Test Report: BD/T(W)/25/012716
Dated: 2025-05-23

Bangladesh

Applicant	:	**JAMUNA DENIMS LTD. &** **JAMUNA DENIMS WEAVING LIMITED** Kashimpur Road, Jarun, Konabari, Gazipur, Bangladesh.
Attention	:	Mr. S. M. Selim Reza
Sample Description	:	(A) Treated Discharge Wastewater (ETP Outlet) (B) Untreated Wastewater (ETP Inlet) (C) Sludge
Sampled by	:	TÜV SÜD Representative
Client's Representative	:	Mr. S. M. Selim Reza
Type of treatment	:	Biochemical
Type of Discharge	:	Direct
Wastewater Discharge Volume	:	> 15 m3 per day (1800 m3/ day)
Sample Type	:	Composite
Sampling Protocol	:	As Per ZDHC Wastewater and Sludge Laboratory Sampling and Analysis Plan (version 2.2) /ISO 5667-13:2011
Reference Testing Protocol	:	ZDHC Wastewater Guidelines Version 2.2
Disposal Pathways of Sludge		(C) Building Products Processed at >1000°C
ZDHC Sampler ID	:	ZDHC-A-23-E-C001068-R295B-CF276
Sample condition	:	Good
Weather condition	:	Sunny
Date of Sample collection	:	05/05//2025
Test Analysis Started	:	06/05//2025
Test Analysis Completed	:	23/05//2025

Note: The test report is electronically generated. Hence original signature is not required. Note : (1) The results relate only to the items tested, (2) The test report shall not be reproduced except in full without the written approval of the laboratory, (3) For details of the accredited scope, please contact laboratory or accreditation body website

Laboratory:
TÜV SÜD Bangladesh (Pvt.) Ltd.
Level 7 & 8, Update Tower,
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TÜV SÜD Bangladesh (Pvt.) Ltd.
Level 7 & 8, Update Tower,
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Uttara Model Town,
Dhaka - 1230, Bangladesh

SUMMARY OF TEST RESULTS			
TEST REQUESTED	**Result**		
	A (DISCHARGE WASTEWATER)	**B (RAW WASTEWATER)**	**C (SLUDGE)**
Conventional Parameters	Please refer to the information in Test Result	-	Please refer to the information in Test Result
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers	-	□	□
Anti- Microbials & Biocides	-	□	-
Chlorinated Parafins	-	□	-
Dimethylformamide (DMFa)	-	□	-
Chlorobenzenes and Chlorotoluenes	-	□	□
Chlorophenols	-	□	-
Restricted Aromatic Amines (Cleavable from Azo-colourants)	-	□	-
Dyes – Carcinogenic or Equivalent Concern	-	□	-
Dyes – Disperse (Allergenic)	-	□	-
Flame Retardants	-	□	-
Glycols / Glycol Ethers	-	□	-
Halogenated Solvents	-	□	-
Organotin Compounds	-	□	-
Other/Miscellaneous Chemicals	-	□	-
Perfluorinated and Polyfluorinated Chemicals (PFCs)	-	□	-
UV Absorbers	-	□	-
Phthalates – including all other esters of ortho-phthalic acid	-	□	-
Polycyclic Aromatic Hydrocarbons (PAHs)	-	□	□
Volatile Organic Compounds (VOC)	-	□	-
Heavy metals	□	-	□

Note/ Key:
— ■ — Detected
— □ — Not Detected
— - — Not Tested

Bangladesh

Authorized By:

Md Shafikul Islam
Authorized Signatory

Please Contact:
For Any Technical Issues: M**d. Shafikul Islam**
E-Mail - Shafikul.Islam@tuvsud.com
For Any Complaint : **Md. Kamruzzamana** at Kamruz.zaman@tuvsud.com

Sampling Plan

Method of wastewater sampling used is composite sampling as per ISO 5667-13:2011(Part-1,3,10,13 and 15). Wastewater was sampled by time-weighted composite grab samples to obtain a single mixed sample

Photo of Sampling Points

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Untreated Wastewater Sampling Point (Inlet)
Date-05.05.2025; Time-12:00 pm
Latitude:24.001800; Longitude:90.318673</td><td>Treated Wastewater Sampling Point (Outlet)
Date-05.05.2025; Time-12:00 pm
Latitude:24.002989; Longitude:90.319156</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td colspan="2">Sludge Sampling Point;
Date-05.05.2025; Time-1:00 pm
Latitude:24.002497; Longitude:90.318708</td></tr>
</table>

Photo of Sample

Untreated Wastewater Sample Picture

Treated Wastewater Sample Picture

Sludge Sample Picture

Ice Pack Sample

Photo of Aeration Tank

Date-05.05.2025; Time-12:00 pm

Laboratory:
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Test Result

Sample-(A) Treated Discharge Wastewater(ETP Outlet)

1.0 Conventional Parameters & Anions

Test Parameters Name	Test Method	**Test Result**	Limit values as per ZDHC Wastewater Guideine (Version 2.2)		
			Foundational	Progressive	Aspirational
pH	With Reference to USEPA 150.1	7.7	6-9		
Temperature Difference [°C]	With Reference to USEPA 170.1	1.1	Δ+15	Δ+10	Δ+5
E.coli (MPN/100-ml)	With reference to SM 9221B presumptive,confirm positive with	8	126 MPN/100-ml		
Colour [m-1] (436, 525; 620) nm	With Reference to ISO 7887-B	1.4; 1.1; 0.5	7; 5; 3	5; 3; 2	2; 1; 1
Persistent Foam (Absent/Present)	Not Applicable	Absent	No indication of Persistent foam in receiving water		
Wastewater Flowrate (15 m3 per day)	Not Applicable	1406.4	15 m^3 per day		
Ammonium-Nitrogen (mg/L)	With Reference to APHA 23rd Edn, 2017 4500- NH3-C,D,E,F,G,H	<0.5	10	1	0.5
AOX #(mg/L)	With Reference to ISO 9562/Photometric measurement	0.22	5	1	0.1
Biochemical Oxygen Demand 5-days concentration (BOD5) (mg/L)	With Reference to APHA 23rd Edition 2017 (5210 B)	9	30	15	8
Chemical Oxygen Demand (COD) (mg/L)	With Reference to APHA 23rd Edition 2017 (5220 D)	33	150	80	40
Dissolved Oxygen (DO) (mg/L)	With reference to EPA 360.1/SM 4500-O-G	5.0	≥ 4		
Oil and Grease(mg/L)	With Reference to APHA 23rd Edn. 2017. 5520. B/C,USEPA 1664 B	4.8	10	2	0.5
Total Phenols / Phenol Index (mg/L)	With Reference to APHA 23rd Edn. 2017.5530 B, C,D/USEPA 420.1	ND	0.5	0.01	0.001
Total Chlorine (mg/L)	With Reference to EPA 330.5/SM4500-Cl-G	<0.2	1		
Total Dissolved Solids (TDS) (mg/L)	With Reference to APHA 23rd Edition 2017 (2540 C)	290	Sample and report only		
Total-Nitrogen (mg/L)	With reference to APHA/SM 4500 N-C	ND	20	10	5
Total-Phosphorus (mg/L)	With Reference to APHA 23rd Edn. 2017. 4500 –P-B,C & E	0.29	3	0.5	0.1

Total Suspended Solids (TSS) (mg/L)	With Reference to APHA 23rd Edition 2017 (2540 D)	<5	50	15	5
Chloride (mg/L)	With reference to SM 4110-B,C SM 4500-Cl D or E	10	Sample and report only		
Cyanide Total# (mg/L)	With reference to APHA/SM 4500 CN	<0.05	0.2	0.1	0.05
Sulfate (mg/L)	With reference to SM 4500 SO4, E, F, G	230	Sample and report only		
Sulfide (mg/L)	With Reference to APHA 23rd Edn. 2017. 4500-S2-D/USEPA 376.2	0.03	0.5	0.05	0.01
Sulfite (mg/L)	With Reference to APHA 23rd Edn. 2017 4500-SO3 2-B/USEPA 377.1	<0.2	2	0.5	0.2

Remarks: #Test have been subcontracted to other competent Laboratory
ND = Not Detected, NA= Not Applicable

Test Result
Sample-(C) Sludge

1.1 pH

Test Method : With reference to EPA SW 9045 D

Compound(s)	CAS No.	Result	Reporting Limit
		C	
pH Value	-	7.6	-

Remark: ND = Not detected

1.2 % Solids

Test Method : With reference to US EPA 160.3

Compound(s)	CAS No.	Result (percent)	Reporting Limit
		C	
% Solids	-	84.29	Sample and Report

Remark: ND = Not detected

1.3 Paint Filter Test

Test Method : With reference to EPA SW-846 or EPA 9095B

Compound(s)	CAS No.	Result	Reporting Limit
		C	
Paint Filter Test	-	Pass	-

Remark: ND = Not detected

1.4 Fecal Coliform#

Test Method : With reference to EPA 1681/membrane filtration

Compound(s)	CAS No.	Result	Reporting Limit
		C	
Fecal Coliform# (CFU/gram)	-	0	-

Remark: ND = Not detected
#= Test have been subcontracted to other competent Laboratory

1.5 Cyanide#

Test Method : With reference to Standard Method for Analysis/Testing: Preparation: CN converted to HCN by reflux-distillation to NaOH Analysis: Colourimetry (EPA 9014), or ISE (EPA 9213), Preparation: USEPA 9013 Analysis: HJ745, EPA 9014 or EPA 9213

Compound(s)	CAS No.	Result	Reporting Limit
		C	
Cyanide# (mg/kg)	-	<1.0	-

Remark: ND = Not detected
#= Test have been subcontracted to other competent Laboratory

Test Result

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

2.0 Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers

Test Method :	With reference to NP/OP: ISO 18857-2 (modified dichloromethane extraction) & OPEO/NPEO: ISO 18254-1: By Liquid Chromatography - Mass Spectrometry (LC/MS-MS)

Compound(s)	Cas No.	Result (µg/L)		Reporting Limit µg/L) (B)	Reporting Limit (mg/kg) (C)
		B	C		
Nonylphenol (NP), mixed isomers	Multiple Including 104-40-5 11066-49-2 25154-52-3 84852-15-3	ND	ND	5	0.4
Octylphenol (OP),mixed isomers	Multiple Including 140-66-9 1806-26-4 27193-28-8	ND	ND	5	0.4
Nonylphenolethoxylates	Multiple Including 9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	ND	ND	5	0.4
Octylphenolethoxylates	Multiple Including 9002-93-1 9036-19-5 68987-90-6	ND	ND	5	0.4

Remark: ND = Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

3.0 Anti- Microbials & Biocides

Test Method :	Based on USEPA 8270 D/E /ISO 14154:2005 Solvent Extraction And Acetylated By Acetic Anhydride, And Analyzed By Gas Chromatography-Mass Spectrometry (GC-MS).

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Ortho-Phenylphenol (OPP) (+Salts)	90-43-7	ND	100
Triclosan	3380-34-5	ND	100
Permethrin	Multiple Including 52645-53-1	ND	500

Remark: ND = Not detected

4.0 Chlorinated Parafins

Test Method :	Based on Preparation: EPA 3510, Analysis:ISO18219-2:2021, Method for SCCP & MCCP with GC-MS-NCI or LC-MS/MS

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Medium-chain Chlorinated paraffins (MCCP) (C14-C17)	85535-85-9	ND	500
Short-chain Chlorinated paraffin (SCCP) (C10 - C13)	85535-84-8	ND	25

Remark: ND = Not detected

5.0 Dimethyl formamide (DMFa)

Test Method :	Based on EPA 8015/EPA 8270E/ ISO 11423-1/ USEPA 8260 followed by GC-MS

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Dimethyl Formamide: N,N-dimethylformamide (DMFa)	68-12-2	ND	1000

Remark: ND = Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge
6.0 Chlorobenzenes and Chlorotoluenes

Test Method :	Based on USEPA 8260 D & 8270 E: Solvent Extraction And Followed By Gas Chromatography-Mass Spectrometry (GC-MS) Analysis.

Compound(s)	Cas No.	Result (µg/L)		Reporting Limit (µg/L) (B)	Reporting Limit (mg/kg) (C)
		B	C		
Monochlorobenzene	108-90-7	ND	-	0.2	-
1,2-Dichlorobenzene	95-50-1	ND	-	0.2	-
1,3-Dichlorobenzene	541-73-1	ND	-	0.2	-
1,4-Dichlorobenzene	106-46-7	ND	-	0.2	-
1,2,3-Trichlorobenzene	87-61-6	ND	-	0.2	-
1,2,4-Trichlorobenzene	120-82-1	ND	-	0.2	-
1,3,5-Trichlorobenzene	108-70-3	ND	-	0.2	-
1,2,3,4-Tetrachlorobenzene	634-66-2	ND	-	0.2	-
1,2,3,5-Tetrachlorobenzene	634-90-2	ND	-	0.2	-
1,2,4,5-Tetrachlorobenzene	95-94-3	ND	-	0.2	-
Pentachlorobenzene	608-93-5	ND	-	0.2	-
Hexachlorobenzene	118-74-1	ND	-	0.2	-
2-Chlorotoluene	95-49-8	ND	ND	0.2	0.2
3-Chlorotoluene	108-41-8	ND	ND	0.2	0.2
4-Chlorotoluene	106-43-4	ND	ND	0.2	0.2
2,3-Dichlorotoluene	32768-54-0	ND	ND	0.2	0.2
2,4-Dichlorotoluene	95-73-8	ND	ND	0.2	0.2
2,5-Dichlorotoluene	19398-61-9	ND	ND	0.2	0.2
2,6-Dichlorotoluene	118-69-4	ND	ND	0.2	0.2
3,4-Dichlorotoluene	95-75-0	ND	ND	0.2	0.2
3,5-Dichlorotoluene	25186-47-4	ND	ND	0.2	0.2
2,3,4-Trichlorotoluene	7359-72-0	ND	ND	0.2	0.2
2,3,6-Trichlorotoluene	2077-46-5	ND	ND	0.2	0.2
2,4,5-Trichlorotoluene	6639-30-1	ND	ND	0.2	0.2
2,4,6-Trichlorotoluene	23749-65-7	ND	ND	0.2	0.2
3,4,5-Trichlorotoluene	21472-86-6	ND	ND	0.2	0.2
2,3,4,5-Tetrachlorotoluene	76057-12-0	ND	ND	0.2	0.2
2,3,5,6-Tetrachlorotoluene	29733-70-8	ND	ND	0.2	0.2
2,3,4,6-Tetrachlorotoluene	875-40-1	ND	ND	0.2	0.2
Pentachlorotoluene	877-11-2	ND	ND	0.2	0.2

Remark: ND = Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

7.0 Chlorophenols

Test Method :	Based on USEPA 8270 D/E /ISO 14154:2005 Solvent Extraction And Acetylated By Acetic Anhydride, And Analyzed By Gas Chromatography-Mass Spectrometry (GC-MS).

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
2-chlorophenol	95-57-8	ND	0.5
3-chlorophenol	108-43-0	ND	0.5
4-chlorophenol	106-48-9	ND	0.5
2,3-dichlorophenol	576-24-9	ND	0.5
2,4-dichlorophenol	120-83-2	ND	0.5
2,5-dichlorophenol	583-78-8	ND	0.5
2,6-dichlorophenol	87-65-0	ND	0.5
3,4-dichlorophenol	95-77-2	ND	0.5
3,5-dichlorophenol	591-35-5	ND	0.5
2,3,4-trichlorophenol	15950-66-0	ND	0.5
2,3,5-trichlorophenol	933-78-8	ND	0.5
2,3,6-trichlorophenol	933-75-5	ND	0.5
2,4,5-trichlorophenol	95-95-4	ND	0.5
2,4,6-trichlorophenol	88-06-2	ND	0.5
3,4,5-trichlorophenol	609-19-8	ND	0.5
2,3,4,5-tetrachlorophenol	4901-51-3	ND	0.5
2,3,4,6-tetrachlorophenol	58-90-2	ND	0.5
2,3,5,6-tetrachlorophenol	935-95-5	ND	0.5
Pentachlorophenol	87-86-5	ND	0.5

Remark: ND= Not detected

8.0 Restricted Aromatic Amines (Cleavable from Azo-colourants)

Test Method :	Based on USEPA 8270E, EN ISO 14362:1:2017 & EN ISO 14362-3:2017 , By Gas Chromatography - Mass Spectrometric (GC-MS) And High Performance Liquid Chromatography (HPLC-DAD) Analysis.

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
4,4'-methy-lene-bis-(2-chloro-aniline)	101-14-4	ND	0.1
4,4'-methylenedianiline	101-77-9	ND	0.1
4,4'-oxydianiline	101-80-4	ND	0.1
4-chloroaniline	106-47-8	ND	0.1
3,3'-dimethoxylbenzi-dine	119-90-4	ND	0.1
3,3'-dimethylbenzidine	119-93-7	ND	0.1
6-methoxy-m-toluidine	120-71-8	ND	0.1
2,4,5-trimethylaniline	137-17-7	ND	0.1
4,4'-thiodianiline	139-65-1	ND	0.1
4-aminoazobenzene	60-09-3	ND	0.1
4-methoxy-m-phenylenediamine	615-05-4	ND	0.1
4,4'-methylene-di-o-toluidine	838-88-0	ND	0.1
2,6-xylidine	87-62-7	ND	0.1
o-anisidine	90-04-0	ND	0.1
2-naphthylamine	91-59-8	ND	0.1
3,'3-dichlorobenzidine	91-94-1	ND	0.1
4-aminodiphenyl	92-67-1	ND	0.1
Benzidine	92-87-5	ND	0.1
o-toluidine	95-53-4	ND	0.1
2,4-xylidine	95-68-1	ND	0.1
4-chloro-o-toluidine	95-69-2	ND	0.1
4-methyl-m-phenylene-diamine	95-80-7	ND	0.1
o-aminoazotoluene	97-56-3	ND	0.1
5-nitro-o-toluidine	99-55-8	ND	0.1
4-chloro-o-toluidinium chloride	3165-93-3	ND	0.1
2-Naphthylammoniumacetate	553-00-4	ND	0.1
4-methoxy-m-phenylene diammonium sulphate	39156-41-7	ND	0.1
2,4,5-trimethylaniline hydrochloride	21436-97-5	ND	0.1

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

9.0 Dyes – Carcinogenic or Equivalent Concern

Test Method :	Based on USEPA 8321B, USEPA 8270; Solvent Extraction And By Liquid Chromatography - Mass Spectrometry (LC-MS)

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
C.I. Direct Black 38	1937-37-7	ND	500
C.I. Direct Blue 6	2602-46-2	ND	500
C.I. Acid Red 26	3761-53-3	ND	500
C.I. Basic Red 9	569-61-9	ND	500
C.I. Direct Red 28	573-58-0	ND	500
C.I. Basic Violet 14	632-99-5	ND	500
C.I. Disperse Blue 1	2475-45-8	ND	500
C.I. Disperse Blue 3	2475-46-9	ND	500
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	ND	500
C.I. Acid Violet 49	1694-09-3	ND	500
Basic violet 3 with >0.1% of Michler´s Ketone	548-62-9	ND	500
C.I. Basic Green 4 (malachite greenchloride)	569-64-2	ND	500
C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	ND	500
C.I. Basic Green 4 (malachite green)	10309-95-2	ND	500
Disperse Orange 11	82-28-0	ND	500

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

10.0 Dyes – Disperse (Allergenic)

Test Method :	Based on USEPA 8321B, USEPA 8270; Solvent Extraction And By Liquid Chromatography - Mass Spectrometry (LC-MS)

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Disperse Yellow 1	119-15-3	ND	50
Disperse Blue 102	12222-97-8	ND	50
Disperse Blue 106	12223-01-7	ND	50
Disperse Yellow 39	12236-29-2	ND	50
Disperse Orange 37/59/76	13301-61-6	ND	50
Disperse Brown 1	23355-64-8	ND	50
Disperse Orange 1	2581-69-3	ND	50
Disperse Yellow 3	2832-40-8	ND	50
Disperse Red 11	2872-48-2	ND	50
Disperse Red 1	2872-52-8	ND	50
Disperse Red 17	3179-89-3	ND	50
Disperse Blue 7	3179-90-6	ND	50
Disperse Blue 26	3860-63-7	ND	50
Disperse Yellow 49	54824-37-2	ND	50
Disperse Blue 35	12222-75-2	ND	50
Disperse Blue 124	61951-51-7	ND	50
Disperse Yellow 9	6373-73-5	ND	50
Disperse Orange 3	730-40-5	ND	50
Disperse Blue 35	56524-77-7	ND	50

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

11.0 Flame Retardants

Test Method :	Based on US EPA 8270, ISO 22032, USEPA 527 & USEPA 8321 B: Solvent Extraction And By Liquid Chromatography - Mass Spectrometry (LC-MS) And Gas Chromatography – Mass Spectrometry (GC-MS) Analysis.

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
2,2-bis(bromomethyl)- 1,3-propanediol (BBMP)	3296-90-0	ND	25
Bis(2,3-dibromopropyl) phosphate (BIS)	5412-25-9	ND	25
Decabromodiphenyl ether (DecaBDE)	1163-19-5	ND	25
Hexabromocyclodecane (HBCDD)	3194-55-6	ND	25
Octabromodiphenyl ether (OctaBDE)	32536-52-0	ND	25
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	ND	25
Polybromobiphenyls (PBB)	59536-65-1	ND	25
Tetrabromobisphenol A (TBBPA)	79-94-7	ND	25
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	ND	25
Tris(1-aziridinyl)phosphine oxide) (TEPA)	545-55-1	ND	25
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	ND	25
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	ND	25
Tris(2,3,-dibromopropyl)- phosphate (TRIS)	126-72-7	ND	25
Decabromobiphenyl (DecaBB)	13654-09-6	ND	25
Dibromobiphenyls (DiBB)	Multiple	ND	25
Octabromobiphenyls (OctaBB)	Multiple	ND	25
Dibromopropylether	21850-44-2	ND	25
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	ND	25
Hexabromodiphenyl ether (HexaBDE)	21850-44-2	ND	25
Monobromobiphenyls (MonoBB)	Multiple	ND	25
Monobromodiphenylethers (MonoBDEs)	Multiple	ND	25
Nonabromobiphenyls (NonaBB)	Multiple	ND	25
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	ND	25
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	ND	25
Tribromodiphenylethers (TriBDEs)	Multiple	ND	25
Boric acid	10043-35-3 11113-50-1	ND	500
Diboron trioxide	1303-86-2	ND	500
Disodium octaborate	12008-41-2	ND	500
Disodium tetraborate anhydrous	1303-96-4 1330-43-4	ND	500
Tetraboron disodium heptaoxide, hydrate	12267-73-1	ND	500

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

12.0 Glycols/Glycol Ethers

Test Method :	Based on US EPA 8270 Liquid extraction, LC/MS & GC-MS

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Bis(2-methoxyethyl)-ether	111-96-6	ND	50
2-ethoxyethanol	110-80-5	ND	50
2-ethoxyethyl acetate	111-15-9	ND	50
Ethylene glycol dimethyl ether	110-71-4	ND	50
2-methoxyethanol	109-86-4	ND	50
2-methoxyethylacetate	110-49-6	ND	50
2-methoxypropylacetate	70657-70-4	ND	50
Triethylene glycol dimethyl ether	112-49-2	ND	50

Remark: ND= Not detected

13.0 Halogenated Solvents

Test Method :	Based on USEPA 8260 B Headspace GC/ MS

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
1,2-dichloroethane	107-06-2	ND	1
Methylene chloride	75-09-2	ND	1
Trichloroethylene	79-01-6	ND	1
Tetrachloroethylene	127-18-4	ND	1

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

14.0 Organotin Compounds

Test Method :	Based on ISO 17353: 2004, By Gas Chromatography-Mass Spectrometry (GC-MS) Analysis

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Dipropyltin compounds (DPT)	Multiple	ND	0.01
Mono-, di- and tri-butyltin derivatives	Multiple	ND	0.01
Mono-, di- and tri-methyltin derivatives	Multiple	ND	0.01
Mono-, di- and tri-octyltin derivatives	Multiple	ND	0.01
Mono-, di- and tri-phenyltin derivatives	Multiple	ND	0.01
Tetrabutyltin compounds (TeBT)	Multiple	ND	0.01
Tripropyltin Compounds (TPT)	Multiple	ND	0.01
Tetraoctyltin compounds (TeOT)	Multiple	ND	0.01
Tricyclohexyltin (TCyHT)	Multiple	ND	0.01
Tetraethyltin Compounds (TeET)	Multiple	ND	0.01

Remark: ND= Not detected

15.0 Other/Miscellaneous Chemicals

Test Method :	In House test Method, Liquid extraction, LC-MS/MS Analysis, Determined as total boron and total zinc via ICP-OES/ICP-MS

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
AEEA [2-(2-aminoethylamino)ethanol]	111-41-1	ND	500
Bisphenol A	80-05-7	ND	10
Thiourea	62-56-6	ND	50
Quinoline	91-22-5	ND	50
Borate, zinc salt	12767-90-7	ND	100

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

16.0 Perfluorinated and Polyfluorinated Chemicals (PFCs)

Test Method :	Based on DIN 38407-42:2011/PFCs: EPA 537:2020 FTOH: BS EN 12673-1999, EPA 8270, PFCs: LC-MSMS FTOH: GC-MS Derivatisation with acetic anhydride followed by GC-MS

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Perfluorooctane sulfonate (PFOS) and related substances	Multiple	ND	0.01
Perfluorooctanoic acid (PFOA) and related substances	Multiple	ND	1

Remark: ND= Not detected

17.0 UV Absorbers

Test Method :	In House test Method based on ISO 24040:2022/USEPA 8270 ISO 22032,USEPA 527 and USEPA 8321B.Dichloromethane extraction GC-MS or LC-MS(-MS)

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec- butyl) phenol (UV-350)	36437-37-3	ND	100
2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328)	25973-55-1	ND	100
2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320)	3846-71-7	ND	100
2,4-Di-tert-butyl-6-(5- chlorobenzotriazole-2-yl) phenol (UV-327)	3864-99-1	ND	100

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

18.0 Phthalates-Including all other esters of ortho-phthalic acid

Test Method :	Based on ISO 18856: 2004 Solvent Extraction And By Gas Chromatography-Mass Spectrometry (GC-MS) Analysis.

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	ND	10
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	ND	10
1,2-Benzenedicarboxylic acid,di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	ND	10
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	ND	10
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	ND	10
Butyl benzyl phthalate (BBP)	85-68-7	ND	10
Di-cyclohexyl phthalate (DCHP)	84-61-7	ND	10
Di-iso-decyl phthalate (DIDP)	26761-40-0	ND	10
Di-iso-octyl phthalate (DIOP)	27554-26-3	ND	10
Di-isobutyl phthalate (DIBP)	84-69-5	ND	10
Di-isononyl phthalate (DINP)	28553-12-0	ND	10
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	10
Di-n-octyl phthalate (DNOP)	117-84-0	ND	10
Di-n-pentylphthalates (DnPP	131-18-0	ND	10
Di-n-propyl phthalate (DPRP)	131-16-8	ND	10
Di(ethylhexyl) phthalate (DEHP)	117-81-7	ND	10
Dibutyl phthalate (DBP)	84-74-2	ND	10
Diethyl phthalate (DEP)	84-66-2	ND	10
Diisopentylphthalates (DIPP)	605-50-5	ND	10
Dinonyl phthalate (DNP)	84-76-4	ND	10

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

19.0 Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method :	Based on DIN 38407-39:2011/ USEPA 8270E Solvent(Dichloromethane) Extraction And By Gas Chromatography – Mass Spectrometry (GC-MS) Analysis.

Compound(s)	Cas No.	Result (µg/L)	Result(mg/kg)	Reporting Limit (µg/L) (B)	Reporting Limit (mg/kg) (C)
		B	C		
Acenaphthene	83-32-9	ND	ND	1	0.2
Acenaphthylene	208-96-8	ND	ND	1	0.2
Anthracene	120-12-7	ND	ND	1	0.2
Benzo[a]anthracene	56-55-3	ND	ND	1	0.2
Benzo[a]pyrene (BaP)	50-32-8	ND	ND	1	0.2
Benzo[b]fluoranthene	205-99-2	ND	ND	1	0.2
Benzo[e]pyrene	192-97-2	ND	ND	1	0.2
Benzo[ghi]perylene	191-24-2	ND	ND	1	0.2
Benzo[j]fluoranthene	205-82-3	ND	ND	1	0.2
Benzo[k]fluoranthene	207-08-9	ND	ND	1	0.2
Chrysene	218-01-9	ND	ND	1	0.2
Dibenz[a,h]anthracene	53-70-3	ND	ND	1	0.2
Fluoranthene	206-44-0	ND	ND	1	0.2
Fluorene	86-73-7	ND	ND	1	0.2
Indeno[1,2,3-cd]pyrene	193-39-5	ND	ND	1	0.2
Naphthalene	91-20-3	ND	ND	1	0.2
Phenanthrene	85-01-8	ND	ND	1	0.2
Pyrene	129-00-0	ND	ND	1	0.2

Remark: ND= Not detected

20.0 Volatile Organic Compounds (VOC)

Test Method :	Based on ISO 11423-1, Headspace or Purge and trap GC-MS, USEPA 8260D Add ISO 20595 Static headspace for determination of VOC in wastewater, EPA 8270, BS EN 12673-1999

Compound(s)	Cas No.	Result (µg/L)	Reporting Limit (µg/L) (B)
		B	
Benzene	71-43-2	ND	1
m-cresol	108-39-4	ND	1
o-cresol	95-48-7	ND	1
p-cresol	106-44-5	ND	1
Xylene	1330-20-7	ND	1
Toluene	108-88-3	ND	1

Remark: ND= Not detected

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

21.0 Heavy Metals

Test Method :	Based on USEPA 6010C / EN ISO 18412-2005, By Inductively Coupled Argon Plasma-Mass Spectrometry(ICP-MS)/ Inductively Coupled Plasma-Optical Emission Spectrometry(ICP-OES) Analysis And UV-VIS Spectrophotometer

Compound(s)	Parameter limit values			
		Wastewater Foundational	Wastewater Progressive	Wastewater Aspirational
	A (mg/l)	mg/l	mg/l	mg/l
Antimony (Sb)	<0.005	0.1	0.05	0.01
Chromium,total(Cr)	<0.005	0.2	0.1	0.05
Cobalt (Co)	<0.005	0.05	0.02	0.01
Copper (Cu)	<0.005	1	0.5	0.25
Nickel (Ni)	<0.005	0.2	0.1	0.05
Silver (Ag)	<0.005	0.1	0.05	0.005
Zinc (Zn)	<0.005	5	1	0.5
Arsenic (As)	<0.005	0.05	0.01	0.005
Cadmium (Cd)	<0.005	0.1	0.05	0.01
Chromium(VI)	<0.001	0.05	0.005	0.001
Lead (Pb)	<0.005	0.1	0.05	0.01
Mercury (Hg)	<0.001	0.01	0.005	0.001
Barium (Ba)	<0.005	Sample & Report Only		
Selenium (Se)	<0.005			
Tin (Sn)	<0.005			

Remark: ND = Not detected;

Sample (A): Treated Dischrged Wastewater (ETP Outlet)
Sample (B): Untreated Wastewater (ETP Inlet) and
Sample (C): Sludge

22.0 Heavy Metals

Test Method :	Based on USEPA 6010C / EN ISO 18412-2005, By Inductively Coupled Argon Plasma-Mass Spectrometry(ICP-MS)/ Inductively Coupled Plasma-Optical Emission Spectrometry(ICP-OES) Analysis And UV-VIS Spectrophotometer .

Compound(s)	Result (mg/kg)	Reporting Limit (mg/kg)
	(C)	(C)
Antimony	<5	5
Arsenic	<5	5
Barium	<200	200
Cadmium	<1	1
Cobalt	<400	400
Copper	<50	50
Lead	<5	5
Nickel	<20	20
Selenium	<5	5
Silver	<50	50
Total Chromium	<50	50
Zinc	<400	400
Chromium (VI)	<20	20
Mercury	<1	1

Remark: ND = Not detected;

24.002987
90.319156

FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Treated Waste water

General Data

Laboratory Sample Number			
Customer Name	Jamuna Denims Ltd & Jamuna Denims weaving Limited		
Field Contact Person	S.M. Selim Reza	Phone No	01748-082458
Project(Facility Name and Address)	Keshiarpur Road, Jamuna, Konabari, Gazipur		
Sampling Location/Description	ETP Discharge point		
ETP Type	Bio-chemical	ETP Capacity:	1800 m³/day
Initiated By	Self		
Sample Identification	T001 (A)		
Sample Type	Treated waste water		
Name of Sample	Composite		
Name of Sampler	A.F.M. Mohsin Hossain		
Discharge Mode	Direct discharge to environment(Specify destination: river, sea, stream) or indirect discharge to sewage treatment plant		City corporation Drain
Date and time collected	05.05.2025 (11:00 AM to 4:00 PM)		
Factory Type	Dyeing/Printing/Washing/Finishing/Other(Please specify)		
	*Note: It would be selected more than one.		
Major Product	Yarn dyeing & Fabric.		
Major Buyer	Inditex, LPP, Primark, Kiabi etc		

Field Data for Wastewater / Sludge

Equipment used	Multimeter (pH, EC), DO, T-cl						
Factory with effluent treatment plant	Yes				No		
Sample matrix		Incoming Water					
	✓	Wastewater before treatment					
		Wastewater after treatment-water at discharge point					
		Sludge					
Field Parameters	1	2	3	4	5	6	
Recording Time	11:00 am	12:00 pm	1:00 pm	2:00 pm	3:00 pm	4:00 pm	
pH	7.68	7.70	7.73	7.80	7.71	7.65	7.7
Temperature of the discharged pipe	28.3°C	29.1°C	29.2°C	29.5°C	28.9°C	28.8°C	29.1
Temperature of the receiving water body	0.8	1.2	1.4	1.5	0.9	0.9	1.1
Temperature difference	28.0°C	27.9°C	27.8°C	28.0°C	28.0°C	27.9°C	
Conductivity µS/cm	390 µS/c	843	574	478	420	398	
Dissolved Oxyzen (DO) mg/L	4.8	5.2	5.1	5.3	5.0	4.8	5.0
Color (physical observation)	Transparent	Transparent	Transparent	Transparent	Transparent	Transparent	
Wastewater Flowrate	52.8 m³/h	60.2 m³/h	61.0 m³/h	59.2 m³/h	58.7 m³/h	60.2 m³/h	58.6 m³/h
Persistent Foam	ND দৃশ্যমান	ND দৃশ্যমান	ND দৃশ্যমান	ND দৃশ্যমান	ND দৃশ্যমান	ND দৃশ্যমান	
Total Chlorine	ND	ND	ND	ND	ND	ND	
Sample Container Number							
Volume Collected (ml)							
Total Volume Collected	20,000 ml	Remark: Total volumn collected must be greater than total of sample size required					

Analysis Required and Preservation Method

Test	Test Required	Total of Sample Size	Type of Container	Preservation Method
% Solids (Sludge)	X		125-ml P.G	keep cool - between 2 C and 8 C
Ammonia-Nitrogen	✓		P.G.FP 500-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
AOX	✓		P.G.FP 500-ml	HNO3 pH 1-2, keep cool - between 2 C and 8 C

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Biochemical Oxygen Demand 5-days concentration (BOD5)	✓		P,G,FP 1,000-ml	Keep cool between 2 C and 8 C
Chemical Oxygen Demand (COD)	|		P,G,FP 100-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Chloride	|		P,G,FP 100-ml	Keep cool between 2 C and 8 C
Colour [m-1] (436nm; 525nm; 620nm)	|		P,G,FP 500-ml	
Cyanide	✓		P,FP 1000-ml	NaOH > pH 12 0.1 ml of 10% Sodium Thiosulfate keep cool - between 2 C and 8 C
Cyanide(Sludge)	✗		P, G 1,000-ml wide mouth PTFE lined lid	NaOH > 12 pH, keep cool between 2 C and 8 C Approx 2-ml 10N NaOH
E.coli	✓		P,G clean, sterile, non-reactive, 125-ml	0.1 ml of 10% Sodium Thiosulfate keep in the dark and cool between 2 C and 8 C
Feacal Coliform(Sludge)	✗		P,G clean, sterile, non-reactive, 125-ml	0.1 ml of 10% Sodium Thiosulfate keep in the dark and cool between 2 C and 8 C
Oil and Grease	✓		Glass, wide mouth PTFE lined lid 1,000-ml	HCl or H2SO4 < pH 2 keep cool - between 2 C and 8
Phenol	|		P,G PTFE lined lid 500-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Total Dissolved Solids (TDS)	|		P,G 200-ml	keep cool - between 2 C and 8 C
Total Nitrogen	|		P,G,FP 100-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Total Phosphorus	|		P,G,FP 100-ml	
Total Suspended Solids (TSS)	|		P,G 200-ml	keep cool - between 2 C and 8 C
Sulfate	|		P,G,FP 100-ml	
Sulfide	|		P, FP 100-ml	4 drops 2N zinc acetate NaOH > pH 9 keep cool - between 2 C and 8 C
Sulfite	✓		P,G,FP 100-ml	1-ml 2.5% EDTA keep cool - between 2 C and 8 C
Paint Filter Test(Sludge)	✗		250-ml P,G	keep cool - between 2 C and 8 C
Chromium (VI)	✓		G acid washed 40-ml Brown Glass VOA vial	0.45µm filter in field, add buffer* to pH 9.0-9.5 keep cool - between
Chromium (VI) (Sludge)	✗		P, G acid washed 300-ml wide mouth	keep cool between 2 C and 8 C
Heavy Metals (Antimony, Arsenic, Barium, Cadmium, Chromium-total, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Tin, Zinc)	✓		P, G, FP acid washed 250-ml	HNO3 < pH 2 keep cool - between 2 C and 8 C
Total Metals / Heavy Metals (Antimony, Arsenic, Barium, Cadmium, Chromium-total, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Tin, Zinc) (Sludge)	✗		P, G acid washed 1,000-ml wide mouth	HNO3 < pH 2, keep cool between 2 C and 8 C
Mercury	✓		P, G, FP acid washed 500-ml	HNO3 < pH 2 keep cool - between 2 C and 8 C

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Mercury(Sludge)			P, G acid washed 500-ml wide mouth	HNO3 < pH 2 keep cool between 2 C and 8 C
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers Including All Isomers			G 1,000-ml FP lined lid for each parameter (12 total are needed)	keep cool - between 2 C and 8 C
Anti- Microbials & Biocides				
Chlorinated Parafins				
Chlorobenzenes and Chlorotoluenes				
Chlorophenols				
DMFa				
Restricted Aromatic Amines (Cleavable from Azo-colourants)				
Dyes – Carcinogenic or Equiv. Concern				
Dyes – Disperse (Sensitizing)				
Dyes – Navy Blue Colourant				
Flame Retardants				
Glycols / Glycol Ethers				
Halogenated Solvents			Three x 40-ml amber VOA vial no headspace	HCl < pH 2 keep cool - between 2 C and 8 C
Organotin Compounds			G 1,000-ml acid washed FP lined lid	keep cool - between 2 C and 8 C
Other/Miscellaneous Chemicals			G 1,000-ml FP lined lid	
Perfluorinated and Polyfluorinated Chemicals (PFCs)			P 1,000-ml no FP lined lid	
Phthalates – including all other esters of ortho-phthalic acid			G 1,000-ml FP lined lid for each parameter (2 needed)	
Poly Aromatic Hydrocarbons (PAHs)				
UV Absorbers			G 100-ml FP lined lid	keep cool - between 2 C and 8 C
Volatile Organic Compounds (VOC)			Three x 40-ml amber VOA vial no headspace	HCl or H2SO4 or HNO3 < pH 2 keep cool - between 2 C and 8 C

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers (Sludge)	Y		Three G 1,000-ml PTFE lined lid wide mouth	0.008% Na2 S2 O3 V/W keep cool between 2 C and 8 C
Chlorotoluenes (Sludge)	Y			
Polycyclic Aromatic Hydrocarbons (PAHs)(Sludge)	Y			

Client Representative (Name & Signature)

Qualty Control

Sample type	Action(Y/N)	Amount	Action in lab	Action in field
Field blank	Y	500 ml	Fill all with distilled water (or water of corresponding salinity to sample). One sample is left in the laboratory as a control sample. Two samples are taken to the field—one as a field blank and one as a transport blank. The actions in the field are then carried out.	Field blank—open container in the field for a similar period of time as is required to take sample. Re-cap container and transport to laboratory for analysis
Transport blank	Y	500 ml		Transport blank—Carry a sealed sample container in the cooler with other samples. No other action necessary in the field. Return to laboratory for analysis.
Container blank	Y	500 ml	Fill a sample container with distilled water—do not rinse. Apply the preservation appropriate to samples taken in that container type. The sample is to be held in the laboratory for a similar period of time as the majority of samples are held before analysis.	None

P= plastic G= amber glass FP= fluoropolymer

Laboratory:
TÜV SÜD Bangladesh (Pvt.) Ltd.
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01 Shajalal Avenue, Sector -06,
Uttara Model Town,
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Uttara Model Town,
Dhaka - 1230, Bangladesh

24, 05180
90. 318673

FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Untreated waste water

General Data

Laboratory Sample Number			
Customer Name	Jamuna Denims Ltd or Jamuna Denims Weaving Limited		
Field Contact Person	S. M Sehin Reza	Phone No	01778-082158
Project(Facility Name and Address)	Kashimpur Road Jhawu, Konabari, Gazipur		
Sampling Location/Description	ETP Inlet point		
ETP Type	Bio chemical	ETP Capacity	1800 m³/day
Initiated By	Self		
Sample Identification	UCBL (B)		
Sample Type	Composite		
Name of Sample	Untreated waste water		
Name of Sampler	A-F.M. Mohsen Hossain		
Discharge Mode	Direct discharge to environment(Specify destination: river, sea, stream) or indirect discharge to sewage treatment plant		City corporation Drain
Date and time collected	05.05.2025 (11:00 AM to 4:00 PM)		
Factory Type	Dyeing/Printing/Washing/Finishing/Other(Please specify)		
	*Note: It would be selected more than one.		
Major Product	Yarn dyeing		
Major Buyer	Andrews, LPP etc		

Field Data for Wastewater / Sludge

Equipment used	Multimeter (DO, pH) T-Cl, EC					
Factory with effluent treatment plant	✓ Yes				No	
Sample matrix		Incoming Water				
	✓	Wastewater before treatment				
		Wastewater after treatment-water at discharge point				
		Sludge				
Field Parameters	1	2	3	4	5	6
Recording Time	11:00 AM	12:00 AM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
pH						
Temperature of the discharged pipe						
Temperature of the receiving water body						
Temperature difference						
Conductivity						
Dissolved Oxyzen (DO)						
Color (physical observation)	Dark Navy	Dark Navy	Dark Navy	Dark Navy	Dark Navy	Dark Navy
Wastewater Flowrate						
Persistent Foam						
Total Chlorine						
Sample Container Number						
Volume Collected (ml)						
Total Volume Collected	10,000ml	Remark: Total volumn collected must be greater than total of sample size required				

Analysis Required and Preservation Method

Test	Test Required	Total of Sample Size	Type of Container	Preservation Method
% Solids (Sludge)	✓		125-ml P.G	keep cool - between 2 C and 8 C
Ammonia-Nitrogen	✓		P,G,FP 500-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
ACX	✓		P,G,FP 500-ml	HNO3 pH 1-2, keep cool - between 2 C and 8 C

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Biochemical Oxygen Demand 5-days concentration (BOD5)			P,G,FP 1,000-ml	Keep cool between 2 C and 8 C
Chemical Oxygen Demand (COD)			P,G,FP 100-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Chloride			P,G,FP 100-ml	Keep cool between 2 C and 8 C
Colour [m-1] (436nm; 525nm; 620nm)			P,G,FP 500-ml	
Cyanide			P,FP 1000-ml	NaOH > pH 12 0.1 ml of 10% Sodium Thiosulfate keep cool - between 2 C and 8 C
Cyanide(Sludge)			P, G 1,000-ml wide mouth PTFE lined lid	NaOH > 12 pH, keep cool between 2 C and 8 C Approx 2-ml 10N NaOH
E.coli			P,G clean, sterile, non-reactive, 125-ml	0.1 ml of 10% Sodium Thiosulfate keep in the dark and cool between 2 C and 8 C
Feacal Coliform(Sludge)			P,G clean, sterile, non-reactive, 125-ml	0.1 ml of 10% Sodium Thiosulfate keep in the dark and cool between 2 C and 8 C
Oil and Grease			Glass, wide mouth PTFE lined lid 1,000-ml	HCl or H2SO4 < pH 2 keep cool - between 2 C and 8
Phenol			P,G PTFE lined lid 500-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Total Dissolved Solids (TDS)			P,G 200-ml	keep cool - between 2 C and 8 C
Total Nitrogen			P,G,FP 100-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Total Phosphorus			P,G,FP 100-ml	
Total Suspended Solids (TSS)			P,G 200-ml	keep cool - between 2 C and 8 C
Sulfate			P,G,FP 100-ml	
Sulfide			P, FP 100-ml	4 drops 2N zinc acetate NaOH > pH 9 keep cool - between 2 C and 8 C
Sulfite			P,G,FP 100-ml	1-ml 2.5% EDTA keep cool - between 2 C and 8 C
Paint Filter Test(Sludge)			250-ml P,G	keep cool - between 2 C and 8 C
Chromium (VI)			G acid washed 40-ml Brown Glass VOA vial	0.45µm filter in field, add buffer* to pH 9.0-9.5 keep cool - between
Chromium (VI) (Sludge)			P, G acid washed 300-ml wide mouth	keep cool between 2 C and 8 C
Heavy Metals (Antimony, Arsenic, Barium, Cadmium, Chromium-total, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Tin, Zinc)			P, G, FP acid washed 250-ml	HNO3 < pH 2 keep cool - between 2 C and 8 C
Total Metals / Heavy Metals (Antimony, Arsenic, Barium, Cadmium, Chromium-total, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Tin, Zinc) (Sludge)			P, G acid washed 1,000-ml wide mouth	HNO3 < pH 2, keep cool between 2 C and 8 C
Mercury			P, G, FP acid washed 500-ml	HNO3 < pH 2 keep cool - between 2 C and 8 C

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Mercury(Sludge)	✓		P, G acid washed 500-ml wide mouth	HNO3 < pH 2 keep cool between 2 C and 8 C
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs) including all isomers Including All Isomers	✓		G 1,000-ml FP lined lid for each parameter (12 total are needed)	keep cool - between 2 C and 8 C
Anti- Microbials & Biocides				
Chlorinated Parafins				
Chlorobenzenes and Chlorotoluenes				
Chlorophenols				
DMFa				
Restricted Aromatic Amines (Cleavable from Azo-colourants)				
Dyes – Carcinogenic or Equiv. Concern				
Dyes – Disperse (Sensitizing)	✓			
Dyes – Navy Blue Colourant				
Flame Retardants				
Glycols / Glycol Ethers				
Halogenatec Solvents			Three x 40-ml amber VOA vial no headspace	HCl < pH 2 keep cool - between 2 C and 8 C
Organotin Compounds			G 1,000-ml acid washed FP lined lid	keep cool - between 2 C and 8 C
Other/Miscellaneous Chemicals	✓		G 1,000-ml FP lined lid	
Perfluorinated and Polyfluorinated Chemicals (PFCs)			P 1,000-ml no FP lined lid	
Phthalates – including all other esters of ortho-phthalic acid			G 1,000-ml FP lined lid for each parameter (2 needed)	
Poly Aromatic Hydrocarbons (PAHs)				
UV Absorbers			G 100-ml FP lined lid	keep cool - between 2 C and 8 C
Volatile Organic Compounds (VOC)	✓		Three x 40-ml amber VOA vial no headspace	HCl or H2SO4 or HNO3 < pH 2 keep cool - between 2 C and 8 C

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers (Sludge)	✓		Three G 1,000-ml PTFE lined lid wide mouth	0.008% Na2 S2 O3 V/W keep cool between 2 C and 8 C
Chlorotoluenes (Sludge)	✓			
Polycyclic Aromatic Hydrocarbons (PAHs)(Sludge)	✓			

Client Representative
(Name & Signature)

Quality Control

Sample type	Action(Y/N)	Amount	Action in lab	Action in field
Field blank	✓	500 ml	Fill all with distilled water (or water of corresponding salinity to sample). One sample is left in the laboratory as a control sample. Two samples are taken to the field—one as a field blank and one as a transport blank. The actions in the field are then carried out.	Field blank—open container in the field for a similar period of time as is required to take sample. Re-cap container and transport to aboratory for analysis
Transport blank	✓	500 ml		Transport blank—Carry a sealed sample container in the cooler with other samples. No other action necessary in the field. Return to laboratory for analysis.
Container blank	✓	500 ml	Fill a sample container with distilled water—do not rinse. Apply the preservation appropriate to samples taken in that container type. The sample is to be held in the laboratory for a similar period of time as the majority of samples are held before analysis.	None

P= plastic G= amber glass FP= fluoropolymer

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FIELD DATA RECORD OF ZERO DISCHARGE SAMPLE FOR ANIONS, CONVENTIONAL, HEAVY METALS MRSL PARAMETERS

Sludge

General Data

Laboratory Sample Number			
Customer Name	Jamuna Denims Ltd & Jamuna Denims Weaving Limited		
Field Contact Person	SM Selim Reza	Phone No	01748.082158
Project(Facility Name and Address)	Konabari, Gazipur		
Sampling Location/Description	ETP Sludge		
ETP Type	Bio-chemical	ETP Capacity:	1800 m³/day
Initiated By	Self		
Sample Identification	Sludge (e)		
Sample Type	Composite		
Name of Sample	Sludge		
Name of Sampler	A.F.M. Mohaiman Hossain		
Discharge Mode	Direct discharge to environment(Specify destination: river, sea, stream) or indirect discharge to sewage treatment plant		City Drain
Date and time collected	05.05.2025 (11:00 am to 4:00 pm)		
Factory Type	Dyeing/Printing/Washing/Finishing/Other(Please specify)		
	*Note: It would be selected more than one.		
Major Product	Yarn dyeing.		
Major Buyer	LPP, Inditex, KL, ABF		

Field Data for Wastewater / Sludge

Equipment used	Multimeter					
Factory with effluent treatment plant	✓ Yes				No	
Sample matrix		Incoming Water				
		Wastewater before treatment				
		Wastewater after treatment-water at discharge point				
	✓	Sludge				
Field Parameters	1	2	3	4	5	6
Recording Time	3:00 pm					
pH						
Temperature of the discharged pipe						
Temperature of the receiving water body						
Temperature difference						
Conductivity						
Dissolved Oxyzen (DO)						
Color (physical observation)	Reddish					
Wastewater Flowrate						
Persistent Foam						
Total Chlorine						
Sample Container Number						
Volume Collected (ml)						
Total Volume Collected	3 Kg	Remark: Total volumn collected must be greater than total of sample size required				

Analysis Required and Preservation Method

Test	Test Required	Total of Sample Size	Type of Container	Preservation Method
% Solids (Sludge)	✓		125-ml P,G	keep cool - between 2 C and 8 C
Ammonia-Nitrogen	✓		P,G,FP 500-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
AOX	✓		P,G,FP 500-ml	HNO3 pH 1-2, keep cool - between 2 C and 8 C

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Biochemical Oxygen Demand 5-days concentration (BOD5)	✓		P,G,FP 1,000-ml	Keep cool between 2 C and 8 C
Chemical Oxygen Demand (COD)			P,G,FP 100-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Chloride			P,G,FP 100-ml	Keep cool between 2 C and 8 C
Colour [m-1] (436nm; 525nm; 620nm)			P,G,FP 500-ml	
Cyanide	✓		P,FP 1000-ml	NaOH > pH 12 0.1 ml of 10% Sodium Thiosulfate keep cool - between 2 C and 8 C
Cyanide(Sludge)	✓		P, G 1,000-ml wide mouth PTFE lined lid	NaOH > 12 pH, keep cool between 2 C and 8 C Approx 2-ml 10N NaOH
E.coli	✓		P,G clean, sterile, non-reactive, 125-ml	0.1 ml of 10% Sodium Thiosulfate keep in the dark and cool between 2 C and 8 C
Feacal Coliform(Sludge)	✓		P,G clean, sterile, non-reactive, 125-ml	0.1 ml of 10% Sodium Thiosulfate keep in the dark and cool between 2 C and 8 C
Oil and Grease	✓		Glass, wide mouth PTFE lined lid 1,000-ml	HCl or H2SO4 < pH 2 keep cool - between 2 C and 8
Phenol			P,G PTFE lined lid 500-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Total Dissolved Solids (TDS)			P,G 200-ml	keep cool - between 2 C and 8 C
Total Nitrogen			P,G,FP 100-ml	H2SO4 < pH 2 keep cool - between 2 C and 8 C
Total Phosphorus			P,G,FP 100-ml	
Total Suspended Solids (TSS)			P,G 200-ml	keep cool - between 2 C and 8 C
Sulfate			P,G,FP 100-ml	
Sulfide			P, FP 100-ml	4 drops 2N zinc acetate NaOH > pH 9 keep cool - between 2 C and 8 C
Sulfite	✓		P,G,FP 100-ml	1-ml 2.5% EDTA keep cool - between 2 C and 8 C
Paint Filter Test(Sludge)	✓		250-ml P,G	keep cool - between 2 C and 8 C
Chromium (VI)	✓		G acid washed 40-ml Brown Glass VOA vial	0.45µm filter in field; add buffer* to pH 9.0-9.5 keep cool - between
Chromium (VI) (Sludge)	✓		P, G acid washed 300-ml wide mouth	keep cool between 2 C and 8 C
Heavy Metals (Antimony, Arsenic, Barium, Cadmium, Chromium-total, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Tin, Zinc)	✓		P, G, FP acid washed 250-ml	HNO3 < pH 2 keep cool - between 2 C and 8 C
Total Metals / Heavy Metals (Antimony, Arsenic, Barium, Cadmium, Chromium-total, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Tin, Zinc) (Sludge)	✓		P, G acid washed 1,000-ml wide mouth	HNO3 < pH 2, keep cool between 2 C and 8 C
Mercury	✓		P, G, FP acid washed 500-ml	HNO3 < pH 2 keep cool - between 2 C and 8 C

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Mercury(Sludge)	✓		P, G acid washed 500-ml wide mouth	HNO3 < pH 2 keep cool between 2 C and 8 C
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers Including All Isomers	✓		G 1,000-ml FP lined lid for each parameter (12 total are needed)	keep cool - between 2 C and 8 C
Anti- Microbials & Biocides				
Chlorinated Parafins				
Chlorobenzenes and Chlorotoluenes				
Chlorophenols				
DMFa				
Restricted Aromatic Amines (Cleavable from Azo-colourants)				
Dyes – Carcinogenic or Equiv. Concern	✓			
Dyes – Disperse (Sensitizing)				
Dyes – Navy Blue Colourant				
Flame Retardants				
Glycols / Glycol Ethers				
Halogenated Solvents			Three x 40-ml amber VOA vial no headspace	HCl < pH 2 keep cool - between 2 C and 8 C
Organotin Compounds			G 1,000-ml acid washed FP lined lid	keep cool - between 2 C and 8 C
Other/Miscellaneous Chemicals	✓		G 1,000-ml FP lined lid	
Perfluorinated and Polyfluorinated Chemicals (PFCs)			P 1,000-ml no FP lined lid	
Phthalates – including all other esters of ortho-phthalic acid			G 1,000-ml FP lined lid for each parameter (2 needed)	
Poly Aromatic Hydrocarbons (PAHs)				
UV Absorbers			G 100-ml FP lined lid	keep cool - between 2 C and 8 C
Volatile Organic Compounds (VOC)	✓		Three x 40-ml amber VOA vial no headspace	HCl or H2SO4 or HNO3 < pH 2 keep cool - between 2 C and 8 C

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Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers (Sludge)	✓		Three G 1,000-ml PTFE lined lid wide mouth	0.008% Na2 S2 O3 V/W keep cool between 2 C and 8 C
Chlorotoluenes (Sludge)	✓			
Polycyclic Aromatic Hydrocarbons (PAHs)(Sludge)	✓			

Client Representative
(Name & Signature)

Qualty Control

Sample type	Action(Y/N)	Amount	Action in lab	Action in field
Field blank	NA	500 ml	Fill all with distilled water (or water of corresponding salinity to sample). One sample is left in the laboratory as a control sample. Two samples are taken to the field—one as a field blank and one as a transport blank. The actions in the field are then carried out.	Field blank—open container in the field for a similar period of time as is required to take sample. Re-cap container and transport to laboratory for analysis
Transport blank	NA	500 ml		Transport blank—Carry a sealed sample container in the cooler with other samples. No other action necessary in the field. Return to laboratory for analysis.
Container blank	NA	500 ml	Fill a sample container with distilled water—do not rinse. Apply the preservation appropriate to samples taken in that container type. The sample is to be held in the laboratory for a similar period of time as the majority of samples are held before analysis.	None

P= plastic G= amber glass FP= fluoropolymer

-END OF THE TEST REPORT-

Laboratory:
TÜV SÜD Bangladesh (Pvt.) Ltd.
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Dhaka - 1230, Bangladesh

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