

ภาคผนวก ง

แสดงสำเนาผลการตรวจวัดคุณภาพสิ่งแวดล้อม

แสดงรายงานการตรวจวัดคุณภาพสิ่งแวดล้อม

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ประจำเดือน ตุลาคม-ธันวาคม พ.ศ. 2567

แสดงรายงานการตรวจวัดคุณภาพอากาศ

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ตรวจวัดทุก 6 เดือน (ตรวจวัดเดือนพฤศจิกายน 2567)

แสดงรายงานการตรวจวัดคุณภาพอากาศ

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ประจำเดือน พฤศจิกายน พ.ศ. 2567



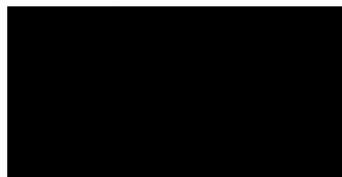
## ANALYSIS REPORT

ภาคผนวก ง-1

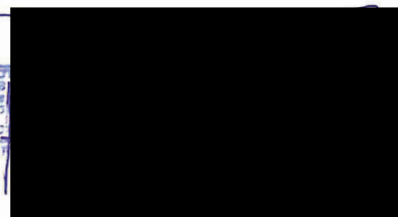
<b>Customer Name</b>	: Hydro Systems Co., Ltd.	<b>Quotation No.</b>	: ER2024-01844
<b>Address</b>	: 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210	<b>Analysis No.</b>	: 2024-AG018
<b>Project Name</b>	: โครงการ LK Grand Empire	<b>Received Date</b>	: November 28, 2024
<b>Project Location</b>	: เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี	<b>Analytical Date</b>	: November 28-December 2, 2024
<b>Sampling Source</b>	: Ambient Air Quality	<b>Report No.</b>	: 2024-RAAY851
<b>Sampling Point</b>	: ลานจอดรถพื้นที่โครงการ	<b>Report Date</b>	: December 3, 2024
<b>GPS. Coordinate</b>	: UTM (WGS84) 47P 0705440 E, 1429058 N		
<b>Sampling Date</b>	: November 25-26, 2024		
<b>Sampling Time</b>	: 12:17		
<b>Sampling Method</b>	: U.S. EPA 40 CFR Part 50		
<b>Sampling By</b>	: Mr.Akarawat Kochobog		
<b>Analyzed By</b>	: Environment Research & Technology Co., Ltd.		

Parameter	Unit	Method of Analysis	Result	Standard <sup>1'</sup>
Total Suspended Particulate (TSP) 24 Hours Average	mg/m <sup>3</sup>	High-Volume, Gravimetric	0.047	0.330
Particulate Size Less Than 10 Micron (PM10) 24 Hours Average	mg/m <sup>3</sup>	PM10 Size Selective, High-Volume, Gravimetric	0.028	0.120

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms.Natnicha Sermmatiwong)  
Laboratory Reviewer

(Ms.Ramita Taengthai)  
Laboratory Supervisor

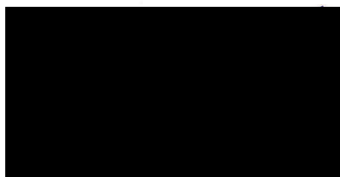
## ANALYSIS REPORT

ภาคผนวก ง-2

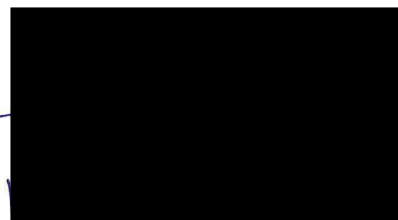
**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Ambient Air Quality  
**Sampling Point** : ลานจอดรถพื้นที่โครงการ  
**GPS. Coordinate** : UTM (WGS84) 47P 0705440 E, 1429058 N  
**Sampling Date** : November 26, 2024  
**Sampling Time** : 08:00  
**Sampling Method** : APHA 108  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.

**Quotation No.** : ER2024-01844  
**Folder No.** : 2024-AG018  
**Received Date** : November 28, 2024  
**Analytical Date** : November 28, 2024  
**Report No.** : 2024-RAAY938  
**Report Date** : December 4, 2024

Parameter	Unit	Method of Analysis	Result
Total Hydrocarbon	mg/m <sup>3</sup> as methane	Flame Ionization Detection Method	1.39
Methane Hydrocarbon	mg/m <sup>3</sup> as methane	Flame Ionization Detection Method	1.22
Non-Methane Hydrocarbon	mg/m <sup>3</sup> as methane	Flame Ionization Detection Method	0.17



(Ms. Supawan Suwannapa)  
Laboratory Reviewer

(Ms. Panicha Promchai)  
Laboratory Supervisor

## ANALYSIS REPORT

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Measured Source** : Ambient Air Quality  
**Measured Point** : ลานจอดรถพื้นที่โครงการ  
**GPS. Coordinate** : UTM (WGS84) 47P 0705440 E, 1429058 N  
**Measured Date** : November 25-26, 2024  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : NOx Chemiluminescence Analyzer Horiba Model APNA-370 Serial Number R9CLG7JS

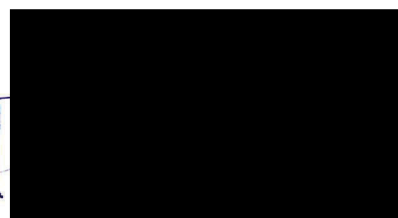
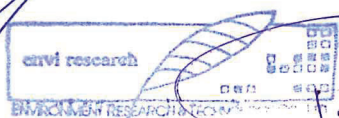
**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AG018-001  
**Report No.** : 2024-RAAY939  
**Report Date** : December 4, 2024

Interval Time	Result NO <sub>2</sub> (mg/m <sup>3</sup> )	Standard <sup>1'</sup>
12:00-13:00	0.0135	
13:00-14:00	0.0188	
14:00-15:00	0.0190	
15:00-16:00	0.0218	
16:00-17:00	0.0231	
17:00-18:00	0.0354	
18:00-19:00	0.0459	
19:00-20:00	0.0467	
20:00-21:00	0.0506	
21:00-22:00	0.0487	
22:00-23:00	0.0444	
23:00-00:00	0.0354	
00:00-01:00	0.0469	
01:00-02:00	0.0491	
02:00-03:00	0.0367	
03:00-04:00	0.0282	
04:00-05:00	0.0245	
05:00-06:00	0.0309	
06:00-07:00	0.0352	
07:00-08:00	0.0420	
08:00-09:00	0.0446	
09:00-10:00	0.0316	
10:00-11:00	0.0373	
11:00-12:00	0.0228	
<b>24 Hours Average</b>	<b>0.0347</b>	-
<b>1 Hour Maximum</b>	<b>0.0506</b>	<b>0.32</b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), Notification No.28, B.E.2550 (2007), published in the Royal Government Gazette No.124 Special Part 58D dated May 14, B.E.2550 (2007) and Notification No.33, B.E.2552 (2009), published in the Royal Government Gazette No.126 Special Part 114D dated August 14, B.E.2552 (2009), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms. Supawan Suwannapa)  
Laboratory Reviewer



(Ms. Panicha Promchai)  
Laboratory Supervisor



## ANALYSIS REPORT

ภาคผนวก ง-4

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Measured Source** : Ambient Air Quality  
**Measured Point** : ลานจอดรถพื้นที่โครงการ  
**GPS. Coordinate** : UTM (WGS84) 47P 0705440 E, 1429058 N  
**Measured Date** : November 25-26, 2024  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : SO<sub>2</sub> UV-Fluorescence Analyzer Thermo Model 43C Serial Number 57469-317

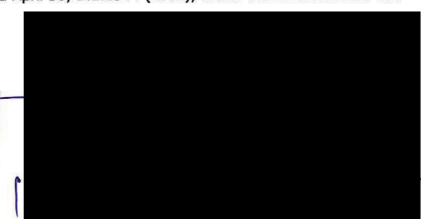
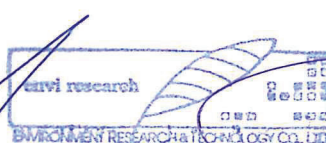
**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AG018-001  
**Report No.** : 2024-RAAY940  
**Report Date** : December 4, 2024

Interval Time	Result SO <sub>2</sub> (mg/m <sup>3</sup> )	Standard
12:00-13:00	0.0034	
13:00-14:00	0.0034	
14:00-15:00	0.0031	
15:00-16:00	0.0029	
16:00-17:00	0.0026	
17:00-18:00	0.0034	
18:00-19:00	0.0037	
19:00-20:00	0.0037	
20:00-21:00	0.0042	
21:00-22:00	0.0031	
22:00-23:00	0.0037	
23:00-00:00	0.0037	
00:00-01:00	0.0037	
01:00-02:00	0.0045	
02:00-03:00	0.0037	
03:00-04:00	0.0037	
04:00-05:00	0.0034	
05:00-06:00	0.0034	
06:00-07:00	0.0047	
07:00-08:00	0.0039	
08:00-09:00	0.0042	
09:00-10:00	0.0037	
10:00-11:00	0.0047	
11:00-12:00	0.0047	
<b>24 Hours Average</b>	<b>0.0037</b>	<b>0.30<sup>1'</sup></b>
<b>1 Hour Maximum</b>	<b>0.0047</b>	<b>0.78<sup>2'</sup></b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995) and Notification No.24, B.E.2547 (2004), published in the Royal Government Gazette No.121 Special Part 104D dated September 22, B.E.2547 (2004), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).  
<sup>2'</sup> Notification of National Environmental Board, No.12, B.E.2538 (1995), published in the Royal Government Gazette No.112 Special Part 27D dated July 13, B.E.2538 (1995) and Notification No.21, B.E.2544 (2001), published in the Royal Government Gazette No.118 Special Part 39D dated April 30, B.E.2544 (2001), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms. Supawan Suwannapa)  
Laboratory Reviewer



(Ms. Panicha Promchai)  
Laboratory Supervisor

## ANALYSIS REPORT

ภาคผนวก ง-5

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Measured Source** : Ambient Air Quality  
**Measured Point** : ลานจอดรถพื้นที่โครงการ  
**GPS. Coordinate** : UTM (WGS84) 47P 0705440 E, 1429058 N  
**Measured Date** : November 25-26, 2024  
**Measured By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Measured Instrument** : CO NDIR Analyzer Thermo Model 48C Serial Number 0415406563

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AG018-001  
**Report No.** : 2024-RAAY941  
**Report Date** : December 4, 2024

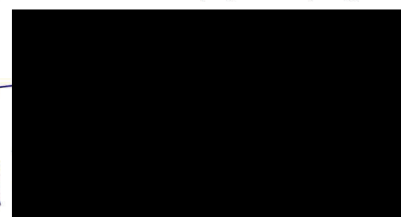
Interval Time	Result CO (mg/m <sup>3</sup> )		Standard <sup>1'</sup>
	1 hr Avg	8 hr Avg	
12:00-13:00	0.6	-	
13:00-14:00	0.7	-	
14:00-15:00	0.8	-	
15:00-16:00	0.6	-	
16:00-17:00	0.6	-	
17:00-18:00	0.7	-	
18:00-19:00	0.7	-	
19:00-20:00	0.7	0.7	
20:00-21:00	0.7	0.7	
21:00-22:00	0.7	0.7	
22:00-23:00	0.7	0.7	
23:00-00:00	0.7	0.7	
00:00-01:00	0.7	0.7	
01:00-02:00	0.7	0.7	
02:00-03:00	0.6	0.7	
03:00-04:00	0.6	0.7	
04:00-05:00	0.5	0.6	
05:00-06:00	0.6	0.6	
06:00-07:00	0.6	0.6	
07:00-08:00	0.6	0.6	
08:00-09:00	0.6	0.6	
09:00-10:00	0.5	0.6	
10:00-11:00	0.3	0.5	
11:00-12:00	0.2	0.5	
<b>24 Hours Average</b>	<b>0.6</b>	-	-
<b>1 Hour Maximum</b>	<b>0.8</b>	-	<b>34.2</b>
<b>8 Hours Maximum</b>	-	<b>0.7</b>	<b>10.26</b>

**Remark :** <sup>1'</sup> Notification of National Environmental Board, No.10, B.E.2538 (1995), published in the Royal Government Gazette No.112 Part 42D dated May 25, B.E.2538 (1995), under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992).



(Ms. Supawan Suwannapa)

Laboratory Reviewer



(Ms. Panicha Promchai)

Laboratory Supervisor

แสดงรายงานการตรวจวัดคุณภาพน้ำทิ้ง

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ตรวจวัด 3 เดือนต่อ 1 ครั้ง

แสดงรายงานการตรวจวัดคุณภาพน้ำทิ้ง

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ประจำเดือนพฤศจิกายน พ.ศ. 2567



## ANALYSIS REPORT

ภาคผนวก ง-6

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Wastewater Sampling  
**Sampling Point** : ก่อนเข้าระบบบำบัด จุดที่ 1 (อาคาร A)  
**GPS. Coordinate** : UTM (WGS84) 47P 0705403 E, 1429085 N  
**Sampling Date** : November 25, 2024  
**Sampling Time** : 12:47  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Turbid, Yellow, Sediment, Odor

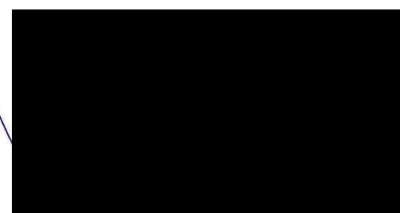
**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF993-001  
**Received Date** : November 27, 2024  
**Analytical Date** : November 27-December 4, 2024  
**Report No.** : 2024-RAAZ516  
**Report Date** : December 16, 2024

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result
pH	-	Electrometric	5.3
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	1,149
Total Suspended Solids	mg/L	Dried at 103-105°C	2,771
Total Dissolved Solids	mg/L	Dried at 180°C	520
Sulfide	mg/L	ZnS Precipitation, Iodometric	6.2
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	185
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	504
Settleable Solids	mL/L	Volumetric	52
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	1,600
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	540

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.



(Ms. Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr. Virat Hemvannanukul)  
Laboratory Supervisor



## ANALYSIS REPORT

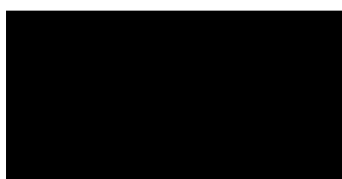
ภาคผนวก ง-7

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Wastewater Sampling  
**Sampling Point** : ก่อนเข้าระบบบำบัด จุดที่ 2 (อาคาร B)  
**GPS. Coordinate** : UTM (WGS84) 47P 0705433 E, 1429132 N  
**Sampling Date** : November 25, 2024  
**Sampling Time** : 13:16  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Turbid, Yellow, Sediment, Odor

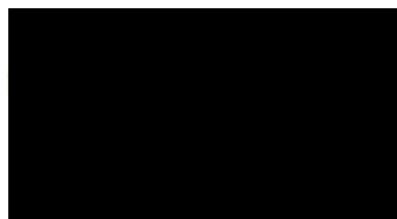
**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF993-002  
**Received Date** : November 27, 2024  
**Analytical Date** : November 27-December 4, 2024  
**Report No.** : 2024-RAAZ525  
**Report Date** : December 16, 2024

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result
pH	-	Electrometric	7.1
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	894
Total Suspended Solids	mg/L	Dried at 103-105°C	2,767
Total Dissolved Solids	mg/L	Dried at 180°C	360
Sulfide	mg/L	ZnS Precipitation, Iodometric	13
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	139
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	191
Settleable Solids	mL/L	Volumetric	80
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	>1,600,000
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	>1,600,000

Remark : <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.



(Ms. Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr. Virat Hemvannanukul)  
Laboratory Supervisor

ภาคผนวก ง-8

## ANALYSIS REPORT

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Wastewater Sampling  
**Sampling Point** : หลังออกจากระบบบำบัดน้ำเสียบริเวณบ่อกักน้ำใส จุดที่ 1 (อาคาร A)  
**GPS. Coordinate** : UTM (WGS84) 47P 0705401 E, 1429080 N  
**Sampling Date** : November 25, 2024  
**Sampling Time** : 12:36  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Turbid, Light Yellow, Sediment, Odor

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF993-003  
**Received Date** : November 27, 2024  
**Analytical Date** : November 27-December 4, 2024  
**Report No.** : 2024-RAAZ550  
**Report Date** : December 16, 2024

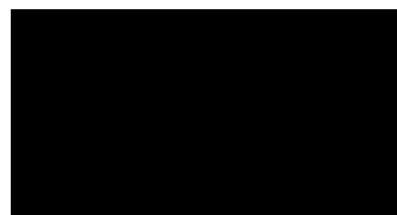
Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
pH	-	Electrometric	7.8	5.5-9.0
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	168	30
Total Suspended Solids	mg/L	Dried at 103-105°C	43	40
Total Dissolved Solids	mg/L	Dried at 180°C	492	1,000
Sulfide	mg/L	ZnS Precipitation, Iodometric	18	1.0
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	163	35
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	4.7	20
Settleable Solids	mL/L	Volumetric	0.2	-
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	1,600,000	-
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	920,000	-

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Notification of the Ministry of Natural Resources and Environment B.E.2567 (2024), published in the Royal Government Gazette No.141 Special Part 233D dated August 27, B.E.2567 (2024), Maximum permitted value for building Type B.



(Ms. Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr. Virat Hemvannanukul)  
Laboratory Supervisor

ภาคผนวก ง-9

## ANALYSIS REPORT

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Wastewater Sampling  
**Sampling Point** : หลังออกจากระบบบำบัดน้ำเสียบริเวณเพอพักน้ำใส จุดที่ 2 (อาคาร B)  
**GPS. Coordinate** : UTM (WGS84) 47P 0705431 E, 1429124 N  
**Sampling Date** : November 25, 2024  
**Sampling Time** : 13:10  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Turbid, Light Yellow, Sediment, Odor

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF993-004  
**Received Date** : November 27, 2024  
**Analytical Date** : November 27-December 4, 2024  
**Report No.** : 2024-RAAZ555  
**Report Date** : December 16, 2024

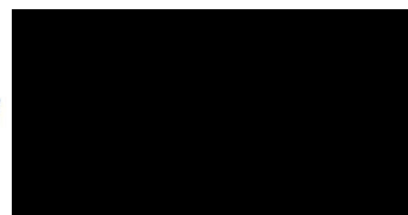
Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
pH	-	Electrometric	7.4	5.5-9.0
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	152	30
Total Suspended Solids	mg/L	Dried at 103-105°C	57	40
Total Dissolved Solids	mg/L	Dried at 180°C	473	1,000
Sulfide	mg/L	ZnS Precipitation, Iodometric	15	1.0
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	132	35
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	9.4	20
Settleable Solids	mL/L	Volumetric	<0.1	-
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	>1,600,000	-
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	1,600,000	-

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Notification of the Ministry of Natural Resources and Environment B.E.2567 (2024), published in the Royal Government Gazette No.141 Special Part 233D dated August 27, B.E.2567 (2024), Maximum permitted value for building Type B.



(Ms. Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr. Virat Hemvannanukul)  
Laboratory Supervisor



## ANALYSIS REPORT

ภาคผนวก ง-10

<b>Customer Name</b>	: Hydro Systems Co., Ltd.	<b>Quotation No.</b>	: ER2024-01844
<b>Address</b>	: 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210	<b>Analysis No.</b>	: 2024-AF993-005
<b>Project Name</b>	: โครงการ LK Grand Empire	<b>Received Date</b>	: November 27, 2024
<b>Project Location</b>	: เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี	<b>Analytical Date</b>	: November 27-December 4, 2024
<b>Sampling Source</b>	: Wastewater Sampling	<b>Report No.</b>	: 2024-RAAZ558
<b>Sampling Point</b>	: ตรวจคุณภาพน้ำก่อนระบายลงสู่สาธารณะ จุดที่ 1	<b>Report Date</b>	: December 16, 2024
<b>GPS. Coordinate</b>	: UTM (WGS84) 47P 0705381 E, 1429074 N		
<b>Sampling Date</b>	: November 25, 2024		
<b>Sampling Time</b>	: 12:58		
<b>Sampling Method</b>	: Grab		
<b>Sampling By</b>	: Mr.Akarawat Kochobog		
<b>Analyzed By</b>	: Environment Research & Technology Co., Ltd.		
<b>Physical Properties</b>	: Turbid, Black, Sediment, Odor		

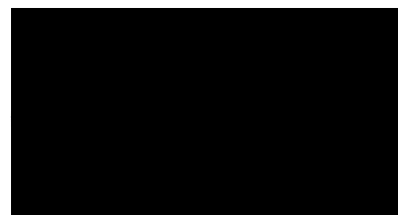
Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
pH	-	Electrometric	7.3	5.5-9.0
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	97	30
Total Suspended Solids	mg/L	Dried at 103-105°C	29	40
Total Dissolved Solids	mg/L	Dried at 180°C	413	1,000
Sulfide	mg/L	ZnS Precipitation, Iodometric	6.8	1.0
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	75	35
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	11	20
Settleable Solids	mL/L	Volumetric	<0.1	-
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	1,600,000	-
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	540,000	-

Remark : <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Notification of the Ministry of Natural Resources and Environment B.E.2567 (2024), published in the Royal Government Gazette No.141 Special Part 233D dated August 27, B.E.2567 (2024), Maximum permitted value for building Type B.



(Ms. Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr. Virat Hemvannanukul)  
Laboratory Supervisor

แสดงรายงานผลการตรวจวัดคุณภาพน้ำสระว่ายนํ้า

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ประจำเดือน ตุลาคม-ธันวาคม พ.ศ. 2567

แสดงรายงานการตรวจวัดคุณภาพน้ำสระว่ายนํ้า

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ประจำเดือนตุลาคม พ.ศ. 2567

## ANALYSIS REPORT

ภาคผนวก ง-11

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Pool Water Sampling  
**Sampling Point** : สระว่ายน้ำบริเวณส่วนลึก  
**GPS. Coordinate** : UTM (WGS84) 47P 0705409 E, 1429139 N  
**Sampling Date** : October 30, 2024  
**Sampling Time** : 09:37  
**Sampling Method** : Grab  
**Sampling By** : Ms.Geschanok Khinawong  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Clear, Colorless, No Sediment, Odorless

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF430-001  
**Received Date** : October 31, 2024  
**Analytical Date** : October 31-November 5, 2024  
**Report No.** : 2024-RAAX075  
**Report Date** : November 7, 2024

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	10
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	None

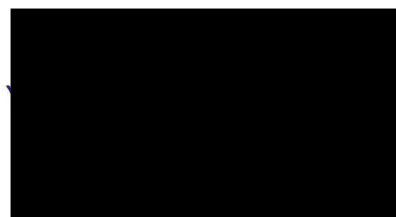
Remark : <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Recommendation of the Public Health Committee No. 1/2007 on the Control of Swimming Pool Operations. or other Businesses In the Same Way.



(Ms.Yuwadee Na Ranong)

Laboratory Reviewer



(Mr.Virat Hemvannanukul)

Laboratory Supervisor

## ANALYSIS REPORT

ภาคผนวก ง-12

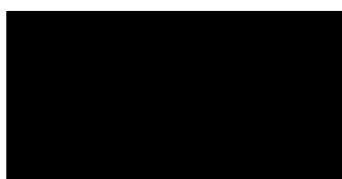
**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Pool Water Sampling  
**Sampling Point** : สระว่ายน้ำบริเวณสวนต้น  
**GPS. Coordinate** : UTM (WGS84) 47P 0705412 E, 1429135 N  
**Sampling Date** : October 30, 2024  
**Sampling Time** : 09:42  
**Sampling Method** : Grab  
**Sampling By** : Ms.Geschanok Khinawong  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Clear, Colorless, No Sediment, Odorless

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF430-002  
**Received Date** : October 31, 2024  
**Analytical Date** : October 31-November 5, 2024  
**Report No.** : 2024-RAAX085  
**Report Date** : November 7, 2024

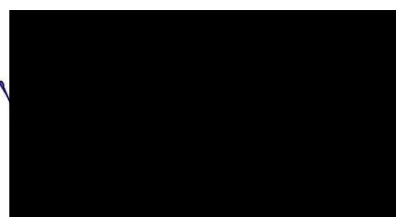
Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	10
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	None

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Recommendation of the Public Health Committee No. 1/2007 on the Control of Swimming Pool Operations. or other Businesses In the Same Way.



(Ms.Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr.Virat Hemvannanukul)  
Laboratory Supervisor



แสดงรายงานการตรวจวัดคุณภาพน้ำสระว่ายนํ้า

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ประจำเดือนพฤศจิกายน พ.ศ. 2567

## ANALYSIS REPORT

ภาคผนวก ง-13

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Pool Water Sampling  
**Sampling Point** : สระว่ายน้ำบริเวณสวนลี้ก  
**GPS. Coordinate** : UTM (WGS84) 47P 0705411 E, 1429139 N  
**Sampling Date** : November 26, 2024  
**Sampling Time** : 12:43  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Clear, Colorless, No Sediment, Odorless

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF993-006  
**Received Date** : November 27, 2024  
**Analytical Date** : November 27-December 16, 2024  
**Report No.** : 2024-RAAZ565  
**Report Date** : December 16, 2024

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
Combined Chlorine	ppm	Iodometric, DPD Colorimetric	0.8	0.5-1.0
Alkalinity	ppm	Titration	<3.0	80-100
Calcium Hardness	ppm	Titration	161	250-600
Cyanuric Acid	ppm	Turbidimetric	176	30-60
Chloride	ppm	Mercuric Nitrate	181	600
Ammonia	ppm	Distillation, Titrimetric	<0.4	20
Nitrate	ppm	Brucine	41	50
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	10
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	None
<i>Escherichia Coli</i>	MPN/100 mL	Most Probable Number	Not Detected	None
<i>Staphylococcus aureus</i> <sup>3'</sup>	/100 mL	Membrane Filter Technique	Not Detected	None
<i>Pseudomonas aeruginosa</i> <sup>3'</sup>	/100 mL	Membrane Filter Technique	Not Detected	None

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

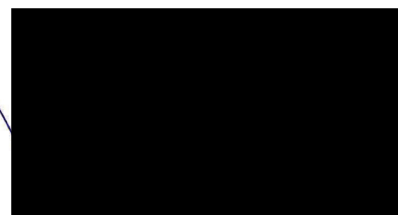
<sup>2'</sup> Recommendation of the Public Health Committee No. 1/2007 on the Control of Swimming Pool Operations. or other Businesses In the Same Way.

<sup>3'</sup> Analyzed by Subcontractor Laboratory.



(Ms. Yuwadee Na Ranong)

Laboratory Reviewer



(Mr. Virat Hemvannanukul)

Laboratory Supervisor

## ANALYSIS REPORT

ภาคผนวก ง-14

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Pool Water Sampling  
**Sampling Point** : สระว่ายน้ำบริเวณสวนต้น  
**GPS. Coordinate** : UTM (WGS84) 47P 0705417 E, 1429150 N  
**Sampling Date** : November 26, 2024  
**Sampling Time** : 12:38  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Clear, Colorless, No Sediment, Odorless

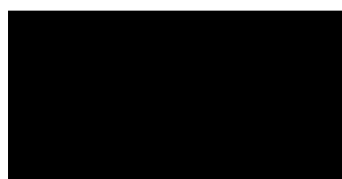
**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AF993-007  
**Received Date** : November 27, 2024  
**Analytical Date** : November 27-December 16, 2024  
**Report No.** : 2024-RAAZ578  
**Report Date** : December 16, 2024

Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
Combined Chlorine	ppm	Iodometric, DPD Colorimetric	0.8	0.5-1.0
Alkalinity	ppm	Titration	<3.0	80-100
Calcium Hardness	ppm	Titration	162	250-600
Cyanuric Acid	ppm	Turbidimetric	174	30-60
Chloride	ppm	Mercuric Nitrate	178	600
Ammonia	ppm	Distillation, Titrimetric	<0.4	20
Nitrate	ppm	Brucine	42	50
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	10
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	None
<i>Escherichia Coli</i>	MPN/100 mL	Most Probable Number	Not Detected	None
<i>Staphylococcus aureus</i> <sup>3'</sup>	/100 mL	Membrane Filter Technique	Not Detected	None
<i>Pseudomonas aeruginosa</i> <sup>3'</sup>	/100 mL	Membrane Filter Technique	Not Detected	None

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

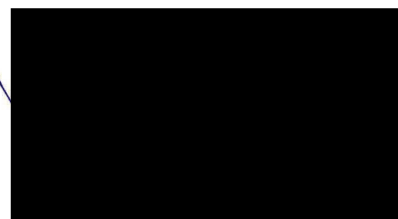
<sup>2'</sup> Recommendation of the Public Health Committee No. 1/2007 on the Control of Swimming Pool Operations. or other Businesses In the Same Way.

<sup>3'</sup> Analyzed by Subcontractor Laboratory.



(Ms. Yuwadee Na Ranong)

Laboratory Reviewer



(Mr. Virat Hemvannanukul)

Laboratory Supervisor

แสดงรายงานการตรวจวัดคุณภาพน้ำสระว่ายนํ้า

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ประจำเดือนธันวาคม พ.ศ. 2567

## ANALYSIS REPORT

ภาคผนวก ง-15

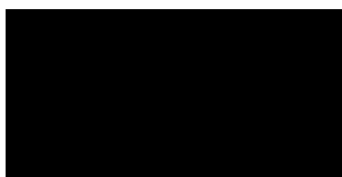
**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Pool Water Sampling  
**Sampling Point** : สระว่ายน้ำบริเวณสวนลี้ก  
**GPS. Coordinate** : UTM (WGS84) 47P 0705409 E, 1429139 N  
**Sampling Date** : December 13, 2024  
**Sampling Time** : 09:17  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Clear, Colorless, No Sediment, Odorless

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AG326-001  
**Received Date** : December 14, 2024  
**Analytical Date** : December 14-17, 2024  
**Report No.** : 2024-RABA843  
**Report Date** : December 23, 2024

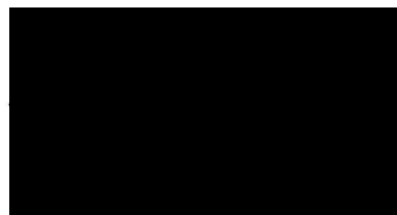
Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	10
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	None

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Recommendation of the Public Health Committee No. 1/2007 on the Control of Swimming Pool Operations. or other Businesses In the Same Way.



(Ms.Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr.Virat Hemvannanukul)  
Laboratory Supervisor



## ANALYSIS REPORT

ภาคผนวก ง-16

**Customer Name** : Hydro Systems Co., Ltd.  
**Address** : 48/29 Soi Ngamwongwan 47, Intersection 46 (Chinkhet 2/44), Thung Song Hong, Lak Si, Bangkok 10210  
**Project Name** : โครงการ LK Grand Empire  
**Project Location** : เลขที่ 63/63 หมู่ที่ 10 ตำบลหนองปรือ อำเภอบางละมุง จังหวัดชลบุรี  
**Sampling Source** : Pool Water Sampling  
**Sampling Point** : สระว่ายน้ำบริเวณสวนต้น  
**GPS. Coordinate** : UTM (WGS84) 47P 0705412 E, 1429135 N  
**Sampling Date** : December 13, 2024  
**Sampling Time** : 09:19  
**Sampling Method** : Grab  
**Sampling By** : Mr.Akarawat Kochobog  
**Analyzed By** : Environment Research & Technology Co., Ltd.  
**Physical Properties** : Clear, Colorless, No Sediment, Odorless

**Quotation No.** : ER2024-01844  
**Analysis No.** : 2024-AG326-002  
**Received Date** : December 14, 2024  
**Analytical Date** : December 14-17, 2024  
**Report No.** : 2024-RABA844  
**Report Date** : December 23, 2024

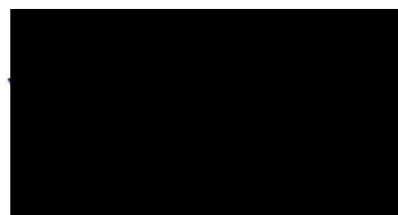
Parameter	Unit	Method of Analysis <sup>1'</sup>	Result	Standard <sup>2'</sup>
Total Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	10
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number	<1.8	None

**Remark :** <sup>1'</sup> Standard Method for Examination of Water and Wastewater, 24<sup>th</sup> Edition, 2023.

<sup>2'</sup> Recommendation of the Public Health Committee No. 1/2007 on the Control of Swimming Pool Operations. or other Businesses In the Same Way.



(Ms.Yuwadee Na Ranong)  
Laboratory Reviewer



(Mr.Virat Hemvannanukul)  
Laboratory Supervisor