

# TEST REPORT

**Technical Report** (6819)088-0248 April 17, 2019

Date Received March 28, 2019 Page 1 of 20

Raidha Collections Ltd. Factory Company Name:

Zamirdia, Valuka, Mymensingh, 2240, Bangladesh. Factory Address:

Project No.: Client Reference No.:

I001) Incoming water - Grab Sample Type:

I002) Wastewater After Treatment - 6 hours Time - weighted Composite

Sample Pick Up Date: March 28, 2019 Wastewater Discharge to: Local Drain On-Site Effluent Treatment Plant (ETP): Yes

Discharge Type: Direct Discharge

Test Period: March 29, 2019 To April 17, 2019

Sample Description:

I001) Colorless liquid - Incoming water

I002) Colorless / grey color liquid - Wastewater after treatment

#### **REMARK**

If there are questions or concerns on this report, please contact the following persons:

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This report shown the test result of the auxiliary chemical and/or raw material samples, which collected during particular factory audit. The results of this report shall not be used for any regulatory compliance purposes.

**BUREAU VERITAS** CONSUMER PRODUCTS SERVICES (BANGLADESH) LTD.

M. NUR ALAM SENIOR MANAGER

ANALYTICAL LABORATORY

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<sup>\*</sup> The sampling is agreed with client.



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## **Photo of the Sample/ Sampling Location**

I001) Incoming Water (GPS Location: N 23° 48' 0"; E 89° 13' 0.12")



I002) Wastewater After Treatment (GPS Location: N 23° 48' 0"; E 89° 13' 0.12")



I001) Incoming Water - Surrounding (GPS Location: N 23° 48' 0"; E 89° 13' 0.12")



I002) Wastewater After Treatment - Surrounding (GPS Location: N 23° 48' 0"; E 89° 13' 0.12")





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## **Executive Summary**

1A) Conventional Parameters	I001	I002
Temperature		
TSS		
COD		
Total-N		
pH Value		
Color [m-1] (436nm; 525nm; 620nm)		
BOD <sub>5</sub>		See result in page: 05 – 08
Ammonium-N	N/A	
Total-P	N/A	
AOX		
Oil and Grease		
Phenol		
Coliform		
Foam		
ANIONS - Sulfide		
ANIONS - Sulfite		
1B) Conventional Parameters –METALS	•	•

ZDHC MRSL Substances	1001	1002
2A) APs and APEOs	NR	O
2B) Chlorobenzenes and Chlorotoluenes	NR	o
2C) Chlorophenols	NR	O
2D) Azo Dyes	NR	o
2E) Carcinogenic Dyes	NR	O
2F) Disperse Dyes	NR	o
2G) Flame Retardants	NR	0
2H) Glycols	NR	O
2I) Halogenated Solvents	NR	O
2J) Organotin Compounds	NR	O
2K) Perfluorinated and Polyfluorinated Chemicals	NR	o
2L) Phthalates	NR	o
2M) Poly Aromatic Hydrocarbons	NR	0
2N) Volatile Organic Compounds	NR	0

## Note / Key:

- $\bullet$  Detected
- o Not Detected
- NR Not Required
- N/A Not Applicable



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## **Objective**

The environment samples were tested for below parameters.

- 1A) Conventional Parameters
- 1B) Conventional Parameters METALS
- 2A) APs and APEOs
- 2B) Chlorobenzenes and Chlorotoluenes
- 2C) Chlorophenols
- 2D) Azo Dyes
- 2E) Carcinogenic Dyes
- 2F) Disperse Dyes
- 2G) Flame Retardants
- 2H) Glycols
- 2I) Halogenated Solvents
- 2J) Organotin Compounds
- 2K) Perfluorinated and Polyfluorinated Chemicals
- 2L) Phthalates
- 2M) Poly Aromatic Hydrocarbons
- 2N) Volatile Organic Compounds

#### **Sampling Plan**

Basically, two environment samples were sampled per factory, including 1) Incoming water and 2) Discharged Wastewater or Wastewater after Treatment. Total number of sample collected will be depended on the actual factory facilities and manufacturing processes.

Method of sampling used is time-weighted composite samples (agreed with client.). Composite sampling shall be performed for no less than six hours, with no more than one hour between discrete samples. Each discrete sample shall be of equal volume. Wastewater and freshwater samples should, as much as possible, be collected simultaneously, during the time that PU is in normal operation. The sampling shall aim to analyse the snapshot of water quality characteristics of the operating PU. Under no circumstance shall samples be taken during times when the production process is not running or the wastewater is diluted due to heavy rainfall, etc.

#### Remark:

- Sampling procedure is with reference to below standards:
  - 1) South Australia EPA Guidelines (June 2007), Regulatory Monitoring and Testing Water and Wastewater Sampling.
  - 2) Australia EPA (Victoria) Guideline (June 2009), Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.
  - 3) ISO 5667-3:2003, Water Quality Sampling Part 3: Guidance on the Preservation and Handling of Water Samples.
  - 4) ASTM D3976-92 (Reapproved 2010), Standard Practice for Preparation of Sediment Samples for Chemical Analysis.
- Field data records are attached in Appendix B.



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## **Test Result**

#### 1A) Conventional Parameters

**Temperature** 

**Test Method** : Measurement by thermometer

Tested Item(s)	Result	Unit	Conclusion
I002	28.5 (Progressive)	deg. C	DATA

Note:

deg. C = degree Celsius (°C)

Foundational Limit: ▲15 / max. 35°C; Progressive Limit: ▲10 / max. 30°C; Aspirational Limit: ▲5 / max. 25°C

Total Suspended Solids (TSS)

**Test Method** : Reference to APHA 22<sup>nd</sup> Edition-2540D & ALPA 2540D

Tested Item(s)	Result	Unit	Conclusion
I002	8 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 50 mg/L; Progressive Limit: 15 mg/L; Aspirational Limit: 5 mg/L

#### Chemical Oxygen Demand (COD)

**Test Method**: Reference to ALPA 5220B & EPA 410.3

Tested Item(s)	Result	Unit	Conclusion
I002	52 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 150 mg/L; Progressive Limit: 80 mg/L; Aspirational Limit: 40 mg/L

#### Total Nitrogen (Total-N)

**Test Method** : Reference to HJ 636-2012

Tested Item(s)	Result	Unit	Conclusion
1002	0.91	mg/L	DATA
	(Aspirational)		

Note:

 $mg/L = milligram \; per \; liter \;$ 

Foundational Limit: 20 mg/L; Progressive Limit: 10 mg/L; Aspirational Limit: 5 mg/L



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## pH Value

**Test Method**: Reference to ALPA 4500-H+B & EPA150.2

-	Unit	Result
Test Item(s)	-	I002
Parameter	-	-
Temp. of sample	deg. C	22.5
pH value of sample	8.6 - (Comply with ZDHC WWG requirements)	
Conclusion -		DATA

Note:

Temp. = Temperature

deg. C = degree Celsius (°C)

Limit: 6 - 9

Color [m<sup>-1</sup>] (436nm; 525nm; 620nm)

**Test Method** : ISO 7887: 2011(E), B

Tested Item(s)	Result	Unit	Conclusion
I002	1.3; 1.0; 0.5 (Aspirational)	m <sup>-1</sup>	DATA

Note:

Foundational Limit: 7;5;3 m<sup>-1</sup>; Progressive Limit: 5;3;2 m<sup>-1</sup>; Aspirational Limit: 2;1;1 m<sup>-1</sup>

## Biochemical Oxygen Demand (BOD<sub>5</sub>)

**Test Method** : Reference to APHA 5210B (5 days)

Tested Item(s)	Result	Unit	Conclusion
I002	17 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 30 mg/L; Progressive Limit: 15 mg/L; Aspirational Limit: 5 mg/L

## Ammonia Nitrogen

**Test Method**: Reference to HJ 535

I	Tested Item(s)	Result	Unit	Conclusion
	I002	0.280 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 10 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.5 mg/L



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#### Total Phosphorus (Total-P)

**Test Method** : Reference to APHA 22<sup>nd</sup> Edition -4500-P.E (2012)

ſ	Tested Item(s)	Result	Unit	Conclusion
	I002	0.008 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 3 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.1 mg/L

#### Adsorbable Organic Halogen (AOX)

**Test Method** : Reference to HJ/T 83

Tested Item(s)	Result	Unit	Conclusion
I002	0.041 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 5 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.1 mg/L

## Oil and Grease

**Test Method** : Reference to APHA 22<sup>nd</sup> Edition -5520 B (2012)

Tested Item(s)	Result	Unit	Conclusion
I002	0.8 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 10 mg/L; Progressive Limit: 2 mg/L; Aspirational Limit: 0.5 mg/L

#### Phenol

**Test Method** : APHA 5530 B & D (2012), EPA 420.1

Tested Item(s)	Result	Unit	Conclusion
1002	0.001	ma/I	DATA
1002	(Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 0.5 mg/L; Progressive Limit: 0.01 mg/L; Aspirational Limit: 0.001 mg/L



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#### Coliform

**Test Method**: Reference to ISO 9308-1: 2014

Tested Item(s)	Result	Unit	Conclusion
I002	280 (Foundational)	Bacteria / 100 mL	DATA

Note:

bacteria/100 mL = bacteria per 100 milliliters

Foundational Limit: 400 / 100 ml; Progressive Limit: 100 / 100 ml; Aspirational Limit: 25 / 100 ml;

#### Foam

Test Method : Visual

Tested Item(s)	Result	Unit	Conclusion
I002	No Foam (Comply with ZDHC WWG requirements)	-	DATA

## ANIONS - Sulfide

**Test Method** : Reference to GB/T 16489

Tested Item(s)	Result	Unit	Conclusion
I002	0.016 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 0.5 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L

## ANIONS - Sulfite

**Test Method** : Reference to ISO 10304-3

Tested Item(s)	Result	Unit	Conclusion
I002	<0.1 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 2 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.2 mg/L



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## 1B) Conventional Parameters - METALS

Heavy Metals	$I001 (\mu g/L)$	$I002~(\mu g/L)$
Antimony( Sb )		
Foundational Limit: 100 μg/L;	ND	ND
Progressive Limit: 50 μg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 10 μg/L	_	-
Chromium( Cr ), total		
Foundational Limit: 200 μg/L;	8	3
Progressive Limit: 100 µg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 50 µg/L		, ,
Cobalt( Co )		
Foundational Limit:50 µg/L;	ND	ND
Progressive Limit: 20 µg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 10 µg/L	· · · · · · · · · · · · · · · · · · ·	` '
Copper(Cu)		
Foundational Limit: 1000 μg/L;	11	4
Progressive Limit: 500 μg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 250 µg/L	(Fispirational)	(riopinational)
Nickel (Ni)		
Foundational Limit:.200 µg/L;	ND	ND
Progressive Limit: 100 µg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 50 µg/L	(rispirational)	(rispirational)
Silver (Ag)		
Foundational Limit: 100 µg/L;	ND	ND
Progressive Limit: 50 μg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 5 μg/L	(Aspirational)	(Aspirational)
Zinc(Zn)		
Foundational Limit: 5000 μg/L;	5845	65
Progressive Limit: 1000 µg/L;	(Exceeded Foundational Limit)	(Aspirational)
Aspirational Limit: 500 µg/L	(Exceeded Foundational Ellint)	(Aspirational)
Arsenic (As)		
Foundational Limit: 50 µg/L;	ND	ND
Progressive Limit: 10 μg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 5 µg/L	(Aspirational)	(Aspirational)
Cadmium( Cd )		
Foundational Limit: 100 µg/L;	ND	ND
Progressive Limit: 50 µg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 10 μg/L	(Aspirational)	(Aspirational)
Lead(Pb)		
Foundational Limit: 100 μg/L;	9	3
Progressive Limit: 50 μg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 10 µg/L	(Aspirational)	(Aspirational)
Mercury (Hg)		
Foundational Limit: 10 µg/L;	ND	ND
Progressive Limit: 10 μg/L; Progressive Limit: 5 μg/L;	(Aspirational)	(Aspirational)
Aspirational Limit : 1 µg/L	(Aspirational)	(Aspirational)
Chromium VI( CrVI )		
Foundational Limit: 50 μg/L;	ND	ND
Progressive Limit: 50 µg/L;	(Aspirational)	(Aspirational)
Aspirational Limit: 1 µg/L	(Aspirational)	(Aspirational)
Cyanide( CN-)		
Foundational Limit: 200 µg/L;	ND	ND
Progressive Limit: 100 μg/L; Progressive Limit: 100 μg/L;	(Aspirational)	
Aspirational Limit: 100 µg/L; Aspirational Limit: 50 µg/L	(Aspirational)	(Aspirational)
льрітанонаї Limu: 30 µg/L		



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## Others Priority Chemical Groups

	I001	1002
2A) APs and APEOs	NR	ND
2B) Chlorobenzenes and Chlorotoluenes	NR	ND
2C) Chlorophenols	NR	ND
2D) Azo Dyes	NR	ND
2E) Carcinogenic Dyes	NR	ND
2F) Disperse Dyes	NR	ND
2G) Flame Retardants	NR	ND
2H) Glycols	NR	ND
2I) Halogenated Solvents	NR	ND
2J) Organotin Compounds	NR	ND
2K) Perfluorinated and Polyfluorinated Chemicals	NR	ND
2L) Phthalates	NR	ND
2M) Poly Aromatic Hydrocarbons	NR	ND
2N) Volatile Organic Compounds	NR	ND

#### Remark:

- Test method, reporting limit and list of chemical are summarized in tables of Appendix A.
- ND = Not detected (Please refer to reporting limit shown in Appendix A.)
- All results are in ppb as unit.
- ppm = part(s) per million; ppb = part(s) per billion.
- NR = Not Requested



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## APPENDIX A

Parameters, limits and testing method aligned with the ZDHC Wastewater Guidelines

Group	Substance (analytes)	CAS No.	Detection Limit (µg/L)	Testing method
	Octylphenol OP, mixed isomers	Various (incl. 140-66-9, 1806-26-4, 27193-28-8)		NP/OP: ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 (GC/MS or LC/MS(-MS)
2A. Alkylphenol (AP) and Alkylphenol	Nonylphenol NP	Various (incl. 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3)	5	
Ethoxylates (APEOs): including all isomers	Octylphenol Ethoxylates OPEO (2-16)	Various (incl. 9002-93-1, 9036-19-5, 68987-90-6)		OPEO/NPEO (n>2): ISO 18254-1 OPEO/NPEO: ISO18857-2 or ASTM
	Nonylphenol Ethoxylates NPEO (2-18)	Various (inc. 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0)		D7065(LC/MS; GC/MS or LC/MSMS for n=1,2)
	Chlorobenzene	108-90-7	_	
	1,2-Dichlorobenzene	95-50-1		
	1,3-Dichlorobenzene	541-73-1		
	1,4-Dichlorobenzene 1,2,3-Trichlorobenzene	106-46-7	_	
	1,2,3-1 richlorobenzene 1,2,4-Trichlorobenzene	87-61-6 120-82-1		USEPA 8260B,8270D. Dichloromethane extraction followed by
	1,3,5-Trichlorobenzene	108-70-3		
	1,2,3,4-Tetrachlorobenzene	634-66-2		
	1,2,3,5-Tetraclorobenzene	634-90-2		
	1,2,4,5-Tetrachlorobenzene	95-94-3		
	Pentachlorobenzene	608-93-5		
	Hexachlorobenzene	118-74-1		
	2-Chlorotoluene	95-49-8		
	3-Chlorotoluene	108-41-8		
	4-Chlorotoluene	106-43-4		
2B. Chlorobenzenes	2,3-Dichlorotoluene	32768-54-0		
and Chlorotoluenes	2,4-Dichlorotoluene	95-73-8	0.2	
and Chlorototuches	2,5-Dichlorotoluene	19398-61-9		GC/MS
	2,6-Dichlorotoluene	118-69-4		Ge/MB
	3,4-Dichlorotoluene	95-75-0	 	
	3,5-Dichlorotoluene	25186-47-4		
	2,3,4-Trichlorotoluene	7359-72-0		
	2,3,6-Trichlorotoluene	2077-46-5		
	2,4,5-Trichlorotoluene	6639-30-1	-	
	2,4,6-Trichlorotoluene	23749-65-7	_	
	3,4,5-Trichlorotoluene	21472-86-6	-	
	2,3,4,5-Tetrachlorotoluene	76057-12-0		
	2,3,5,6-Tetrachlorotoluene	29733-70-8		
	2,3,4,6-Tetrachlorotoluene	875-40-1	1	
	Pentachlorotoluene	877-11-2	1	
	Pentachlorophenol (PCP)	87-86-5		USEPA 8270 D
2C. Chlorophenols	2,3,4,5-Tetrachlorophenol	4901-51-3	0.5	Solvent extraction,
, the same of the	2,3,4,6-Tetrachlorophenol	58-90-2		derivatisation with



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Group	Substance (analytes)	CAS No.	Detection Limit (µg/L)	Testing method
	2,3,5,6-Tetrachlorophenol	935-95-5		KOH, acetic anhydride
Ì	2,4,6-Trichlorophenol	88-06-2		followed by GC/MS
Ì	2,3,5-Trichlorophenol	933-78-8		ISO 14154:2005
l	2,4,5-Trichlorophenol	95-95-4		
	3,4,5-Trichlorophenol	609-19-8		
	2,3,4-Trichlorophenol	15950-66-0		
	2,3,6-Trichlorophenol	933-75-5		
	2,3-Dichlorophenol	576-24-9		
	3,4-Dichlorophenol	95-77-2		
	2,4-Dichlorophenol	120-83-2		
	2,5-Dichlorophenol	583-78-8		
	2,6-Dichlorophenol	87-65-0		
	3,5-Dichlorophenol	591-35-5		
	2-Chlorophenol	95-57-8		
	3-Chlorophenol	108-43-0		
	4-Chlorophenol	106-48-9		
	4-Aminodiphenyl	92-67-1		
	Benzidine	92-87-5		
	4-Chloro-o-toluidine	95-69-2		
	2-Naphthylamine	91-59-8		
	o-Aminoazotoluene	97-56-3		
	5-nitro-o-toluidine	99-55-8		
	4-Chloroaniline	106-47-8		
	4-Methoxy-m-	615-05-4		
	phenylenediamine			
l	4,4'-methylenedianiline	101-77-9		
	3,3`-Dichlorobenzidine	91-94-1		
l	3,3`-Dimethoxybenzidine	119-90-4		EN 14362-1
2D. Dyes - Azo	3,3`-Dimethylbenzidine	119-93-7		EN 14362-3
(Forming Restricted	4,4`-Methylene-di-o-toluidine	838-88-0	0.1	Reduction step with
Amines)	6-methoxy-m-toluidine (p- Cresidine)	120-71-8		Sodiumdithionite, solvent extraction,
l	4,4`-Methylene-bis-(2-chloro-	101 14 4		GC/MS or LC/MS
	aniline)	101-14-4		
	4,4`-Oxydianiline	101-80-4		
	4,4`-Thiodianiline	139-65-1		
	o-Toluidine	95-53-4		
	4-Methyl-m- phenylenediamine	95-80-7		
	2,4,5-Trimethylaniline	137-17-7		
	o-Anisidine	90-04-0		
	4-Aminoazobenzene	60-09-3		
	2,4-Xylidine	95-68-1		
	2,6-Xylidine	87-62-7		
	C.I. Direct Black 38	1937-37-7		
	C.I. Direct Blue 6	2602-46-2		
	C.I. Acid Red 26	3761-53-3		
	C.I. Basic Red 9	569-61-9	_	
	C.I. Direct Red 28	573-58-0	7	
2E. Dyes-	C.I. Basic Violet 14	632-99-5	_	
Carcionogenic or	C.I. Disperse Blue 1	2475-45-8	500	Liquid Extraction
Equivalent Concern	C.I. Disperse Blue 3	2475-46-9	7	LC/MS
	C.I. Basic Blue 26 (with			
	Michler's Ketone > 0.1%)	2580-56-5	_	
	LC L Basia Craan 4 (malaahita	1	I	1
	C.I. Basic Green 4 (malachite green chloride)	569-64-2		



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Group	Substance (analytes)	CAS No.	Detection Limit (µg/L)	Testing method
	green oxalate)			
	C.I. Basic Green 4(malachite	10309-95-2		
	green)			
	Disperse Orange 11	82-28-0		
	Disperse Yellow 1	119-15-3		
	Disperse Blue 102	12222-97-8		
	Disperse Blue 106	12223-01-7		
	Disperse Yellow 39	12236-29-2		
	Disperse Orange 37/59/76 Disperse Brown 1	13301-61-6 23355-64-8		
	Disperse Orange 1	2581-69-3		
	Disperse Yellow 3	2832-40-8		
	Disperse Red 11	2872-48-2		
2F. Dyes-disperse	Disperse Red 1	2872-52-8	50	Liquid Extraction
(sensitizing)	Disperse Red 17	3179-89-3		LC/MS
	Disperse Blue 7	3179-90-6		
	Disperse Blue 26	3860-63-7		
	Disperse Yellow 49	54824-37-2		
	Disperse Blue 35	12222-75-2		
	Disperse Blue 124	61951-51-7		
	Disperse Yellow 9	6373-73-5		
	Disperse Orange 3	730-40-5		
	Disperse Blue 35	56524-77-7		
	Polybromobiphenyls (PBBs)	59536-65-1		
	Pentabromodiphenyl ether	32534-81-9		
	(PentaBDE)	32334-61-9		
	Octabromodiphenyl ether (OctaBDE)	32536-52-0		ISO 22032, USEPA527 and USEPA8321B. Dichloromethane extraction GC/MS or LC/MS(-MS)
	Decabromodiphenyl ether (DecaBDE)	1163-19-5		
	Tris(2,3-dibromopropyl) phosphate (TRIS/TDBPP)	126-72-7		
	Tetrabromobisphenol A (TBBPA)	79-94-7		
2G. Flame Retardants	Bis(2,3-dibromopropyl) phosphate (BIS/BDBPP)	5412-25-9	5	
26. Frame Tetardams	Hexabromocyclododecane (HBCDD)	3194-55-6		
	2,2-Bis(bromomethyl)-1,3- propanediol (BBMP)	3296-90-0		25,115(112)
	Tris(aziridinyl)- phosphineoxide (TEPA)	545-55-1		
	Tris(2-chloroethyl) phosphate (TCEP)	115-96-8		
	Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8		
	Short chain chlorinated paraffins (SCCPs) (C10-C13)	85535-84-8		
	Bis(2-methoxyethyl)-ether	111-96-6		
	2-ethoxyethanol	110-80-5		
	2-ethoxyethyl acetate	111-15-9		110 FB 1 05 F 2
	Ethylene glycol dimethyl			US EPA 8270
2H. Glycols	ether	110-71-4	50	Liquid Extraction
J <del></del>	2-methoxyethanol	109-86-4		LC/MS
	2-methoxyethylacetate	110-49-6		GC-MS
	2-methoxypropylacetate	70657-70-4		
	Triethylene glycol dimethyl	112-49-2		



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Group	Substance (analytes)	CAS No.	Detection Limit (µg/L)	Testing method
	ether		(μζ/L)	
	1,2-Dichloroethane	107-06-2		110777 . 02 507
2I. Halogenated	Methylene Chloride	75-09-2	1	USEPA 8260B
Solvents	Trichloroethylene	79-01-6	1	Headspace GC/MS or Purge-and-Trap-GC/MS
	Tetrachloroethylene	127-18-4		Turge-and-Trap-GC/WIS
	Mono-, di- and tri-methyltin derivatives	Various		
2J. Organotin	Mono-, di- and tri-butyltin derivatives	Various		ISO 17353 Derivatisation with
Compounds	Mono-, di- and tri-phenyltin derivatives	Various	0.01	NaB(C2H5) GC/MS
	Mono-, di- and tri-octyltin derivatives	Various		
	Perfluoro-n-octanoic acid (PFOA)	335-67-1		DIN 38407-42 (modified)
	Perfluorobutanesulfonic acid (PFBS)	29420-49-3, 29420-43-3	0.01	Ionic PFC:
2K. Perfluorinated and Polyfluorinated	Perfluorooctanesulfonic acid (PFOS)	355-46-4 ,432-50-7	0.01	Concentration or direct injection, LC/MS(-MS);
Chemicals (PFCs)	Perfluoro-n-hexanoic acid (PFHxA)	307-24-4		Non-ionic PFC (FTOH):
	8:2 FTOH	678-39-7		derivatisation with
	6:2 FTOH	647-42-7	1	acetic anhydride, followed by GC/MS
	Butyl benzyl phthalate (BBP)	85-68-7		
	Dibutyl phthalate (DBP)	84-74-2		
	Di-2-ethylhexyl phthalate (DEHP)	117-81-7		
	Di-n-octyl phthalate (DNOP)	117-84-0		
	Di-iso-nonyl phthalate (DINP)	28553-12-0		
	Di-iso-decyl phthalate (DIDP)	26761-40-0		
	Diethyl phthalate (DEP)	84-66-2		
	Di-n-propyl phthalate (DPRP) Di-iso-butyl phthalate (DIBP)	131-16-8 84-69-5		
2L. Phthalates	Di-cyclohexyl phthalate			US EPA 8270D, ISO
(including all other	(DCHP)	84-61-7	10	18856
esthers of phthalic acid)	Di-n-hexyl phthalate (DnHP)	84-75-3		Dichloromethane
r	Dinonyl phthalate (DNP)	84-76-4		extraction GC/MS
	Di-iso-octyl phthalate (DIOP)	27554-26-3		
	Dimethoxyethyl phthalate (DMEP)	117-82-8		
	1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)	68515-42-4		
	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6		
	Benzo[a]pyrene (BaP)	50-32-8		
	Anthracene	120-12-7	4	
	Pyrene	129-00-0	4	
	Benzo[ghi]perylene	191-24-2	-	US EPA 8270
2M. Poly Aromatic	Benzo[e]pyrene	192-97-2	<b>-</b>  ₁	DIN 38407-39
Hydrocarbons (PaHs)	Indeno[1,2,3-cd]pyrene Benzo[j]fluoranthene	193-39-5 205-82-3	_ 1	Solvent extraction
	Benzo[J]fluoranthene Benzo[b]fluoranthene	205-82-3	$\dashv$	GC/MS
	Fluoranthene	206-44-0		
	Benzo[k]fluoranthene	207-08-9		
	Acenaphthylene	208-96-8	$\dashv$	
	теспаришуние	200-70-0		



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Group	Substance (analytes)	CAS No.		Detect	ion Lim	it	Testing method
	Chrysene	218-01-9		(μg/L)			
	Dibenz[a,h]anthracene	53-70-3					
	Benzo[a]anthracene	56-55-3					
	Acenaphthene	83-32-9					
	Phenanthrene	85-01-8					
	Fluorene	86-73-7		1			
	Naphthalene	91-20-3		1			
	Benzene	71-43-2					TGO 11100 1
ANT TO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Xylene	1330-20-7					ISO 11423-1
2N. Volatile Organic	o-cresol	95-48-7		1			Headspace- or Purge- and-Trap-GC/MS
Compound (VOCs)	p-cresol	106-44-5					_
	m-cresol	108-39-4					US EPA 8260
Group	Parameter/substance	CAS No.			(mg/L) vise spec		Testing method
				<b>▲</b> 5/	<b>▲</b> 10/	<b>▲</b> 15/	
	Temperature	-		max.	max.	max.	
				25°C	30°C	35°C	
	TSS	_		5	15	50	
	COD	_		40	80	150	
	Total-N	_		5	10	20	
	pH	_		211	6 - 9	7.5.0	
	Color [m-1] (436nm; 526nm; 620nm)	_		2;1;1	5;3;2	7;5;3	Apply the standard methods that best apply
1A. Conventional	BOD5	_		5	15	30	to the region (ISO, EU,
Parameters (sum	Ammonium-N	_		0.5	1	10	US, China), please refer
parameters)	Total-P	_		0.1	0.5	3	to ZDHC Wastewater
parameters)	AoX	_		0.1	1	5	Guidelines for more
	Oil and Grease	_		0.5	2	10	details on the testing
	Phenol	_		0.001	0.01	0.5	method
	Coliform(bacteria/100ml)	_		ml	100/100 ml	ml	
	Persistent Foam	_			m/ Dissip	ating/	
	ANIONS			Persiste	ent		
	Sulfide	T_		0.01	0.05	0.5	
	Sulfite			0.01	0.03	2	
	Sume	_	Detection	0.2	0.5		
Group	Parameter/substance	CAS No.	Limit (µg/L)/	Limits	(µg/L)		Testing method
			(ppb)	A	P	F	
	Cadmium( Cd )	7440-43-9	0.1	10	50	100	
	Lead( Pb )	7439-92-1	1	10	50	100	
	Mercury (Hg)	7439-97-6	0.05	1	5	10	
	Silver (Ag)	7440-22-4	1	5	50	100	Apply the standard
	Cobalt( Co )	7440-48-4	1	10	20	50	methods that best apply
4D 00 1 1	Nickel (Ni)	7440-02-0	1	50	100	200	to the region (ISO, EU,
1B. Conventional	Antimony(Sb)	7440-36-0	1	10	50	100	US, China), please refer
Parameters - <b>METALS</b>	Arsenic (As)	7440-38-2	1	5	10	50	to ZDHC Wastewater
	Copper(Cu)	7440-50-8	1	250	500	1000	Guidelines for more
	Zinc(Zn)	7440-66-6	1	500	1000	5000	details on the testing method
	Chromium( Cr ), total	7440-47-3	1	50	100	200	meniou
	Chromium VI( CrVI )	18540-29-9	1	1	5	50	
	Cyanide( CN-)	Various (incl. 57-12-5)	20	50	100	200	

A: Aspirational P: Progressive F: Foundational



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Note / Key:

ppm = part(s) per million; ppb = part(s) per billion U. S. EPA = United States Environmental Protection Agency APHA = American Public Health Association

**Remark 1:** The report [(6819)088-0248] was sub-contracted to BVCPS (Guangzhou, China) for Perfluorinated Chemicals, Flame Retardants, ANIONS – Sulfide, ANIONS – Sulfide, Ammonium-N, Total-N & AOX Tests.

Remark 2: The report [(6819)088-0248] was sub-contracted to India (Testtex India Laboratories Pvt. Ltd) for Coliform Test.



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## APPENDIX B

		FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (INDIVIDUAL SAMPLING)						CPSD-AN-000 Issue Date: Version No.: S Business Line			
Sec. 3.				(68	19)0	48-	0248				
atory Sample Number			1	10	1/						
Name Contact Parson	Ī	Md. Zulfi	(689)088-0248 1. Zultiquos Ali Promo No. 01701-202258								
r (Facility Name and Add	(Bose	Zamird	ia, Valu	Ka, Mym	ensingh						
a (Family Name and According and Economy Description		Income	ia, Valuka, Mymensingh								
ca teleratrication		Zero dischurge v	ath campling pla	r)	W-1-11-20-						
io Typii		Grab sample	Razileux	Rah	man_						
e of Sampler		Direct discharge	to environment	(Specify destinat	on: River, Sea,	Stream)	OR Indirect dis	sharge to sewage	treatment plant		
orga rauca of gattegran		08.03	.19								
иу Турт		Dyeing/Printing/			specify)						
		*Note: It would be	selected more tha	m som	T. H.						
Data for wastewater		1.00	pm_	Departure Time	0	DDD	Slosten		,		
of Tarrett Partameters		on: 7.2	X	Temp 25°	2 10	Color	-0109 (5/1)				
Treatment continued											
your Required and Pease	rvation Me	thou	W	-				No		7	
ory with effluent treatment	plant	/		The state of the s							
		~	Incoming water		100						
pile matrix			Wastewater bo		the of decline	noint					
			Wastewator alt	er treatment – wi	and in control of						
pler container number					THE STATE	1 70.170					
Recording time	ID										
7. W. S. S. S. W. C. W. C.	Time	( and									
ans collected, ml.		1000					amata siza racuira	d			
at valuma collected		12-X1000					ample sizu require	Preservation meth	nd		
is (MRSt. Parameters)		Tost required	Total of sample	2	Type of contain	ner		L Lebel Author Hen			
		-	1000 mL								
mustae	Elama	-	1000 mL								
reminated and chlorinated		1	1000 mc						2 -		
Norobenzones, Chloretol muclear aromatic hydroci	upoua hamo	1	1000 mL		Amber Glass, wash with nitric acid, Pre-add 6.5 mL of 2M HCI		Asidify to ¬	Acidify to ~pH 2 with HCt and store sample at 4°C			
1001		1	100 mL	Amber							
nu rophenois & Cresols		1	1000 mL								
CCPs	-	1	500 mL								
ruma retardant		-	1000mL								
195	The second of	-					Fill to full o	ontainer without a th HCl and store s	r gap; acidify to cample at 4°C		
Dodnated selvent / Volationards (VOCs)	me organic	V	10 mL								
rganotin Compounds		M	500 mL	-							
Jy era		/	10 mL					Without adding I			
Stycol			50 mL		Amber Glass, wash with nitric acid, rinse thoroughly with			Store sample at 4°C			
Passicides			1000 mL	Amber							
	-		10 mL		distillated water and dry before use						
Nitrosamine		1	2000 mL				Adjust to	Adjust to pH 6-8 with acetic acid and NaOH			
landed Azodyes		-	500mL					Store sample at 4°C			
From primary aromatic t	aminus	-						t to pH 7 with HCl Store sample at	4°C		
PEOs		1	100mL				Adjus	to pH 6-8 with H0 Store sample at	HOard bns II		
FCs		1	1 mL	-	PE, wash with pesticida grade Acetone,			Without adding acid Store sample at 4°C			
		V	1 mL					store sample at	m to	1	



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	FIELD DA	TA RECOR (INDIV	D ON ZERO DISCHARGE SAMPLE IDUAL SAMPLING)	CPSD-AN-00613-DATA 04 Issue Date:  Version No.: 9 Business Line: Analytical
ERICCI	Test required	Total of sample	Type of container	Preservation method
ts (Conventional Parameters)	(V)	size 9 mL	PE, wash with nitric acid, pre-aidd 6.5mL of 2M.	Acidify to pH2 with HNC3 and store at 40C
Heavy Morals except Cr(VI)	/	95 mL	HNO3  Amber Glass, wash with peakcide grade acetone	Fill to full bottle without air gap nor acid add and store sample at 4°C.  'Check pH initially, If pH <7 or pH >9, adjust pH to 8.0 = 8.5. Otherwise, no pH adjustment is required.
Cyanide		500 mL		Adjust pH 12 with 50% NaOH and store sample at 4°C
Chearcal Oxygen demona (COD)		150 mt.	Amber Glass wash with nitric acid: Pre-add 6.5 mt. of 2M H2SO4	Fill to full bottle without any air gap) acidity to -pH 2 with 112500 State sample at =*C
Total anspend solids (TSS)		2000 mL	Amber Glass,wash with nitric sold,	Without adding acid
5-day Discrenical Oxygen Demand (35)		1000 mL	rinse thoroughly with disullated water and any before use	State sample at 4°C
"fuial dissolved solids (TDS)		2000 mL		Fill to full bottle without any air gap; apolity to
				THE PERSON NAMED OF THE PE
Adsorbablic organically bound opens (AOX) sorvabory remark:		100 mL	Amber Glass, wash with nitric acid, pre-aud 6.5mt. of 2M HNO3.	-pH 2 with HNOS Store sample at 4°C
ogens (AOP) servation / Femank amorks ous 20014 cuideline test parameters of	s, nitrosamine an	perform individu 6 hours with no d TDS are not in	al sampling upon request more than one hour between discrete samples. So the scope of ZDCH Guidhing 2016, they are tested.	Store sample at 4°C
equis (AO2) servasional reantaris sinonis one ZDCH quideline test parameters of the minimum sampling time for 2016 ZI rue printigny aromatic amine, pesticider Recorded by Full name.	s, nitrosamine an	perform individu 6 hours with no d TDS are not in	al sampling upon request more than one hour between discrete samples. So the scope of ZDCH Guidhing 2016, they are tested.	Store sample at 4°C  compling time could be adjusted upon request ad upon request.
egens (ADP) servadory remark.  anerks 015 ZDCH quideline test parameters of the minimum sumpling time for 2016 ZI tree principly aromatic amina, pesticides Recorded by Recorded by Full name.  Interpret from featury  Interpret from that by factory areby confirmed that Bureau Verilias has ntomorts) and without any observation in	us Rah	perform individu 6 hours with no d TDS are not in www.a.a	al sampling upon request more than one hour between discrete samples. So the scope of ZDCH Guiding 2016, they are tested to be some content of the scope of ZDCH Guiding 2016, they are tested to be some content of the scope of ZDCH Guiding 2016, they are tested the scope of ZDCH Guiding 2016, they are tested to scope of ZDCH Guiding 2016, they are teste	Store sample at 4°C  compling time could be edjusted upon request at upon request.  28.03.19



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							CEST-WILLOOD	J.PULLO	
1994 cu	FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE					Issue Date:			
FIE	ELD DATA F	COMPOS	ITE SAMPL	ING)			Version No.:	8	
NAMES OF THE PARTY		(John Oo	and security to				Business Line:	Analytical	
ALTERNATION OF THE PARTY OF THE				0	. 0	0.0			
terat Osta			11	(C)9 / M	88-0	148			
oratory Sample Number			10	011/0		1	-		
ot Name		0.			1701-20	20.2 00			
d Contact Person	Md. Zul			Phone No. (	1701- 20	11158			
	Zamixd	ia, Valu	Ka. M.	mensing					
led (Facility Name and Address)	FTP DW	let wat	28.						
pling Location / Description	Zero discharge v								
ple identification	Composite same	ole						-	
gle Type ie of Sampler	Md. Ras	ibux Ra	hman					atmini atmi	
narge mede	Direct discharge	to environment	(Specify destina	tion: River, Sea,	Stream)	OR Indirect disc	harge to sowage tro	annear braw	
of collection	28.03.	19			1 0	Dicaria /	No foam	1	
uy Type	Dyeing/ Printing			ise specify)	LOCAL	Jacob (	No Loum	)	
	"Hote: If would b	e selected more	than one				6 .		
a Data for wastewater		top Does		-	Danney Time		,		
At Line	7.0	opm-			Departure Time		0.5		
ory with affluent treatment plant		V	es				No		
		Incoming water							
iple; milifor		Wastewater bef	ore treatment						
			er treatment – wi	oter at discharge	point				
		5.V211	The same of the sa			5	Ţ.	8	
d Purametors	11	2	3	4 0 0 0 0 0	5 mlm				
ording time	1.20 pm	2.20 pm		4.20 pm	5.20 pm	-			
	5.1	5.2	5.2	5.7	5-8	5.9			
	28.4	28.6	28,4	28.3	28.5	28.6			
p (°C):	Colorles	colorless	colosters	colosles	Grey	Grey			
4		-5(-10-1)	- pro- 13						
prior contributor number	2.4	1100	11.77	117	11.7	167	1.		
ime collected, int.	167	16X	167	167	16×	101			
	24×1002	Remark Total	volume collected	must be greater	than total of sam	ple sizerequied			
at volume collected stysis, Required and Preservation M		Investigate County							
	Test required	Total of sample		Type of contain	er		Preservation meth	od	
Is (MRSL Parameters)	(v)	size							
	/	1000 mL							
Phihalate	V	1000 IIIL							
	-								
Frominated and chlorinated Flame	V	1000 mL							
Indant Inforobenzenas, Chlorotoluene &									
ynuclear arematic hydrocarbons	/	1000 mL							
Arts)	-	20 11 10	Ambert	Glass, wash with	nitric acid;	Acidify to -pl	12 with HCl and sto	ore sample at 4°C	
Chlorophenols & Cresols	1	100 mL	P	re-add 6.5 mL o	f 2M				
	1	2022		HCi					
CCPs	1	1000 mL							
	1/								
iame retardant	V	500 mL							
	-	4000.01							
NPS .	/	1000mL							
and the second and many a standard to proceed a	1	10-1				Fill to full con	tainer without air ga HCI and store samp	p; acidify to ~pH 2	
Chlorinated solvent / Volatile organic inpounds (VOCs)	V /	10 mL				Will's	nul and store samp	AC DIA C	
	1	500 ml							
Organotin Compounds	/	500 mL							
	1	10 mL							
Dyes	1	10.100							



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				Without adding acid	
Glycol		50 mL		Store sample at 4°C	
*Pesticides		1000 mL	Amber Glass,wash with mitric acid, rinse thoroughly with distillated water and		
Nitrosamine		10 mL	dry before use		
Banded Azotyes	/	2000 mL		Adjust to pH 6-8 with acetic and and NaOH Store sample at 4°C	
Free primary aromatic amines		500mL		The state of the Col	
APEOs	/	100mL		Adjust to pH 7 with HCI and NaOH Store sample at 4°C	
PFC5	/	t mL	PE, wash with pesticide grade Acetone;	Adjust to pH 6-8 with HCI and NaOH Store sample at 4°C Without adding sold	
F FAS and FTOHS		1 mL	grade Acadona,	Store sample at 4°C	
us (Conventional Parameters)	Test required (v)	Total of sample size	Type of container	Preservation method	
Heavy Metals except C((VI)	/	9 mL	PE, wash with nitric acid, pre-add 6.5mL of 2M HNG3	Actify to pH 2 with HIVO3 and store at 4aC Fill to full bottle without air gap nor acid add and store	
CAVI	/	95 mL	Amber Glass, wash with pesticide grade acetone	sample at 4°C  *Check pH initially. If pH <7 or pH >9, adjust pH to y 8.0 - 8.5, Otherwise, no pH adjustment is required.	
Cyanide	V	500 mL		Adjust pi-1.12 with 50% NaOH and store sample at 4°C	
Chemical oxygen demand(COD)	/	150 mL	Amber Glass;wash with nitric acid; Pre-add 6,5 mt, of 2M H2SO4	Fill to full bottle without any sir gap, acidify to ~pH 2 with H2SO4 Store sample at 4°C	
Total suspened solids (TSS)	/	2000 mL			
5-day (Sinchemical Oxygen Demand 305)	/	1000 ml.	Amber Glass,wash with nitric acid, rinse thoroughly with distillated water and dry before use	Without aciding acid Store-sample at 4°C	
*Total dissolved solids (TDS)	1	2000 mL			
Adsorbable organically bound ogens (AOX)	/	100 mL	Amber Glass, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Fill to full, bottle without any air gap; acidify to ~pH 2 with HNO3 Store sample at 4°C	
servation/ Remark;					
emarkst The minimum sampling time for 2016 2 Free primary aromatic amine, pesticide	DCH guidelind i	s 6 hours with no nd TDS are not in	more than one hour between discrete samples. S. I the scope of ZDCH Guidline 2016, they are test	ampling time could be adjusted upon request, ed upon request.	
mment from factory					
Recorded by Wil Mazilu	er Rahn	ian-	Date	28.03.19	
snowledgement by factory creby confirmed that Bureau Veritis har intainer(s) and without any observation	is completed the in leakage. Sam	stated sampling ple(s) collected by	activity at captioned date, time and location. All as y Bureau Veritus is/are stored in portable freezer.	ample(s) is/are collected in desinated $\label{eq:collected} \mbox{fridge that is maintained in } 1\text{-}4^{\circ}\mathbb{C}$	
gnatory of Factory Representative:	Naki &	oullab	1 Roni Date	28.03.19	

**END**