

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475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2



TESTING
No.0042
Lot ID: 242603
Date Received : Jan 09, 2024
Date Reported : Jan 15, 2024
Report Number : 2880348-1

Page 6 of 6

Sample Number	242603-3
Sampled Date	Jan 09, 2024 11:00 AM
Sample Description	Surface Water
Location	SW3 : ห้วยนาบึงหลวง/ห้วยนาบึงเหนือ/คลองกร
Date Analysis Commenced	Jan 09, 2024
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Colorless, odourless, no solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD *	mg/L	-	2	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.6	≥4	≥2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.09	≤5	≤5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C	-	-	-	7.3	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	7	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling By : Natnawut Athornprommarat รหัสพนักงาน 3-323-0-0006, Pattarapol Sawangjaitam รหัสพนักงาน 3-204-0-0002

Remark :

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

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2



TESTING
No.0042
Lot ID: 248100
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891123-1

Page 3 of 6

Sample Number	248100-2						
Sampled Date	Feb 02, 2024 11:20 AM						
Sample Description	Surface Water						
Location	SW2 : ห้วยบางมูล อำเภอบางมูลนาก จังหวัดพิจิตร						
Date Analysis Commenced	Feb 02, 2024						
Condition of Sample	Contained in two glass vials, one BOD bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
^[A] Copper	mg/L	0.0003	0.0005	0.01	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3500-C B	Bangkok
^[A] Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
^[A] Nickel	mg/L	0.0003	0.0005	0.006	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
^[A] Zinc	mg/L	0.003	0.005	0.04	≤1	≤1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.07	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong

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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Dej Changchon
Senior Manager

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Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2



TESTING
No.0042
Lot ID: 248100
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891123-1

Page 4 of 6

Sample Number	248100-2						
Sampled Date	Feb 02, 2024 11:20 AM						
Sample Description	Surface Water						
Location	SW2 : ห้วยบางมูล อำเภอบางมูลนาก จังหวัดพิจิตร						
Date Analysis Commenced	Feb 02, 2024						
Condition of Sample	Contained in two glass vials, one BOD bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD *	mg/L	-	2	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.2	≥4	≥2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	<0.05	≤5	≤5	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C	-	-	-	7.8	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	<5	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act. B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling By : นานุก ธรรมสาร นรชนพินธุว >323-9-9477

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.

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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Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2422815
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2931102-2

Page 1 of 1

Sample Number	2422815-2						
Sampled Date	Mar 01, 2024 10:50 AM						
Sample Description	Surface Water						
Location	SW2 : แหล่งน้ำที่ ๒ เขตบึงน้ำที่โครงการ						
Date Analysis Commenced	Mar 02, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Dissolved Oxygen	mg/L	-	0.1	3.0	≥4	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling by : Paramet Sattayakun รับผิดชอบ รวบรวมตัวอย่างน้ำ 323-9476 , Thanasorn Namakunna รับผิดชอบ รวบรวมตัวอย่างน้ำ 204-9-0101

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

Approved by

Dej Changchon
Senior Manager

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Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2422815
Date Received : Mar 02, 2024
Date Reported : Mar 08, 2024
Report Number : 2931103-2

Page 0 of 1

Sample Number	, 4 , 9053						
Sampled Date	Mar 02, 2024 10:00 AM						
Sample Description	Surface Water						
Location	SW1 : แหล่งน้ำที่ ๑ เขตบึงน้ำที่โครงการ						
Date Analysis Commenced	Mar 02, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Dissolved Oxygen	mg/L	-	0.1	3.0	≥4	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling by : Paramet Sattayakun รับผิดชอบ รวบรวมตัวอย่างน้ำ 323-9476 , Thanasorn Namakunna รับผิดชอบ รวบรวมตัวอย่างน้ำ 204-9-0101

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

Approved by

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Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2422815
Date Received : Mar 02, 2024
Date Reported : Mar 08, 2024
Report Number : 2931103-2

Page 1 of 1

Sample Number	, 4 , 9053						
Sampled Date	Mar 02, 2024 11:00 AM						
Sample Description	Surface Water						
Location	SW3 : แหล่งน้ำที่ ๓ เขตบึงน้ำที่โครงการ						
Date Analysis Commenced	Mar 02, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Dissolved Oxygen	mg/L	-	0.1	4.0	≥4	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

Water Testing								
Ammonia Nitrogen	mg/L	0.02	0.05	1.28	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling by : Paramet Sattayakun รับผิดชอบ รวบรวมตัวอย่างน้ำ 323-9476 , Thanasorn Namakunna รับผิดชอบ รวบรวมตัวอย่างน้ำ 204-9-0101

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

Approved by

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Senior Manager

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Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2422815
Date Received : Mar 02, 2024
Date Reported : Mar 08, 2024
Report Number : 2931103-2

Page 1 of 1

Sample Number	2422815-3						
Sampled Date	Mar 02, 2024 11:00 AM						
Sample Description	Surface Water						
Location	SW3 : แหล่งน้ำที่ ๓ เขตบึงน้ำที่โครงการ						
Date Analysis Commenced	Mar 02, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Dissolved Oxygen	mg/L	-	0.1	4.0	≥4	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)
(2) 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)
(a) Not Change from natural condition
(b) Non Objectionable
(c) Change from Natural condition not more than 3 degree C

Sampling by : Paramet Sattayakun รับผิดชอบ รวบรวมตัวอย่างน้ำ 323-9476 , Thanasorn Namakunna รับผิดชอบ รวบรวมตัวอย่างน้ำ 204-9-0101

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

Approved by

Dej Changchon
Senior Manager

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Analysis / Test Report

Client 4mVA Hiv- stral : ecelopN ent I - ulidPoN pany CN Itev
L7/7 5 oo L mVA Pity I arH0Ro0N nokddk202nv - loorOT- N uol Klong Kiew0AN ph- r
Ban B- eng0Phonu- ni Thallann 2F22F
P/O :
Project Name 45 onitoring
Project Location 4mVA ESHE 2

TESTING
No.0042
Lot ID: 2434152
: ate ReDiCev 4Apr FB02F2,
: ate Reportev 4Apr d902F2,
Report 3- Nuer 4298820bId

Page 2 of 2

Sample Number	2, 6, d72Id							
Sampled Date	Apr FB02F2, 64 8 15							
Sample Description	S- rfaDe mater							
Location	Smd 4vohannu/kuw/Phannunthi/roong							
Date Analysis Commenced	Apr FB02F2,							
Condition of Sample	Pontainev in two glass cials0one BO: uottle anv fo- r plastiDuottles0saN ple Containers DnNply to pretreatN ent 1presercation stanvarvs (AI WA0USEI A) Yellow0soN e ovo- r0solv anv no t- ruiv							
Physical Property								
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Popper	Ng/C	FIFF6	FIFF7	3ot : eteQev	≤FkFd	≤FkFd	Stanvarv 5 ethovs for the ExaN ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm
Wexacalent PhroN- N	Ng/C	FIFF6	FIffD	3ot : eteQev	≤FIK7	≤FIK7	Stanvarv 5 ethovs for the ExaN ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 67FFB7y B	BangNhm
Gvav	Ng/C	FIFF6	FIFF7	3ot : eteQev	≤FIK7	≤FIK7	Stanvarv 5 ethovs for the ExaN ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm
5 erD ry	Ng/C	FIFFd	FIFF7	ZFIFF7	≤FIK7	≤FIK7	H-Bo- se Nethov 45TS 7F7FFL useav on Unitet States EnconrN ental 1roteDion AgenDy0 2FF0E1 A 5 ethov d860Recision E	BangNhm
3IDNI	Ng/C	FIFF6	FIFF7	3ot : eteQev	≤FkFd	≤FkFd	Stanvarv 5 ethovs for the ExaN ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm
*inD	Ng/C	FIFF6	FIFF7	3ot : eteQev	≤d	≤d	Stanvarv 5 ethovs for the ExaN ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm
Water Testing								
AN Nonia 3Itrogen j	Ng/C	FIK2	FIK7	FIK2	≤FIK7	≤FIK7	Stanvarv 5 ethovs for the ExaN ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part , 7FFB3W6 (.)	Rayong

Results apply to the sample(s) as a whole - please the sampling was done - this is part of the report - it is not representative of the whole sample - it is only for the sample(s) tested - the laboratory is not responsible for the results of the sample(s) tested - the report is not representative of the whole sample - it is only for the sample(s) tested

Approved by

Signature of eG PhangChon
Senior 5 anager

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Analysis / Test Report

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L7/7 5 oo L mVA Pity I arH0Ro0N nokddk202nv - loorOT- N uol Klong Kiew0AN ph- r
Ban B- eng0Phonu- ni Thallann 2F22F
P/O :
Project Name 45 onitoring
Project Location 4mVA ESHE 2

TESTING
No.0042
Lot ID: 2434152
: ate ReDiCev 4Apr FB02F2,
: ate Reportev 4Apr d902F2,
Report 3- Nuer 4298820bId

Page 2 of 2

Sample Number	2, 6, d72Id							
Sampled Date	Apr FB02F2, 64 8 15							
Sample Description	S- rfaDe mater							
Location	Smd 4vohannu/kuw/Phannunthi/roong							
Date Analysis Commenced	Apr FB02F2,							
Condition of Sample	Pontainev in two glass cials0one BO: uottle anv fo- r plastiDuottles0saN ple Containers DnNply to pretreatN ent 1presercation stanvarvs (AI WA0USEI A) Yellow0soN e ovo- r0solv anv no t- ruiv							
Physical Property								
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
: isolovev Oxygen j	N g/C	1	Fid	, IL	≥,	≥2	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part , 7FFD V6 (P)	Rayong
3Ittrate as 3 j	N g/C	FIFd7	FIF7	FIFL	≤7	≤7	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part , 7FF 1W(B)	Rayong
pWat 27 vegree P		1	1	Li8	7IK9IK	7IK9IK	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part , 7FF 1W(B)	Rayong
Total S- spenvev Solivs : riev at dF6IdF7 vegree j	N g/C	1	7	L	3o Stanvarv	3o Stanvarv	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 27, F :	Rayong
Guideline : (d) 3otiffDion of the 3ational EnconrN ental BoarV03okb0BIEK276L iss- ev - nver the EnhanDent anv Ponsercation of 3ational EnconrN ental Q- ality ADk BIEK27670p- ulishev in the Royal \ocernN ent\ azzetle0Voikdd01art d80: atev - eur- ary 2, OBIEK 276L (Pass 6) (2) 3otiffDion of the 3ational EnconrN ental BoarV03okb0BIEK276L iss- ev - nver the EnhanDent anv Ponsercation of 3ational EnconrN ental Q- ality ADk BIEK27670p- ulishev in the Royal \ocernN ent\ azzetle0Voikdd01art d80: atev - eur- ary 2, OBIEK 276L (Pass ,) (a) 3ot Phange froN nat- ral DnNtion (u) 3on Ov0Dionale (D) Phange froN 3at- ral DnNtion not Nore than 6 vegree P								
Sampling By : Itthaya Thongtaeng วนิษา ทองธัญชัย 362635 , b								
RelatN44 - QD : 4ON it of : ection - "2" : 4Cwer than CQ (ON it of Q- antition) / CQR (ON it of Reporting) - Analyte(s) Nanhv j : s/are not inD- vev in sDpe of AdDevition H50/HEP dLF27k - The lauratory has seen adDptev as an adDevitev lauratory DnNplying with the H50/HEP dLF27k								

Results apply to the sample(s) as a whole - please the sampling was done - this is part of the report - it is not representative of the whole sample - it is only for the sample(s) tested - the laboratory is not responsible for the results of the sample(s) tested - the report is not representative of the whole sample - it is only for the sample(s) tested

Approved by

Signature of eG PhangChon
Senior 5 anager

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54Reports, 484-01, Dept (34845)



Analysis / Test Report

Client 2WHA Industrial 4eDevelopment Publ: Company Limitec
087/7 v oo 8 WHA City ParS1Room nok- - 3 M Mhc - loor1Tumbol FlonK Fieg 1Ampuor
han huenK1CvorbuN Tvaillanc M Mh
P/O :
Project Name 2v onitorinK
Project Location 2WHA BE1B M

Lot ID: 2444890
4ate Re: elDec 2Apr M01M M0
4ate Reportecv 2v ay , M M M0
Report Number 2M8d0093

Page 2 of 2

Sample Number	M000f d, 3							Page 109
Sampled Date	Apr M01M M0 - , 2 , Av							
Sample Description	EurS: e Water							
Location	EW- 2vohannu/kuw/Phannunthi/roong							
Date Analysis Commenced	Apr M01M M0							
Condition of Sample	Containev in one plasti: bottle sample : ontainers : omply to pretreatment 3presercation stancarc GAPHAI(EBPAU)							
Physical Property	e)log 1some occur1solc1anc no turbic							
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
hY4	mk/L	3	M	Q M	≤M	≤0	Etancarc v ethovs 3ar be Bxamination 0Water anc Wasteg aterAPHALAWWA & WB. 1 Mhc eck4 M - 81part 7H , 11part 07 , 3V C	RayonK
Guideline : O UNotS: ation 0twe National BDrionmental hoarc1Nokf 1HhKM998 issuev uncer be Bwren: ement anc ConserDation 0National BDrionmental Guilty A: k:hKM9971publishec in tve Royal 0cDment z 0Wette16ok- --1Part- j 14atec - eburary M01hKM998 0Class 9U O UNotS: ation 0twe National BDrionmental hoarc1Nokf 1HhKM998 issuev uncer be Bwren: ement anc ConserDation 0National BDrionmental Guilty A: k:hKM9971publishec in tve Royal 0cDment z 0Wette16ok- --1Part- j 14atec - eburary M01hKM998 0Class 0U QU/Not Cwenke Som natural : onction QU/Non Yb: e ionable QU/Cwenke Som Natural : onction not more than 9 ckekre C								
Sampling By : Eura git Narapong วนิษา ทองธัญชัย 362635 , --								
Remarks 2								
L Y4 2 Limit 0: 4: 0:								

Remas 2
- LY4 : 2Limit 05etection
- QK : 2loger tvean LY4 Qlimit 05GuantitionU/ LYR Qlimit 05ReportinKU

Results apply to the sample(s) as a whole - please the sampling was done - this is part of the report - it is not representative of the whole sample - it is only for the sample(s) tested - the laboratory is not responsible for the results of the sample(s) tested - the report is not representative of the whole sample - it is only for the sample(s) tested

Approved by

Signature of Photchanas
Pvot: vana Eeeca
Eientist 0BU

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Analysis / Test Report

Client 4mVA Hiv- stral : ecelopN ent I - ulidPoN pany CN Itev
L7/7 5 oo L mVA Pity I arH0Ro0N nokddk202nv - loorOT- N uol Klong Kiew0AN ph- r
Ban B- eng0Phonu- ni Thallann 2F22F
P/O :
Project Name 45 onitoring
Project Location 4mVA ESHE 2

TESTING
No.0042
Lot ID: 2434152
: ate ReDiCev 4Apr FB02F2,
: ate Reportev 4Apr d902F2,
Report 3- Nuer 4298820bId

Page 2 of 2

Sample Number	2, 6, d72Id								Page 1 of 2
Sampled Date	Apr FB02F2, 64L 15								
Sample Description	S- rfaDe mater								
Location	Sm2 4vohannu/kuw/Phannunthi/roong								
Date Analysis Commenced	Apr FB02F2,								
Condition of Sample	Pontainev in two glass cials0one BO: uottle anv fo- r plastiDuottles0saN ple Containers DnNply to pretreatN ent 1presercation stanvarvs (AI WA0USEI A) Yellow0soN e ovo- r0solv anv no t- ruiv								
Physical Property									
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location	
Metals Testing									
Wexacalent PhroN- N	Ng/C	FIFF6	FIFFd	3ot : eteDev	≤FIK7	≤FIK7	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 67FFB7 B	BangNhm	
Gvav	Ng/C	FIFF6	FIFF7	3ot : eteDev	≤FIK7	≤FIK7	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm	
5 erD ry	Ng/C	FIFFd	FIFF7	Z FIFF7	≤FIK7	≤FIK7	H-Bo- se Nethov 45TS 7F7FL ussev on Unitet States EnconrN ental 1roteDion AgenDy0 2FF0E1 A 5 ethov d860Recision E	BangNhm	
3IDNI	Ng/C	FIFF6	FIFF7	FIKdF	≤FkF	≤FkF	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm	
*inD	Ng/C	FIFF6	FIK7	FIK9	≤d	≤d	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 6d27 B06FGF	BangNhm	
Water Testing									
3Ittrate as 3 j	Ng/C	FIKd7	FIK7	FIKFL	≤7	≤7	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part , 7FFD V6 (E)	Rayong	
pWat 27 vegree P		1	1	Lk	7IK9IK	7IK9IK	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part , 7FF 1W(B)	Rayong	
Total S- spenvev Solivs : riev at dF6IdF7 vegree P	Ng/C	1	7	76	3o Stanvarv	3o Stanvarv	Stanvarv 5 ethovs for the Exan ination of mater anv mastewaterAI WA0AmmA & mE. (26rv evk02Fd0part 27, F :	Rayong	

Results apply to the sample(s) as a whole - please the sampling was done - this is part of the report - it is not representative of the whole sample - it is only for the sample(s) tested - the laboratory is not responsible for the results of the sample(s) tested - the report is not representative of the whole sample - it is only for the sample(s) tested

Approved by

Signature of eG PhangChon
Senior 5 anager

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54Reports, 484-01, Dept (34845)



Analysis / Test Report

Client 4mVA Hsiv-hyal : ecelopu ent I - uildPoH pany GN Itev
L7/7 5 oo L b WA Pity I ark1Rou n. ddd1, 1, nvr1Tnu ml Klong Kiew1Au phN
Ban B- engdPhonu- ri Thallann 2F22F

P/O :

Project Name 45 ontoring
Project Location 4mVA ESHE 2

TESTING
No.0042
Lot ID: 2434152
: ate ReDceiv 4Apr Fb02F2,
: ate Reportev 4Apr 4902F2,
Report 3- Nuer 4298822F4d

Page 2 of 2

Sample Number	2, 6, d7236						
Sampled Date	Apr Fb02F2, 64d, 15						
Sample Description	S- rfaDe mater						
Location	Sm6 4vohannu phNl thallann hnt thongkar						
Date Analysis Commenced	Apr Fb02F2,						
Condition of Sample	Pontaineiv in two glass cials0one BO: uottle anv fo- r plastiDuoettles0an ple Containers DnN ply to pretreatNent 1 preservation stanvarvus (AI WA0USEI A)						
Physical Property	Yellow0solN e ovo- r0solN anv no t- ruiv						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
pWat 27 vegree P	1	1	1	LIV	7IFBIF	7IFBIF	Stanvarv 5 ethovs for the ExN ination of mater anv mastewaterAI WA0Amma & mE. (26v ev02F2d0part, 7FF 1 W(B)	Rayong
Total S- spenrev Solivs : riev at dF6dF7 vegree P	Ng/C	1	7	9	3o Stanvarv	3o Stanvarv	Stanvarv 5 ethovs for the ExN ination of mater anv mastewaterAI WA0Amma & mE. (26v ev02F2d0part, 27 F, 1	Rayong

Guideline : (d) 3otification of the 3ational EncironN ent Boarv03okb0BEK276L iss- ev - nver the EnhandN ent anv Ponseration of 3ational EncironN ent Q- ality Adx BEK27670p- ulishev in the Royal \ ocemN ent \ azettie0Voik ddd01 art d80: atev . eur- ary 2, 0BEK276L (Plass 6)
(2) 3otification of the 3ational EncironN ent Boarv03okb0BEK276L iss- ev - nver the EnhandN ent anv Ponseration of 3ational EncironN ent Q- ality Adx BEK27670p- ulishev in the Royal \ ocemN ent \ azettie0Voik ddd01 art d80: atev . eur- ary 2, 0BEK276L (Plass ,)
(a) 3ot Phange froN nat- ral DnNvition
(u) 3on Out0donante
(D) Phange froN 3- at- ral DnNvition not Nore than 6 vegree P

Sampling By : I ithaya Thongtaeng พรตธเนศวร 3626hB, b

RefarM4

- CD: 4ON it of : eteDon
- "2" 4Cower than CDQ (ON it of Q- antitation) / CDQ (ON it of Reporting)
- Analyte(s) NarNhe \ isare not inD- vev in slope of ADDevitev H5Q/HEP dLF27k
- The laboratory has used aDzpev as an aDDevitev laouratory DnNplying with the H5Q/HEP dLF27k

Approved by

Signature of eG PhangChon

: eG PhangChon
Senior 5 anager

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54Reports_48-01 Sept (48FAS)



Analysis / Test Report

Client 4b WA Hsiv-hyal : ecelopu ent I NnID Pou pany Gu Itev
2L7/7 5 oo L b WA Pity I ark1Rou n. ddd1, 1, nvr1Tnu ml Klong Kiew1Au phN
Ban Bneng1PhonnN1 Thallann , M, M

P/O :

Project Name 45 ontoring
Project Location 4b WA ESHE ,

Lot ID: 2434152
: ate ReDceiv 4Apr M01, M 2
: ate Reportev 4Apr d81, M 2
Report - NU ner 4, 899, , M4

Page 2 of 2

Sample Number	, 2C0d7, 3D						
Sampled Date	Apr M01, M 2 042 15						
Sample Description	SNrfaDe b ater						
Location	Sb 04 vohannu phNl thallann hnt thongkar						
Date Analysis Commenced	Apr M01, M 2						
Condition of Sample	Pontaineiv in two glass cials1one B: mttle anv foN plastiDmottles1sau ple Containers DnN ply to pretreatu ent 3 preservation stanvarvus (AI WA1) SEI AY						
Physical Property	yellow1sou e ovoN1soliv anv no thmiv						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Au u onia - nitrogen	u g/C	MM	MM	, M	≤M7	≤M7	Stanvarv 5 ethovs for the E8eu ination of b ater anv b astewater- AI WA1Ab b A Q b EF1 , Qv ev 1, ML1part 27MMb WDIFY	Rayong

Guideline : UY- otification of the - ational Encironu ent Boarv1- o. 01B.E., 7Q. issNev Nver the EnhandN ent anv Ponseration of - ational Encironu ent GNaity Ad. B.E., 7Q1pNlishev in the Royal z ocemN ent z aVettie16ol. ddd11 art d91: atev FemNary , 21B.E., 7Q. UPlass 0Y
U Y- otification of the - ational Encironu ent Boarv1- o. 01B.E., 7Q. issNev Nver the EnhandN ent anv Ponseration of - ational Encironu ent GNaity Ad. B.E., 7Q1pNlishev in the Royal z ocemN ent z aVettie16ol. ddd11 art d91: atev FemNary , 21B.E., 7Q. UPlass 2Y
UHY- ot Phange froN natNal DnNvition
UHY- on (njeDnante
UD Phange froN - atNal DnNvition not u ore than 0vegree P

Sampling vy : I ithaya Thongtaeng พรตธเนศวร 3626hB, 3626220

Reu ark 4

- Q : 4Ou it of : eteDon
- " <" 4Cower than Q G Udu it of GNaitionity/ Q R Udu it of ReportingY

Approved by

Signature of eG PhangChon

: eG PhangChon
Senior 5 anager

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54Reports_AL_1 Sept U0N 185 Y



Analysis / Test Report

Client 2WHA Industrial 4eDevelopment Publ: Company Limitec
089/9 v oo 8 WHA City Par71Room no5 - 3 M Mc kloor1Tumbol . lonF . iek1Ampgur
van wuenFI CgonbuT Tgallanc M M

P/O :

Project Name 2v ontorinF
Project Location 2WHA hBh M

Lot ID: 2444890
4ate Re: elDce 4Apr M01M M0
4ate Reportec 2v ay , M M M0
Report Number 2M8d0093

Page 1 of 1

Sample Number	M0005d, 3						
Sampled Date	Apr M01M M0 - , 209 Av						
Sample Description	BurB: e Water						
Location	Bwf 2 vohannu phNl thallann hnt thongkar						
Date Analysis Commenced	Apr M01M M0						
Condition of Sample	Containez in one w04 bottle anc one plasti: bottle1sample : ontainers : omply to pretreatment 3 preservation stancarcv (APHA1 U8hPA)						
Physical Property	Yelok1some occur1solis1anc no turbic						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
w04	mF/L	3	M	QM5	≤M	≤0	Blancarc v etgocv for tge hxamination oEWater anc Wastekater5APHA1AWWA & Whik1 Mrc ecS M - 81part 9M , w0part 09 , 30 C	RayonF
4iss0Dce OnlyFen	mF/L	3	, 5	991	≥0	≥M	Blancarc v etgocv for tge hxamination oEWater anc Wastekater5APHA1AWWA & Whik1 Mrc ecS M - 81part 09 , 30 C	RayonF

Guideline : (-) NotB: ation of tge National hnDronmental vearc1No551v0h3Mf 8 issuec uncer tge hngan: ement anc ConserDation eNational hnDronmental Guality A: tsv0v0h3Mf 91publisgec in tge Royal z oDmment z aVettie16o5 --- 1Part - j 14atec kebruary M01v0h5Mf 8 (Class F)
(M) NotB: ation of tge National hnDronmental vearc1No551v0h3Mf 8 issuec uncer tge hngan: ement anc ConserDation eNational hnDronmental Guality A: tsv0v0h3Mf 91publisgec in tge Royal z oDmment z aVettie16o5 --- 1Part - j 14atec kebruary M01v0h5Mf 8 (Class 0)
(a) Not CgnNre Bcom natural - oncNtion
(b) Not OB: e: tonable
(-) CgnNre Bcom Natural : oncNtion not more tgan F ceFee C

Sampling By : Burakit Narapon พรตธเนศวร 3626hB 363, --

Remar 2 2

- LOH 2Limit oE4ete: ton
- <Q- 2Luker tgan LOD (Limit oEGNaitionity) / LOR (Limit oEReportinF)

Approved by

Signature of Photchanas

Pgot: gana Becca
Scientist (0)

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54Reports_AL_N1 Sept (50N Ph)



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bung, Chonburi Thailand 20220

P/O :

Project Name : Monitoring
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2447266
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2999975-1

Page 1 of 2

Sample Number	2447266-1						
Sampled Date	May 06, 2024 11:15 AM						
Sample Description	Surface Water						
Location	SW1 : vohannu phNl thallann hnt thongkar						
Date Analysis Commenced	May 06, 2024						
Condition of Sample	Contained in one BOD bottle, two glass vials and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Orange, some odour, a lot of solid and some turbid						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
[A] Copper	mg/L	0.0003	0.0005	0.003	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
[A] Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-07 B	Bangkok
[A] Lead	mg/L	0.0003	0.0005	0.0006	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
[A] Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
[A] Nickel	mg/L	0.0003	0.0005	0.001	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
[A] Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.06	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong

Approved by

Signature of DeJ Changchon

: DeJ Changchon
Senior Manager

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54Reports_AL_2024.rpt (5,239M)



TESTING

Lot ID: 2447266
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2989975-1

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD *	mg/L	-	2	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.09	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
pH at 25 degree C		-	-	7.7	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	58	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong

Remark :

- LOD : Limit of Detection
- " $<c^*$ " : 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.


Dej Changchon
Senior Manager

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354-221/ EMAIL

S:\Reports\ All 2GL.rpt (5:23PM)



Lot ID: 2457404
Date Received : May 01, 0204
Date Reported : May 08, 0204
Report with W#: 1229348-N

Page N of N

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Dissolved (O_2)gen	b g/7	-	2.N	9.0	≥ 4	≥ 0	Standard Methods for the Ebb nation of H ater and H astewater. ACl A, AHHA Q HEF, 1995 ed. 1998, part 6520	Rayong

Reb ark :

- $\gamma(D)$: 7ib it of Detection
- $\gamma^*(\epsilon)$: 7ower than $\gamma(G)$ 7ib it of GrantitationY/ $\gamma(R)$ 7ib it of ReportingY

- " \leq " : Lower than γ/G IPIh it of GrantitationY/ γ/R IPIh it of ReportingY


Dej Lhangchorn
Senior Manager

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154-00N BMA7

S:\Reports\ All 027.rpt U3:43AM



TESTING

Lot ID: 2447266
Date Received : Fay b02, b, 4
Date Reported : Fay 982, b, 4
Report unWher : 1311-019

Page 9 of 6,

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
⁷⁰ opper	Ww/5	b.bbb8	b.bbbM	b.bb4	<b.b9	<b.b9	f tandard F etBods for tBe SwaWination o6.1 ater and I aste ater, ALP A2AI 1 A & I SG , 8rd ed.2, b9-2part 89, ME288b K	Earmkok
⁶¹ exavalent 7BroWwW	Ww/5	b.bb8	b.b9	uot Detected	<b.bM	<b.bM	f tandard F etBods for tBe SwaWination o6.1 ater and I aste ater, ALP A2AI 1 A & I SG , 8rd ed.2, b9-2part 8b6bNry E	Earmkok
⁸¹ Sead	Ww/5	b.bbb8	b.bbbM	Z.b.bbbM	<b.bM	<b.bM	f tandard F etBods for tBe SwaWination o6.1 ater and I aste ater, ALP A2AI 1 A & I SG , 8rd ed.2, b9-2part 89, ME288b K	Earmkok
⁸¹ F ermy	Ww/5	b.bbb9	b.bbbM	uot Detected	<b.bb,	<b.bb,	OnlRome WetBod : FTF MNb- bSwirson United f tates SwirsonWental Protection Agency2 , b9, CSLA F etBod 90892Revision S	Earmkok
⁸¹ uickel	Ww/5	b.bbb8	b.bbbM	b.bb0	<b.b9	<b.b9	f tandard F etBods for tBe SwaWination o6.1 ater and I aste ater, ALP A2AI 1 A & I SG , 8rd ed.2, b9-2part 89, ME288b K	Earmkok
⁸¹ inc	Ww/5	b.bb8	b.bbM	b.b,	<9	<9	f tandard F etBods for tBe SwaWination o6.1 ater and I aste ater, ALP A2AI 1 A & I SG , 8rd ed.2, b9-2part 89, ME288b K	Earmkok
Water Testing								
AlWlonia utrowen j	Ww/5	b.b,	b.bM	b.90	<b.M	<b.M	f tandard F etBods for tBe SwaWination o6.1 ater and I aste ater, ALP A2AI 1 A & I SG , 8rd ed.2, b9-2part 4b6bNp8 (K	Rayonw

D. Chumou.
DeG 7BanwBon
f enior F anaver

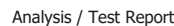
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8MIN, 9/ SF ACS

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f: Reports_<All>, \ Supt ( M, BLF )
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Lot ID: 2447266
Date Received : Fay b02, b, 4
Date Reported : Fay 982, b, 4
Report unWHER : - 1311-000

Love, o6,

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Water J	Ww/5	N	,	Z, b	S,	≤4	f standard F etbods for tbe SwaWination o61 ater and I asteh ater. ALP A2A1 A & I SK , brd z, b9-2part M 9b Ezpart 4bbs NO 7	Rayonw
Dissolved Oxygen J	Ww/5	N	b.9	4.M	≥4	≥,	Standard F etbods for tbe SwaWination o61 ater and I asteh ater. ALP A2A1 A & I SK , brd z, b9-2part 4bbsNO (7)	Rayonw
ultrate as u J	Ww/5	b.b9M	b.bM	8.bM	≤M	≤M	f standard F etbods for tbe SwaWination o61 ater and I asteh ater. ALP A2A1 A & I SK , brd z, b9-2part 4bbsNO (5)	Rayonw
pH at, Mdevee 7	N	N	-1	MbN.b	MbN.b		f standard F etbods for tbe SwaWination o61 ater and I asteh ater. ALP A2A1 A & I SK , brd z, b9-2part 4bbs NP (E)	Rayonw
Total f rnsponded f olds Dried at 9b8bN6Mdevee 7 J	Ww/5	N	M	90	uo f standard	uo f standard	f standard F etbods for tbe SwaWination o61 ater and I asteh ater. ALP A2A1 A & I SK Brd z, b9-2part 4bbs NP (E)	Rayonw

- SOD : SiWit o6Detection
- "Z" : Soher tBan SOQ (SiWit o6Qnantitation) / SOR (SiWit o6Reportinw)
- Analyte(s) Marked j is/are not inclded in scope o6Accreditation f o6/S7 9- b, M
- The laHratory Bas Hsen accented as an accredited laHratory coWklyinw fR tRe f o6/S7 9- b, M

D. Chman.
DeG 7BarwcBor
f enior F anawer

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8MM, 9/ SF ACS

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f: Reports_<All>, \Script ( M, BLF )
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Analysis / Test Report

Client : I PA Gdistrical DevelopWent Lnhic 7oWpamy SWittd
4-MMF Co - 1 PA 7ly Lark2RooW no. 99th, 2, nd Kloor2TnWbl glonwgieh 2AWpBm
Ean Enemw27Borihm TBalland, b, b
P/O :
Project Name : F Onitorinw
Project Location : I PA Sf CS ,

TESTING
No.0042
Lot ID: 2447266
Date Received : Fay b02, b, 4
Date Reported : Fay 982, b, 4
Report unWhe'r, : 1311--10

Layer 9 of 6,								
Sample Number	, 44., 00N8							
Sampled Date	F ay b02, b, 4 99:M AF							
Sample Description	f mface 1 ater							
Location	f1 8 : พหะนาญพัลลัโหลนาญพันโตรจนร							
Date Analysis Commenced	F ay b02, b, 4							
Condition of Sample	7ontained in one EOD Hbttle2th o wlass vials and 6mtr plastic Hbttles2saWple containers coWply to pretreatWent Npreservation standards (ALPA2UFLA)							
Physical Property	Yelloh 2soWe odom2solid and no tmrhd							
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
[A]opper	Ww/5	b.bbb8	b.bbbM	b.bbb0	≤b.9b	≤b.9b	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 89, ME28b8b K	Eanwkok
[A]exavalent 7BroWwW	Ww/5	b.bb8	b.b9	uot Detected	≤b.bM	≤b.bM	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 8NbnWY: E	Eanwkok
[A]sead	Ww/5	b.bbb8	b.bbbM	uot Detected	≤b.bM	≤b.bM	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 89, ME28b8b K	Eanwkok
[A]F ercury	Ww/5	b.bbb9	b.bbbM	uot Detected	≤b.bb,	≤b.bb,	OnBome WetBod : f TF bMbb- Based on United States SnvironWental Protection Agency2 bb, 2SLA F etBod 90892Revision S	Eanwkok
[A]uickel	Ww/5	b.bbb8	b.bbbM	b.bb,	≤b.9b	≤b.9b	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 89, ME28b8b K	Eanwkok
[A]Zinc	Ww/5	b.bb8	b.bbbM	b.bb0	≤9	≤9	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 89, ME28b8b K	Eanwkok
Water Testing								
EOD *	Ww/5	N	,	j , b	≤,	≤4	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 89, ME28b8b K	Rayonw

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F:\Reports_484\15apt (M, 4LF)



Analysis / Test Report

Client : I PA Gdistrical DevelopWent Lnhic 7oWpamy SWittd
4-MMF Co - 1 PA 7ly Lark2RooW no. 99th, 2, nd Kloor2TnWbl glonwgieh 2AWpBm
Ean Enemw27Borihm TBalland, b, b
P/O :
Project Name : F Onitorinw
Project Location : I PA Sf CS ,

TESTING
No.0042
Lot ID: 2447266
Date Received : Fay b02, b, 4
Date Reported : Fay 982, b, 4
Report unWhe'r, : 1311--10

Layer 9 of 6,								
Sample Number	, 44., 00N8							
Sampled Date	F ay b02, b, 4 99:M AF							
Sample Description	f mface 1 ater							
Location	f1 8 : พหะนาญพัลลัโหลนาญพันโตรจนร							
Date Analysis Commenced	F ay b02, b, 4							
Condition of Sample	7ontained in one EOD Hbttle2th o wlass vials and 6mtr plastic Hbttles2saWple containers coWply to pretreatWent Npreservation standards (ALPA2UFLA)							
Physical Property	Yelloh 2soWe odom2solid and no tmrhd							
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Dissolved Oxygen *	Ww/5	N	b.9	4.M	≥4	≥,	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 4MbnD (7)	Rayonw
utrate as u *	Ww/5	b.b9M	b.bM	b, 0	≤M	≤M	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 4MbnD (8) (5)	Rayonw
pP at, Mdeewee 7	N	N	N	- 0	Mbn.b	Mbn.b	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part 4MbnD (E)	Rayonw
Total f rnsponded f olids Dried at 988thbMdeewee 7 *	Ww/5	N	M	3	uo f tandard	uo f tandard	f tandard F etBods for tbe SvaWination o61 ater and I asteh ater. ALPA2AI I A & I SK 8rd ed.2, b9-2part, Mbd D	Rayonw
Guideline : (9) uotification o6tbe uational SnvironWental Eoard2uo. 32E.S., Mb- issued mder tbe SbnancelWent and 7onservation o6uational SnvironWental Quality Act. E.S., MbMpnrlhsed in tbe Royal / overnWent / azzetle2Vol. 9992Lart 902Dated Kehmry, 42E.S., Mb- (7lass 8) () uotification o6tbe uational SnvironWental Eoard2uo. 32E.S., Mb- issued mder tbe SbnancelWent and 7onservation o6uational SnvironWental Quality Act. E.S., MbMpnrlhsed in tbe Royal / overnWent / azzetle2Vol. 9992Lart 902Dated Kehmry, 42E.S., Mb- (7lass 4) (a) uot 7BancBon uatml condition (H) uon OXhationalHe (c) 7BancBon uatml condition not Wore tban 8 deewee 7								
Sampling By : LaraWet f attayakm วนนณนณน 98, 8N4-0								
ReWark : - SDO : SWit of Detection - " * " : Ssh-e tban SDO (SWit of Quantitation) / SOR (SWit of Reporting) - Analyte(s) Warked " b/are not included in scope o6Accreditation f Q/57 9-b, M - The laboratory Bas Been accepted as an accredited laboratory coWplyinwih tbe tbe f Q/57 9-b, M								

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F:\Reports_484\15apt (M, 4LF)



Analysis / Test Report

Client : I PA Gdistrical DevelopWent Lnhic 7oWpamy SWittd
43-/- Moo 3 I PA 7ly Lark, RooW no. uun60, 0nd Floor, TbWbl Kleng Kiew, AWphbr
Ban Bbeng, Thonhrih TBalland 02002
P/O :
Project Name : Monitoring
Project Location : I PA ESCE 0

Lot ID: 2457404
Date Received : May 01, 0204
Date Reported : May 08, 0204
Report nbWhe'r : 12293-2N

Layer 5 of 4								
Sample Number	04-34240							
Sampled Date	May 01, 0204 ๒๒:๒8 AM							
Sample Description	Sbrface 1 ater							
Location	SI 1 : พหะนาญพัลลัโหลนาญพันโตรจนร							
Date Analysis Commenced	May 0Q, 0204							
Condition of Sample	7ontained in one plastic Hbttle, saWple containers coWply to pretreatWent Npreservation standards (ALPA, USELA)							
Physical Property	Yellow, soWe odobry, solid and tmrhd							
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
AWWonia nitrogen	Ww/5	2.20	2.2-	2.99	≤2.-	≤2.-	Standard Methods for the ExauWination of 1 ater and I astewater. ALPA, AI I A & I EF, 01rd ed., 0203, part 4-22Wp1 (F)	Rayong
Guideline : (u) modification of the national EnvironWental Board, mo. Q. B.E.O- 13 isssed bnder the EnhanceWent and 7onservation of national EnvironWental Quality Act. B.E.O- 1-, pbHshed in the Royal GovernmentWent Gazette, Vol. uu, Lart u9, Dated Fehbary 04, B.E. 0-13 (7lass 1) (0) modification of the national EnvironWental Board, mo. Q. B.E.O- 13 isssed bnder the EnhanceWent and 7onservation of national EnvironWental Quality Act. B.E.O- 1-, pbHshed in the Royal GovernmentWent Gazette, Vol. uu, Lart u9, Dated Fehbary 04, B.E. 0-13 (7lass 4) (a) mot 7hange froW natrall condition (H) mon 6HedionalHe (c) 7hange froW matrall condition not Wore than 1 degree 7								
Sampling By : Lhongthep Sithiloh								
ReWark : - S6D : SWit of Detection - " < " : Sower than S6Q (SWit of Quantitation) / S6R (SWit of Reporting)								

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1-480U/ENAS

S:\Reports_AI_005\apt (3-48M)



Analysis / Test Report

Client Db WA Hh10trialc c edelopu ent 10nlv Pou pany Gu ite1
: L77 Moo L WA Pity Lark2RooW no. 55-5424n1 Floor2T0u ml Kleng Kiew2Au ph0r
Ban Bbeng2Phonm1 Thailan1 49449
P/O : 7:4: 9494
Project Name DMonitoring
Project Location Db WA ESHE 4

TESTING
No.0042
Lot ID: 2461265
c ater Revidel 100n 9, 2494:
c ater Report 100n 592494:
Report Ndu mer 0, 958, 3, -5

Layer 5 of 4								
Sample Number	4: 35437-5							
Sampled Date	J0n 9, 2494: 59Q 7 AM							
Sample Description	S0rface b ater							
Location	Sb 5 Dพหะนาญพัลลัโหลนาญพันโตรจนร							
Date Analysis Commenced	J0n 9, 2494:							
Condition of Sample	Pontaine1 in two glass dals2Bw B6c nttle an1 fo0r plastiv nttles2sau ple containers uo ply to pretreatu ent - presentation stan1ar1s 01 WA2 (SEI AU)ellow2sou e o1o0r2sol1 an1 10mrl							
Physical Property								
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
[A]opper	u g/C	9.999,	9.9997	Not c eteVte1	≤9.59	≤9.59	Stan1ar1 Methods for the Exau ination of b ater an1 b astewater. AI WA2Ab b A & b EF2 4, r1 e1.2495L2part , 547 B2, 9, 9 F	Bangkok
[A]Wexadlent Phrou 0u	u g/C	9.99,	9.95	Not c eteVte1	≤9.97	≤9.97	Stan1ar1 Methods for the Exau ination of b ater an1 b astewater. AI WA2Ab b A & b EF2 4, r1 e1.2495L2part , 799-P B	Bangkok
[A]Caal	u g/C	9.999,	9.9997	Not c eteVte1	≤9.97	≤9.97	Stan1ar1 Methods for the Exau ination of b ater an1 b astewater. AI WA2Ab b A & b EF2 4, r1 e1.2495L2part , 547 B2, 9, 9 F	Bangkok
[A]Merv0ry	u g/C	9.9995	9.9997	Not c eteVte1	≤9.994	≤9.994	H-ho0se u ethol DSTM 97-99L meet on (ml) States Endronu ental 1rotedon Agency2 49942EI A Metho1 53, 52Redsion E	Bangkok
[A]Nivkel	u g/C	9.999,	9.9997	Not c eteVte1	≤9.59	≤9.59	Stan1ar1 Methods for the Exau ination of b ater an1 b astewater. AI WA2Ab b A & b EF2 4, r1 e1.2495L2part , 547 B2, 9, 9 F	Bangkok
[A]Zinv	u g/C	9.99,	9.997	9.993	≤5	≤5	Stan1ar1 Methods for the Exau ination of b ater an1 b astewater. AI WA2Ab b A & b EF2 4, r1 e1.2495L2part , 547 B2, 9, 9 F	Bangkok
Water Testing								
Au u onia Nitrogen *	u g/C	9.94	9.97	9.47	≤9.7	≤9.7	Stan1ar1 Methods for the Exau ination of b ater an1 b astewater. AI WA2Ab b A & b EF2 4, r1 e1.2495L2part : 799-NW, 0FU	Rayong

Results apply to the sau ple(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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7-445/ENAS

S:\Reports_AI_002\apt 0: 07 19U



TESTING

Lot ID: 2461265

Page 5 of 4

Sample Number	4: 3543-N
Sampled Date	30n 9, 2494: 55E9- AM
Sample Description	50rfafe Water
Location	SW, 0วอธนาบูนพูนลิ่งโหลวพื้นที่โครงการ
Date Analysis Commenced	30n 9, 2494:
Condition of Sample	Contain1 in two glass dials2two B6c bottle an1 fo0r plastiv bottles2sample vointainers vompily to premeditation Npersiondation
Physical Property	stain1ars 0PHEPA2 (SEPAU) yellow2some o1o0r2sol1s an1 no 10r01b

Metals Testing		(LOR)		(1)	(2)	Location		
[A] Copper	mg/L	9.999	9.999	9.99	≤9.59	≤9.59	Stanlar1 Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF; 4, r1 el.249572part, 54- B2, 9, 9 F	Bangkok
[A] Hexadental Chromi0m	mg/L	9.99	9.95	uot c etevet1	≤9.9-	≤9.9-	Stanlar1 Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF; 4, r1 el.249572part, -99Nc B	Bangkok
[A] Lea1	mg/L	9.999	9.999	uot c etevet1	≤9.9-	≤9.9-	Stanlar1 Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF; 4, r1 el.249572part, 54- B2, 9, 9 F	Bangkok
[A] Merv0ry	mg/L	9.9995	9.999	uot c etevet1	≤9.994	≤9.994	Infohoose Method DSTM 9-N07 baseel on (nite1 States Endronmental Protection Agency2 49042EPA Method 53, 52Reduom E	Bangkok
[A] uivkel	mg/L	9.999	9.999	9.99-	≤9.59	≤9.59	Stanlar1 Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF; 4, r1 el.249572part, 54- B2, 9, 9 F	Bangkok
[A] Zinv	mg/L	9.99	9.99-	9.94	≤5	≤5	Stanlar1 Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF; 4, r1 el.249572part, 54- B2, 9, 9 F	Bangkok
Water Testing								
B6 c *	mg/L	N	4	j 4.9	≤4	≤:	Stanlar1 Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF; 4, r1 el.249572part -459 B2part - 59 Me c	Rayong

Results apply to the sampleQ1as s0bmitte120nless the sampling was von10ve1 by ALS. no part of this report may be repro10ve1 in any form without written consent from the laboratory. ALS Laboratory \ ro0p Qhailan1Ustrongly revo10mmen1s that this report is not repro10ve1 except in f08.

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c eG Changvorn
Senior Manager

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SDReports -All- (6) Lrpt 0: D: PMU



TESTING

Lot ID: 2461265

Page 4 of 4

Sample Number	4:3543-1j
Sampled Date	Jun 9, 2404: 552P- AM
Sample Description	SDfave Water
Location	SW, ดอขยวามปูลังโหลลว่นพื้นที่โครงการ
Date Analysis Commenced	Jun 9, 2424:
Condition of Sample	Containel in two glass dals2two B6c bottle an1 fo6r plastiv bottles2sample viontans vompoly to pretreatment Npresentation stanlaris OPNHAZ (SEPAU)
Physical Property	yellow2some o100r2soll an1 no t0rb1

Water Testing				(LOR)	(+)	(-)	Location		
c issold 6 xygen *	mg/L	N	9.5	1.3	≥1	≥4	Standard Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF2 4.1.e1.2.4957:part - 99% GU	Rayong	
ultrate as u *	mg/L	9.95-	9.9-	4.94	≤-	≤-	Standard Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF2 4.1.e1.2.4957:part - 99% GU	Rayong	
pH at 4- 1egree C		N	N	7.7	- .98.9	- .98.9	Standard Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF2 4.1.e1.2.4957:part - 99% GU	Rayong	
Total Suspended Solids crie1	mg/L	N	-	j-	uo	Standard1	uo Standard1	Standard Methods for the Examination of Water and Wastewater. APHA2AWWA & WEF2 4.1.e1.2.4957:part 4-9 c	Rayong
at 59, N69 - 1egree C									
Guideline: GUotification of the uational Endromental Boar2uo. QB.E.4-. 7 iss0e1 0n1er the Enhavement and 1 Consideration of uational Endromental z Qality Awt. B.E.4-. 2p0blished in the Royal y odernment \avette2\ cll. 5552 Part 532:ate1 February 4: 2B.E. 4-. 7 Qlass U GUotification of the uational Endromental Boar2uo. QB.E.4-. 7 iss0e1 0n1er the Enhavement and 1 Consideration of uational Endromental z Qality Awt. B.E.4-. 2p0blished in the Royal y odernment \avette2\ cll. 5552 Part 532:ate1 February 4: 2B.E. 4-. 7 Qlass U GUot Change from natral vonition DUon 6 b6vionable GUChange from natral vonition not more than, 1egree C Sampling By: uat2aw6r Athromponnarat									
Remark D - L6c Dlimit of cetection - Y Y Dlower than L6z Qlimit of 2antitation\ U L6R Qlimit of Reporting - AnalyteDUmarke1 * is/are not involid in scope of Avelication I56/IEC 5794- - The Analyte has been avepted as an avette1 lation vompiling with the I56/IEC 5794-									

Results apply to the sample unless the sampling was nonrandom 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.

Approved by _____

c eG Changvorn
Senior Manager

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SDReports -All- (4) Lrpt Q: D : PMU

Lot ID: 2457504
Date Received : Jun 21, 2024
Date Reported : Jun 27, 2024
Report num W: 303782-N

Page 1 of 1

Sample Number	24707-4H2
Sampled Date	Jun 21, 2024 10:30 AM
Sample Description	Surface H ater
Location	SH 3 : หนองบึงหลังวัดบ้านทับทิมศรีสงคราม
Date Analysis Commenced	Jun 24, 2024
Condition of Sample	Contained in one plastic Wettle, sab ple containers cob ply to pretreathe n Preservation standards QCI A, (SECAU
Physical Property)ellow, sob e odour, solid and no turWid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Ab b onia nitrogen	b g/5	0.02	0.0-	0.38	≤0.-	≤0.-	Standard Methods for the Examination of Water and Wastewater, ACl A, AII H A s H F, 23rd ed., 2017, part 4-00Net 3 RU	Rayong

Guideline: Q1Justification of the national Environmental Board, no. 8, B.E.2-37 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2-37, published in the Royal Government Gazette, Vol. 111, Part 1, Dated February 24, B.E. 2-37 Class 3U
Q2Justification of the national Environmental Board, no. 8, B.E.2-37 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2-37, published in the Royal Government Gazette, Vol. 111, Part 1, Dated February 24, B.E. 2-37 Class 4U
Q3Not change from natural condition
Q4From 0.5 to 1.0 degree C
Q5Change from natural condition not more than 3 degree C

Samoling By: Oithaya Thontana

Sampling By : Cithaya Thongtaeng

Reb ark :

- SVD : Sib it of Detection
- "<" : Sower than SV6 Sib it of 6 uantitationU/ SVR Sib it of ReportingU

Approved by _____

honticha SuWongkoch
Scientist QBU

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ภาคผนวก ค-3

คุณภาพน้ำจากระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 23146685
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871147-1

Page 1 of 2

Sample Number	23146685-1						
Sampled Date	Jan 09, 2024 9:56 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนบำบัดน้ำทิ้งเข้าสู่ระบบกลางทางชีวภาพ)						
Date Analysis Commenced	Jan 09, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	19.7	≤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	107	≤400	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	6.7	6.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	29.4	≤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	584	≤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	5.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NRS (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	78	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

N. Banphit

Narumon Banphongkit
Supervisor
โทรเลขเบอร์ 3-323-9-9445

Approved by

D. Khom

Dej Changchon
Senior Manager
โทรเลขเบอร์ 3-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 23146685
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871147-1

Page 2 of 2

Sampling By : Nattawut Athomprommarat โทรเลขเบอร์ 3-323-9-0006, Pattarapol Sawangjaitam โทรเลขเบอร์ 3-204-9-0002

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

Technical Management

N. Banphit

Narumon Banphongkit
Supervisor
โทรเลขเบอร์ 3-323-9-9445

Approved by

D. Khom

Dej Changchon
Senior Manager
โทรเลขเบอร์ 3-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 23146685
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871147-2

Page 1 of 2

Sample Number	23146685-1						
Sampled Date	Jan 09, 2024 9:56 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนบำบัดน้ำทิ้งเข้าสู่ระบบกลางทางชีวภาพ)						
Date Analysis Commenced	Jan 10, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.02	≤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	0.002	≤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	0.09	≤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	<0.0005	≤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
โทรเลขเบอร์ 3-204-9-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขเบอร์ 3-204-9-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 23146685
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871147-2

Page 2 of 2

Sample Number	23146685-1						
Sampled Date	Jan 09, 2024 9:56 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนบำบัดน้ำทิ้งเข้าสู่ระบบกลางทางชีวภาพ)						
Date Analysis Commenced	Jan 10, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.05	≤1.0	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	0.34	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Nattawut Athomprommarat โทรเลขเบอร์ 3-323-9-0006, Pattarapol Sawangjaitam โทรเลขเบอร์ 3-204-9-0002

Remark :
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Technical Management

Sawitree N.

Sawitree Noisangiam
Manager
โทรเลขเบอร์ 3-204-9-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขเบอร์ 3-204-9-6111

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Analysis / Test Report



Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 23146685
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871147-3

Page 1 of 1

Sample Number : 23146685-1
Sampled Date : Jan 09, 2024 9:56 AM
Sample Description : Wastewater
Location : WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced : Jan 10, 2024
Condition of Sample : Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property : Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.78	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.86	≤10.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Nattawut Athomprommarat , Pattarapol Sawangjaitam

Remark :
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Approved by

Savitree N.
Savitree Nolsangiam
Manager

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Analysis / Test Report



Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 248690
Date Received : Feb 02, 2024
Date Reported : Feb 12, 2024
Report Number : 2891987-1

Page 1 of 2

Sample Number : 248690-1
Sampled Date : Feb 02, 2024 10:29 AM
Sample Description : Wastewater
Location : WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced : Feb 02, 2024
Condition of Sample : Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property : Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	17.4	≤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	68	≤400	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	6.4	6.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Temperature *	Degree C	-	-	29.7	≤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	764	≤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	3.9	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NWS (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	48	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchongkit
Supervisor
โทรเลขเลขที่ 3-323-4-9445

Approved by

Dej Changchon
Senior Manager
โทรเลขเลขที่ 3-323-4-9442

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Analysis / Test Report



Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 248690
Date Received : Feb 02, 2024
Date Reported : Feb 12, 2024
Report Number : 2891987-1

Page 2 of 2

Sampling By : Narunat thammasaro โทรเลขเลขที่ 3-323-4-9477 , Pattarapol Sawangjaitam โทรเลขเลขที่ 3-204-4-0002

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Technical Management

Narumon Banchongkit
Supervisor
โทรเลขเลขที่ 3-323-4-9445

Approved by

Dej Changchon
Senior Manager
โทรเลขเลขที่ 3-323-4-9442

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Analysis / Test Report



Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 248690
Date Received : Feb 02, 2024
Date Reported : Feb 12, 2024
Report Number : 2891987-2

Page 1 of 2

Sample Number : 248690-1
Sampled Date : Feb 02, 2024 10:29 AM
Sample Description : Wastewater
Location : WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced : Feb 05, 2024
Condition of Sample : Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property : Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.02	≤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	0.001	≤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	0.16	≤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	0.0006	≤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 Nolsangiam
Manager
โทรเลขเลขที่ 3-204-4-7079

Approved by

Kanokorn Anek
Senior Manager
โทรเลขเลขที่ 3-204-4-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 248690
Date Received : Feb 02, 2024
Date Reported : Feb 12, 2024
Report Number : 2891987-2

Page 2 of 2

Sample Number 248690-1
Sampled Date Feb 02, 2024 10:29 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำทิ้งเข้าสู่ระบบกลางทางชีวภาพ)
Date Analysis Commenced Feb 05, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.04	≤1.0	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	0.28	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Narunat thamasaro รหัสประจำตัว 323-49477, Pattarapol Sawangjitam รหัสประจำตัว 204-40002

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

Savitree N.

Savitree Noisangiam
Manager
รหัสประจำตัว 204-44709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
รหัสประจำตัว 204-46111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 248690
Date Received : Feb 02, 2024
Date Reported : Feb 12, 2024
Report Number : 2891987-3

Page 1 of 1

Sample Number 248690-1
Sampled Date Feb 02, 2024 10:29 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำทิ้งเข้าสู่ระบบกลางทางชีวภาพ)
Date Analysis Commenced Feb 03, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.36	No Standard	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA, WEF, 23rd edQ 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.06	≤100	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA, WEF, 23rd edQ 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Gdour <	-	-	-	Gdourless	Non Gb'ctionable	TIS, 257-2549	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 20
Sampling by : Narunat thamasaro , Pattarapol Sawangjitam

Remark :
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- Analyte(s) marked < is/are not included in scope of Accreditation ISG/IEC 170250
- The laboratory has been accepted as an accredited laboratory complying with the ISG/IEC 170250

Approved by

Savitree N.

Savitree Noisangiam
Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2419254
Date Received : Mar 0F, 2024
Date Reported : Mar 01, 2024
Report - umber : 28F4141F

Page 2 of 2

Sample Number 24F8254F
Sampled Date Mar 0F, 2024 F0:F5 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำทิ้งเข้าสู่ระบบกลางทางชีวภาพ)
Date Analysis Commenced Mar 0F, 2024
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment 9 preservation standards (APHA, USEPA)
Physical Property (ellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
B) D f5 days at 20 Degree C6	mg/L	9	20	F30	≤200	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 5210 B, part 4500 9) &	Rayong
C) D	mg/L	F03	25	G3	≤400	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 5220 D	Rayong
) il x 8rease	mg/L	9	3	<3	≤F0	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 5520 B	Rayong
pH at 25 degree C		9		G3	G3/F03	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 4500 9H f86	Rayong
Temperature *	Degree C	9	9	3F06	≤40	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at F10 degree C	mg/L	9	5	17G	≤3000	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 2540 C	Rayong
Total Kjeldahl - Itrogen as -	mg/L	9	F00	50	≤F00	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 45009 org F03 part - H3 f06	Rayong
Total Suspended Solids Dried at F03F05 degree C	mg/L	9	5	G0	≤F00	Standard Methods for the Examination of Water and Wastewater/APHA, AWWA & WEF, 23rd edQ 2017, part 2540 D	Rayong

Guideline : Amendment details report of nEnvironmental Impact Assessment Report ofnWHA Eastern Seaboard Industrial Estate 20

Technical Management

N. Banphit

arumon Banphongkit
Supervisor
รหัสประจำตัว 2823938445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
รหัสประจำตัว 2823938442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2419254
Date Received : Mar 0F, 2024
Date Reported : Mar 01, 2024
Report - umber : 28F4141F

Page 2 of 2

Sampling By : Paramet Sattayakun รหัสประจำตัว 282393847G, Thanasoun - amakunna รหัสประจำตัว 282049380F0F

Remark :
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- "<" : Lower than L) Q Limit of Quantitation/ L) R Limit of Reporting
- Analyte(s) marked * is/are not included in scope of Accreditation IS) /IEC F70250
- The laboratory has been accepted as an accredited laboratory complying with the IS) /IEC F70250

Technical Management

N. Banphit

arumon Banphongkit
Supervisor
รหัสประจำตัว 2823938445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
รหัสประจำตัว 2823938442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419254
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914848-2

Page 1 of 2

Sample Number	2419254-1
Sampled Date	Mar 01, 2024 10:15 AM
Sample Description	Wastewater
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced	Mar 02, 2024
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.03	≤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	0.002	≤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	0.13	≤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	<0.0005	≤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 Naisangiam
Manager
โทรเลขเลขที่ 2-204-0-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขเลขที่ 2-204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419254
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914848-3

Page 1 of 1

Sample Number	2419254-1
Sampled Date	Mar 01, 2024 10:15 AM
Sample Description	Wastewater
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced	Mar 02, 2024
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.76	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.75	≤10.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun , Thanassou Namakunna

Remark :
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Approved by

Savitree N.

Savitree Naisangiam
Manager

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Analysis / Test Report

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475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419254
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914848-2

Page 2 of 2

Sample Number	2419254-1
Sampled Date	Mar 01, 2024 10:15 AM
Sample Description	Wastewater
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced	Mar 02, 2024
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property	Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.66	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun โทรเลขเลขที่ 2-323-4-9476 , Thanassou Namakunna โทรเลขเลขที่ 2-204-0-0101

Remark :

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Technical Management

Savitree N.

Savitree Naisangiam
Manager
โทรเลขเลขที่ 2-204-0-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขเลขที่ 2-204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2433816
Date Received : Apr 0F, 2024
Date Reported : Apr 1F, 2024
Report - umber : 28458758

Page 1 of 2

Sample Number	2433F1F8
Sampled Date	Apr 0F, 2024 2:37 PM
Sample Description	Wastewater
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced	Apr 0F, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment 9 preservation standards (APHA, USEPA)
Physical Property	yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BYD (5 days at 20 Degree C)	mg/L	9	240	<240	≤200	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23rd ed., 2017, part 5210 B, part 4500 9 Y G	Rayong
CYD	mg/L	16	25	133	≤400	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23rd ed., 2017, part 5220 D	Rayong
Yil . Grease	mg/L	9	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		9	9	7.0	6.0-9.0	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23rd ed., 2017, part 4500 9 H (B)	Rayong
Temperature *	Degree C	9	9	34°F	≤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	9	5	104	≤3000	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl - Nitrogen -	mg/L	9	140	46	≤100	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23rd ed., 2017, part 4500 9 G	Rayong
Total Suspended Solids Dried at 103/105 degree C	mg/L	9	5	75	≤100	Standard Methods for the Examination of Water and Wastewater APHA, AWWA, WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Amendment details report of nEnvironmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2x

Technical Management

Arumon Banchoangkit

Arumon Banchoangkit
Supervisor
โทรเลขเลขที่ 2823948445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
โทรเลขเลขที่ 2823948442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2433816
Date Received : Apr 08, 2024
Date Reported : Apr 1F, 2024
Report - umber : 29458759L

Page 2 of 2

Sampling By : Pitthaya Thongtaeng รหัสประจำตัว 98239844F, Pattarapol Sawangjaitam รหัสประจำตัว 9804980002

Remark :
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Technical Management

N. Banphit

- arumon Banchoangkit
Supervisor
รหัสประจำตัว 982398445

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
รหัสประจำตัว 982398442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2433816
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945975-2

Page 1 of 2

Sample Number 2433816-1
Sampled Date Apr 08, 2024 2:37 PM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Apr 09, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.03	≤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	0.002	≤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	0.12	≤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	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

Chanatt L.

Chanattagarn Inchom
Section Head
รหัสประจำตัว 204-4-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
รหัสประจำตัว 204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2433816
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945975-2

Page 2 of 2

Sample Number	2433816-1						
Sampled Date	Apr 08, 2024 2:37 PM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Apr 09, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.64	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Pitthaya Thongtaeng รหัสประจำตัว 98239844F, Pattarapol Sawangjaitam รหัสประจำตัว 9804980002

Remark :
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Technical Management

Chanatt L.

Chanattagarn Inchom
Section Head
รหัสประจำตัว 204-4-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
รหัสประจำตัว 204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2433816
Date Received : Apr 0F, 2024
Date Reported : Apr 1F, 2024
Report - umber : 28458759B

Page 1 of 1

Sample Number 2433F18L
Sampled Date Apr 0F, 2024 2:37 PM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Apr 08, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and five plastic bottles, sample containers comply to pretreatment 9 preservation standards (APHA, USEPA)
Physical Property yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.00	- o Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.62	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Gdour <		9	9	Gdourless	- on Gb tectonable	TIS, 257B548	Rayong

Guideline : Amendment details report of nEnvironmental Impact Assessment Report of nWHA Eastern Seaboard Industrial Estate 2Y

Sampling by : Pitthaya Thongtaeng , Pattarapol Sawangjitam

Remark :
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- M k : Lower than LG (Limit of Quantitation) / LGR (Limit of Reporting)
- Analyte(s) marked < is/are not included in scope of Accreditation ISO/IEC 17025Y
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Approved by

N. Banphit

- arumon Banchoangkit
Supervisor

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2446426
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974326-1

Page 1 of 2

Sample Number 2446426-1
Sampled Date May 06, 2024 10:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	18.3	≤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	87	≤400	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	39	≤600	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	37	≤600	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	Rayong
Oil & Grease	mg/L	-	3	4	≤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	-	-	-	7.7	6.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	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	876	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

N. Banphit

Narumon Banchoangkit
Supervisor
โทรเลขเลขที่ 2-323-4-9445

Approved by

D. Chongchon

Dej Changchon
Senior Manager
โทรเลขเลขที่ 2-323-4-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2446426
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974326-1

Page 2 of 2

Sample Number 2446426-1
Sampled Date May 06, 2024 10:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	4.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NHS (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	64	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun โทรเลขเลขที่ 2-323-4-9476, Kambundit Kitisupavanit โทรเลขเลขที่ 2-204-4-0001

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Technical Management

N. Banphit

Narumon Banchoangkit
Supervisor
โทรเลขเลขที่ 2-323-4-9445

Approved by

D. Chongchon

Dej Changchon
Senior Manager
โทรเลขเลขที่ 2-323-4-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2446426
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974326-2

Page 1 of 2

Sample Number 2446426-1
Sampled Date May 06, 2024 10:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced May 08, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.02	≤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	0.002	≤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	0.18	≤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	<0.0005	≤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
โทรเลขเลขที่ 2-204-4-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 2-204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2446426
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974326-2

Page 2 of 2

Sample Number 2446426-1
Sampled Date May 06, 2024 10:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced May 08, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.04	≤1.0	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	0.45	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun โทรเลขเลขที่ 2-323-4-9476, Kambundit Kitisupavanit โทรเลขเลขที่ 2-204-4-0001

Remark :

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Technical Management

Sawitree N.

Sawitree Noisangiam
Manager
โทรเลขเลขที่ 2-204-4-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 2-204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2458984
Date Received : Jun 03, 2024
Date Reported : Jun 11, 2024
Report Number : 3002327-2

Page 1 of 5

Sample Number 2458984-1
Sampled Date Jun 03, 2024 9:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤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	0.10	≤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	0.03	≤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 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤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	0.20	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
โทรเลขเบอร์ 7-204-4-0008

Approved by

Kanokorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเบอร์ 7-204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2458984
Date Received : Jun 03, 2024
Date Reported : Jun 11, 2024
Report Number : 3002327-2

Page 2 of 5

Sample Number 2458984-1
Sampled Date Jun 03, 2024 9:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.04	≤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	Not Detected	≤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	0.47	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Pesticides - Organochlorine Group							
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

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
โทรเลขเบอร์ 7-204-4-0008

Approved by

Kanokorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเบอร์ 7-204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2458984
Date Received : Jun 03, 2024
Date Reported : Jun 11, 2024
Report Number : 3002327-2

Page 3 of 5

Sample Number 2458984-1
Sampled Date Jun 03, 2024 9:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
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
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

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
โทรเลขเบอร์ 7-204-4-0008

Approved by

Kanokorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเบอร์ 7-204-4-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2458984
Date Received : Jun 03, 2024
Date Reported : Jun 11, 2024
Report Number : 3002327-2

Page 4 of 5

Sample Number 2458984-1
Sampled Date Jun 03, 2024 9:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
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
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

Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
โทรเลขเบอร์ 7-204-4-0008

Approved by

Kanokorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเบอร์ 7-204-4-0004

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Analysis / Test Report



TESTING
No.0009
Lot ID: 2458984
Date Received : Jun 03, 2024
Date Reported : Jun 11, 2024
Report Number : 3002327-2

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

Page 5 of 5

Sample Number	2458984-1						
Sampled Date	Jun 03, 2024 9:40 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางสาธารณะ)						
Date Analysis Commenced	Jun 04, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
Heptachlor-Epoide *	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
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 : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Nattawut Athomprommarat โทร 09-0006, Samart Khumphlee โทร 09-0084

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

Chanatt L.

Chanattagarn Imchom
Section Head
โทร 09-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทร 09-0004

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Analysis / Test Report



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P/O :
Project Name :
Project Location : WHA ESIE 2

Page 1 of 2

Sample Number	2458984-1						
Sampled Date	Jun 03, 2024 9:40 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางสาธารณะ)						
Date Analysis Commenced	Jun 04, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.81	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.74	≤10.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Pesticides - Organochlorine Group							
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							
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong

Guideline : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

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Chanatt L.

Chanattagarn Imchom
Section Head

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Analysis / Test Report



TESTING
No.0009
Lot ID: 2458984
Date Received : Jun 03, 2024
Date Reported : Jun 11, 2024
Report Number : 3002327-3

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

Page 2 of 2

Sample Number	2458984-1						
Sampled Date	Jun 03, 2024 9:40 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Influent (น้ำเสียก่อนผ่านระบบบำบัดน้ำเสียส่วนกลางทางสาธารณะ)						
Date Analysis Commenced	Jun 04, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
Heptachlor-Epoide *	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
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 : Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Nattawut Athomprommarat , 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

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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 23146716
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871160-1

Page 1 of 2

Sample Number 23146716-1
Sampled Date Jan 09, 2024 10:20 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced Jan 09, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

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	≤15	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	44	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Temperature *	Degree C	-	-	27.7	≤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	644	≤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	2.9	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part N H3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	18	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchongkit

Narumon Banchongkit
Supervisor
โทรศัพท์มือถือ ๖-323-๙-9445

Approved by

Dej Changchon

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

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 23146716
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871160-1

Page 2 of 2

Sampling By : Nattawut Athomprommarat โทรศัพท์มือถือ ๖-323-๙-0006, Pattarapol Sawangjaitam โทรศัพท์มือถือ ๖-204-๙-0002

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked * where 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

Narumon Banchongkit

Narumon Banchongkit
Supervisor
โทรศัพท์มือถือ ๖-323-๙-9445

Approved by

Dej Changchon

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

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 23146716
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871160-2

Page 1 of 2

Sample Number 23146716-1
Sampled Date Jan 09, 2024 10:20 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced Jan 10, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.003	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	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	Not Detected	≤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	0.09	≤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	<0.0005	≤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 Naisianglam
Manager
โทรศัพท์มือถือ ๖-204-๙-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรศัพท์มือถือ ๖-204-๙-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 23146716
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871160-2

Page 2 of 2

Sample Number 23146716-1
Sampled Date Jan 09, 2024 10:20 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced Jan 10, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.04	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Nattawut Athomprommarat โทรศัพท์มือถือ ๖-323-๙-0006, Pattarapol Sawangjaitam โทรศัพท์มือถือ ๖-204-๙-0002

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

Savitree N.

Savitree Naisianglam
Manager
โทรศัพท์มือถือ ๖-204-๙-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรศัพท์มือถือ ๖-204-๙-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 23146716
Date Received : Jan 09, 2024
Date Reported : Jan 16, 2024
Report Number : 2871160-3

Page 1 of 1

Sample Number	23146716-1						
Sampled Date	Jan 09, 2024 10:20 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (ถังเก็บน้ำทิ้งจากกระบวนการผลิต)						
Date Analysis Commenced	Jan 10, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and a lot of turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.07	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.27	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.06	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Nitrate as N *	mg/L	0.015	0.05	26.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.9	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Nattawut Athomprommarat , Pattarapol Sawangjaliam

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

Savitree Nolsanglam
Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 23146744
Date Received : Jan 19, 2024
Date Reported : Jan 25, 2024
Report Number : 2871181-1

Page 1 of 2

Sample Number	23146744-1						
Sampled Date	Jan 19, 2024 9:20 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (ถังเก็บน้ำทิ้งจากกระบวนการผลิต)						
Date Analysis Commenced	Jan 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.8	≤15	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	49	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Temperature *	Degree C	-	-	27.3	≤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	700	≤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	4.3	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NWS (D)	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 : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchongkit
Supervisor
โทร: 323-9-9445

Approved by

Dej Changchon
Senior Manager
โทร: 323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 23146744
Date Received : Jan 19, 2024
Date Reported : Jan 25, 2024
Report Number : 2871181-1

Page 2 of 2

Sampling By : Chainusorn Lertnathakunchai โทร: 323-9-9461 , Kardsundit Kittsupavanit โทร: 323-9-0001

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

Technical Management

Narumon Banchongkit
Supervisor
โทร: 323-9-9445

Approved by

Dej Changchon
Senior Manager
โทร: 323-9-9442

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Analysis / Test Report

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475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 23146744
Date Received : Jan 19, 2024
Date Reported : Jan 25, 2024
Report Number : 2871181-2

Page 1 of 2

Sample Number	23146744-1						
Sampled Date	Jan 19, 2024 9:20 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (ถังเก็บน้ำทิ้งจากกระบวนการผลิต)						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.003	≤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	Not Detected	≤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	0.09	≤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	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

Chanattagom Inchom
Section Head
โทร: 204-9-4710

Approved by

Kanokkorn Anek
Senior Manager
โทร: 204-9-6111

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Analysis / Test Report

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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 01009
Lot ID: 23146744
Date Received : Jan 19, 2024
Date Reported : Jan 26, 2024
Report Number : 2871181-2

Page 2 of 2

Sample Number	23146744-1						
Sampled Date	Jan 19, 2024 9:20 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.04	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Chainusorn Lertnathakunchai ระเบียบเลขที่ 3-23-3-9461 , Kardbundi Kitisupavanit ระเบียบเลขที่ 3-204-3-0001

Remark :
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Technical Management

Chanatt L.

Chanattagarn Imchom
Section Head
ระเบียบเลขที่ 3-204-3-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ระเบียบเลขที่ 3-204-3-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 01009
Lot ID: 23146744
Date Received : Jan 19, 2024
Date Reported : Jan 26, 2024
Report Number : 2871181-3

Page 1 of 1

Sample Number	23146744-1						
Sampled Date	Jan 19, 2024 9:20 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Jan 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.08	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.25	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.45	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Nitrate as N *	mg/L	0.015	0.05	19.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.7	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Chainusorn Lertnathakunchai , Kardbundi Kitisupavanit

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

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 0042
Lot ID: 248694
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891992-1

Page 1 of 2

Sample Number	248694-1						
Sampled Date	Feb 02, 2024 11:55 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Feb 02, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	5.6	≤15	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	32	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	29.9	≤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	628	≤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	2.7	≤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	13	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

N. Banachit

Narumon Banachongkit
Supervisor
ระเบียบเลขที่ 3-323-3-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
ระเบียบเลขที่ 3-323-3-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 0042
Lot ID: 248694
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891992-1

Page 2 of 2

Sample Number	248694-1						
Sampled Date	Feb 02, 2024 11:55 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Feb 02, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and no turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	5.6	≤15	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	32	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	29.9	≤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	628	≤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	2.7	≤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	13	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

N. Banachit

Narumon Banachongkit
Supervisor
ระเบียบเลขที่ 3-323-3-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
ระเบียบเลขที่ 3-323-3-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 248694
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891992-2

Page 1 of 2

Sample Number 248694-1
Sampled Date Feb 02, 2024 11:55 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 05, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.003	≤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	Not Detected	≤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	0.10	≤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	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

Savitree N.

Approved by

Kanokorn Anek

Savitree Noisangiam
Manager
โทรเลขเบอร์ 2-204-4-4709

Kanokorn Anek
Senior Manager
โทรเลขเบอร์ 2-204-4-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 248694
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891992-2

Page 2 of 2

Sample Number 248694-1
Sampled Date Feb 02, 2024 11:55 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 05, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.03	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Narunat thammassaro โทรเลขเบอร์ 2-323-4-9477, Pattarapol Sawangjaitam โทรเลขเบอร์ 2-204-4-0002

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

Technical Management

Savitree N.

Approved by

Kanokorn Anek

Savitree Noisangiam
Manager
โทรเลขเบอร์ 2-204-4-4709

Kanokorn Anek
Senior Manager
โทรเลขเบอร์ 2-204-4-6111

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 248694
Date Received : Feb 02, 2024
Date Reported : Feb 09, 2024
Report Number : 2891992-3

Page 1 of 1

Sample Number 248694-1
Sampled Date Feb 02, 2024 11:55 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 03, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.05	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.21	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.08	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Nitrate as N *	mg/L	0.015	0.05	11.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.9	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Narunat thammassaro , Pattarapol Sawangjaitam

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

Approved by

Savitree N.

Savitree Noisangiam
Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 248702
Date Received : Feb 19, 2024
Date Reported : Feb 24, 2024
Report Number : 2891997-1

Page 1 of 2

Sample Number 248702-1
Sampled Date Feb 19, 2024 2:15 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 19, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.3	≤15	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	53	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	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
Temperature *	Degree C	-	-	31.0	≤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	776	≤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	1.8	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part N-H3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	13	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Photchana S.

Approved by

Dej Changchon

Photchana Seeda
Scientist (4)
โทรเลขเบอร์ 2-323-4-9446

Dej Changchon
Senior Manager
โทรเลขเบอร์ 2-323-4-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0042
Lot ID: 248702
Date Received : Feb 19, 2024
Date Reported : Feb 24, 2024
Report Number : 2891997-1

Sampling By : Tanast Wongsachai ทรนัสต์ วงษ์สวัสดิ์ 323-9460 , Samart Khumplhee ทรนัสต์ วงษ์สวัสดิ์ 204-9442

Remark :
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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Page 2 of 2

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทรนัสต์ วงษ์สวัสดิ์ 323-9446

Approved by

D. Khumplhee

Dej Changchon
Senior Manager
ทรนัสต์ วงษ์สวัสดิ์ 204-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0009
Lot ID: 248702
Date Received : Feb 19, 2024
Date Reported : Feb 27, 2024
Report Number : 2891997-2

Sample Number 248702-1
Sampled Date Feb 19, 2024 2:15 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 20, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.003	≤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	Not Detected	≤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	0.11	≤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	<0.0005	≤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 Naisangiam
Manager
ทรนัสต์ วงษ์สวัสดิ์ 204-94007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทรนัสต์ วงษ์สวัสดิ์ 204-94004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0009
Lot ID: 248702
Date Received : Feb 19, 2024
Date Reported : Feb 27, 2024
Report Number : 2891997-2

Sample Number 248702-1
Sampled Date Feb 19, 2024 2:15 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 20, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Tanast Wongsachai , Samart Khumplhee ทรนัสต์ วงษ์สวัสดิ์ 204-94004

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

Savitree N.

Savitree Naisangiam
Manager
ทรนัสต์ วงษ์สวัสดิ์ 204-94007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทรนัสต์ วงษ์สวัสดิ์ 204-94004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0009
Lot ID: 248702
Date Received : Feb 19, 2024
Date Reported : Feb 27, 2024
Report Number : 2891997-3

Sample Number 248702-1
Sampled Date Feb 19, 2024 2:15 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Feb 19, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and no turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.05	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.18	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.27	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Nitrate as N *	mg/L	0.015	0.05	21.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (C)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.6	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Tanast Wongsachai , Samart Khumplhee

Remark :
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Approved by

Nant Somb

Nanthawadee Sombon
Specialist 1



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2419261
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914853-1

Page 1 of 2

Sample Number 2419261-1
Sampled Date Mar 01, 2024 10:30 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced Mar 01, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	4.7	≤15	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	36	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Temperature *	Degree C	-	-	31.1	≤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	840	≤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	3.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part N H3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchoangkit

Narumon Banchoangkit
Supervisor
โทรศัพท์มือถือ 0-323-9-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
โทรศัพท์มือถือ 0-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2419261
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914853-1

Page 2 of 2

Sampling By : Paramet Sattayakun โทรศัพท์มือถือ 0-323-9-9476 , Thanasson Namakunna โทรศัพท์มือถือ 0-204-9-0101

Remark :

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

Technical Management

Narumon Banchoangkit

Narumon Banchoangkit
Supervisor
โทรศัพท์มือถือ 0-323-9-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
โทรศัพท์มือถือ 0-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2419261
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914853-2

Page 1 of 2

Sample Number 2419261-1
Sampled Date Mar 01, 2024 10:30 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.002	≤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	Not Detected	≤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	0.09	≤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

Savitree N.

Savitree Noisangiam
Manager
โทรศัพท์มือถือ 0-204-9-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรศัพท์มือถือ 0-204-9-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2419261
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914853-2

Page 2 of 2

Sample Number 2419261-1
Sampled Date Mar 01, 2024 10:30 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced Mar 02, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	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	0.04	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun โทรศัพท์มือถือ 0-323-9-9476 , Thanasson Namakunna โทรศัพท์มือถือ 0-204-9-0101

Remark :

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Technical Management

Savitree N.

Savitree Noisangiam
Manager
โทรศัพท์มือถือ 0-204-9-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรศัพท์มือถือ 0-204-9-0004

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P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419261
Date Received : Mar 01, 2024
Date Reported : Mar 08, 2024
Report Number : 2914853-3

Page 1 of 1

Sample Number	2419261-1						
Sampled Date	Mar 01, 2024 10:30 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)						
Date Analysis Commenced	Mar 01, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.04	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.13	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.09	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	19.0	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.6	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun , Thanasoun Namakunna
Remark :
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Approved by

Savitree N.
Savitree Naisangiam
Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2419265
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2914862-1

Page 1 of 2

Sample Number	2419265-1						
Sampled Date	Mar 18, 2024 9:45 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (ถังเก็บน้ำผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)						
Date Analysis Commenced	Mar 18, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.9	≤15	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	41	≤120	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Temperature *	Degree C	-	-	30.4	≤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	772	≤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	1.4	≤100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NWS (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchongkit
Supervisor
โทร: 02-27603000-3223-9-9445

Approved by

Dej Changchon
Senior Manager
โทร: 02-27603000-3223-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2419265
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2914862-1

Page 2 of 2

Sampling By : Tanasat Wongsachai โทร: 02-27603000-3223-9-9460 , Pattarapol Sawangjaitam โทร: 02-204-0-0002

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Technical Management

Narumon Banchongkit
Supervisor
โทร: 02-27603000-3223-9-9445

Approved by

Dej Changchon
Senior Manager
โทร: 02-27603000-3223-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419265
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2914862-2

Page 1 of 2

Page 3 of 4

Sample Number	2419265-1						
Sampled Date	Mar 18, 2024 9:45 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (ถังเก็บน้ำผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางชีวภาพ)						
Date Analysis Commenced	Mar 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.003	≤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	Not Detected	≤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	0.10	≤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

Savitree N.
Savitree Naisangiam
Manager
โทร: 02-27603000-3223-9-9445

Approved by

Kanokkorn Anek
Senior Manager
โทร: 02-204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419265
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2914862-2

Page 2 of 2

Sample Number	2419265-1						
Sampled Date	Mar 18, 2024 9:45 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Mar 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	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	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Tanasit Wongsachai ทรัพย์สินวงศ์ชาติ, Pattarapol Sawangjaitam ปรตพรสวัสดิ์ 204-2-0002

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

Savitree N.

Savitree Noisangiam
Manager
ทรัพย์สินวงศ์ชาติ 204-2-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทรัพย์สินวงศ์ชาติ 204-2-0004

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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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2419265
Date Received : Mar 18, 2024
Date Reported : Mar 25, 2024
Report Number : 2914862-3

Page 1 of 1

Sample Number	2419265-1						
Sampled Date	Mar 18, 2024 9:45 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Mar 19, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.04	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.15	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.23	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	22.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.6	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjaitam

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

Technical Management

Savitree N.

Savitree Noisangiam
Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2433820
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945990-1

Page 1 of 2

Sample Number	2433820-1						
Sampled Date	Apr 08, 2024 2:57 PM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)						
Date Analysis Commenced	Apr 08, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Green, some odour, solid and a lot of turbid						
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	≤15	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	45	≤120	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	7.8	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	-	-	34.0	≤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	644	≤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	2.2	≤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	11	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchongkit

Narumon Banchongkit
Supervisor
ทรัพย์สินวงศ์ชาติ 323-2-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
ทรัพย์สินวงศ์ชาติ 323-2-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2433820
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945990-1

Page 2 of 2

Page 4 of 4

Sampling By : Pitthaya Thongtaeng ทรัพย์สินศาสตร์ 7-323-4-9448 , Pattarapol Sawangjaitam ทรัพย์สินศาสตร์ 7-204-4-0002

Remark :

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

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Narumon Banchongkit

Narumon Banchongkit
Supervisor
ทรัพย์สินวงศ์ชาติ 323-2-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
ทรัพย์สินวงศ์ชาติ 323-2-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 0009
Lot ID: 2433820
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945990-2

Page 1 of 2

Sample Number 2433820-1
Sampled Date Apr 08, 2024 2:57 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นกระบวนการบำบัดน้ำเสียจากทางชีวภาพ)
Date Analysis Commenced Apr 09, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.003	≤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	Not Detected	≤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	0.10	≤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	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

Channatt L.

Chanattagarn Inchom
Section Head
โทรเลขที่ 204-0-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขที่ 204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 0009
Lot ID: 2433820
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945990-2

Page 2 of 2

Sample Number 2433820-1
Sampled Date Apr 08, 2024 2:57 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นกระบวนการบำบัดน้ำเสียจากทางชีวภาพ)
Date Analysis Commenced Apr 09, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	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	0.07	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Pitthaya Thongtaeng โทรเลขที่ 323-0-9448, Pattaraporn Sawangjaitam โทรเลขที่ 204-0-0002

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

Channatt L.

Chanattagarn Inchom
Section Head
โทรเลขที่ 204-0-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขที่ 204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 0009
Lot ID: 2433820
Date Received : Apr 08, 2024
Date Reported : Apr 18, 2024
Report Number : 2945990-3

Page 1 of 1

Sample Number 2433820-1
Sampled Date Apr 08, 2024 2:57 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นกระบวนการบำบัดน้ำเสียจากทางชีวภาพ)
Date Analysis Commenced Apr 08, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.07	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.18	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.29	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	25.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.1	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Pitthaya Thongtaeng , Pattaraporn Sawangjaitam

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.

Approved by

Channatt L.

Chanattagarn Inchom
Section Head

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No. 0042
Lot ID: 2433823
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946001-1

Page 1 of 2

Sample Number 2433823-1
Sampled Date Apr 22, 2024 2:07 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นกระบวนการบำบัดน้ำเสียจากทางชีวภาพ)
Date Analysis Commenced Apr 22, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	4.1	≤15	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	40	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	7.7	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	-	-	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	724	≤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	1.6	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NHD (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

N. Banphit

Narumon Banichongkit
Supervisor
โทรเลขที่ 323-0-9445

Approved by

Dej Changchon

Dej Changchon
Senior Manager
โทรเลขที่ 323-0-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0042
Lot ID: 2433823
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946001-1

Sampling By : Paramet Sattayakun ทรัพย์สินประเสริฐ 2433-2-9476 , Kardbundi Kittsupavanit ทรัพย์สินประเสริฐ 2404-2-0001

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 2 of 2

Technical Management

N. Banphit

Narumon Banphongkit
Supervisor
ทรัพย์สินประเสริฐ 2433-2-9445

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
ทรัพย์สินประเสริฐ 2433-2-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0049
Lot ID: 2433823
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946001-2

Sample Number 2433823-1
Sampled Date Apr 22, 2024 2:07 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation Standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.003	≤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	Not Detected	≤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	0.08	≤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	<0.0005	≤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 Naisangiam
Manager
ทรัพย์สินประเสริฐ 2404-2-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทรัพย์สินประเสริฐ 2404-2-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0009
Lot ID: 2433823
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946001-2

Sample Number 2433823-1
Sampled Date Apr 22, 2024 2:07 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation Standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun ทรัพย์สินประเสริฐ 2433-2-9476 , Kardbundi Kittsupavanit ทรัพย์สินประเสริฐ 2404-2-0001

Remark :
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Technical Management

Savitree N.

Savitree Naisangiam
Manager
ทรัพย์สินประเสริฐ 2404-2-0007

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
ทรัพย์สินประเสริฐ 2404-2-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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P/O :
Project Name :
Project Location: WHA ESIE 2



TESTING
No.0009
Lot ID: 2433823
Date Received : Apr 22, 2024
Date Reported : Apr 29, 2024
Report Number : 2946001-3

Sample Number 2433823-1
Sampled Date Apr 22, 2024 2:07 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียส่วนกลางทางวิชาการ)
Date Analysis Commenced Apr 23, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation Standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.08	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.19	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.11	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	35.3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong
Total Phosphorus as P *	mg/L	0.2	0.5	3.7	No Standard	In-house method based on United States Environmental Protection Agency, EPA Method 365.4	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Paramet Sattayakun , Kardbundi Kittsupavanit

Remark :
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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2446442
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974394-1

Page 1 of 2

Sample Number 2446442-1
Sampled Date May 06, 2024 10:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นทางระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	9.4	≤15	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	60	≤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	45	≤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	42	≤300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	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	-	-	-	8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.1	≤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	788	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

N. Banngit

Narumon Banchoangkit
Supervisor
โทรเลขเลขที่ 7-323-9-9445

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
โทรเลขเลขที่ 7-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2446442
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974394-1

Page 2 of 2

Sample Number 2446442-1
Sampled Date May 06, 2024 10:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นทางระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.3	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Nitrog (C), part NHS (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	20	≤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.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Paramet Sattayakum โทรเลขเลขที่ 7-323-9-9476 , Kardbundi Kitisupavanit โทรเลขเลขที่ 7-204-9-0001

Remark :

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Technical Management

N. Banngit

Narumon Banchoangkit
Supervisor
โทรเลขเลขที่ 7-323-9-9445

Approved by

D. Chongchon

Dej Chongchon
Senior Manager
โทรเลขเลขที่ 7-323-9-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2446442
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974394-2

Page 1 of 2

Sample Number 2446442-1
Sampled Date May 06, 2024 10:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นทางระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)
Date Analysis Commenced May 08, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.002	≤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	Not Detected	≤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	0.08	≤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

Savitree N.

Savitree Noisangiam
Manager
โทรเลขเลขที่ 7-204-9-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 7-204-9-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2446442
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974394-2

Page 2 of 2

Sample Number 2446442-1
Sampled Date May 06, 2024 10:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผ่นทางระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)
Date Analysis Commenced May 08, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.03	≤1.0	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	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Water Testing

Total Phosphorus as P * mg/L | 0.2 | 0.5 | 3.1 | No Standard | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E) | Bangkok |

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Paramet Sattayakum โทรเลขเลขที่ 7-323-9-9476 , Kardbundi Kitisupavanit โทรเลขเลขที่ 7-204-9-0001

Remark :

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

Technical Management

Savitree N.

Savitree Noisangiam
Manager
โทรเลขเลขที่ 7-204-9-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 7-204-9-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2446442
Date Received : May 06, 2024
Date Reported : May 13, 2024
Report Number : 2974394-3

Page 1 of 1

Sample Number 2446442-1
Sampled Date May 06, 2024 10:40 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced May 06, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Green, some odour, solid and a lot of turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.07	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.12	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.17	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	24.8	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Paramet Sattayakun , Kardbundi Kitisupavant

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

Savitree N.
Savitree Naisianglam
Manager

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2447276
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2976475-1

Page 1 of 2

Sample Number 2447276-1
Sampled Date May 20, 2024 2:00 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced May 20, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

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	≤15	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	29	≤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	31	≤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	30	≤300	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2120 F	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	-	-	-	8.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.4	≤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	624	≤3000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong

Technical Management

Chonticha S.
Chonticha Subongkroh
Scientist (3)
โทร: 02-323-9449

Approved by

Dej Changchon
Senior Manager
โทร: 02-323-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2447276
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2976475-1

Page 2 of 2

Sample Number 2447276-1
Sampled Date May 20, 2024 2:00 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced May 20, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.0	≤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	15	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Tanasak Wongsachai โทร: 02-323-9460, Pattarapol Sawangjaitam โทร: 02-323-9460

Remark :
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Technical Management

Chonticha S.
Chonticha Subongkroh
Scientist (3)
โทร: 02-323-9449

Approved by

Dej Changchon
Senior Manager
โทร: 02-323-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2447276
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2976475-2

Page 1 of 2

Sample Number 2447276-1
Sampled Date May 20, 2024 2:00 PM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียที่ผ่านการบำบัดน้ำเสียจากทางราชการ)
Date Analysis Commenced May 21, 2024
Condition of Sample Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	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	0.002	≤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	Not Detected	≤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	0.09	≤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

Savitree N.
Savitree Naisianglam
Manager
โทร: 02-323-9449

Approved by

Kanokkorn Anek
Senior Manager
โทร: 02-323-9442

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Analysis / Test Report

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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2447276
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2976475-2

Page 2 of 2

Sample Number	2447276-1						
Sampled Date	May 20, 2024 2:00 PM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)						
Date Analysis Commenced	May 21, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	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	0.03	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	2.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Tanasit Wongsachai โทร 09-9460-3223-9460, Pattarapol Sawangjittam โทร 09-9460-3223-9460

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Technical Management

Savitree N.

Savitree Naisangiam
Manager
โทร 09-9460-3223-9460

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทร 09-9460-3223-9460

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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2447276
Date Received : May 20, 2024
Date Reported : May 28, 2024
Report Number : 2976475-3

Page 1 of 1

Sample Number	2447276-1						
Sampled Date	May 20, 2024 2:00 PM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)						
Date Analysis Commenced	May 20, 2024						
Condition of Sample	Contained in one amber glass bottle, two glass vials and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.08	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.16	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.20	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	15.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Tanasit Wongsachai , Pattarapol Sawangjittam

Remark :
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Approved by

Savitree N.

Savitree Naisangiam
Manager

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Analysis / Test Report

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P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-1

Page 1 of 3

Sample Number	2458986-1						
Sampled Date	Jun 03, 2024 10:05 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)						
Date Analysis Commenced	Jun 03, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	9.1	≤15	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	37	≤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	38	≤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	36	≤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, F)	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

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
โทร 09-9460-3223-9446

Approved by

Dej Changchon

Dej Changchon
Senior Manager
โทร 09-9460-3223-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-1

Page 2 of 3

Page 2 of 2

Sample Number	2458986-1						
Sampled Date	Jun 03, 2024 10:05 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียหลังผ่านระบบบำบัดน้ำเสียเทศบาลนครฉะเชิงเทรา)						
Date Analysis Commenced	Jun 03, 2024						
Condition of Sample	Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
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
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	-	-	31.6	≤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	424	≤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	1.6	≤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	18	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Natwadee Aikhompramart โทร 09-9460-3223-9406, Samart Khumlee โทร 09-9460-3223-9408

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

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
โทร 09-9460-3223-9446

Approved by

Dej Changchon

Dej Changchon
Senior Manager
โทร 09-9460-3223-9442

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0042
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-1

Page 3 of 3

- 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

Photchana S.

Photchana Seeda
Scientist (4)
โทรศัพท์ ๖-323-๙-9446

Approved by

D. J. Chongchon

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

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

Sample Number 2458986-1
Sampled Date Jun 03, 2024 10:05 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำรวมบนบ่อดักน้ำเสียหน้าคลองทางหลวง)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation Standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Page 1 of 5

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.07	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.002	≤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	0.03	≤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	0.003	≤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	0.0007	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Chanatt L.

Chanattagarn Inchom
Section Head
โทรศัพท์ ๖-204-๙-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรศัพท์ ๖-204-๙-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No.0009
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-2

Page 2 of 5

Sample Number 2458986-1
Sampled Date Jun 03, 2024 10:05 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำรวมบนบ่อดักน้ำเสียหน้าคลองทางหลวง)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation Standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Manganese	mg/L	0.0003	0.0005	0.13	≤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
Nickel	mg/L	0.0003	0.0005	0.02	≤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	Not Detected	≤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	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Pesticides - Organochlorine Group							
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

Technical Management

Chanatt L.

Chanattagarn Inchom
Section Head
โทรศัพท์ ๖-204-๙-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรศัพท์ ๖-204-๙-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

Sample Number 2458986-1
Sampled Date Jun 03, 2024 10:05 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำรวมบนบ่อดักน้ำเสียหน้าคลองทางหลวง)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation Standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Page 3 of 5

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
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
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

Technical Management

Chanatt L.

Chanattagarn Inchom
Section Head
โทรศัพท์ ๖-204-๙-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรศัพท์ ๖-204-๙-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No. 0009
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-2

Page 4 of 5

Sample Number 2458986-1
Sampled Date Jun 03, 2024 10:05 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำประมณน้ำดิบเข้าสู่ระบบกลางทางธรรมชาติ)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
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
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

Technical Management

Chanatt L.

Chanattagam Imchom
Section Head
โทรเลขเลขที่ 2-204-0-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขเลขที่ 2-204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
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P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No. 0009
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-2

Page 5 of 5

Sample Number 2458986-1
Sampled Date Jun 03, 2024 10:05 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำประมณน้ำดิบเข้าสู่ระบบกลางทางธรรมชาติ)
Date Analysis Commenced Jun 04, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Pesticides - Organochlorine Group							
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-Epoide *	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
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
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	2.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Nattawat Athomprommarat โทรเลขเลขที่ 2-323-0-0005 , Samart Khumplee โทรเลขเลขที่ 2-204-0-0084

Remark :

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Technical Management

Chanatt L.

Chanattagam Imchom
Section Head
โทรเลขเลขที่ 2-204-0-0008

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทรเลขเลขที่ 2-204-0-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No. 0009
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-3

Page 1 of 2

Sample Number 2458986-1
Sampled Date Jun 03, 2024 10:05 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำประมณน้ำดิบเข้าสู่ระบบกลางทางธรรมชาติ)
Date Analysis Commenced Jun 03, 2024
Condition of Sample Contained in two glass vials, three amber glass bottles and ten plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.17	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Pesticides - Organochlorine Group							
alpha-Chlordane *	ug/L	0.01	0.02	Not Detected	No Standard	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	No Standard	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							
Ammonia Nitrogen *	mg/L	0.02	0.05	0.22	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (F)	Rayong
Nitrate as N *	mg/L	0.015	0.05	8.52	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong
Odour *	-	-	-	Odourless	Non Objectionable	TIS, 257-2549	Rayong

Approved by

Chanatt L.

Chanattagam Imchom
Section Head

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location : WHA ESIE 2

TESTING
No. 0009
Lot ID: 2458986
Date Received : Jun 03, 2024
Date Reported : Jun 17, 2024
Report Number : 3002343-3

Page 2 of 2

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Nattawat Athomprommarat , Samart Khumplee

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

Chanatt L.

Chanattagam Imchom
Section Head

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2458989
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3002350-1

Page 1 of 2

Sample Number 2458989-1
Sampled Date Jun 17, 2024 9:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางราชการ)
Date Analysis Commenced Jun 17, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.8	≤15	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	44	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	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	-	-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Rayong
Temperature *	Degree C	-	-	31.2	≤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	676	≤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	1.8	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part N/5 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	21	≤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. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)
โทรเลขเลขที่ 3-323-9-9449

Approved by

Dej Changchon
Senior Manager
โทรเลขเลขที่ 3-323-9-9442

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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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0042
Lot ID: 2458989
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3002350-1

Page 2 of 2

Sampling By : Ekkachai Tuntong โทรเลขเลขที่ 3-323-9-0022, Kardbundi Kitsupavanit โทรเลขเลขที่ 3-204-9-0001

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)
โทรเลขเลขที่ 3-323-9-9449

Approved by

Dej Changchon
Senior Manager
โทรเลขเลขที่ 3-323-9-9442

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S:\Reports\AL_GL_rpt (11-2244)



Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2458989
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3002350-2

Page 1 of 2

Sample Number 2458989-1
Sampled Date Jun 17, 2024 9:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางราชการ)
Date Analysis Commenced Jun 18, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.25	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	0.006	≤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	Not Detected	≤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	0.27	≤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	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

Technical Management

Narin Saiseng
Supervisor
โทรเลขเลขที่ 3-204-9-0009

Approved by

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 3-204-9-0004

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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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No.0009
Lot ID: 2458989
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3002350-2

Page 2 of 2

Sample Number 2458989-1
Sampled Date Jun 17, 2024 9:15 AM
Sample Description Wastewater
Location WHA ESIE2 : Effluent_Holding Pond (น้ำเสียผิวน้ำระบบบำบัดน้ำเสียส่วนกลางทางราชการ)
Date Analysis Commenced Jun 18, 2024
Condition of Sample Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)
Physical Property Yellow, some odour, solid and turbid

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.10	≤1.0	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	0.09	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Total Phosphorus as P *	mg/L	0.2	0.5	3.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-P (B, E)	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment. BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.

Sampling By : Ekkachai Tuntong โทรเลขเลขที่ 3-323-9-0022, Kardbundi Kitsupavanit โทรเลขเลขที่ 3-204-9-0001

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

Narin Saiseng
Supervisor
โทรเลขเลขที่ 3-204-9-0009

Approved by

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 3-204-9-0004

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Analysis / Test Report

Client : WHA Utilities and Power Public Company Limited
475/3 Moo 7, Tumbol Klong Kiew, Amphur Ban Bueng, Chonburi Thailand 20220
P/O :
Project Name :
Project Location: WHA ESIE 2

TESTING
No 0009
Lot ID: 2458989
Date Received : Jun 17, 2024
Date Reported : Jun 24, 2024
Report Number : 3002350-3

Page 1 of 1

Sample Number	2458989-1						
Sampled Date	Jun 17, 2024 9:15 AM						
Sample Description	Wastewater						
Location	WHA ESIE2 : Effluent_Holding Pond (น้ำเสียฟาร์มระบบบำบัดน้ำผิวน้ำกลางทางอากาศ)						
Date Analysis Commenced	Jun 17, 2024						
Condition of Sample	Contained in two glass vials, one amber glass bottle and six plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Physical Property	Yellow, some odour, solid and turbid						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.11	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.19	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	0.05	0.1	0.2	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (D)	Rayong
Nitrate as N *	mg/L	0.015	0.05	20.0	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	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.
BOD guideline set by Amendment details report of Environmental Impact Assessment Report of WHA Eastern Seaboard Industrial Estate 2.
Sampling By : Ekachai Tunlong , Kerdbundit Kitisupavanit

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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Approved by

Savitree N.
Savitree Nolsinglam
Manager

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ภาคผนวก ค-4

ระดับเสียงโดยทั่วไป



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994185-1

Page 1 of 1

Sample Number	2447271-1		
Parameter	Noise (Leq 24 hrs)		
Location	บริเวณทาง 7 น่านวนด้าน (N1)		
Measurement Date	May 04 - May 05, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial No. 296515		
	Time	Leq (dB(A))	Lmax (dB(A))
	02:00 PM - 03:00 PM	49.0	68.8
	03:00 PM - 04:00 PM	47.6	61.2
	04:00 PM - 05:00 PM	47.8	65.9
	05:00 PM - 06:00 PM	47.5	61.4
	06:00 PM - 07:00 PM	49.3	83.3
	07:00 PM - 08:00 PM	45.5	61.6
	08:00 PM - 09:00 PM	45.1	61.2
	09:00 PM - 10:00 PM	43.7	53.6
	10:00 PM - 11:00 PM	43.5	56.1
	11:00 PM - 12:00 AM	43.3	53.3
	12:00 AM - 01:00 AM	42.8	55.7
	01:00 AM - 02:00 AM	42.0	56.4
	02:00 AM - 03:00 AM	41.9	48.1
	03:00 AM - 04:00 AM	43.6	65.2
	04:00 AM - 05:00 AM	42.7	53.1
	05:00 AM - 06:00 AM	48.8	64.6
	06:00 AM - 07:00 AM	49.1	66.0
	07:00 AM - 08:00 AM	48.3	64.2
	08:00 AM - 09:00 AM	50.2	64.5
	09:00 AM - 10:00 AM	50.1	76.2
	10:00 AM - 11:00 AM	48.9	65.7
	11:00 AM - 12:00 PM	50.4	70.7
	12:00 PM - 01:00 PM	52.2	78.9
	01:00 PM - 02:00 PM	50.1	84.1
	Leq Average 24 hrs. (dB(A))	47.8	
	Lmax (dB(A))		84.1
	L90 (dB(A))		43.4
	Ldn (dB(A))	52.3	
	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

Thanitak.
Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S
Supot Salamteah
Section Head

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S:\Reports_Air Noise rpt (9:38AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report f umber: 299418N-1

Page 1 of 1

Sample Number	2447271-2		
Parameter	f oise (Leq) 24 hrs6		
Location	บริเวณทาง 7 น่านวนด้าน ฝั่ง 16		
Measurement Date	May 05 - May 0N, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial f o. 29N615		
	Time	Le) dB(A)66	Lmax dB(A)66
	02:00 PM - 03:00 PM	50.1	N6.5
	03:00 PM - 04:00 PM	47.1	N4.5
	04:00 PM - 05:00 PM	53.2	72.7
	05:00 PM - 0N:00 PM	53.2	80.8
	0N:00 PM - 07:00 PM	50.1	70.8
	07:00 PM - 08:00 PM	51.2	N6.3
	08:00 PM - 09:00 PM	53.9	77.1
	09:00 PM - 10:00 PM	53.0	70.2
	10:00 PM - 11:00 PM	55.N	74.5
	11:00 PM - 12:00 AM	52.0	N6.7
	12:00 AM - 01:00 AM	51.5	71.0
	01:00 AM - 02:00 AM	49.9	70.N
	02:00 AM - 03:00 AM	48.8	70.1
	03:00 AM - 04:00 AM	47.7	N4.9
	04:00 AM - 05:00 AM	47.3	N1.8
	05:00 AM - 0N:00 AM	48.7	73.4
	0N:00 AM - 07:00 AM	4N.N	N0.1
	07:00 AM - 08:00 AM	49.5	73.7
	08:00 AM - 09:00 AM	4N.4	55.5
	09:00 AM - 10:00 AM	53.1	74.4
	10:00 AM - 11:00 AM	50.2	71.5
	11:00 AM - 12:00 PM	54.2	7N.9
	12:00 PM - 01:00 PM	53.8	7N.0
	01:00 PM - 02:00 PM	50.4	N6.0
	Le) Average 24 hrs. dB(A)66	51.5	
	Lmax dB(A)66		80.8
	L90 dB(A)66		
	Ldn dB(A)66	57.3	
	Standard dB(A)66	70	115
	Reference Method : ISO199N-1 and 199N-2		
	Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2546 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

Thanitak.
Thanita Kulsuriwong
Scientist q66

Approved by

Supot S
Supot Salamteah
Section Head

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S:\Reports_Air Noise rpt (9:38AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994189-1

Page 1 of 1

Sample Number	2447271-5		
Parameter	Noise (Leq 24 hrs)		
Location	บริเวณทาง 7 น่านวนาป่าดง (N1)		
Measurement Date	May 08 - May 09, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial No. 296515		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	49.7	65.9	46.3
03:00 PM - 04:00 PM	48.7	63.4	45.1
04:00 PM - 05:00 PM	50.3	68.6	46.9
05:00 PM - 06:00 PM	47.9	67.7	44.4
06:00 PM - 07:00 PM	48.4	66.9	44.2
07:00 PM - 08:00 PM	47.9	66.7	44.6
08:00 PM - 09:00 PM	51.9	73.1	46.0
09:00 PM - 10:00 PM	52.3	75.7	48.0
10:00 PM - 11:00 PM	51.3	73.3	47.2
11:00 PM - 12:00 AM	50.3	66.3	47.6
12:00 AM - 01:00 AM	49.2	75.0	45.9
01:00 AM - 02:00 AM	49.8	72.5	46.2
02:00 AM - 03:00 AM	48.1	63.7	45.7
03:00 AM - 04:00 AM	47.4	62.6	44.6
04:00 AM - 05:00 AM	46.0	57.8	44.2
05:00 AM - 06:00 AM	48.3	71.6	44.1
06:00 AM - 07:00 AM	48.4	67.0	44.4
07:00 AM - 08:00 AM	49.0	70.6	45.3
08:00 AM - 09:00 AM	46.3	66.8	40.0
09:00 AM - 10:00 AM	48.2	70.6	40.2
10:00 AM - 11:00 AM	46.5	66.4	41.9
11:00 AM - 12:00 PM	47.5	69.7	44.6
12:00 PM - 01:00 PM	49.3	75.0	45.3
01:00 PM - 02:00 PM	49.9	68.1	47.3
Leq Average 24 hrs. (dB(A))	49.2		
Lmax (dB(A))		75.7	
L90 (dB(A))			45.1
Ldn (dB(A))	55.5		
Standard (dB(A))	70	115	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป 2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เฝ้าระวังจากการประกอบกิจการ โรงงาน พ.ศ. 2546		
Remark	: The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.		

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S
Supot Salamteah
Section Head

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354-221/ EMAIL

S:\Reports_Air Noise rpt (9:39AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994190-1

Page 1 of 1

Sample Number	2447271-f		
Parameter	8 noise (Leq 24 hrs)		
Location	บริเวณทาง 7 น่านวนาป่าดง (81)		
Measurement Date	May 09 - May 10, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial No. 29f 515		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	49.2	f2.f	4f.9
03:00 PM - 04:00 PM	50.x	70.x	45.7
04:00 PM - 05:00 PM	f1.3	x5.7	50.5
05:00 PM - 06:00 PM	53.5		49.x
06:00 PM - 07:00 PM	49.9	f9.5	45.5
07:00 PM - 08:00 PM	4f.5	74.7	43.9
08:00 PM - 09:00 PM	4f.1	52.3	44.7
09:00 PM - 10:00 PM	4f.1	f5.4	44.7
10:00 PM - 11:00 PM	4f.5	55.4	44.9
11:00 PM - 12:00 AM	45.9	53.2	44.0
12:00 AM - 01:00 AM	45.2	55.5	43.7
01:00 AM - 02:00 AM	45.3	59.4	44.1
02:00 AM - 03:00 AM	44.f	51.0	43.2
03:00 AM - 04:00 AM	45.2	59.1	43.3
04:00 AM - 05:00 AM	45.f	f5.4	43.x
05:00 AM - 06:00 AM	52.0	70.0	4f.1
06:00 AM - 07:00 AM	51.7	73.x	47.3
07:00 AM - 08:00 AM	52.2	75.0	4x.9
08:00 AM - 09:00 AM	50.x	73.0	45.x
09:00 AM - 10:00 AM	51.2	75.1	44.5
10:00 AM - 11:00 AM	4x.3	70.1	44.4
11:00 AM - 12:00 PM	4f.5	f7.4	41.3
12:00 PM - 01:00 PM	49.3	x0.1	43.5
01:00 PM - 02:00 PM	4x.1	f3.2	45.4
Leq Average 24 hrs. (dB(A))	51.3		
Lmax (dB(A))		x5.7	
L90 (dB(A))			44.7
Ldn (dB(A))	55.4		
Standard (dB(A))	70	115	
Reference Method	: ISO199f-1 and 199f-2		
Standard	: 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป 2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เฝ้าระวังจากการประกอบกิจการ โรงงาน พ.ศ. 2546		
Remark	: The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.		

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S
Supot Salamteah
Section Head

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354-221/ EMAIL

S:\Reports_Air Noise rpt (9:39AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994193-1

Page 1 of 1

Sample Number	2447271-9		
Parameter	8oise fLx(24 hrsq		
Location	โรงพยาบาลส่งเสริมสุขภาพตำบลเฉลิมพระเกียรติ 0 พรรชานนทินพารัส f82q		
Measurement Date	May 05 - May 07, 2024		
Measurement by	Mongkon Phalaithip		
Sound Level meter	Serial 8o. 11731 11		
Time	Le(fdbfAq)	Lma6 fdbfAq)	L90 fdbfAq)
11:00 AM - 12:00 PM	55.9	71.5	52.3
12:00 PM - 01:00 PM	50.1	76.4	54.4
01:00 PM - 02:00 PM	50.4	95.2	54.5
02:00 PM - 03:00 PM	59.4	70.3	54.0
03:00 PM - 04:00 PM	57.7	71.7	52.9
04:00 PM - 05:00 PM	57.9	72.4	54.7
05:00 PM - 06:00 PM	54.5	74.4	55.3
06:00 PM - 07:00 PM	54.7	71.5	55.5
07:00 PM - 08:00 PM	57.9	71.1	54.2
08:00 PM - 09:00 PM	57.3	76.1	53.5
09:00 PM - 10:00 PM	55.0	72.3	50.7
10:00 PM - 11:00 PM	53.4	59.9	44.1
11:00 PM - 12:00 AM	52.5	51.1	41.7
12:00 AM - 01:00 AM	51.7	44.7	45.1
01:00 AM - 02:00 AM	51.4	52.3	45.4
02:00 AM - 03:00 AM	51.5	57.5	45.4
03:00 AM - 04:00 AM	50.4	51.7	44.7
04:00 AM - 05:00 AM	52.2	44.4	41.3
05:00 AM - 06:00 AM	53.4	73.0	50.7
06:00 AM - 07:00 AM	54.3	75.3	54.4
07:00 AM - 08:00 AM	59.2	74.4	51.1
08:00 AM - 09:00 AM	57.9	77.4	54.3
09:00 AM - 10:00 AM	54.5	70.9	55.2
10:00 AM - 11:00 AM	54.3	71.4	55.0
Le(Average 24 hrs. fdbfAq)	54.4		
Lma6 fdbfAq)		95.2	
L90 fdbfAq)			53.5
Ldn fdbfAq)	53.5		
Standard fdbfAq)	70	115	
Reference Method : ISO199)-1 and 199)-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เิดจากการประกอบกิจการ			
โรงงาน พ.ศ. 2546			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist f4q

Approved by

Supot S

Supot Salamteah
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S:\Reports_Air Noise rpt (9:41AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994194-1

Page 1 of 1

Sample Number	2447271-10		
Parameter	8oise fLx(24 hrsq		
Location	โรงพยาบาลส่งเสริมสุขภาพตำบลเฉลิมพระเกียรติ 0 พรรชานนทินพารัส f82q		
Measurement Date	May 07 - May 07, 2024		
Measurement by	Mongkon Phalaithip		
Sound Level meter	Serial 8o. 11731 11		
Time	Le(fdbfAq)	Lma6 fdbfAq)	L90 fdbfAq)
11:00 AM - 12:00 PM	57.9	71.4	54.1
12:00 PM - 01:00 PM	54.9	74.2	55.5
01:00 PM - 02:00 PM	51.1	77.3	55.0
02:00 PM - 03:00 PM	57.4	71.1	54.1
03:00 PM - 04:00 PM	50.2	79.1	54.4
04:00 PM - 05:00 PM	54.3	71.7	55.1
05:00 PM - 06:00 PM	59.0	73.5	53.1
06:00 PM - 07:00 PM	54.7	72.2	51.1
07:00 PM - 08:00 PM	57.0	71.1	53.1
08:00 PM - 09:00 PM	57.4	79.0	53.1
09:00 PM - 10:00 PM	55.5	71.1	50.4
10:00 PM - 11:00 PM	55.3	71.5	50.0
11:00 PM - 12:00 AM	53.5	71.5	47.9
12:00 AM - 01:00 AM	52.5	71.3	41.3
01:00 AM - 02:00 AM	51.3	74.0	44.5
02:00 AM - 03:00 AM	51.1	77.4	42.1
03:00 AM - 04:00 AM	51.9	74.4	44.4
04:00 AM - 05:00 AM	53.1	79.9	41.5
05:00 AM - 06:00 AM	53.0	76.9	51.2
06:00 AM - 07:00 AM	54.3	79.7	54.1
07:00 AM - 08:00 AM	50.1	72.2	51.4
08:00 AM - 09:00 AM	50.5	74.4	57.4
09:00 AM - 10:00 AM	54.0	72.3	54.1
10:00 AM - 11:00 AM	51.5	74.4	51.4
Le(Average 24 hrs. fdbfAq)	59.5		
Lma6 fdbfAq)		95.2	
L90 fdbfAq)			54.1
Ldn fdbfAq)	53.5		
Standard fdbfAq)	70	115	
Reference Method : ISO199)-1 and 199)-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เิดจากการประกอบกิจการ			
โรงงาน พ.ศ. 2546			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist f4q

Approved by

Supot S

Supot Salamteah
Section Head

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S:\Reports_Air Noise rpt (9:41AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994195-1

Page 1 of 1

Sample Number	2447271-11		
Parameter	8oise fLx(24 hrsq		
Location	โรงพยาบาลส่งเสริมสุขภาพตำบลเฉลิมพระเกียรติ 0 พรรชานนทินพารัส f82q		
Measurement Date	May 07 - May 07, 2024		
Measurement by	Mongkon Phalaithip		
Sound Level meter	Serial 8o. 11731 11		
Time	Le(fdbfAq)	Lmax fdbfAq)	L90 fdbfAq)
11:00 AM - 12:00 PM	52.1	90.2	56.9
12:00 PM - 01:00 PM	50.4	76.9	56.1
01:00 PM - 02:00 PM	52.3	75.5	59.5
02:00 PM - 03:00 PM	56.1	70.3	55.6
03:00 PM - 04:00 PM	56.5	74.4	55.2
04:00 PM - 05:00 PM	59.0	70.9	51.1
05:00 PM - 06:00 PM	59.1	72.5	51.3
06:00 PM - 07:00 PM	54.9	73.1	55.6
07:00 PM - 08:00 PM	56.0	75.2	54.1
08:00 PM - 09:00 PM	56.1	60.2	54.4
09:00 PM - 10:00 PM	55.2	71.7	51.7
10:00 PM - 11:00 PM	54.9	66.6	50.9
11:00 PM - 12:00 AM	54.4	59.2	49.7
12:00 AM - 01:00 AM	53.1	61.1	47.9
01:00 AM - 02:00 AM	52.6	51.3	46.3
02:00 AM - 03:00 AM	53.5	71.7	46.9
03:00 AM - 04:00 AM	53.3	51.7	49.6
04:00 AM - 05:00 AM	54.4	61.4	46.4
05:00 AM - 06:00 PM	53.7	75.9	52.0
06:00 AM - 07:00 AM	56.6	73.9	55.4
07:00 AM - 08:00 AM	50.0	72.0	57.2
08:00 AM - 09:00 AM	56.3	73.4	54.9
09:00 AM - 10:00 AM	57.5	70.5	54.1
10:00 AM - 11:00 AM	51.6	71.7	53.9
Le(Average 24 hrs. fdbfAq)	59.2		
Lmax fdbfAq)		90.2	
L90 fdbfAq)			54.4
Ldn fdbfAq)	54.2		
Standard fdbfAq)	70	115	
Reference Method : ISO199)-1 and 199)-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เิดจากการประกอบกิจการ			
โรงงาน พ.ศ. 2546			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist f4q

Approved by

Supot S

Supot Salamteah
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S:\Reports_Air Noise rpt (9:41AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994198-1

Page 1 of 1

Sample Number	2447271-12		
Parameter	Noise (Leq 24 hrs)		
Location	โรงพยาบาลส่งเสริมสุขภาพตำบลเฉลิมพระเกียรติ 80 พรรชานนทินพารัส (N2)		
Measurement Date	May 06 - May 09, 2024		
Measurement by	Mongkon Phalaithip		
Sound Level meter	Serial No. 1173811		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	81.1	70.1	54.2
12:00 PM - 01:00 PM	82.4	70.6	53.5
01:00 PM - 02:00 PM	55.8	70.7	52.5
02:00 PM - 03:00 PM	55.9	73.0	52.5
03:00 PM - 04:00 PM	58.3	70.8	53.0
04:00 PM - 05:00 PM	58.2	73.9	53.1
05:00 PM - 06:00 PM	57.5	70.9	54.7
06:00 PM - 07:00 PM	82.2	73.8	54.1
07:00 PM - 08:00 PM	57.1	70.9	54.1
08:00 PM - 09:00 PM	57.8	74.2	52.8
09:00 PM - 10:00 PM	55.8	70.3	51.7
10:00 PM - 11:00 PM	55.0	89.2	49.9
11:00 PM - 12:00 AM	54.0	78.4	46.8
12:00 AM - 01:00 AM	53.0	89.9	47.8
01:00 AM - 02:00 AM	52.8	70.2	48.3
02:00 AM - 03:00 AM	52.6	86.0	48.5
03:00 AM - 04:00 AM	52.5	85.9	48.5
04:00 AM - 05:00 AM	54.5	70.2	46.7
05:00 AM - 06:00 PM	83.1	72.8	52.8
06:00 AM - 07:00 AM	56.8	72.1	55.0
07:00 AM - 08:00 AM	59.5	75.7	58.5
08:00 AM - 09:00 AM	56.1	70.0	54.7
09:00 AM - 10:00 AM	57.8	78.0	54.5
10:00 AM - 11:00 AM	57.4	89.1	54.4
Leq Average 24 hrs. (dB(A))	56.1		
Lmax (dB(A))		78.4	
L90 (dB(A))			52.8
Ldn (dB(A))	83.8		
Standard (dB(A))	70	115	
Reference Method : ISO1998-1 and 1998-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) (ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เิดจากการประกอบกิจการ			
โรงงาน พ.ศ. 2546			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist (4)

Approved by

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Supot Salamteah
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S:\Reports_Air Noise rpt (9:41AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994197-1

Page 1 of 1

Sample Number	2447271-13		
Parameter	8oise fLeq (24 hrsq)		
Location	บริเวณถนนเส้นเขตภาพผ่านตม.เมืองประเทสร์ 0 พรพารามบิณพารบิ (f82q)		
Measurement Date	May 09 - May 10, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial 8o. 11731 11		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.5	79.2	54.2
12:00 PM - 01:00 PM	57.2	72.3	53.5
01:00 PM - 02:00 PM	55.4	x.7	52.x
02:00 PM - 03:00 PM	57.1	x.3	53.1
03:00 PM - 04:00 PM	11.2	x.2	51.5
04:00 PM - 05:00 PM	13.4	94.5	51.1
05:00 PM - 01:00 PM	58.1	19.9	55.1
01:00 PM - 07:00 PM	12.4	73.2	55.1
07:00 PM - 0x:00 PM	5x.5	75.x	54.3
0x:00 PM - 09:00 PM	51.5	73.1	51.9
09:00 PM - 10:00 PM	55.2	15.1	51.5
10:00 PM - 11:00 PM	54.5	71.3	49.9
11:00 PM - 12:00 AM	53.x	14.x	4x.1
12:00 AM - 01:00 AM	52.9	1x.1	47.0
01:00 AM - 02:00 AM	51.9	13.x	45.1
02:00 AM - 03:00 AM	53.2	19.3	47.3
03:00 AM - 04:00 AM	54.2	1x.5	4x.7
04:00 AM - 05:00 AM	10.1	73.0	50.5
05:00 AM - 01:00 AM	11.1	73.3	54.4
01:00 AM - 07:00 AM	10.4	xx.0	51.3
07:00 AM - 0x:00 AM	11.5	74.1	51.9
0x:00 AM - 09:00 AM	10.x	71.2	51.4
09:00 AM - 10:00 AM	12.0	x1.2	51.5
10:00 AM - 11:00 AM	12.4	79.3	57.9
Leq (Average 24 hrs. fdbfAq)	59.3		
Lmax fdbfAq		94.5	
L90 fdbfAq			53.5
Ldn fdbfAq	14.4		
Standard fdbfAq	70	115	
Reference Method : ISO199-1 and 1991-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540 (เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป)			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการทวน และระดับเสียงที่เกิดจากการประกอบกิจการ			
โรงงาน พ.ศ. 2546			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist f4q

Approved by

Supot S
Supot Salamteah
Section Head

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S:\Reports_Air Noise rpt (9:41AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994198-1

Page 1 of 1

Sample Number	2447271-14		
Parameter	Noise (Leq 24 hrs)		
Location	บริเวณถนนเส้นเขตภาพผ่านตม.เมืองประเทสร์ 60 พรพารามบิณพารบิ (N2)		
Measurement Date	May 10 - May 11, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial No. 1173611		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.2	76.3	56.0
12:00 PM - 01:00 PM	58.7	73.1	55.8
01:00 PM - 02:00 PM	62.6	71.5	57.0
02:00 PM - 03:00 PM	59.1	75.2	55.7
03:00 PM - 04:00 PM	57.8	79.9	54.6
04:00 PM - 05:00 PM	57.9	74.1	54.9
05:00 PM - 06:00 PM	58.7	70.5	55.9
06:00 PM - 07:00 PM	61.0	69.9	55.3
07:00 PM - 08:00 PM	58.0	75.4	54.6
08:00 PM - 09:00 PM	56.6	73.2	52.9
09:00 PM - 10:00 PM	55.0	65.1	51.2
10:00 PM - 11:00 PM	54.5	74.5	49.4
11:00 PM - 12:00 AM	53.5	72.1	46.8
12:00 AM - 01:00 AM	51.4	64.2	45.5
01:00 AM - 02:00 AM	51.7	67.8	44.9
02:00 AM - 03:00 AM	51.5	68.8	44.6
03:00 AM - 04:00 AM	52.4	64.0	46.2
04:00 AM - 05:00 AM	54.7	71.9	49.5
05:00 AM - 06:00 AM	60.0	74.8	53.3
06:00 AM - 07:00 AM	59.4	70.6	56.1
07:00 AM - 08:00 AM	58.9	80.1	55.3
08:00 AM - 09:00 AM	57.7	76.4	54.7
09:00 AM - 10:00 AM	57.6	83.6	53.1
10:00 AM - 11:00 AM	58.6	80.2	54.4
Leq Average 24 hrs. (dB(A))	57.9		
Lmax (dB(A))		83.6	
L90 (dB(A))			54.4
Ldn (dB(A))	62.7		
Standard (dB(A))	70	115	
Reference Method : ISO1996-1 and 1996-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) (เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป)			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการทวน และระดับเสียงที่เกิดจากการประกอบกิจการ			
โรงงาน พ.ศ. 2546			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist (4)

Approved by

Supot S
Supot Salamteah
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S:\Reports_Air Noise rpt (9:42AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994201-1

Page 1 of 1

Sample Number	2447271-17		
Parameter	8oise fLe(24 hrsq		
Location	บริเวณทาง 3 เข้าฝั่งของ f83q		
Measurement Date	May 07 - May 07, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial 8o. 11731) 10		
Time	Le(fdbfAq	Lma6 fdbfAq	L90 fdbfAq
10:00 AM - 11:00 AM	10.2	79.9	52.3
11:00 AM - 12:00 PM	51.0	74.3	50.9
12:00 PM - 01:00 PM	59.4	x0.1	51.5
01:00 PM - 02:00 PM	55.1	75.9	49.9
02:00 PM - 03:00 PM	10.2	79.4	50.2
03:00 PM - 04:00 PM	55.3	79.3	50.1
04:00 PM - 05:00 PM	57.9	74.9	52.9
05:00 PM - 06:00 PM	5x.4	x0.4	54.0
06:00 PM - 07:00 PM	57.7	77.1	52.x
07:00 PM - 0x:00 PM	51.4	x2.1	52.1
0x:00 PM - 09:00 PM	55.9	71.2	51.4
09:00 PM - 10:00 PM	54.2	74.4	50.1
10:00 PM - 11:00 PM	53.x	(9.)	49.9
11:00 PM - 12:00 AM	52.x	(3.5	4x.9
12:00 AM - 01:00 AM	51.4	71.3	47.5
01:00 AM - 02:00 AM	50.0	(5.2	41.3
02:00 AM - 03:00 AM	52.1	7x.0	41.)
03:00 AM - 04:00 AM	50.3	(5.1	41.x
04:00 AM - 05:00 AM	51.)	(1.)	47.5
05:00 AM - 06:00 AM	55.0	x0.7	49.7
06:00 AM - 07:00 AM	55.7	71.4	52.1
07:00 AM - 0x:00 AM	5x.4	71.1	53.4
0x:00 AM - 09:00 AM	5x.)	71.1	55.4
09:00 AM - 10:00 AM	55.0	71.1	49.7
Le(Average 24 hrs. fdbfAq	51.4		
Lma6 fdbfAq		x2.1	
L90 fdbfAq			50.1
Ldn fdbfAq	10.4		
Standard fdbfAq	70	115	
Reference Method : ISO199-1 and 1991-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เกินจากการประกอบกิจการ			
โรงงาน พ.ศ. 2544			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist f4q

Approved by

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Supot Salamteah
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S:\Reports_Air Noise rpt (9:42AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994202-1

Page 1 of 1

Sample Number	2447271-1f		
Parameter	8oise (Leq 24 hrs)		
Location	บริเวณทาง 3 เข้าฝั่งของ (83)		
Measurement Date	May 07 - May 07, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial 8o. 1173610		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	60.2	79.1	53.1
11:00 AM - 12:00 PM	62.2	91.1	55.7
12:00 PM - 01:00 PM	59.9	12.4	55.9
01:00 PM - 02:00 PM	62.1	10.5	53.5
02:00 PM - 03:00 PM	57.1	79.1	52.1
03:00 PM - 04:00 PM	56.2	76.9	51.1
04:00 PM - 05:00 PM	57.6	76.6	54.2
05:00 PM - 06:00 PM	51.1	71.4	52.1
06:00 PM - 07:00 PM	55.9	10.5	51.1
07:00 PM - 08:00 PM	53.7	72.2	51.6
08:00 PM - 09:00 PM	56.3	14.9	50.0
09:00 PM - 10:00 PM	51.9	62.1	50.2
10:00 PM - 11:00 PM	54.4	64.9	50.5
11:00 PM - 12:00 AM	51.3	64.1	49.4
12:00 AM - 01:00 AM	54.0	75.9	49.4
01:00 AM - 02:00 AM	51.1	65.3	49.5
02:00 AM - 03:00 AM	51.0	63.0	49.0
03:00 AM - 04:00 AM	51.1	60.2	49.0
04:00 AM - 05:00 AM	51.0	64.1	47.7
05:00 AM - 06:00 AM	56.3	77.5	50.4
06:00 AM - 07:00 AM	56.2	77.1	52.4
07:00 AM - 08:00 AM	56.2	74.1	52.9
08:00 AM - 09:00 AM	55.1	74.1	50.9
09:00 AM - 10:00 AM	54.7	74.9	51.4
Leq Average 24 hrs. (dB(A))	56.9		
Lmax (dB(A))		91.1	
L90 (dB(A))			51.1
Ldn (dB(A))	61.0		
Standard (dB(A))	70	115	
Reference Method : ISO1996-1 and 1996-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) (ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เกินจากการประกอบกิจการ			
โรงงาน พ.ศ. 2544			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist f4q

Approved by

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Supot Salamteah
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S:\Reports_Air Noise rpt (9:42AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994203-1

Page 1 of 1

Sample Number	2447271-19		
Parameter	8oise fLe(24 hrsq		
Location	บริเวณทาง 3 เข้าฝั่งของ f83q		
Measurement Date	May 09 - May 09, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial 8o. 1173610		
Time	Le(fdbfAq	Lmax fdbfAq	L90 fdbfAq
10:00 AM - 11:00 AM	54.3	70.5	50.9
11:00 AM - 12:00 PM	53.3	61.0	49.7
12:00 PM - 01:00 PM	54.9	73.2	51.5
01:00 PM - 02:00 PM	52.5	72.3	49.0
02:00 PM - 03:00 PM	53.0	71.5	41.)
03:00 PM - 04:00 PM	52.5	71.3	49.2
04:00 PM - 05:00 PM	56.5	77.7	50.6
05:00 PM - 06:00 PM	56.9	10.3	52.6
06:00 PM - 07:00 PM	55.9	77.9	51.1
07:00 PM - 08:00 PM	54.9	70.9	52.2
08:00 PM - 09:00 PM	53.1	79.6	50.5
09:00 PM - 10:00 PM	54.4	77.1	50.1
10:00 PM - 11:00 PM	52.7	61.3	50.3
11:00 PM - 12:00 AM	52.0	67.2	49.2
12:00 AM - 01:00 AM	50.6	62.4	41.)
01:00 AM - 02:00 AM	52.9	76.2	41.7
02:00 AM - 03:00 AM	53.0	71.6	49.0
03:00 AM - 04:00 AM	53.6	75.2	49.9
04:00 AM - 05:00 AM	56.9	77.4	50.6
05:00 AM - 06:00 AM	51.1	11.2	50.1
06:00 AM - 07:00 AM	57.1	77.0	52.5
07:00 AM - 08:00 AM	56.6	77.9	53.3
08:00 AM - 09:00 AM	55.6	71.2	51.9
09:00 AM - 10:00 AM	56.9	10.0	53.5
Le(Average 24 hrs. fdbfAq	55.0		
Lmax fdbfAq		11.2	
L90 fdbfAq			50.6
Ldn fdbfAq	61.4		
Standard fdbfAq	70	115	
Reference Method : ISO1996-1 and 1996-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เกินจากการประกอบกิจการ			
โรงงาน พ.ศ. 2544			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.
Thanita Kulsuriwong
Scientist f4q

Approved by

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S:\Reports_Air Noise rpt (9:42AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994204-1

Page 1 of 1

Sample Number	2447271-20		
Parameter	8oise fLe(24 hrsq		
Location	บริเวณทาง 3 เข้าฝั่งของ f83q		
Measurement Date	May 09 - May 10, 2024		
Measurement by	Mongkon Phalathip		
Sound Level meter	Serial 8o. 11731) 10		
Time	Le(fdbfAq	Lma6 fdbfAq	L90 fdbfAq
10:00 AM - 11:00 AM	55.9	73.1	52.7
11:00 AM - 12:00 PM	55.x	73.9	51.5
12:00 PM - 01:00 PM	55.0	75.4	50.0
01:00 PM - 02:00 PM	53.x	79.1	49.4
02:00 PM - 03:00 PM	55.3	74.4	49.)
03:00 PM - 04:00 PM	(2.5	x1.)	54.9
04:00 PM - 05:00 PM	14.2	72.2	51.9
05:00 PM - 06:00 PM	57.5	97.2	51.9
06:00 PM - 07:00 PM	55.4	73.1	52.)
07:00 PM - 0x:00 PM	55.x	73.1	52.1
0x:00 PM - 09:00 PM	55.0	x0.4	49.9
09:00 PM - 10:00 PM	52.9	73.7	4x.x
10:00 PM - 11:00 PM	50.2	(3.3	4x.2
11:00 PM - 12:00 AM	50.5	(2.7	4x.4
12:00 AM - 01:00 AM	49.9	10.9	4x.0
01:00 AM - 02:00 AM	49.x	59.4	47.x
02:00 AM - 03:00 AM	50.3	12.7	4x.3
03:00 AM - 04:00 AM	51.1	(2.)	4x.9
04:00 AM - 05:00 AM	53.7	71.3	49.3
05:00 AM - 06:00 AM	59.0	x3.1	50.7
06:00 AM - 07:00 AM	51.0	71.7	52.6
07:00 AM - 0x:00 AM	51.1	71.0	52.5
0x:00 AM - 09:00 AM	55.9	77.4	52.5
09:00 AM - 10:00 AM	51.7	71.1	53.4
Le(Average 24 hrs. fdbfAq	51.7		
Lma6 fdbfAq		93.2	
L90 fdbfAq			50.0
Ldn fdbfAq	10.9		
Standard fdbfAq	70	115	
Reference Method : ISO199-1 and 1991-2			
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป			
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการบกวน และระดับเสียงที่เกินจากการประกอบกิจการ			
โรงงาน พ.ศ. 2544			
Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.			

Technical Management

Thanitak.
Thanita Kulsuriwong
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S:\Reports_Air Noise rpt (9:42AM)



Analysis / Test Report



TESTING
No.0042

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur Ban Bueng,
Chonburi Thailand 20220

Lot ID: 2447271
Date Received : May 13, 2024
Date Reported : May 17, 2024
Report Number: 2994205-1

P/O :
Project Name : Monitoring
Project Location : WHA ESIE 2

Page 1 of 1

Sample Number	2447271-21
Parameter	8oise LLe(24 hrsq
Location	บริเวณทาง 3 ระดับทาง f83q
Measurement Date	May 10 - May 11, 2024
Measurement by	Mongkon Phalathip
Sound Level meter	Serial 8o. 1173) 10

Time	Le(fdbfAqj	Lma6 fdbfAqj	L90 fdbfAqj
10:00 AM - 11:00 AM	5x.0	7x.x	54.1
11:00 AM - 12:00 PM	57.x	77.7	54.2
12:00 PM - 01:00 PM	5x.7	77.1	54.4
01:00 PM - 02:00 PM	5x.5	77.7	55.4
02:00 PM - 03:00 PM	54.)	70.7	50.x
03:00 PM - 04:00 PM	5x.x	77.9	50.5
04:00 PM - 05:00 PM	57.3	72.4	51.)
05:00 PM - 07:00 PM	57.x	71.7	55.2
07:00 PM - 09:00 PM	57.5	77.0	54.)
09:00 PM - 10:00 PM	57.9	71.1	53.)
10:00 PM - 11:00 PM	57.4	71.x	53.0
11:00 PM - 12:00 AM	54.0	75.9	51.3
12:00 AM - 01:00 AM	54.0	7x.0	50.)
01:00 AM - 02:00 AM	52.3	77.9	49.)
02:00 AM - 03:00 AM	51.3	72.4	49.1
03:00 AM - 04:00 AM	50.9	77.4	4x.)
04:00 AM - 05:00 AM	50.7	77.0	4x.0
05:00 AM - 06:00 AM	51.1	72.4	4x.5
06:00 AM - 07:00 AM	50.5	74.9	4x.1
07:00 AM - 08:00 AM	51.0	7x.9	49.9
08:00 AM - 09:00 AM	51.4	77.9	52.4
09:00 AM - 10:00 AM	55.x	75.4	52.1
10:00 AM - 11:00 AM	55.1	70.5	51.2
11:00 AM - 12:00 PM	55.0	70.7	49.7

Le(Average 24 hrs. fdbfAqj 55.9
Lma6 fdbfAqj x0.7
L90 fdbfAqj 51.2
Ldn fdbfAqj 70.4
Standard fdbfAqj 70 115

Reference Method : ISO199)-1 and 199)-2
Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 พ.ศ. 2540(ซึ่งกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 255x

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

Technical Management

Thanitak.

Thanita Kulsuriwong
Scientist f4q

Approved by

Supot S

Supot Salameh
Section Head

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ภาคผนวก ค-5

คุณภาพดิน



Analysis / Test Report

Client : WHA Industrial Development Public Company Limited
475/5 Moo 7 WHA City Park, Room no. 11-12, 2nd Floor, Tumbol Klong Kiew, Amphur
Ban Bueng, Chonburi Thailand 20220
P/O : 54230021
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2397039
Date Received : Sep 04, 2023
Date Reported : Sep 13, 2023
Report Number : 2751205-1

Page 1 of 6

Sample Number	2397039-1					
Sampled Date	Sep 04, 2023 3:20 PM					
Sample Description	Soil (Dry Basis)					
Location	บริเวณจุดที่สัมผัสสารที่มีการนำน้ำทิ้งไปชดเชยน้ำ จอที1					
Date Analysis Commenced	Sep 06, 2023					
Condition of Sample	Packed in one glass bottle and one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method
Metals Testing						
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	United States Environmental Protection Agency, EPA Method 3060A and 7196A
Lead	mg/kg	-	1.00	29.6	≤800	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Manganese	mg/kg	-	1.00	821	≤19640	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473
Nickel	mg/kg	-	1.00	15.1	≤5205	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Physical Parameters						
Moisture	%	-	0.1	3.5	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564
Class 2: Soil usage for commercial, agricultural and others.
Note : Analysis Results expressed on dry basis.
Sampling By : Samart Khumplee

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Analysis / Test Report

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Ban Bueng, Chonburi Thailand 20220
P/O : 54230021
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2397039
Date Received : Sep 04, 2023
Date Reported : Sep 13, 2023
Report Number : 2751205-1

Page 2 of 6

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

Sample Number	2397039-1					
Sampled Date	Sep 04, 2023 3:20 PM					
Sample Description	Soil (Dry Basis)					
Location	บริเวณจุดที่สัมผัสสารที่มีการนำน้ำทิ้งไปชดเชยน้ำ จอที1					
Date Analysis Commenced	Sep 06, 2023					
Condition of Sample	Packed in one glass bottle and one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method
Metals Testing						
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	United States Environmental Protection Agency, EPA Method 3060A and 7196A
Lead	mg/kg	-	1.00	29.6	≤800	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Manganese	mg/kg	-	1.00	821	≤19640	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473
Nickel	mg/kg	-	1.00	15.1	≤5205	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Physical Parameters						
Moisture	%	-	0.1	3.5	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564
Class 2: Soil usage for commercial, agricultural and others.
Note : Analysis Results expressed on dry basis.
Sampling By : Samart Khumplee

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Analysis / Test Report

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Ban Bueng, Chonburi Thailand 20220
P/O : 54230021
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 23114128
Date Received : Sep 29, 2023
Date Reported : Oct 09, 2023
Report Number : 2791884-1

Page 1 of 1

Sample Number	23114128-1					
Sampled Date	Sep 29, 2023 11:30 AM					
Sample Description	Soil (Dry Basis)					
Location	บริเวณจุดที่สัมผัสสารที่มีการนำน้ำทิ้งไปชดเชยน้ำ จอที1 (ความลึก 30 เซนติเมตร)					
Date Analysis Commenced	Oct 02, 2023					
Condition of Sample	Packed in one plastic bag and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method
Metals Testing						
Arsenic	mg/kg	-	0.50	23.9	≤25	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Physical Parameters						
Moisture	%	-	0.1	9.6	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564
Class 2: Soil usage for commercial, agricultural and others.
Note : Analysis Results expressed on dry basis.
Sampling By : Pattarapol Sawangjittam

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

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Analysis / Test Report

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Ban Bueng, Chonburi Thailand 20220
P/O : 54230021
Project Name : Monitoring
Project Location : WHA ESIE 2

Lot ID: 2397039
Date Received : Sep 04, 2023
Date Reported : Sep 13, 2023
Report Number : 2751205-1

Page 3 of 6

Sample Number	2397039-2					
Sampled Date	Sep 04, 2023 2:30 PM					
Sample Description	Soil (Dry Basis)					
Location	บริเวณจุดที่สัมผัสสารที่มีการนำน้ำทิ้งไปชดเชยน้ำ จอที2					
Date Analysis Commenced	Sep 06, 2023					
Condition of Sample	Packed in one glass bottle and one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method
Metals Testing						
Arsenic	mg/kg	-	0.50	3.01	≤25	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	United States Environmental Protection Agency, EPA Method 3060A and 7196A
Lead	mg/kg	-	1.00	9.74	≤800	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Manganese	mg/kg	-	1.00	58.7	≤19640	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473
Nickel	mg/kg	-	1.00	6.92	≤5205	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050B and 6010D
Physical Parameters						
Moisture	%	-	0.1	5.4	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564
Class 2: Soil usage for commercial, agricultural and others.
Note : Analysis Results expressed on dry basis.
Sampling By : Samart Khumplee

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Analysis / Test Report

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Ban Bueng, Chonburi Thailand 20220
P/O : 54230021
Project Name : Monitoring
Project Location: WHA ESIE 2

Lot ID: 2397039
Date Received : Sep 04, 2023
Date Reported : Sep 13, 2023
Report Number : 2751205-1

Page 4 of 6

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

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Ban Bueng, Chonburi Thailand 20220
P/O : 54230021
Project Name : Monitoring
Project Location: WHA ESIE 2

Lot ID: 2397039
Date Received : Sep 04, 2023
Date Reported : Sep 13, 2023
Report Number : 2751205-1

Page 5 of 6

Sample Number 2397039-3
Sampled Date Sep 04, 2023 3:45 PM
Sample Description Soil (Dry Basis)
Location บริเวณจุดทิ้งขยะที่เกิดการนำดินไปใช้ถมหน้าดินในจุดที่3
Date Analysis Commenced Sep 06, 2023
Condition of Sample Packed in one glass bottle and one plastic bag, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/kg	-	0.50	3.44	≤25	United States Environmental Protection Agency, EPA Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050B and 6010D	Bangkok
Hexavalent Chromium	mg/kg	-	1.00	<1.00	≤212	United States Environmental Protection Agency, EPA Method 3060A and 7196A	Bangkok
Lead	mg/kg	-	1.00	12.1	≤800	United States Environmental Protection Agency, EPA Method 3050B and 6010D	Bangkok
Manganese	mg/kg	-	1.00	84.4	≤19640	United States Environmental Protection Agency, EPA Method 3050B and 6010D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	11.8	≤5205	United States Environmental Protection Agency, EPA Method 3050B and 6010D	Bangkok
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050B and 6010D	Bangkok
Physical Parameters							
Moisture	%	-	0.1	4.7	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564
Class 2: Soil usage for commercial, agricultural and others.
Note : Analysis Results expressed on dry basis.
Sampling By : Samart Khumphlee

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รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Ambient	Total Suspended Particulate	High Volume	RYG_FS0664	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RYG_FS0174	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RYG_FS0662	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RYG_FS0176	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RYG_FS0173	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	RYG_FS0661	-	-	On site Calibration
Ambient	Total Suspended Particulate	Digital Balance	RYG_EN0001	22-Feb-24	22-Feb-25	12
Ambient	Particulate Matter (PM-10)	High Volume	RYG_FS0399	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RYG_FS0666	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RYG_FS0667	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RYG_FS0668	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RYG_FS0186	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RYG_FS0190	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	Digital Balance	RYG_EN0001	22-Feb-24	22-Feb-25	12
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	RYG_FS0455	4-Jan-24	4-Jul-24	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	RYG_FS0533	4-Jan-24	4-Jul-24	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	RYG_FS0461	4-Jan-24	4-Jul-24	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	RYG_FS0258	4-Jan-24	4-Jul-24	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	RYG_FS0272	4-Jan-24	4-Jul-24	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	RYG_FS0255	4-Jan-24	4-Jul-24	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RYG_FS0454	4-Jan-24	4-Jul-24	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RYG_FS0532	4-Jan-24	4-Jul-24	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RYG_FS0460	4-Jan-24	4-Jul-24	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	BKK_FS0796	3-Jan-24	3-Jul-24	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RYG_FS0271	4-Jan-24	4-Jul-24	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RYG_FS0254	4-Jan-24	4-Jul-24	6
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RYG_FS0329	18-Aug-23	18-Feb-25	18
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RYG_FS0545	21-Jul-23	21-Jan-25	18
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RYG_FS0608	17-Nov-22	17-May-24	18
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	BKK_FS0143	5-Jan-23	5-Jul-24	18
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RYG_FS0609	18-Nov-22	18-May-24	18
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RYG_FS0531	19-Jan-23	19-Jul-24	18
Noise	Leq 24 hrs	Sound Calibrator	RYG_FS0496	26-Jan-24	25-Jan-25	12
Noise	Leq 24 hrs	Sound Level Meter	RYG_FS0389	5-Jan-24	4-Jan-25	12
Noise	Leq 24 hrs	Sound Level Meter	RYG_FS0390	7-Nov-23	7-Nov-24	12
Noise	Leq 24 hrs	Sound Level Meter	RYG_FS0432	22-Feb-24	21-Feb-25	12
Rayong Lab	pH at 25 °C	pH meter	RYG_EN0183	19-Jan-24	19-Jan-25	12
Rayong Lab	Nitrate	Spectrophotometer	RYG_EN0037	18-Sep-23	18-Mar-25	18
Rayong Lab	Ammonia Nitrogen	SPECTROPHOTOMETER	RYG_EN0037	18-Sep-23	18-Mar-25	18
Rayong Lab	Dissolved Oxygen	Chamber (Cold Room)	RYG_EN0184	25-Jan-23	25-Jul-24	18
Rayong Lab	BOD	DO meter with Sensor	RYG_EN0032	24-Jul-23	24-Jan-25	18
Rayong Lab	BOD	Incubator	RYG_EN0154	29-May-23	29-Nov-24	18
Rayong Lab	BOD	Burette	RYG_EN0216	25-Sep-23	25-Sep-24	12
Rayong Lab	COD	Spectrophotometer	RYG_EN0037	18-Sep-23	18-Mar-25	18
Rayong Lab	Color (at Original pH)	Spectrophotometer	RYG_EN0037	18-Sep-23	18-Mar-25	18
Rayong Lab	Color (at pH 7.0)	Spectrophotometer	RYG_EN0037	18-Sep-23	18-Mar-25	18
Rayong Lab	Total Suspended Solids	Electronic Balance	RYG_EN0002	22-Feb-24	22-Feb-25	12
Rayong Lab	Total Suspended Solids	Hot Air Oven	RYG_EN0010	21-Mar-24	21-Sep-25	18
Rayong Lab	Total Dissolved Solids 180°C	Electronic Balance	RYG_EN0002	22-Feb-24	22-Feb-25	12
Rayong Lab	Total Dissolved Solids 180°C	Hot Air Oven	RYG_EN0010	21-Mar-24	21-Sep-25	18
Rayong Lab	Oil & Grease	Electronic Balance	RYG_EN0002	22-Feb-24	22-Feb-25	12
Rayong Lab	Oil & Grease	Hot Air Oven	RYG_EN0213	21-Mar-24	21-Mar-25	12
Rayong Lab	Oil & Grease	Water Bath	RYG_EN0061	21-Mar-24	21-Sep-25	18
Rayong Lab	Temperature	pH meter	RYG_FS0604	5-Oct-23	5-Oct-24	12
Rayong Lab	Total Kjeldahl Nitrogen	Block Digestion Unit	RYG_EN0188	11-Mar-24	11-Sep-25	18
Rayong Lab	Total Kjeldahl Nitrogen	pH Meter	RYG_EN0152	14-Dec-23	14-Dec-24	12
Rayong Lab	Cyanide	SPECTROPHOTOMETER	RYG_EN0037	18-Sep-23	18-Mar-25	18
Rayong Lab	Formaldehyde	SPECTROPHOTOMETER	RYG_EN0037	18-Sep-23	18-Mar-25	18



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รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Water Lab	Hexavalent Chromium	Spectrophotometer	BKK_EN0018	15-Sep-23	15-Sep-24	12
Water Lab	Lead	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Lead	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Lead	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Copper	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Copper	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Copper	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Nickel	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Nickel	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Nickel	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Zinc	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Zinc	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Zinc	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Mercury	Mercury Analyzer	BKK_EL0128	6-Dec-23	6-Dec-24	12
Water Lab	Aluminium	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Aluminium	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Aluminium	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Iron	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Iron	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Iron	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Trivalent Chromium	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Trivalent Chromium	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Trivalent Chromium	Chamber (Cooling Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Manganese	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Manganese	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Manganese	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Arsenic	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Arsenic	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Arsenic	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Barium	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Barium	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Barium	Chamber (Cooling Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Cadmium	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Cadmium	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Cadmium	Chamber (Cold Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Selenium	ICP-MS	BKK_EL0026	12-Dec-23	13-Jun-25	18
Water Lab	Selenium	Hot Block	BKK_EL0054	22-Sep-23	22-Mar-25	18
Water Lab	Selenium	Chamber (Cooling Room)	BKK_EN0167	6-Dec-23	6-Jun-25	18
Water Lab	Total Phosphorus	Digestion Unit	BKK_EN0366	21-Apr-24	21-Apr-25	12
Water Lab	Total Phosphorus	Discrete analyzer	BKK_EN0037	9-Jan-24	9-Jan-25	12
Water Lab	Organochlorine Pesticide	GC MSMS	BKK_EN0284	25-May-23	25-Nov-24	18
Soil	Arsenic	ICP-OES	BKK_EL0037	20-Mar-23	19-Sep-24	18
Soil	Arsenic	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Soil	Arsenic	Chamber (Cold Room)	BKK_EN0167	30-Jun-22	30-Dec-23	18
Soil	Cadmium	ICP-OES	BKK_EL0037	20-Mar-23	19-Sep-24	18
Soil	Cadmium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Soil	Cadmium	Chamber (Cold Room)	BKK_EN0167	30-Jun-22	30-Dec-23	18
Soil	Hexavalent Chromium	Spectrophotometer	BKK_EN0018	16-Sep-22	16-Sep-23	12
Soil	Lead	ICP-OES	BKK_EL0037	20-Mar-23	19-Sep-24	18
Soil	Lead	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Soil	Lead	Chamber (Cold Room)	BKK_EN0167	30-Jun-22	30-Dec-23	18
Soil	Manganese	ICP-OES	BKK_EL0037	20-Mar-23	19-Sep-24	18
Soil	Manganese	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Soil	Manganese	Chamber (Cold Room)	BKK_EN0167	30-Jun-22	30-Dec-23	18
Soil	Mercury	Mercury Analyzer	BKK_EL0128	30-Nov-22	30-Nov-23	12
Soil	Nickel	ICP-OES	BKK_EL0037	20-Mar-23	19-Sep-24	18
Soil	Nickel	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Soil	Nickel	Chamber (Cold Room)	BKK_EN0167	30-Jun-22	30-Dec-23	18



right solutions.
right partner.

รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Soil	Selenium	ICP-OES	BKK_EL0037	20-Mar-23	19-Sep-24	18
Soil	Selenium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Soil	Selenium	Chamber (Cold Room)	BKK_EN0167	30-Jun-22	30-Dec-23	18
Soil	Moisture	Electronic Top-Loading Balance	BKK_EN0002	8-Feb-23	8-Feb-24	12



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259173

Calibrator ID: RYS-259173

Calibrator Model: TE-5120B

Calibrator S/N: 4219

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259173

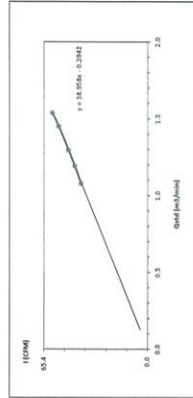
High Volume Model: C-44524-RYS-259173

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1378	0.3378	Slope: 30.9582
2	3.6	3.2269	0.6269	Intercept: -0.2942
3	4.2	3.2269	0.9269	Correlation Coefficient: 0.9991
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259174

Calibrator ID: RYS-259174

Calibrator Model: TE-5120B

Calibrator S/N: 4090

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259174

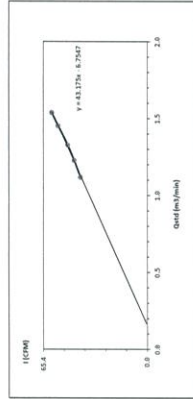
High Volume Model: C-44524-RYS-259174

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1173	0.3173	Slope: 41.1773
2	3.6	3.2962	0.6962	Intercept: -0.7347
3	4.2	3.2962	0.9962	Correlation Coefficient: 0.9991
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259462

Calibrator ID: RYS-259462

Calibrator Model: TE-5120B

Calibrator S/N: 4219

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259462

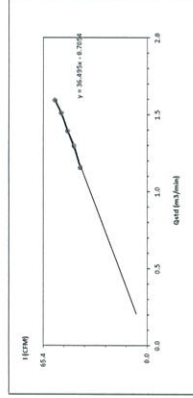
High Volume Model: C-44524-RYS-259462

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1157	0.3157	Slope: 36.4159
2	3.6	3.2962	0.6962	Intercept: -0.7347
3	4.2	3.2962	0.9962	Correlation Coefficient: 0.9964
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259176

Calibrator ID: RYS-259176

Calibrator Model: TE-5120B

Calibrator S/N: 4092

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259176

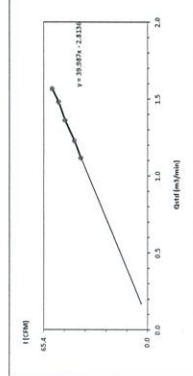
High Volume Model: C-44524-RYS-259176

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1157	0.3157	Slope: 39.9588
2	3.6	3.2269	0.6269	Intercept: -0.8136
3	4.2	3.2269	0.9269	Correlation Coefficient: 0.9999
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259175

Calibrator ID: RYS-259175

Calibrator Model: TE-5120B

Calibrator S/N: 4219

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259175

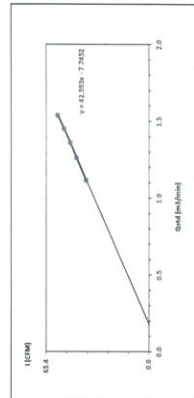
High Volume Model: C-44524-RYS-259175

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1378	0.3378	Slope: 42.3514
2	3.6	3.2269	0.6269	Intercept: -0.7342
3	4.2	3.2269	0.9269	Correlation Coefficient: 0.9997
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259461

Calibrator ID: RYS-259461

Calibrator Model: TE-5120B

Calibrator S/N: 4219

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259461

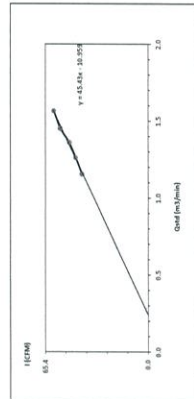
High Volume Model: C-44524-RYS-259461

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1157	0.3157	Slope: 41.4290
2	3.6	3.2962	0.6962	Intercept: -0.7347
3	4.2	3.2962	0.9962	Correlation Coefficient: 0.9999
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259463

Calibrator ID: RYS-259463

Calibrator Model: TE-5120B

Calibrator S/N: 4219

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259463

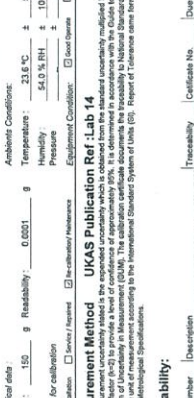
High Volume Model: C-44524-RYS-259463

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1157	0.3157	Slope: 36.4159
2	3.6	3.2962	0.6962	Intercept: -0.7347
3	4.2	3.2962	0.9962	Correlation Coefficient: 0.9964
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site: WIA Industrial Development Public
Company Limited

Barometric Pressure (mm Hg): 719

Calibration Location: 31

Calibration Date: 4 Sep 24

Calibration Subject No.: C-44524-RYS-259177

Calibrator ID: RYS-259177

Calibrator Model: TE-5120B

Calibrator S/N: 4092

Calibrator Intercept: -0.0013

Temperature (°C): 31

High Volume (m³): RYS-259177

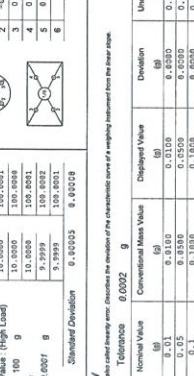
High Volume Model: C-44524-RYS-259177

High Volume S/N: TE-5120B

High Volume Slope: 1.3267

High Volume Intercept: -0.0013

Test No.	Initial H ₂ O (kg)	Final H ₂ O (kg)	ΔH ₂ O (kg)	Linear Regression
1	2.8	3.1157	0.3157	Slope: 39.9588
2	3.6	3.2269	0.6269	Intercept: -0.8136
3	4.2	3.2269	0.9269	Correlation Coefficient: 0.9999
4	4.8	3.4213	1.6213	
5	5.4	3.1362	2.7362	



Calibrated by: Huygon Ph.

Approved by: [Signature]

(Mr. Huygon Phasitakul)
Field Scientist (1)

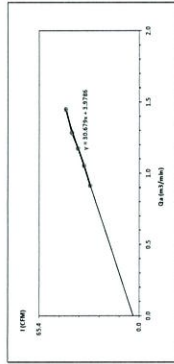
FORM NO. F-64-71 REVISION N/L-2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	TE 50106
Calibration ID:	RTS 120375	Calibration (m³):	5001
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.052	36	Slope: 0.9514
3	3.2	1.274	40	Slope: 0.9514
4	3.6	1.203	44	Slope: 0.9514
5	4.4	1.400	50	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

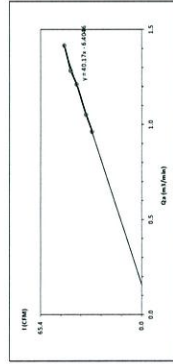
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	TE 50106
Calibration ID:	RTS 120375	Calibration (m³):	4794
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.052	36	Slope: 0.9514
3	3.2	1.274	40	Slope: 0.9514
4	3.6	1.203	44	Slope: 0.9514
5	4.4	1.416	50	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

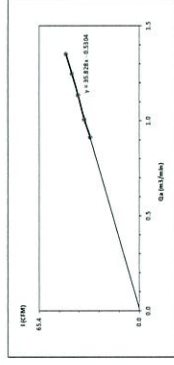
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	TE 50106
Calibration ID:	RTS 120375	Calibration (m³):	5205
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.050	36	Slope: 0.9514
3	3.2	1.274	40	Slope: 0.9514
4	3.4	1.240	44	Slope: 0.9514
5	4.0	1.322	46	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

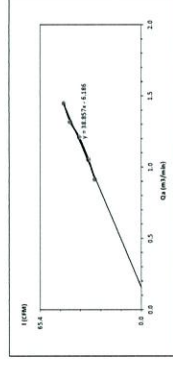
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	01151
Calibration ID:	RTS 120375	Calibration (m³):	1625
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.052	36	Slope: 0.9514
3	3.2	1.274	40	Slope: 0.9514
4	3.6	1.211	46	Slope: 0.9514
5	4.6	1.440	50	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

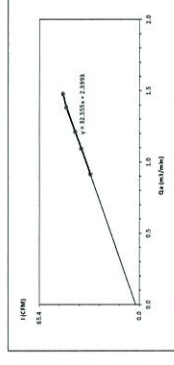
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	TE 50106
Calibration ID:	RTS 120375	Calibration (m³):	4266
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.094	36	Slope: 0.9514
3	3.2	1.274	42	Slope: 0.9514
4	4.2	1.304	46	Slope: 0.9514
5	4.0	1.470	50	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

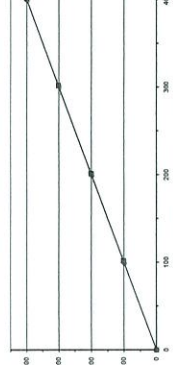
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	TE 50106
Calibration ID:	RTS 120375	Calibration (m³):	4266
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.094	36	Slope: 0.9514
3	3.2	1.274	42	Slope: 0.9514
4	4.2	1.304	46	Slope: 0.9514
5	4.0	1.470	50	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

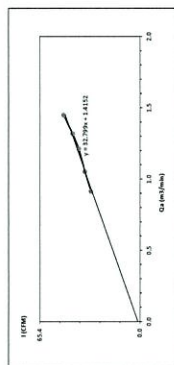
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



High Volume Air Sampler Calibration Worksheet

Project Site:	W01 Suburban Development Public	Company Limited:	719
Calibrate Location:	Suburban Development (S)	Temperature (°C):	31
Calibrate Date:	4-May-24	High Volume (m³):	RTS 120379
Calibration Model:	C-44512.8752.740179	High Volume (m³):	TE 50106
Calibration ID:	RTS 120375	Calibration (m³):	4267
Calibration Model:	TE 50204	Calibration Slope:	0.9514
Calibration (m³):	1166	Calibration Intercept:	-0.0226

Test No.	High Flow (m³/min)	Q ₀ (m³/min)	1 Chart (m³/min)	Linear Regression
1	3.0	0.014	32	Slope: 0.9514
2	2.4	1.052	36	Slope: 0.9514
3	3.2	1.274	40	Slope: 0.9514
4	3.6	1.310	44	Slope: 0.9514
5	4.6	1.440	50	Slope: 0.9514



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

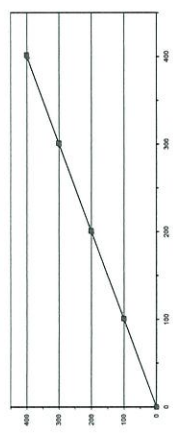
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



MULTIPOINT CALIBRATION REPORT

Calibration Date:	4-Jun-24	Equipment Name:	NOV Analyzer
Manufacturer:	TELETYPE API	Model:	7100
Serial No.:	7258	Equipment ID:	RTS 120379
Calibration Manufacturer:	TELETYPE API	Model:	700
Serial No.:	947	Cylinder No.:	08007222
IME Gas Concentration (ppm):	50.00	Certified By:	Algen Inc.
Cylinder Pressure (psi):	1000	Engine Date:	9-Feb-20
Certified Date:	9-Feb-22		

Point	Actual NO	Error NO	Actual NOx	Error NOx	Mean NO	Mean NOx
1	150.00	80.00	-0.50	1.10	1.10	1.10
2	200.00	100.00	-0.50	1.10	1.10	1.10
3	300.00	200.00	-1.20	0.60	0.60	0.60
4	400.00	300.00	-1.70	-0.42	-0.42	-0.42
AVERAGE (%)						0.52



Calibration by: Hayden Ho
(No Signature/Stamp)
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1

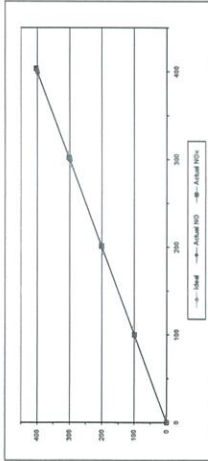
Form No. F-04-01, Revision No. 1, Issue Date: 2017/12/1



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: T8604641
Model: RYD 320481
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.70	-1.30	-1.30
2	200.00	201.60	1.60	0.80
3	300.00	298.70	-1.30	-0.43
4	400.00	398.40	-1.60	-0.40
AVERAGE (%)				-0.31



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

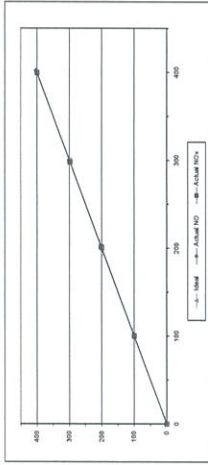
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: P977005
Model: RYD 320508
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.60	-0.40	-0.40
2	200.00	198.50	-1.50	-0.75
3	300.00	298.20	-1.80	-0.60
4	400.00	402.00	2.00	0.50
AVERAGE (%)				-0.25



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

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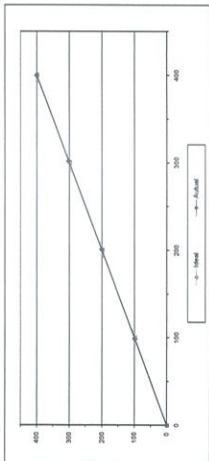
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: H02067A
Model: RYD 320454
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire 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	301.90	1.90	0.63
4	400.00	399.70	-0.30	-0.08
AVERAGE (%)				-0.13



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

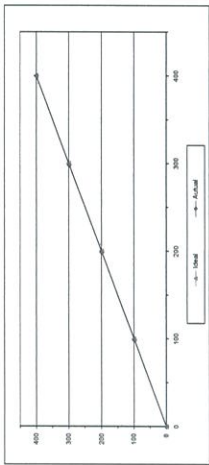
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: 8000
Model: RYD 320523
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.30	-1.70	-0.57
4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				-0.48



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

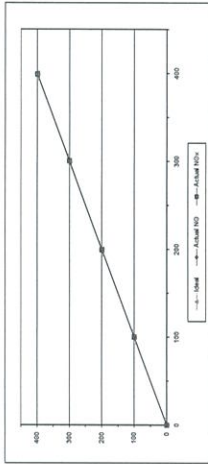
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: 7A06044
Model: RYD 320772
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.05	0.05	0.05
1	100.00	99.10	-0.90	-0.90
2	200.00	198.50	-1.50	-0.75
3	300.00	298.70	-1.30	-0.43
4	400.00	398.10	-1.90	-0.47
AVERAGE (%)				-0.57



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

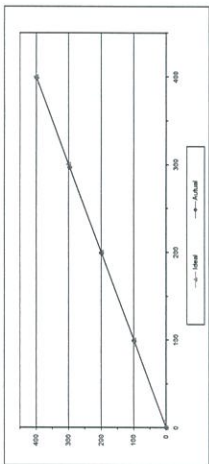
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: V0000001
Model: RYD 320400
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.70	-1.30	-1.30
2	200.00	198.60	-1.40	-0.70
3	300.00	298.50	-1.50	-0.50
4	400.00	398.30	-1.70	-0.42
AVERAGE (%)				-0.68



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

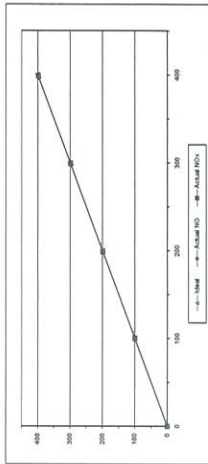
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: 2187
Model: RYD 320505
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.60	-0.40	-0.40
2	200.00	198.60	-1.40	-0.70
3	300.00	297.20	-2.80	-0.93
4	400.00	396.40	-3.60	-0.90
AVERAGE (%)				-0.82



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

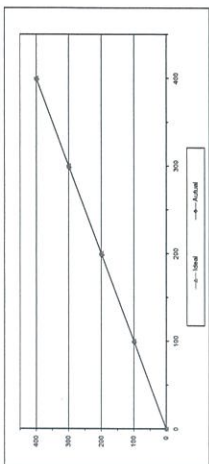
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date: 3-Jan-24
Equipment Name: APMA-370
Manufacturer: HANNA
Serial No.: G2044000
Model: RYD 320706
Calibrator Manufacturer: Teknique API
Serial No.: 847
RM Gas Concentration (ppm): 55.88
Cylinder No.: G8027222
Cylinder Pressure (psi): 1500
Certified By: Aiguo Inc.
Expire Date: 9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	% Error
ZERO	0.00	0.05	0.05	0.05
1	100.00	98.90	-1.10	-1.10
2	200.00	198.10	-1.90	-0.95
3	300.00	298.10	-1.90	-0.63
4	400.00	398.50	-1.50	-0.38
AVERAGE (%)				-0.68



Calibrated By: [Signature]

Approved By: [Signature]

(Mr. J. J. Salazar)
Assistant General Manager

(Mr. J. J. Salazar)
Assistant General Manager

FORM NO. F-0005 REVISION NO. 1 - ISSUE DATE: 02/01/2022

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[illegible]

Page 2 of 3 Pages

MEASUREMENT RESULTS *

The stated measurement was collected using standard survey methods by comparison method. During calibration, the measurement was carried out at 47 intervals in duplicate and nonreciprocal directions after which adjustment has been made. The flow speed of wind tunnel (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 table below.

Air speed m/s	D ₁ = m		D ₂ = m		Error		U (k=2) Degree (°)	
	Degree (°)	Degree (°)	Degree (°)	Degree (°)	Degree (°)	Degree (°)	Degree (°)	Degree (°)
5.00	46.000	41	41	4	4	4	1.2	1.2
	47.000	41	41	4	4	4	1.2	1.2
	48.000	41	41	4	4	4	1.2	1.2
	49.000	41	41	4	4	4	1.2	1.2
	50.000	41	41	4	4	4	1.2	1.2
	51.000	41	41	4	4	4	1.2	1.2
5.00	180.000	178	178	-2	-2	-2	1.0	1.0
	220.000	226	226	6	6	6	1.0	1.0
	270.000	272	272	2	2	2	1.0	1.0
	320.000	318	318	-2	-2	-2	1.0	1.0
	360.000	355	355	-5	-5	-5	1.0	1.0
	360.000	355	355	-5	-5	-5	1.0	1.0

Remarks:

* Calibration only used for the stated measurement and associated conditions during which calibration has been done.

† Deviation of standard

Deviation of test object calibration

End of Calibration

Certificate Number
CN05-000-045

[illegible]

Certificate Number
CHS-202-045

Page 2 of 3 pages

MEASUREMENT RESULTS¹

The top accelerometer, Unit 1000 Calibration (1000) was exercised at 20 cycles prior to calibration being performed. The standard on velocity is 0.1 m/s to 0.5 m/s, was calculated by a standard air velocity transducer and shown 5 m/s to 10 m/s, was calculated by a pitot tube with pressure differential pressure transducer. The standard on acceleration is 0.1 m/s² to 0.5 m/s², was calculated by a pitot tube with pressure differential pressure transducer. The standard on current is 0.1 m/s to 0.5 m/s, was calculated by a pitot tube with pressure differential pressure transducer. The standard on current is 0.1 m/s to 0.5 m/s, was calculated by a pitot tube with pressure differential pressure transducer.

	Temperature (°C)	Humidity (%)	Pressure (mm Hg)	Altitude (ft)	Wind Speed (m/s)	Wind Direction (°)	Wind Speed (m/s)	Wind Direction (°)	Altitude (ft)
1.000	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.001	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.002	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.003	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.004	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.005	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.006	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.007	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.008	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.009	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.010	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.011	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.012	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.013	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.014	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.015	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.016	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.017	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.018	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.019	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0
1.020	23.00	23.00	23.00	23.00	0.0	0.0	-0.2	0.0	0.0

Remarks:

¹ Calibration results only listed for the listed circumstances and independent conditions with a pitot tube and a pitot tube.

² Velocity of wind turbine blades

PHOTO OF CALIBRATION SET-UP

Calibration set up of the top accelerometer calibration in the wind tunnel of Airframe Associates, Co., Ltd. The top accelerometer shown may differ from the calibrated one. Remark: The proportion of the set up is not 1:1. The top accelerometer shown may differ from the

REMARK: REACTIVE TO 1.000

Certificate No. 027-036-66
Page 2 of 2

Certificate No. 027-036-66
Page 1 of 2

Certificate Number
027-036-66

Certificate Number
027-036-66

Result of Calibration: ☒ With Adjustment ☐ No Adjustment
Calibration Range: 20-40 °C
Function: This equipment was connected with temperature sensor Model: HMP05 S/N: 7230555.
Dimension: Diameter 12 mm, Length 80 mm.

Equipment Name: Data Logger with Temperature Sensor
Manufacturer: Novus
Model: HMP05-250L-0
ID No.: HMP05-250L-0

Customer:
Name: A.S. Laboratory (Thailand) Co., Ltd.
Address: 154 Petchburi 40, Petchburi Rd.,
Wachana, Bangkok, Bangkok 10400 Thailand.
10250 Thailand.

Customer:
Name: A.S. Laboratory (Thailand) Co., Ltd.
Address: 154 Petchburi 40, Petchburi Rd.,
Wachana, Bangkok, Bangkok 10400 Thailand.
10250 Thailand.

Immersion Depth (mm)	Standard Reading (°C)	Uncertainty Reading (°C)	Error (°C)	Uncertainty (°C)
70	20.000	33.6	-0.5	0.099
70	25.055	24.6	-0.4	0.14
70	30.050	29.7	-0.4	0.099
70	35.043	34.5	-0.5	0.099
70	40.036	39.5	-0.5	0.099

Customer		Calibration Condition
Company	KS Laboratory Group (Thailand) Co., Ltd.	Temperature: 20 ± 0.5 °C
Name	104 Prachasrikan 40, Prachasrikan Rd.,	Relative Humidity: 45 ± 1.5%
Address	104 Prachasrikan 40, Prachasrikan Rd.,	
City	Prachasrikan, Nakhon Phanom, Thailand	
Postcode	49000	
Phone	09-0999-10000	
Website	www.kslab.co.th	
Reference Used During Calibration		
Standard	ISO 9001:2015, ISO 9000:2015	
Standard	ISO 17025:2017, ISO 17025:2017	
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Standard	ISO 17025:2017, ISO 17025:2017	
Standard	ISO 17025:2017, ISO 17025:2017	
Standard	ISO 17025:2017, ISO	

Item	Standard	Uncertainty
Depth (mm)	70	0.099
Temperature (°C)	20.000	0.099
Relative Humidity (%)	25.000	0.099
Pressure (hPa)	29.7	0.099
Altitude (m)	30.000	0.099
Speed (m/s)	35.000	0.099
Acceleration (m/s²)	35.000	0.099
Force (N)	35.000	0.099
Power (W)	35.000	0.099
Energy (J)	35.000	0.099
Frequency (Hz)	35.000	0.099
Period (s)	35.000	0.099
Time (s)	35.000	0.099
Angle (°)	35.000	0.099
Distance (m)	35.000	0.099
Area (m²)	35.000	0.099
Volume (m³)	35.000	0.099
Mass (kg)	35.000	0.099

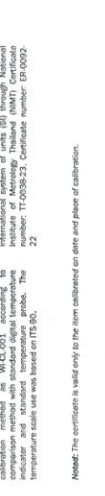
MANAGEMENT ITEM	Version 3.0.0.0
MANAGEMENT NUMBER	1000

Uncertainty: This reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

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63/14-16.67/25-36, Soi Petchburi 7/1, Petchburi Rd,
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CERTIFICATE OF CALIBRATION

Measurement Item: Relative humidity with data logger
Model/Type: HMP05-250L-0
ID No.: HMP05-250L-0
Customer: A.S. Laboratory (Thailand) Co., Ltd.

Measurement Results:
Temperature: 20.000 °C
Relative Humidity: 25.000 %
Pressure: 29.7 hPa
Altitude: 30.000 m
Speed: 35.000 m/s
Acceleration: 35.000 m/s²
Force: 35.000 N
Power: 35.000 W
Energy: 35.000 J
Frequency: 35.000 Hz
Period: 35.000 s
Time: 35.000 s
Angle: 35.000 °
Distance: 35.000 m
Area: 35.000 m²
Volume: 35.000 m³
Mass: 35.000 kg

Uncertainty: This reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

Signature: Mr. Petchburi 7/1
Calibration Department Manager

CERTIFICATE OF CALIBRATION

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Measurement Results:
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Pressure: 29.7 hPa
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Acceleration: 35.000 m/s²
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Power: 35.000 W
Energy: 35.000 J
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CERTIFICATE OF CALIBRATION

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Model/Type: HMP05-250L-0
ID No.: HMP05-250L-0
Customer: A.S. Laboratory (Thailand) Co., Ltd.

Measurement Results:
Temperature: 20.000 °C
Relative Humidity: 25.000 %
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Altitude: 30.000 m
Speed: 35.000 m/s
Acceleration: 35.000 m/s²
Force: 35.000 N
Power: 35.000 W
Energy: 35.000 J
Frequency: 35.000 Hz
Period: 35.000 s
Time: 35.000 s
Angle: 35.000 °
Distance: 35.000 m
Area: 35.000 m²
Volume: 35.000 m³
Mass: 35.000 kg

Uncertainty: This reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

Signature: Mr. Petchburi 7/1
Calibration Department Manager

CERTIFICATE OF CALIBRATION

Measurement Item: Relative humidity with data logger
Model/Type: HMP05-250L-0
ID No.: HMP05-250L-0
Customer: A.S. Laboratory (Thailand) Co., Ltd.

Measurement Results:
Temperature: 20.000 °C
Relative Humidity: 25.000 %
Pressure: 29.7 hPa
Altitude: 30.000 m
Speed: 35.000 m/s
Acceleration: 35.000 m/s²
Force: 35.000 N
Power: 35.000 W
Energy: 35.000 J
Frequency: 35.000 Hz
Period: 35.000 s
Time: 35.000 s
Angle: 35.000 °
Distance: 35.000 m
Area: 35.000 m²
Volume: 35.000 m³
Mass: 35.000 kg

Uncertainty: This reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

Signature: Mr. Petchburi 7/1
Calibration Department Manager

Cert. No.: ACL24064
Job No.: VCO7AC0644
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11. Overall Indication

Measured value (dB)	Deviation Value	Acceptance Limits
Positive one-half cycle	89.7	-0.1
Negative one-half cycle	89.6	-0.1

12. High level stability

Frequency (Hz)	SLM Display at initial (dB)	SLM Display at final (dB)	Deviation 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.

Cert. No.: ACL23346
Job No.: VCO7AC0643
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Calibration Certificate

Equipment: SOUND LEVEL METER
Manufacturer: RION
Model: NR-02 / Microphone UC-02 / Preampifier NH-04
Serial No.: 01173411 / 171713 / 74023
ID No.: RYO J80390

Condition As Found: GOOD

Customer: ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATHANAKAN 40, PHATHANAKAN ROAD,
KIEWAENG PHATHANAKAN, KHEU SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location: (23.0 ± 1.1) °C
Ambient Temperature: (10.3 ± 1.1) °C
Pressure: (50.0 ± 2.0) %
Relative Humidity: %
Received Date: 01 NOVEMBER 2023
Calibration Date: 07-08 NOVEMBER 2023
Date of Issue: 14 NOVEMBER 2023

Calibrated by: Natsakorn Pongpang

Approved by: T. Petch.
(Thamkai Pechuri)

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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4. Electrical signal tests of frequency weightings

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	-0.1	-0.9
125	0.0	0.0	-0.1	-0.5
250	0.0	-0.1	-0.1	-0.5
500	0.0	0.0	-0.1	-0.5
1000	0.0	0.0	0.0	-0.9
2000	0.0	0.0	0.0	-0.9
4000	0.0	0.0	0.0	-0.9
8000	0.0	0.0	0.0	-0.9

5. Frequency and time weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviation 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)	Deviation 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)	Deviation Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	-0.3

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Calibration Procedure: CP-AC-01

Calibration Method:

This equipment was calibrated by based on IEC64473-2:2013 standard for sound level meter (SLM). The SLM had tests to Acoustical and Electrical signal tests of frequency weighting, and Acoustic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each instrument display and also with SLMC display.

Conditions of this result of calibration:

1. Reference Standard Instruments:

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	3318A	MY5232042	EF-0002-23	05-FEB-24
Waveform Generator	3351B	MY5232042	EF-0002-23	05-FEB-24
Digital Multimeter	33461A	MY53220708	EEL-0026066	13-FEB-24
Digital Multimeter	33461A	MY53220708	EEL-0026066	13-FEB-24
Digital Multimeter	33461A	MY53220708	EEL-0026066	13-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0001-23	06-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-430A	3456095	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 National Institute of Scientific and Technological Research (CISTRA).

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7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviation 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
130.0	130.1	-0.1	-1.1
129.0	129.0	0.0	-1.1
128.0	128.0	0.0	-1.1
127.0	127.0	0.0	-1.1
126.0	126.0	0.0	-1.1
125.0	125.0	0.0	-1.1
124.0	124.0	0.0	-1.1
123.0	123.0	0.0	-1.1
122.0	122.0	0.0	-1.1
121.0	121.0	0.0	-1.1
120.0	120.0	0.0	-1.1
119.0	119.0	0.0	-1.1
118.0	118.0	0.0	-1.1
117.0	117.0	0.0	-1.1
116.0	116.0	0.0	-1.1
115.0	115.0	0.0	-1.1
114.0	114.0	0.0	-1.1
113.0	113.0	0.0	-1.1
112.0	112.0	0.0	-1.1
111.0	111.0	0.0	-1.1
110.0	110.0	0.0	-1.1
109.0	109.0	0.0	-1.1
108.0	108.0	0.0	-1.1
107.0	107.0	0.0	-1.1
106.0	106.0	0.0	-1.1
105.0	105.0	0.0	-1.1
104.0	104.0	0.0	-1.1
103.0	103.0	0.0	-1.1
102.0	102.0	0.0	-1.1
101.0	101.0	0.0	-1.1
100.0	100.0	0.0	-1.1
99.0	99.0	0.0	-1.1
98.0	98.0	0.0	-1.1
97.0	97.0	0.0	-1.1
96.0	96.0	0.0	-1.1
95.0	95.0	0.0	-1.1
94.0	94.0	0.0	-1.1
93.0	93.0	0.0	-1.1
92.0	92.0	0.0	-1.1
91.0	91.0	0.0	-1.1
90.0	90.0	0.0	-1.1
89.0	89.0	0.0	-1.1
88.0	88.0	0.0	-1.1
87.0	87.0	0.0	-1.1
86.0	86.0	0.0	-1.1
85.0	85.0	0.0	-1.1
84.0	84.0	0.0	-1.1
83.0	83.0	0.0	-1.1
82.0	82.0	0.0	-1.1
81.0	81.0	0.0	-1.1
80.0	80.0	0.0	-1.1
79.0	79.0	0.0	-1.1
78.0	78.0	0.0	-1.1
77.0	77.0	0.0	-1.1
76.0	76.0	0.0	-1.1
75.0	75.0	0.0	-1.1
74.0	74.0	0.0	-1.1
73.0	73.0	0.0	-1.1
72.0	72.0	0.0	-1.1
71.0	71.0	0.0	-1.1
70.0	70.0	0.0	-1.1
69.0	69.0	0.0	-1.1
68.0	68.0	0.0	-1.1
67.0	67.0	0.0	-1.1
66.0	66.0	0.0	-1.1
65.0	65.0	0.0	-1.1
64.0	64.0	0.0	-1.1
63.0	63.0	0.0	-1.1
62.0	62.0	0.0	-1.1
61.0	61.0	0.0	-1.1
60.0	60.0	0.0	-1.1
59.0	59.0	0.0	-1.1
58.0	58.0	0.0	-1.1
57.0	57.0	0.0	-1.1
56.0	56.0	0.0	-1.1
55.0	55.0	0.0	-1.1
54.0	54.0	0.0	-1.1
53.0	53.0	0.0	-1.1
52.0	52.0	0.0	-1.1
51.0	51.0	0.0	-1.1
50.0	50.0	0.0	-1.1
49.0	49.0	0.0	-1.1
48.0	48.0	0.0	-1.1
47.0	47.0	0.0	-1.1
46.0	46.0	0.0	-1.1
45.0	45.0	0.0	-1.1
44.0	44.0	0.0	-1.1
43.0	43.0	0.0	-1.1
42.0	42.0	0.0	-1.1
41.0	41.0	0.0	-1.1
40.0	40.0	0.0	-1.1
39.0	39.0	0.0	-1.1
38.0	38.0	0.0	-1.1
37.0	37.0	0.0	-1.1
36.0	36.0	0.0	-1.1
35.0	35.0	0.0	-1.1
34.0	34.0	0.0	-1.1
33.0	33.0	0.0	-1.1
32.0	32.0	0.0	-1.1
31.0	31.0	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	26.9	-0.1	-1.1
26.0	25.9	-0.1	-1.1
25.0	24.9	-0.1	-1.1

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Summary of Measurement Result:

Parameter	Pass	Fail	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	✓	-	0.3	0.6
125 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.6
4. Electrical signal tests of frequency weightings	✓	-	0.3	0.6
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. Time burst response	✓	-	0.2	0.3
10. Peak-to-peak level	✓	-	0.2	0.3
11. Overload indication	✓	-	0.2	0.3
12. High level stability	✓	-	0.1	0.1

Note: Pass/Fail evaluation for each parameter, will be considered together from the acceptance limit and the Maximum-permitted uncertainty of measurement.

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8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviation Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	-1.1

Time	Time burst duration, T _b (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviation Value (dB)	Acceptance Limits (dB)
Weighting	0.25	1	106.0	107.9	-0.1	1.5 : -5.9
Fast	2	8	117.0	116.9	-0.1	1.0 : -2.5
Slow	200	800	134.0	134.0	0.0	-1.0
SEL	2	8	108.0	108.0	0.0	1.5 : -5.9
	200	800	127.6	127.6	0.0	-1.0
	2	8	99.0	98.8	-0.2	1.5 : -5.9
	200	800	108.0	108.0	0.0	1.0 : -2.5
	2	8	128.0	128.0	0.0	-1.0

10. Peak C-sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq _{peak} (dB)	Deviation Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-1.0
One	136.4	136.4	0.0	-1.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviation 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

QP-7512-04-04-020644

T. Petch.

Cert. No.: AGL2048
Job No.: V07A/CMB3
Pages: 8 of 8

11. Overall indication

Measured value (dB)	Deviated value (dB)	Acceptance limit (dB)
Position	177.0	177.0
Weighting	0.0	0.0
Time	0.0	0.0

12. High level stability

Frequency (Hz)	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limit (dB)
A-weight	177.0	177.0	0.0	0.5

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calibration providing a level of confidence of approximately 95%.

End of Calibration Certificate

QF-7312-04-04-02064

7. Pth



THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-670232

MTC No. EEL BP. 1720167

3. Acoustical signal test of frequency weightings

Frequency (Hz)	Deviation from frequency response (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
A-weight	0.0	0.0	0.5
Flat	0.0	0.0	0.5
125	-0.1	-0.1	0.5
1000	-0.1	-0.1	0.5
8000	0.0	0.0	0.5

4. Electrical signal test of frequency weightings

Frequency (Hz)	Deviation from frequency response (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
A-weight	0.0	0.0	0.5
Flat	0.0	0.0	0.5
125	-0.1	-0.1	0.5
1000	-0.1	-0.1	0.5
8000	0.0	0.0	0.5

Date of Calibration: 22-28 Feb. 2024

3/9

The results of this calibration are valid for the period of 12 months from the date of calibration. The results of this calibration are valid for the period of 12 months from the date of calibration.

Head Office: 30 Ma 3 Terasa Bldg. 12th Floor, 1200, Nakhon Phanom Road, Nakhon Phanom, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.thBranch Office: 106 Phayathai Road, Chulalongkorn Road, Bangkok 10000, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.th

THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-670232

MTC No. EEL BP. 1720167

CALIBRATION CERTIFICATE

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.
Address: 104 Phatthana 46, Phatthana Road, Khwaeng Phatthana, Khet Sam Luang, Bangkok 10250.
Calibrated at: Electrical and Electronic Standards Laboratory, Industrial Technology and Training Service Centre.
Site: 1C, Bangoo Industrial Estate, Sukhumvit Rd., A-Mong, Sampran, 10260Instrument Calibration: Ambient Environment
Description: Sound Level Meter
Model: NL-42
Serial No: 0029615 (RVD 350423)
Microphone: Type UC-52 No. 17019
Pre-amplifier: Type NH-24 No. 87256Standards used: 1. Head Pans (Pans) Weigh 752A SN 0010494
2. Condenser Microphone BrüelKjær 8180 SN 280971
3. Decibel Attenuator Ando AI-205 SN 0046602
4. Function Arbitrary Waveform Generator Agilent 33220A SN 0404566
5. Digital Function Synthesizer NI Electronic Instruments DP-193A SN 122037
6. Digital Multimeter Fluke 8520A SN 485007
7. Penetration Resistor NC-72 SN 0003246
8. Measuring Amplifier BrüelKjær 2636 SN 13704

Date of Receipt: 24 Jan. 2024

Date of Calibration: 22-28 Feb. 2024

1/9

The results of this calibration are valid for the period of 12 months from the date of calibration. The results of this calibration are valid for the period of 12 months from the date of calibration.

Head Office: 30 Ma 3 Terasa Bldg. 12th Floor, 1200, Nakhon Phanom Road, Nakhon Phanom, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.thBranch Office: 106 Phayathai Road, Chulalongkorn Road, Bangkok 10000, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.th

THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-670232

MTC No. EEL BP. 1720167

9. Power Amplifier BrüelKjær 2206 SN 1317650
10. Speaker Tannoy Limited, Great Britain Patent No. 215590
11. Digital Multimeter Agilent 34401A SN 04400540
12. Programmable Acoustic Temperature TPA-303A SN 2312

Calibration Procedure: This instrument was calibrated by using calibration procedures on CP-102-02 and CP-102-03, which were based on IEC 6167-2 Electromagnetic - 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 standard 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: 22-28 Feb. 2024

2/9

The results of this calibration are valid for the period of 12 months from the date of calibration. The results of this calibration are valid for the period of 12 months from the date of calibration.

Head Office: 30 Ma 3 Terasa Bldg. 12th Floor, 1200, Nakhon Phanom Road, Nakhon Phanom, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.thBranch Office: 106 Phayathai Road, Chulalongkorn Road, Bangkok 10000, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.th

THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-670232

MTC No. EEL BP. 1720167

1. Absolute Sensitivity

Reference Acoustic Signal (dB)	Measured value (dB)	Deviated value (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
113.96	114.1	113.9	-0.1	1.0
				0.30
				N/A

Note: The external calibration adjustment was finally performed. The internal calibration adjustment was then completed at the display of 123.6 dB.

2. Self-generated noise

Measured value (dB)	Deviated value (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
19.1	19.1	0.0	N/A

2.2. The microphone of the sound level meter was replaced by electrical signal input device

Frequency (Hz)	Measured value (dB)	Deviated value (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
Weighting	11.9	11.9	0.10	N/A
A-weight	17.4	17.4	0.10	N/A
C-weight	23.2	23.2	0.10	N/A
Flat				

Date of Calibration: 22-28 Feb. 2024

3/9

The results of this calibration are valid for the period of 12 months from the date of calibration. The results of this calibration are valid for the period of 12 months from the date of calibration.

Head Office: 30 Ma 3 Terasa Bldg. 12th Floor, 1200, Nakhon Phanom Road, Nakhon Phanom, Thailand
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E-mail: sithiporn@siac.co.thBranch Office: 106 Phayathai Road, Chulalongkorn Road, Bangkok 10000, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.th

THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-670232

MTC No. EEL BP. 1720167

3. Acoustical signal test of frequency weightings

Frequency (Hz)	Deviation from frequency response (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
A-weight	0.0	0.0	0.5
Flat	0.0	0.0	0.5
125	-0.1	-0.1	0.5
1000	-0.1	-0.1	0.5
8000	0.0	0.0	0.5

4. Electrical signal test of frequency weightings

Frequency (Hz)	Deviation from frequency response (dB)	Acceptance limit (dB)	Maximum permitted uncertainty of measurement (dB)
A-weight	0.0	0.0	0.5
Flat	0.0	0.0	0.5
125	-0.1	-0.1	0.5
1000	-0.1	-0.1	0.5
8000	0.0	0.0	0.5

Date of Calibration: 22-28 Feb. 2024

4/9

The results of this calibration are valid for the period of 12 months from the date of calibration. The results of this calibration are valid for the period of 12 months from the date of calibration.

Head Office: 30 Ma 3 Terasa Bldg. 12th Floor, 1200, Nakhon Phanom Road, Nakhon Phanom, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.thBranch Office: 106 Phayathai Road, Chulalongkorn Road, Bangkok 10000, Thailand
Tel: 060 237 0000 Fax: 060 237 0000
E-mail: sithiporn@siac.co.th

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

DKSH
Certificate of Calibration
Equipment: SPECTROPHOTOMETER
Model: DMS200
Serial No.: 182945 (RVG-EN007)
Calibration Date: 18 September 2023
Calibration Results: Wavelength, Absorbance

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

Technology Promotion Association (Thailand) Ltd. (TPA)
Certificate of Calibration
Equipment: pH Meter
Model: Metrohm 8270
Serial No.: 100000000
Calibration Date: 18 January 2024
Calibration Results: pH 4.008, pH 6.86, pH 9.87

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CERTIFICATE OF CALIBRATION
Certificate of Calibration
The Certificate was issued to replace the Certificate No. 202412741
Equipment: pH Meter
Manufacturer: Mettler Toledo
Model: Seven200 pH meter 52 Field Kit
Serial No.: C23257569
ID No.: RYOL_E00004
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
61610 Moo 5, Mainman Khu, A Phukdang, Rayong 21140, Thailand
Ambient Temperature: (25 ± 2.5) °C
Relative Humidity: (50 ± 15) %
Calibration Procedure: CP-018 by direct comparison with standard
Calibrated by: Worakorn Lengyagakul
Approved by: Sathip
Issue Date: 17 October 2023
The uncertainty is for a confidence probability of approximately 95%
A 0053574

Equipment: Water Bath
Reference: 2402/6500C-4
Result of Calibration: 1) Without Adjustment
Function of UUC: Temperature Source
Calibration point: 50.0 (°C)
UUC: 0.05 (°C)
Reading: 50.0 (°C)
Uncertainty: 0.18 (°C)
Average Standard Reading (°C): 1 2 3 4 5 (ref)
84.426 84.424 84.439 84.557 84.477
Coverage Factor: 2
Calibration point: 85.0 (°C)
UUC: 0.10 (°C)
Reading: 85.0 (°C)
Uncertainty: 0.18 (°C)
Coverage Factor: 2
Average: The average of 10 values in each position.
Standard Deviation: The standard deviation of the 10 values in each position.
Stability: The stability of the instrument is confirmed by the standard deviation of the 10 values in each position.
UUC: One-half of the greatest maximum difference of measured temperature of any one probe.
Note: This 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 %.

Equipment: Water Bath
Reference: 2402/6500C-4
Result of Calibration: 1) Without Adjustment
Function of UUC: Temperature Source
Calibration point: 50.0 (°C)
UUC: 0.05 (°C)
Reading: 50.0 (°C)
Uncertainty: 0.18 (°C)
Average Standard Reading (°C): 1 2 3 4 5 (ref)
84.426 84.424 84.439 84.557 84.477
Coverage Factor: 2
Calibration point: 85.0 (°C)
UUC: 0.10 (°C)
Reading: 85.0 (°C)
Uncertainty: 0.18 (°C)
Coverage Factor: 2
Average: The average of 10 values in each position.
Standard Deviation: The standard deviation of the 10 values in each position.
Stability: The stability of the instrument is confirmed by the standard deviation of the 10 values in each position.
UUC: One-half of the greatest maximum difference of measured temperature of any one probe.
Note: This 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 %.

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CERTIFICATE OF CALIBRATION
Certificate of Calibration
The Certificate was issued to replace the Certificate No. 202412741
Equipment: pH Meter
Manufacturer: Mettler Toledo
Model: Seven200 pH meter 52 Field Kit
Serial No.: C23257569
ID No.: RYOL_E00004
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
61610 Moo 5, Mainman Khu, A Phukdang, Rayong 21140, Thailand
Ambient Temperature: (25 ± 2.5) °C
Relative Humidity: (50 ± 15) %
Calibration Procedure: CP-018 by direct comparison with standard
Calibrated by: Worakorn Lengyagakul
Approved by: Sathip
Issue Date: 23 March 2024
The uncertainty is for a confidence probability of approximately 95%
A 1185648

DKSH
Certificate No. C22640011 Page 3 of 4
Calibration Results:
Pre Calibration
Locations: A1, A2, A3, A4, A5, A6, B1, B2, B3, B4, B5, C1, C2, C3, C4, C5, C6, D1, D2, D3, D4, D5
Measured Temperature of UUC (°C): 401.5, 399.1, 397.8, 396.5, 396.1, 392.9, 391.6, 390.3, 389.8, 389.7, 389.6, 385.0, 384.2, 383.5
Indicating Temperature (°C): 401.5, 399.1, 397.8, 396.5, 396.1, 392.9, 391.6, 390.3, 389.8, 389.7, 389.6, 385.0, 384.2, 383.5
Setpoint Temperature (°C): 401.5, 399.1, 397.8, 396.5, 396.1, 392.9, 391.6, 390.3, 389.8, 389.7, 389.6, 385.0, 384.2, 383.5
Uncertainty (°C): 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5

DKSH
Certificate No. C22640011 Page 2 of 4
Fig. 1. Front view
Fig. 2. Digestion block
Definitions:
Indicating Temperature: The average reading of indicating device which forms the integral part of the Digestion block.
Measured Temperature: The average reading of working standard at any position or location.

DKSH
Certificate of Calibration
Represent to Certificate of Calibration No. C22640007
Equipment: Black Digestion Unit
Model: KT-20s
Issued Date: 22 March 2024
Serial No. (or ID): 5720210005977000073
Manufacturer: Gerhart
Condition: In Condition
Digestion Block: 20 Notes.
Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
61610 Moo 5 T Mainman Khu, A Phukdang, Rayong 21140, Thailand.
Environment Condition: Temperature: 25 °C ± 0.7 °C
Humidity: 54 %RH ± 4.1 %RH
Voltage: 225 VAC ± 1.7 VAC
Calibration Place: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
61610 Moo 5 T Mainman Khu, A Phukdang, Rayong 21140, Thailand.
Calibration By: Mr. Thanathorn Phruksak
Calibration Date: 17 March 2024
In house method, based on comparison with standard
This certificate is traceable to the SI Units maintained by National Institute of Metrology (NIMT), Thailand through N.M. Technical Center Laboratory (NLT)
Certificate No. TC220090
(Mr. Thanathorn Phruksak)
Authorized Signatory

DKSH
Certificate No. 202412741 Page: 2 of 2
Condition of this calibration result:
1. Reference Standard Instrument:
1) Document Process Calibrator 54202049 130RC116 23E2802
This calibration 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.
Let No. Exp. date
CPA chem 915099 14 July 2024
pH 6.985
pH 6.997
CPA chem 915000 14 July 2024
pH 6.985
pH 6.997
Calibration Results:
Function: pH Measurement
Performing standard curve by Fluke as pH (4.7,10)
Uncertainty of Measurement (mV): 0.08, 0.08, 0.08
Coverage factor: 2.00, 2.00, 2.00
Function pH Measurement
Performing three buffers standard curve by using buffer nominal pH (4.7,10)
Uncertainty of Measurement (mV): 0.0079, 0.0079, 0.0079
Coverage factor: 2.00, 2.00, 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 %.

Certificate No. C2640011

Calibration Results:

Locations	Desired (°C)	Indicating (°C)	Measured Temperature (°C)	Correction	Uncertainty (± °C)
A1	300	300	300.0	0.0	1.5
A2	300	300	300.0	0.0	1.5
A3	300	300	300.0	0.0	1.5
A4	300	300	300.0	0.0	1.5
A5	300	300	300.0	0.0	1.5
B1	300	300	300.0	0.0	1.5
B2	300	300	300.0	0.0	1.5
B3	300	300	300.0	0.0	1.5
B4	300	300	300.0	0.0	1.5
B5	300	300	300.0	0.0	1.5
C1	300	300	300.0	0.0	1.5
C2	300	300	300.0	0.0	1.5
C3	300	300	300.0	0.0	1.5
C4	300	300	300.0	0.0	1.5
C5	300	300	300.0	0.0	1.5
D1	300	300	300.0	0.0	1.5
D2	300	300	300.0	0.0	1.5
D3	300	300	300.0	0.0	1.5
D4	300	300	300.0	0.0	1.5
D5	300	300	300.0	0.0	1.5

The End of Certificate

DKSH Precision and Calibration
2012 Sukhumvit Road, 5th Floor, Bangkok, Thailand 10110
Phone: +66 20 500 0000 Email: info@dkshprecision.com Website: www.dkshprecision.com

Delivering Growth - in Asia and Beyond

CAL-P26-01 26 Jul 2022



Certificate of Calibration

Equipment: pH Meter

Manufacturer: Mettler Toledo

Model: 854281445

Serial No.: RYU JH0152

Condition As-Received: Used Item

Received Date: 08 December 2023

Calibration Date: 15 December 2023

Reference: 2312-01520C-3

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Ruyong Branch

Address: 1818/19 Moo 5, 11 Maunon Rd., A.Prasang, Ruyong 21140, Thailand

Ambient Temperature: (23.4 ± 2.3) °C

Relative Humidity: (65.5 ± 4.1) %RH

Calibration Procedure: In-house method

Calibration Results: pH Meter

Calibration Point: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Result: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Uncertainty: ± 0.05

Calibration Location: Watana, Lengprapha

Calibrated by: [Signature]

Approved by: [Signature]

Issue Date: 19 December 2023

The Uncertainty is for a confidence probability of approximately 95 %

Approved at the head of Calibration Services

Approved by Calibration and Testing Services

A 0051656

ใบตรวจสอบสภาพเครื่องวัดอุณหภูมิ

เลขที่ใบขึ้น: WO-00020429

วันที่: 07-20-24

ชื่อเครื่องวัด: Block Digestion Unit

หมายเลขเครื่อง: 5720210005877000072

รายการตรวจสอบ	ผลการตรวจสอบ	หมายเหตุ
1. ภายนอก	✓	
2. ภายใน	✓	
3. หน้าจอ	✓	
4. ปุ่มกด	✓	
5. สายไฟ	✓	
6. สายวัด	✓	
7. สายวัด	✓	
8. สายวัด	✓	
9. สายวัด	✓	
10. สายวัด	✓	
11. สายวัด	✓	
12. สายวัด	✓	
13. สายวัด	✓	
14. สายวัด	✓	
15. สายวัด	✓	
16. สายวัด	✓	
17. สายวัด	✓	
18. สายวัด	✓	
19. สายวัด	✓	
20. สายวัด	✓	

ตรวจสอบ

Mr. Thanatthorn Thunok
Service Engineer

DKSH Precision and Calibration
2012 Sukhumvit Road, 5th Floor, Bangkok, Thailand 10110
Phone: +66 20 500 0000 Email: info@dkshprecision.com Website: www.dkshprecision.com

Delivering Growth - in Asia and Beyond



Certificate of Calibration

Equipment: pH Meter

Manufacturer: Mettler Toledo

Model: 854281445

Serial No.: RYU JH0152

Condition As-Received: Used Item

Received Date: 08 December 2023

Calibration Date: 15 December 2023

Reference: 2312-01520C-3

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Ruyong Branch

Address: 1818/19 Moo 5, 11 Maunon Rd., A.Prasang, Ruyong 21140, Thailand

Ambient Temperature: (23.4 ± 2.3) °C

Relative Humidity: (65.5 ± 4.1) %RH

Calibration Procedure: In-house method

Calibration Results: pH Meter

Calibration Point: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Result: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Uncertainty: ± 0.05

Calibration Location: Watana, Lengprapha

Calibrated by: [Signature]

Approved by: [Signature]

Issue Date: 19 December 2023

The Uncertainty is for a confidence probability of approximately 95 %

Approved at the head of Calibration Services

Approved by Calibration and Testing Services

A 0051656

Certificate of Calibration

Page: 1 of 2

Certification No.: 23020429

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Equipment: pH Meter

Manufacturer: Mettler Toledo

Model: 854281445

Serial No.: RYU JH0152

Condition As-Received: Used Item

Received Date: 08 December 2023

Calibration Date: 14 December 2023

Reference: 2312-01520C

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Ruyong Branch

Address: 1818/19 Moo 5, 11 Maunon Rd., A.Prasang, Ruyong 21140, Thailand

Ambient Temperature: (23.4 ± 2.3) °C

Relative Humidity: (65.5 ± 4.1) %RH

Calibration Procedure: In-house method

Calibration Results: pH Meter

Calibration Point: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Result: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Uncertainty: ± 0.05

Calibration Location: Watana, Lengprapha

Calibrated by: [Signature]

Approved by: [Signature]

Issue Date: 19 December 2023

The Uncertainty is for a confidence probability of approximately 95 %

Approved at the head of Calibration Services

Approved by Calibration and Testing Services

A 0051656

Cert. No.: 23020429

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Equipment: pH Meter

Manufacturer: Mettler Toledo

Model: 854281445

Serial No.: RYU JH0152

Condition As-Received: Used Item

Received Date: 08 December 2023

Calibration Date: 14 December 2023

Reference: 2312-01520C

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Ruyong Branch

Address: 1818/19 Moo 5, 11 Maunon Rd., A.Prasang, Ruyong 21140, Thailand

Ambient Temperature: (23.4 ± 2.3) °C

Relative Humidity: (65.5 ± 4.1) %RH

Calibration Procedure: In-house method

Calibration Results: pH Meter

Calibration Point: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Result: 7.00, 4.00, 1.00, -1.00, -17.5

Calibration Uncertainty: ± 0.05

Calibration Location: Watana, Lengprapha

Calibrated by: [Signature]

Approved by: [Signature]

Issue Date: 19 December 2023

The Uncertainty is for a confidence probability of approximately 95 %

Approved at the head of Calibration Services

Approved by Calibration and Testing Services

A 0051656

[illegible][illegible][illegible][illegible]

Agilent Technologies

Customer Contact:

ALB Laboratory Group (Thailand) Co
Head Office
104 Phatthanabon 40 Phatthanabon Rd
Phrasang Phatthanabon Ekt San
TAX ID 0195400469
Chattangnan technology@agilent.com
Tel: 02-562-2000

Invoice To:

ALB Laboratory Group (Thailand) Co
Head Office
104 Phatthanabon 40 Phatthanabon Rd
Phrasang Phatthanabon Ekt San

Service Report:

Order Number: 7071913
Service Request:
Service Order: 00000001
Service Confirmation: 00000001

Delivery Site:

ALB Laboratory Group (Thailand) Co
Head Office
104 Phatthanabon 40 Phatthanabon Rd
Phrasang Phatthanabon Ekt San

Location:

Building
Room
Lab
Floor

Direct Requirements:

Customer Contact Center
Contact Email: entc@agilent.com
Contact Tel: +662 832 5030
Contact Fax: +662 525 4254

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© 2023 by Agent Technologies		Agent CrossLab Compliance Services	
Dear Alice - Attached is your Agent Registration Acknowledgment		System ID: CSM-14	
A.L.S. 00015 Transmittal V01		Print Date: May 25, 2023 11:15:08 AM	
Time	Transmittal Date	Activity Performed	Type of Transmittal
May 25, 2023 12:12:42 AM	Start	Reporting	None
May 25, 2023 11:56:24 AM	End	Reporting	Report Generated Corrected

[illegible][illegible]

Service Information:			
Model	Serial Number	System Details	Parent Asset
Model: KIP-625 S100/7110 System			
Serial: 1510			
Asset: 6108 S100V CP-625	M11010005	KIP 625 S110	975-00-1800
Asset: 6108 S100V CP-625	M11010005	KIP 625 S110	975-00-1800
Asset: 6108 S100V CP-625	M11010005	KIP 625 S110	975-00-1800

Service Information:			
Item	Quantity	Unit	Service Start/End Date
1000	1.00	Agreement	28.03.2023 - 28.03.2023
1000	1.00	Agreement	28.03.2023 - 28.03.2023

Additional Information:

Calibration Report

Calibration Point		Average Standard Reading of each position (°C)	
Cal. Point	Reading (°C)	Max	Min
1000	100.0	100.0	100.0
1001	100.1	100.1	100.1
1002	100.2	100.2	100.2
1003	100.3	100.3	100.3
1004	100.4	100.4	100.4
1005	100.5	100.5	100.5
1006	100.6	100.6	100.6
1007	100.7	100.7	100.7
1008	100.8	100.8	100.8
1009	100.9	100.9	100.9
1010	101.0	101.0	101.0
1011	101.1	101.1	101.1
1012	101.2	101.2	101.2
1013	101.3	101.3	101.3
1014	101.4	101.4	101.4
1015	101.5	101.5	101.5
1016	101.6	101.6	101.6
1017	101.7	101.7	101.7
1018	101.8	101.8	101.8
1019	101.9	101.9	101.9
1020	102.0	102.0	102.0
1021	102.1	102.1	102.1
1022	102.2	102.2	102.2
1023	102.3	102.3	102.3
1024	102.4	102.4	102.4
1025	102.5	102.5	102.5
1026	102.6	102.6	102.6
1027	102.7	102.7	102.7
1028	102.8	102.8	102.8
1029	102.9	102.9	102.9
1030	103.0	103.0	103.0
1031	103.1	103.1	103.1
1032	103.2	103.2	103.2
1033	103.3	103.3	103.3
1034	103.4	103.4	103.4
1035	103.5	103.5	103.5
1036	103.6	103.6	103.6
1037	103.7	103.7	103.7
1038	103.8	103.8	103.8
1039	103.9	103.9	103.9
1040	104.0	104.0	104.0
1041	104.1	104.1	104.1
1042	104.2	104.2	104.2
1043	104.3	104.3	104.3
1044	104.4	104.4	104.4
1045	104.5	104.5	104.5
1046	104.6	104.6	104.6
1047	104.7	104.7	104.7
1048	104.8	104.8	104.8
1049	104.9	104.9	104.9
1050	105.0	105.0	105.0
1051	105.1	105.1	105.1
1052	105.2	105.2	105.2
1053	105.3	105.3	105.3
1054	105.4	105.4	105.4
1055	105.5	105.5	105.5
1056	105.6	105.6	105.6
1057	105.7	105.7	105.7
1058	105.8	105.8	105.8
1059	105.9	105.9	105.9
1060	106.0	106.0	106.0
1061	106.1	106.1	106.1
1062	106.2	106.2	106.2
1063	106.3	106.3	106.3
1064	106.4	106.4	106.4
1065	106.5	106.5	106.5
1066	106.6	106.6	106.6
1067	106.7	106.7	106.7
1068	106.8	106.8	106.8
1069	106.9	106.9	106.9
1070	107.0	107.0	107.0
1071	107.1	107.1	107.1
1072	107.2	107.2	107.2
1073	107.3	107.3	107.3
1074	107.4	107.4	107.4
1075	107.5	107.5	107.5
1076	107.6	107.6	107.6
1077	107.7	107.7	107.7
1078	107.8	107.8	107.8
1079	107.9	107.9	107.9
1080	108.0	108.0	108.0
1081	108.1	108.1	108.1
1082	108.2	108.2	108.2
1083	108.3	108.3	108.3
1084	108.4	108.4	108.4
1085	108.5	108.5	108.5
1086	108.6	108.6	108.6
1087	108.7	108.7	108.7
1088	108.8	108.8	108.8
1089	108.9	108.9	108.9
1090	109.0	109.0	109.0
1091	109.1	109.1	109.1
1092	109.2	109.2	109.2
1093	109.3	109.3	109.3
1094	109.4	109.4	109.4
1095	109.5	109.5	109.5
1096	109.6	109.6	109.6
1097	109.7	109.7	109.7
1098	109.8	109.8	109.8
1099	109.9	109.9	109.9
1100	110.0	110.0	110.0
1101	110.1	110.1	110.1
1102	110.2	110.2	110.2
1103	110.3	110.3	110.3
1104	110.4	110.4	110.4
1105	110.5	110.5	110.5
1106	110.6	110.6	110.6
1107	110.7	110.7	110.7
1108	110.8	110.8	110.8
1109	110.9	110.9	110.9
1110	111.0	111.0	111.0
1111	111.1	111.1	111.1
1112	111.2	111.2	111.2
1113	111.3	111.3	111.3
1114	111.4	111.4	111.4
1115	111.5	111.5	111.5
1116	111.6	111.6	111.6
1117	111.7	111.7	111.7
1118	111.8	111.8	111.8
1119	111.9	111.9	111.9
1120	112.0	112.0	112.0
1121	112.1	112.1	112.1
1122	112.2	112.2	112.2
1123	112.3	112.3	112.3
1124	112.4	112.4	112.4
1125	112.5	112.5	112.5
1126	112.6	112.6	112.6
1127	112.7	112.7	112.7
1128	112.8	112.8	112.8
1129	112.9	112.9	112.9
1130	113.0	113.0	113.0
1131	113.1	113.1	113.1
1132	113.2	113.2	113.2
1133	113.3	113.3	113.3
1134	113.4	113.4	113.4
1135	113.5	113.5	113.5
1136	113.6	113.6	113.6
1137	113.7	113.7	113.7
1138	113.8	113.8	113.8
1139	113.9	113.9	113.9
1140	114.0	114.0	114.0
1141	114.1	114.1	114.1
1142	114.2	114.2	114.2
1143	114.3	114.3	114.3
1144	114.4	114.4	114.4
1145	114.5	114.5	114.5
1146	114.6	114.6	114.6
1147	114.7	114.7	114.7
1148	114.8	114.8	114.8
1149	114.9	114.9	114.9
1150	115.0	115.0	115.0
1151	115.1	115.1	115.1
1152	115.2	115.2	115.2
1153	115.3	115.3	115.3
1154	115.4	115.4	115.4
1155	115.5	115.5	115.5
1156	115.6	115.6	115.6
1157	115.7	115.7	115.7
1158	115.8	115.8	115.8
1159	115.9	115.9	115.9
1160	116.0	116.0	116.0
1161	116.1	116.1	116.1
1162	116.2	116.2	116.2
1163	116.3	116.3	116.3
1164	116.4	116.4	116.4
1165	116.5	116.5	116.5
1166	116.6	116.6	116.6
1167	116.7	116.7	116.7
1168	116.8	116.8	116.8
1169	116.9	116.9	116.9
1170	117.0	117.0	117.0
1171	117.1	117.1	117.1
1172	117.2	117.2	117.2
1173	117.3	117.3	117.3
1174	117.4	117.4	117.4
1175	117.5	117.5	117.5
1176	117.6	117.6	117.6
1177	117.7	117.7	117.7
1178	117.8	117.8	117.8
1179	117.9	117.9	117.9
1180	118.0	118.0	118.0
1181	118.1	118.1	118.1
1182	118.2	118.2	118.2
1183	118.3	118.3	118.3
1184	118.4	118.4	118.4
1185	118.5	118.5	118.5
1186	118.6	118.6	118.6
1187	118.7	118.7	118.7
1188	118.8	118.8	118.8
1189	118.9	118.9	118.9
1190	119.0	119.0	119.0
1191	119.1	119.1	119.1
1192	119.2	119.2	119.2
1193	119.3	119.3	119.3
1194	119.4	119.4	119.4
1195	119.5	119.5	119.5
1196	119.6	119.6	119.6
1197	119.7	119.7	119.7
1198	119.8	119.8	119.8
1199	119.9	119.9	119.9
1200	120.0	120.0	120.0
1201	120.1	120.1	120.1
1202	120.2	120.2	120.2
1203	120.3	120.3	120.3
1204	120.4	120.4	120.4
1205	120.5	120.5	120.5
1206	120.6	120.6	120.6
1207	120.7	120.7	120.7
1208	120.8	120.8	120.8
1209	120.9	120.9	120.9
1210	121.0	121.0	121.0
1211	121.1	121.1	121.1
1212	121.2	121.2	121.2
1213	121.3	121.3	121.3
1214	121.4	121.4	121.4
1215	121.5	121.5	121.5
1216	121.6	121.6	121.6
1217	121.7	121.7	121.7
1218	121.8	121.8	121.8
1219	121.9	121.9	121.9
1220	122.0	122.0	122.0
1221	122.1	122.1	122.1
1222	122.2	122.2	122.2
1223	122.3	122.3	122.3
1224	122.4	122.4	122.4
1225	122.5	122.5	122.5
1226	122.6	122.6	122.6
1227	122.7	122.7	122.7
1228	122.8	122.8	122.8
1229	122.9	122.9	122.9
1230	123.0	123.0	123.0
1231	123.1	123.1	123.1
1232	123.2	123.2	123.2
1233	123.3	123.3	123.3
1234	123.4	123.4	123.4
1235	123.5	123.5	123.5
1236	123.6	123.6	123.6
1237	123.7	123.7	123.7
1238	123.8	123.8	123.8
1239	123.9	123.9	123.9
1240	124.0	124.0	124.0
1241	124.1	124.1	124.1
1242	124.2	124.2	124.2
1243	124.3	124.3	124.3
1244	124.4	124.4	124.4
1245	124.5	124.5	124.5
1246	124.6	124.6	124.6
1247	124.7	124.7	124.7
1248	124.8	124.8	124.8
1249	124.9	124.9	124.9
1250	125.0	125.0	125.0
1251	125.1	125.1	125.1
1252	125.2	125.2	125.2
1253	125.3	125.3	125.3
1254	125.4	125.4	125.4
1255	125.5	125.5	125.5
1256	125.6	125.6	125.6
1257	125.7	125.7	125.7
1258	125.8	125.8	125.8
1259	125.9	125.9	125.9
1260	126.0	126.0	126.0
1261	126.1	126.1	126.1</

Certificate of Calibration

Equipment : Chamber (Cold Room)

Manufacturer : KOLDTECH

Model : KN 320

Serial No. : TBN-1012061/05

Customer Code : BKK_EN0167

ID No. : T2463A3

Customer : ALS Laboratory Group (Thailand) Co., Ltd.

104 Phatthanakan 4b, Phatthanakan Rd., Khwaeng Phatthanakan,

Khet Suan Luang, Bangkok 10259

Customer Location : Environmental Laboratory

Date of Receipt : 27 June 2022

Calibrated By : Sujjar Nakanakred (Site Calibration Manager)

Approved By :  / Branchat Suriyawang (Site Calibration Manager)

Date of Issue : 6 JUL 2022

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 Board (TLAB) under the number of accreditation TLAB-001-2017-001. It is valid for the period of 5 years from the date of issue, provided that the laboratory maintains the standards and is in the state of good standing with the TLAB. The certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

Certificate of Calibration

Certificate No. : BSCC-UV-30722

Equipment : UV-Vis Spectrophotometer

Manufacturer : Shimadzu

Serial No. : A1144008330D

Model : BKK_EN0167

Date of issue : 23 September 2022

Customer name : ALS Laboratory Group (Thailand) Co., Ltd.

Address : 104 Soi Phatthanakan 4b, Phatthanakan Road, Phatthanakan, Suan Luang, Bangkok 10259

Temperature : (22.1 ± 0.3) °C (On site)

Humidity : (59.8 ± 0.2) %RH (On site)

Equipment condition : Good Operation

Calibration Location : Organic Trip

Calibration Procedure : In-house method: M-UV-702-01 based on ASTM E275-01

Traceability : Working Accuracy traceable to certificate No. 05017 and 05018

Pre-shipment Accuracy traceable to certificate No. 05014 and 05015

Stability : The above certificate is transferable to the unit through Sigma Scientific Ltd

(Under a standard calibration laboratory No. 0005)

By: Warat Jongsing

Calibrated by : 

Approved by : 

Mr. Jongsing Chotep

Technical Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in the report / certificate.

Adopting the reported results for other items without the written approval of the Metrological Center will be considered invalid.

Approved by : 

Mr. Jongsing Chotep

Technical Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in the report / certificate.

Adopting the reported results for other items without the written approval of the Metrological Center will be considered invalid.

Approved by : 

Mr. Jongsing Chotep

Technical Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in the report / certificate.

Adopting the reported results for other items without the written approval of the Metrological Center will be considered invalid.

Approved by : 

Mr. Jongsing Chotep

Technical Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in the report / certificate.

Adopting the reported results for other items without the written approval of the Metrological Center will be considered invalid.

Approved by : 

Mr. Jongsing Chotep

Technical Manager

Calibration Report

Equipment : Chamber (Cold Room)

Date of Calibration : 27 June 2022

Environment : Temperature : 18.5 ± 0.3 °C

Line Voltage : 222.9 ± 2.65 V

Relative Humidity : 55 ± 4% RH

Condition of this results of calibration :

1. This equipment was calibrated by using standard thermocouples type T into the chamber. The other one standard thermocouple type T was for ambient temperature measurement. The calibration was done in accordance with the requirements of ASTM E1147-14 (Expanded 2001) and AS2653-1989 (1).

2. The calibration was performed in accordance with the requirements of the Metrological Center.

3. The calibration was performed in accordance with the requirements of the Metrological Center.

4. Condition of calibrated item : good

Equipment Description : TYPIC T

Time Constant : TYPIC T

Time to Stabilize : TYPIC T

Time to Stabilize : TYPIC T

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Calibration Report

Equipment : Chamber (Cold Room)

Date of Calibration : 27 June 2022

Environment : Temperature : 18.5 ± 0.3 °C

Line Voltage : 222.9 ± 2.65 V

Relative Humidity : 55 ± 4% RH

Condition of this results of calibration :

1. This equipment was calibrated by using standard thermocouples type T into the chamber. The other one standard thermocouple type T was for ambient temperature measurement. The calibration was done in accordance with the requirements of ASTM E1147-14 (Expanded 2001) and AS2653-1989 (1).

2. The calibration was performed in accordance with the requirements of the Metrological Center.

3. The calibration was performed in accordance with the requirements of the Metrological Center.

4. Condition of calibrated item : good

Equipment Description : TYPIC T

Time Constant : TYPIC T

Time to Stabilize : TYPIC T

Time to Stabilize : TYPIC T

Time to Stabilize : TYPIC T

Time to Stabilize : TYPIC T

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Calibration Report

Equipment : Chamber (Cold Room)

Date of Calibration : 27 June 2022

Environment : Temperature : 18.5 ± 0.3 °C

Line Voltage : 222.9 ± 2.65 V

Relative Humidity : 55 ± 4% RH

Condition of this results of calibration :

1. This equipment was calibrated by using standard thermocouples type T into the chamber. The other one standard thermocouple type T was for ambient temperature measurement. The calibration was done in accordance with the requirements of ASTM E1147-14 (Expanded 2001) and AS2653-1989 (1).

2.



Certificate of Calibration

Model Number: M52245-100-DU
Description: Analytical Balance
Serial Number: 2827042
ID No.: BKC_EN0002
Manufacturer: Sartorius
Customer Name: A.S. Laboratory Group (Thailand) Co., Ltd.
Calibration Place: Balance Room

154 Pracharatan 43 Pracharatan Rd., Khlong Pracharatan, Bang Khen District, Bangkok 10260

Calibrated By: Mr. Chonchai Intanaka
Calibration Date: Wednesday, February 09, 2023

Calibration Procedure No.: This calibration was conducted by using in-house calibration procedure number (M-002)
Based on UKAS LAB 14: 2019
Ambient Conditions:
Temperature: 23.2 °C ± 0.5 °C
Humidity: 60.3 % RH ± 10.0 % RH
Pressure: 1013.25 hPa ± 0.1 hPa

Reasons for calibration:
☒ New Installation ☐ Service / Repair ☐ Recalibration / Reverification ☐ Good Service ☐ Tie

Measurement Method: UKAS Publication Ref: Lab 14
This certificate is issued in accordance with the requirements of the International Standard System of Units (SI). Report of Tolerance limits shall be at the discretion of the calibration laboratory.

Traceability:
Model Number: Y2017-520-09
Description: Service weight set, 100g, 1000g, 10000g, 100000g
Certificate No.: 100219465
Due Date: 14-Sep-2025
M52245-100-DU
Manufactured by: Sartorius

This certificate relates and applies to the equipment only.
The calibration laboratory is not responsible for the use of the equipment for any other purpose than the one for which it was calibrated.
Sartorius (Thailand) Co., Ltd.
SOP FM 33: 03 February 2022

Certificate of Calibration

Model Number: M52245-100-DU
Description: Analytical Balance
Serial Number: 2827042
ID No.: BKC_EN0002
Manufacturer: Sartorius
Certificate No.: 23050572
Issued Date: Monday, February 13, 2023
Reference No.: 23245
Page No.: 2 of 2

Calibration Results: Without Adjustment

Repeatability:
The repeatability is the ability of a weighing instrument to display nearly identical results when the same mass is weighed repeatedly under the same conditions. The standard deviation is used to quantify the repeatability of the weighing instrument.
Nominal Value: 20 g
Tolerance: 0.0001 g
Nominal Value: 200 g
Tolerance: 0.0001 g
Standard Deviation: 0.00004 g

Linearity:
The linearity is the ability of a weighing instrument to display nearly identical results when the same mass is weighed repeatedly under the same conditions. The standard deviation is used to quantify the linearity of the weighing instrument.
Nominal Value: 20 g
Tolerance: 0.0001 g
Nominal Value: 200 g
Tolerance: 0.0001 g
Standard Deviation: 0.00004 g

Linearity			
Tolerance: 0.0002 g			
Nominal Value	Conventional Mass Value	Displayed Value	Uncertainty
20 g	20.0000 g	20.0000 g	0.0001 g
10 g	10.0000 g	10.0000 g	0.0001 g
5 g	5.0000 g	5.0000 g	0.0001 g
2 g	2.0000 g	2.0000 g	0.0001 g
1 g	1.0000 g	1.0000 g	0.0001 g
0.5 g	0.5000 g	0.5000 g	0.0001 g
0.2 g	0.2000 g	0.2000 g	0.0001 g
0.1 g	0.1000 g	0.1000 g	0.0001 g
0.05 g	0.0500 g	0.0500 g	0.0001 g
0.02 g	0.0200 g	0.0200 g	0.0001 g
0.01 g	0.0100 g	0.0100 g	0.0001 g

SOP FM 33: 03 February 2022

ภาคผนวก จ

สำเนาหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
จากกรมโรงงานอุตสาหกรรม

ลำดับที่	สารเคมี	วิธีการตรวจ
40	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass spectrometric Method ⁽²⁾
42	Methiocarb	High-Performance Liquid Chromatographic Method ⁽¹⁾
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
44	Methomyl	High-Performance Liquid Chromatographic Method ⁽¹⁾
45	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method ⁽¹⁾ 2) Soxhlet Extraction Method ⁽²⁾
47	Oxamyl	High-Performance Liquid Chromatographic Method ⁽¹⁾
48	Propoxur	High-Performance Liquid Chromatographic Method ⁽¹⁾
49	pH	Electrometric Method ⁽¹⁾
50	Phenols	1) Distillation, Chloroform Extraction Method ⁽¹⁾ 2) Distillation, Direct Photometric Method ⁽²⁾
51	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
52	Sulfide	Iodometric Method ⁽¹⁾
53	Temperature	Laboratory and Field Methods ⁽¹⁾
54	Total Dissolved Solids	Dried at 180 °C ⁽¹⁾
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method ⁽¹⁾
56	Total Phosphorus	Digestion, Colorimetric Method ⁽¹⁾
57	Total Suspended Solids	Dried from 103-105 °C ⁽¹⁾
58	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
59	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method, Calculation ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽²⁾
60	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾

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น้ำดื่ม

ลำดับที่	สารเคมี	วิธีการตรวจ
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
4	Anthriscene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
8	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
11	Benzobis(luoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
12	Benzobis(luoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
15	Benzo(g,h,i)perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
17	Bis(2-chloroethoxy)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾

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18 Bis(2-ethylhexyl)phthalate...

ลำดับที่	สารเคมี	วิธีการตรวจ
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
20	Bromofom	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
22	Butyl benzyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
25	Carbon disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method, Calculation ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽²⁾
35	Chromium (VI)	Colorimetric Method ⁽¹⁾

36 Chrysene...

ลำดับที่	สารเคมี	วิธีการตรวจ
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
37	Cyanide	Distillation, Colorimetric Method ⁽¹⁾
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
39	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
40	DOE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
41	DOT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾

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56 1,3-Dichloropropene...

ลำดับที่	สารเคมี	วิธีการตรวจ
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
63	Di-n-octyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾

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76 γ-HCH...

ลำดับที่	สารเคมี	วิธีการตรวจ
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
81	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
83	Mercury	1) Digestion, Cold Vapor Atomic Absorption Spectrometric Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
84	Methanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
86	Methyl bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
87	Methylene chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
88	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
90	Methyl tert-butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
91	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾

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94 N-Nitrosodiphenylamine...

ลำดับที่	สารเคมี	วิธีการตรวจ
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
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 ⁽¹⁾
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
98	pH	Electrometric Method ⁽¹⁾
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
100	Phenol	1) Distillation, Chloroform Extraction Method ⁽¹⁾ 2) Distillation, Direct Photometric Method ⁽²⁾
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
102	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
103	Silver	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
109	TPH (C ₈ -C ₁₀)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾

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110 TPH (C₈-C₁₀)...

ลำดับที่	สารเคมี	วิธีการตรวจ
110	TPH (C ₈ -C ₁₀)	Separatory Funnel, Liquid-Liquid Extraction, Gas Chromatographic Method ⁽¹⁾
111	TPH (C ₁₁ -C ₁₃)	Separatory Funnel, Liquid-Liquid Extraction, Gas Chromatographic Method ⁽¹⁾
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾
120	Vinyl acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
121	Vinyl chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
122	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
123	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
124	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
126	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽¹⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽²⁾

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தாகம...

தாகம	சாம்பலி	சரிசரி
1	Antimony	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
2	Arsenic	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
3	Beryllium	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
4	Cadmium	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
5	Carbon Monoxide	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Instrumental Analyzer Method ⁽¹⁾
6	Chlorine	2) Sampling Bag Non-Dispersive Infrared Method ⁽²⁾ 1) Absorption Sampling, Ion Chromatographic Method ⁽¹⁾
7	Chromium	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
8	Cobalt	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
9	Copper	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
10	Cresol	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Adsorption Sampling, Gas Chromatographic Method ⁽¹⁾
11	Dioxins	2) Isokinetic Sampling, Ion Chromatographic Method ⁽²⁾ 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ⁽¹⁾
12	Hydrogen Chloride	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽²⁾ 1) Adsorption Sampling, Ion Chromatographic Method ⁽¹⁾
13	Hydrogen Fluoride	2) Isokinetic Sampling, Ion Chromatographic Method ⁽²⁾ 1) Adsorption Sampling, Ion Chromatographic Method ⁽¹⁾
14	Hydrogen Sulfide	2) Isokinetic Sampling, Ion Chromatographic Method ⁽²⁾ 1) Adsorption Sampling, Ion Chromatographic Method ⁽¹⁾

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15 Lead...

ลำดับที่	สารเคมี	วิธีการตรวจ
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^{1, A146} 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^{1, A137} 3) Digestion, Inductively Coupled Plasma Method ^{7, 148} 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^{7, 17}
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^{1, A146} 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^{1, A137} 3) Digestion, Inductively Coupled Plasma Method ^{7, 148} 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^{7, 17}
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^{3, A48} 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^{7, 148} 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^{7, 148}
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^{1, A146} 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^{1, A137} 3) Digestion, Inductively Coupled Plasma Method ^{7, 148} 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^{7, 17}
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method ^{1, A14, A148} 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method ^{1, A137, A148} 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^{7, A13, A148} 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^{7, 13, 148}

10 Chromium (V)

ลำดับที่	สารเคมี	วิธีการ
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[A,30] 2) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^[A,32] 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[30] 4) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^[30] 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ^[31]
23	Methoxychlor	1) Waste Extraction, Separately Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[A,33] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[A,34]
24	Mirex	3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[A,35] 1) Waste Extraction, Separately Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[A,36] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[A,36] 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[A,36]
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[A,36] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[A,37] 3) Digestion, Inductively Coupled Plasma Method ^[A,37] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[A,37]
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[A,38] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[A,39] 3) Digestion, Inductively Coupled Plasma Method ^[A,39] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[A,39]
27	Polychlorinated biphenyls (PCBs)	1) Waste Extraction, Separately Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[A,39] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[A,40] 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[A,40]

- 2-ChlorobiphenylL...

ลำดับที่	สารพิษ	วิธีการตรวจ
1	Acenaphthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2)
2	Acetone	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(1,2) 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ⁽¹⁾
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2,3)
4	Anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2)
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ^(2,4) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(2,5)
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^(2,4) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(2,5)
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2,3)
8	Barium	1) Digestion, Inductively Coupled Plasma Method ^(2,4) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(2,5)
9	Benz[a]anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(1,2)
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(1,2,5)

11 Benzo(b)fluoranthene

23 Cadmium...36 Chrysene..

200

63 Di-n-Octyl Phthalate...73 n-Hexane..84 Methanol...96 Polychlorinated biphenyls (PCBs)99 Phenol..115 2,4,5-Trichlorophenol...

7. United States Environmental Protection Agency. Standards of Performance for New Stationary Sources. 40 CFR 60. Appendix A, 2020.

8. United States Environmental Protection Agency. Standards of Performance for New Stationary Sources. 40 CFR 60. Appendix A, 2023.

9. United States Environmental Protection Agency. Determination of Carbon Monoxide Emission from Stationary Sources; Instrumental Analyzer Procedure. 40 CFR 60. Appendix A Method 10, 2017.

10. United States Environmental Protection Agency. Determination of Oxide of Nitrogen Emission from Stationary Sources; Instrumental Analyzer Procedure. 40 CFR 60. Appendix A Method 7E, 2023.

11. United States Environmental Protection Agency. Determination of Sulfur dioxide Emission from Stationary Sources; Instrumental Analyzer Procedure. 40 CFR 60. Appendix A Method 6C, 2017.

