

ภาคผนวกที่ 3

ใบรายงานผลการวิเคราะห์จากห้องปฏิบัติการ

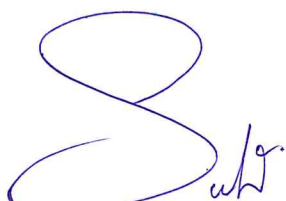
ANALYSIS REPORT

Customer Name : Central Department Store Co., Ltd.
Address : 1027, 7th Floor, Chidlom Tower, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330
Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Wastewater Sampling
Sampling Point : บริเวณบ่อบำบัด
GPS. Coordinate : -
Sampling Date : September 12, 2022
Sampling Time : 14:25
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Turbid, Light Yellow, Sediment, Odor


Quotation No. : 2022-00592
Analysis No. : 2022-AD418-001
Received Date : September 15, 2022
Analytical Date : September 15-27, 2022
Report No. : 2022-RAAG255
Report Date : September 27, 2022

Parameter	Unit	Method of Analysis ^{1'}	Result
pH	-	Electrometric	6.5
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	349
Total Suspended Solids	mg/L	Dried at 103-105°C	136
Sulfide	mg/L	ZnS Precipitation, Iodometric	<0.4
Total Dissolved Solids	mg/L	Dried at 180°C	280
Settleable Solids	mL/L	Volumetric	0.1
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	63
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	39
Total Coliform Bacteria	MPN/100 mL	Most Probable Number Method	>1,600,000

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.



(Ms.Sudarat Khejonrak)
Laboratory Reviewer

(Mr.Virat Hemvannanukul)
Laboratory Supervisor

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Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Wastewater Sampling
Sampling Point : บริเวณจุดระบายน้ำทิ้งของโครงการ
GPS. Coordinate : -
Sampling Date : September 12, 2022
Sampling Time : 14:09
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Clear, Light Yellow, Sediment, Odor

Quotation No. : 2022-00592
Analysis No. : 2022-AD418-002
Received Date : September 15, 2022
Analytical Date : September 15-27, 2022
Report No. : 2022-RAAG256
Report Date : September 27, 2022

Parameter	Unit	Method of Analysis ^{1'}	Result	Standard ^{2'}
pH	-	Electrometric	7.2	5-9
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	34	20
Total Suspended Solids	mg/L	Dried at 103-105°C	17	30
Sulfide	mg/L	ZnS Precipitation, Iodometric	<0.4	1.0
Total Dissolved Solids	mg/L	Dried at 180°C	236	582*
Settleable Solids	mL/L	Volumetric	0.4	0.5
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	<1.0	20
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	9.4	35
Total Coliform Bacteria	MPN/100 mL	Most Probable Number Method	35,000	-

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.

^{2'} Notification of the Ministry of Natural Resources and Environment B.E.2548 (2005), published in the Royal Government Gazette No.122 Part 125D dated December 29, B.E.2548 (2005), Maximum permitted value for building Type A.

* These values are in addition to the Total Dissolved Solids of water used. (The TDS value in the water used in September, 2022 was 82 mg/l)


envi research
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Laboratory Supervisor

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Customer Name : Central Department Store Co., Ltd.
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Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Wastewater Sampling
Sampling Point : บริเวณท่อระบายน้ำ
GPS. Coordinate : -
Sampling Date : December 8, 2022
Sampling Time : 14:13
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Turbid, Light Yellow, Sediment, Odor

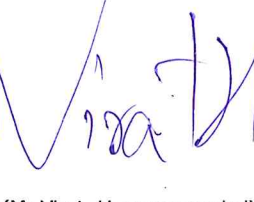
Quotation No. : 2022-00592
Analysis No. : 2022-AE736-001
Received Date : December 9, 2022
Analytical Date : December 9-22, 2022
Report No. : 2022-RAAK880
Report Date : January 10, 2023

Parameter	Unit	Method of Analysis ^{1'}	Result
pH	-	Electrometric	4.9
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	331
Total Suspended Solids	mg/L	Dried at 103-105°C	118
Sulfide	mg/L	ZnS Precipitation, Iodometric	3.9
Total Dissolved Solids	mg/L	Dried at 180°C	290
Settleable Solids	mL/L	Volumetric	0.2
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	50
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	31
Total Coliform Bacteria	MPN/100 mL	Most Probable Number Method	>1,600,000

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.


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Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Wastewater Sampling
Sampling Point : บริเวณจุดระบายน้ำทิ้งของโครงการ
GPS. Coordinate : -
Sampling Date : December 8, 2022
Sampling Time : 13:45
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Turbid, Light Yellow, Sediment, Odor

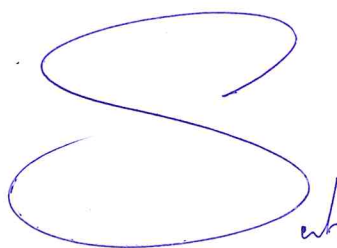
Quotation No. : 2022-00592
Analysis No. : 2022-AE736-002
Received Date : December 9, 2022
Analytical Date : December 9-22, 2022
Report No. : 2022-RAAK881
Report Date : January 10, 2023

Parameter	Unit	Method of Analysis ^{1'}	Result	Standard ^{2'}
pH	-	Electrometric	6.1	5-9
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	29	20
Total Suspended Solids	mg/L	Dried at 103-105°C	49	30
Sulfide	mg/L	ZnS Precipitation, Iodometric	<0.4	1.0
Total Dissolved Solids	mg/L	Dried at 180°C	254	590*
Settleable Solids	mL/L	Volumetric	0.1	0.5
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	4.6	20
Total Kjeldahl Nitrogen	mg/L	Macro-Kjeldahl, Titrimetric	36	35
Total Coliform Bacteria	MPN/100 mL	Most Probable Number Method	>1,600,000	-


Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.

^{2'} Notification of the Ministry of Natural Resources and Environment B.E.2548 (2005), published in the Royal Government Gazette No.122 Part 125D dated December 29, B.E.2548 (2005), Maximum permitted value for building Type A.

* These values are in addition to the Total Dissolved Solids of water used. (The TDS value in the water used in December, 2022 was 90 mg/l)



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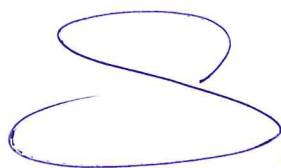
ANALYSIS REPORT

Customer Name : Central Department Store Co., Ltd.
Address : 1027, 7th Floor, Chidlom Tower, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330
Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Water Supply Sampling
Sampling Point : คุณภาพน้ำใช้ภายในโครงการ
GPS. Coordinate : -
Sampling Date : September 12, 2022
Sampling Time : 14:32
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Clear, Colorless, No Sediment, Odorless

Quotation No. : 2022-00592
Analysis No. : 2022-AD418-003
Received Date : September 15, 2022
Analytical Date : September 15-27, 2022
Report No. : 2022-RAAG257
Report Date : September 27, 2022

Parameter	Unit	Method of Analysis ^{1'}	Result
Total Dissolved Solids	mg/L	Dried at 180°C	82

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.



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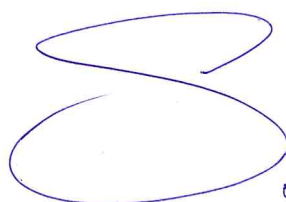
ANALYSIS REPORT

Customer Name : Central Department Store Co., Ltd.
Address : 1027, 7th Floor, Chidlom Tower, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330
Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Water Supply Sampling
Sampling Point : คุณภาพน้ำใช้ภายในโครงการ
GPS. Coordinate : -
Sampling Date : December 8, 2022
Sampling Time : 14:21
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Clear, Colorless, No Sediment, Odorless

Quotation No. : 2022-00592
Analysis No. : 2022-AE736-003
Received Date : December 9, 2022
Analytical Date : December 9-22, 2022
Report No. : 2022-RAAK882
Report Date : January 10, 2023

Parameter	Unit	Method of Analysis ^{1'}	Result
Total Dissolved Solids	mg/L	Dried at 180°C	90

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.



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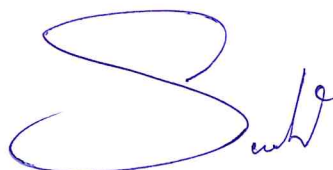
Customer Name : Central Department Store Co., Ltd.
Address : 1027, 7th Floor, Chidlom Tower, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330
Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Surface Water Sampling
Sampling Point : บริเวณลำรางสาธารณะ
GPS. Coordinate : UTM (WGS84) 47N 0430271 E, 0871908 N
Sampling Date : September 12, 2022
Sampling Time : 11:57
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Turbid, Light Yellow, Sediment, Odor

Quotation No. : 2022-00592
Analysis No. : 2022-AD418-004
Received Date : September 15, 2022
Analytical Date : September 15-27, 2022
Report No. : 2022-RAAG258
Report Date : September 27, 2022

Parameter	Unit	Method of Analysis ^{1'}	Result	Standard ^{2'}
pH	-	Electrometric	7.6	5.0-9.0
Dissolved Oxygen	mg/L	Dissolved Oxygen (Membrane Electrode)	1.9	≥4.0
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	14	2.0
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number Method	160,000	4,000
Nitrate as Nitrogen	mg/L	Brucine	0.04	5.0
Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	2.0	-
Total Suspended Solids	mg/L	Dried at 103-105°C	59	-

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.

^{2'} Notification of the National Environment Board, No.8, B.E.2537 (1994), issued under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992), published in the Royal Government Gazette No.111 Part 16, dated February 24, B.E.2537 (1994). (Standard Value of Surface Water for Class 3)



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Laboratory Supervisor

ANALYSIS REPORT

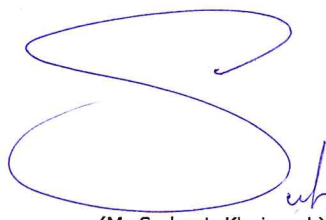
Customer Name : Central Department Store Co., Ltd.
Address : 1027, 7th Floor, Chidlom Tower, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330
Project Name : โครงการเซ็นทรัล เฟสติวัล ภูเก็ต
Project Location : เลขที่ 74, 75 หมู่ที่ 5 ตำบลวิชิต อำเภอเมืองภูเก็ต จังหวัดภูเก็ต
Sampling Source : Surface Water Sampling
Sampling Point : บริเวณลำรางสาธารณะ
GPS. Coordinate : UTM (WGS84) 47N 0430274 E, 0871908 N
Sampling Date : December 8, 2022
Sampling Time : 13:23
Sampling Method : Grab
Sampling By : Mr.Naruedom Chotikan
Analyzed By : Environment Research & Technology Co., Ltd.
Physical Properties : Turbid, Light Yellow, Sediment, Odor

Quotation No. : 2022-00592
Analysis No. : 2022-AE736-004
Received Date : December 9, 2022
Analytical Date : December 9-22, 2022
Report No. : 2022-RAAK883
Report Date : January 10, 2023


Parameter	Unit	Method of Analysis ^{1'}	Result	Standard ^{2'}
pH	-	Electrometric	6.3	5.0-9.0
Dissolved Oxygen	mg/L	Membrane Electrode	4.0	≥4.0
Biochemical Oxygen Demand	mg/L	5-Day BOD Test, Membrane Electrode	19	2.0
Fecal Coliform Bacteria	MPN/100 mL	Most Probable Number Method	92,000	4,000
Nitrate as Nitrogen	mg/L	Brucine	0.01	5.0
Fat Oil and Grease	mg/L	Liquid-Liquid Partition, Gravimetric	2.3	-
Total Suspended Solids	mg/L	Dried at 103-105°C	54	-

Remark : ^{1'} Standard Method for Examination of Water and Wastewater, 23rd Edition, 2017.

^{2'} Notification of the National Environment Board, No.8, B.E.2537 (1994), issued under the Enhancement and Conservation of National Environmental Quality Act B.E.2535 (1992), published in the Royal Government Gazette No.111 Part 16, dated February 24, B.E.2537 (1994). (Standard Value of Surface Water for Class 3)



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