

Test Report No.: **222357681**

Date: 12-04-2023

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Client: Denimach Washing Limited.

Buyer's name: Self Reference

Factory name: Denimach Washing Limited.

Factory Address: Kewa Mouja, Ward # 5, Gorgoria Masterbari, Sreepur, Gazipur, Bangladesh.

Discharge type of waste water: Direct Discharge

Average total industrial wastewater generated: 6000 m³ per day

Disposal Pathways of Sludge: C

Sample Type: Untreated Wastewater, Effluent, Sludge

Sampling Date: 02-04-2023

Testing Period: 02-04-2023 to 12-04-2023

Test Specification: ZDHC Wastewater Guidelines Version 2.1 (November, 2022)

Test result: Please refer to page 02~04

Other Information: /

For and on behalf of
TÜV Rheinland Bangladesh Pvt. Ltd.



12-04-2023

Hasem Ali/
Managing Director

Date

Name/Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed. The laboratory apply decision rule for giving statement of conformity considering measurement of uncertainty at 95% confidence level. This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

Test specification:
Test result summary

M001- Untreated Wastewater

ZDHC MRSL Wastewater Parameters

Table 1A: Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers	Comply
Table 1B: Anti- Microbials & Biocides	Comply
Table 1C: Chlorinated Parafins	Comply
Table 1D: Chlorobenzenes and Chlorotoluenes	Comply
Table 1E: Chlorophenols	Comply
Table 1F: Dimethyl Formamide (DMFa)	Comply
Table 1G: Dyes – Carcinogenic or Equivalent Concern	Comply
Table 1H: Dyes – Disperse (Allergenic)	Comply
Table 1I: Dyes – Navy Blue Colourant	Comply
Table 1J: Flame Retardants	Comply
Table 1K: Glycols / Glycol Ethers	Comply
Table 1L: Halogenated Solvents	Comply
Table 1M: Organotin Compounds	Comply
Table 1N: Other/Miscellaneous Chemicals	Comply
Table 1O: Perfluorinated and Polyfluorinated Chemicals (PFCs)	Comply
Table 1P: Phthalates – including all other esters of ortho-phthalic acid	Comply
Table 1Q: Polycyclic Aromatic Hydrocarbons (PAHs)	Comply
Table 1R: Restricted Aromatic Amines (Cleavable from Azo- colourants)	Comply
Table 1S: UV Absorbers	Comply
Table 1T: Volatile Organic Compounds (VOC)	Comply

Test specification:

Test result summary

M002- Effluent

ZDHC Heavy Metals Wastewater Parameters

Table 2: Heavy Metals

Comply

Test specification:

Test result summary

M002- Effluent

ZDHC Conventional Parameters and Anions

Table 3: pH value	Comply
Table 3: Temperature difference	Comply
Table 3: E.coli	Comply
Table 3: Colour (436nm; 525nm; 620nm)	Comply
Table 3: Persistent Foam	Comply
Table 3: Wastewater Flowrate	Data
Table 3: Ammonium-Nitrogen	Comply
Table 3: AOX	Comply
Table 3: Biochemical Oxygen Demand 5-days concentration (BOD ₅)	Comply
Table 3: Chemical Oxygen Demand (COD)	Comply
Table 3: Dissolved Oxygen (DO)	Data
Table 3: Oil & Grease	Comply
Table 3: Total Phenols / Phenol Index	Comply
Table 3: Total Chlorine	Data
Table 3: Total Dissolved Solids (TDS)	Data
Table 3: Total Nitrogen	Comply
Table 3: Total Phosphorus	Comply
Table 3: Total Suspended Solids (TSS)	Comply
Table 3: Chloride	Data
Table 3: Cyanide, total	Comply
Table 3: Dissolved anion – Sulfate	Data
Table 3: Dissolved anion - Sulfide (S ²⁻)	Comply
Table 3: Dissolved anion - Sulfite	Comply

Test specification:

Test result summary

M003- Sludge

ZDHC Conventional Parameters and Anions

Table 4A: Heavy metals	Data
Table 4B: Leachate Metals	Not Applicable
Table 4A: Cyanide	Data
Table 4A: pH	Comply
Table 4A: % Solids	Data
Table 4A: Fecal Coliform	Data
Table 4A: Paint Filter Test	Data
Table 4A: Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	Comply
Table 4A: Polycyclic Aromatic Hydrocarbons (PAHs)	Comply
Table 4A: Chlorotoluenes	Comply

Sampling point

Water treatment area	
Untreated Wastewater: 24°11'09.9"N 90°25'49.7"E	Sludge: 24°11'09.9"N 90°25'49.7"E
Effluent: 24°11'09.9"N 90°25'49.7"E	
Water treatment (sampling point)	Sludge place (sampling point)
	

Sampling time

Untreated Wastewater: Total Sample Volume : 11L							
	1	2	3	4	5	6	Remark
Sampling Time	11:00 AM	12:00 PM	01:00 PM	02:00 PM	03:00 PM	04:00 PM	

Effluent: Total Sample Volume : 19L							
	1	2	3	4	5	6	Remark
Sampling Time	11:30 AM	12:30 PM	01:30 PM	02:30 PM	03:30 PM	04:30 PM	

Sludge: Total Sample Size: 2 kgs							
	1	2	3	4	5	6	Remark
Sampling Time	11:45 AM	12:45 PM	01:45 PM	02:45 PM	03:45 PM	04:45 PM	

Sampler certificate no.: C74D106819366

Sample storage condition: < 8 °C

Sampling (Photos)

M001- Untreated Wastewater



M002- Effluent



M003- Sludge



Foam in Aeration Tank



Factory Entrance



Factory Map

MATERIAL LIST

Material No.	Material	Sampling
M001	Black liquid	Untreated Wastewater
M002	Transparent liquid	Effluent
M003	Grey sludge	Sludge

TEST RESULT
ZDHC MRSL WASTEWATER PARAMETERS
Table 1A: Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers

Test method: MS-0045536, Based on EN ISO 18857-2 determination by LC-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Nonylphenol ethoxylates (NPEO)	9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	5	Textile and Leather: 5	n.d.
Nonylphenol (NP), mixed isomers	104-40-5 11066-49-2 25154-52-3 84852-15-3	5	Textile and Leather: 5	n.d.
Octylphenol ethoxylates (OPEO)	9002-93-1 9036-19-5 68987-90-6	5	Textile and Leather: 5	n.d.
Octylphenol (OP), mixed isomers	140-66-9 1806-26-4 27193-28-8	5	Textile and Leather: 5	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1B: Anti- Microbials & Biocides

Test method: USEPA 8270E (Solvent extraction, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
o-Phenylphenol (+salts)	90-43-7	100	Textile only: 100	n.d.
Triclosan	3380-34-5	100	Textile and Leather: 100	n.d.
Permethrin	Multiple	500	Textile and Leather: 500	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1C: Chlorinated Parafins

Test method: MS-0045531, Based on SCCPs (ISO 18219-1:2021), MCCPs (ISO 18219-2:2021) determination by GC-MS(NCI)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Medium-chain Chlorinated paraffins (MCCPs) (C14-C17)	85535-85-9	500	Textile and Leather: 500	n.d.
Short-chain Chlorinated paraffin (C10 – C13)	85535-84-8	25	Textile and Leather: 25	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1D: Chlorobenzenes and Chlorotoluenes

Test method: MS-0045535, Based on USEPA 8260D, 8270E, Purge and Trap, Head Space, determination by GC-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
1,2-dichlorobenzene	95-50-1	0.2	Textile and Leather: 0.2	n.d.
Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- Chlorobenzene and mono-, di-, tri-, tetra- and penta- chlorotoluene	Multiple	0.2	Textile and Leather: 0.2	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1E: Chlorophenols

Test method: MS-0045533, Based on USEPA 8270E, BS EN 12673-1999, determination by GC-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
2-chlorophenol	95-57-8	0.5	Textile and Leather: 0.5	n.d.
3-chlorophenol	108-43-0	0.5	Textile and Leather: 0.5	n.d.
4-chlorophenol	106-48-9	0.5	Textile and Leather: 0.5	n.d.
2,3-dichlorophenol	576-24-9	0.5	Textile and Leather: 0.5	n.d.
2,4-dichlorophenol	120-83-2	0.5	Textile and Leather: 0.5	n.d.
2,5-dichlorophenol	583-78-8	0.5	Textile and Leather: 0.5	n.d.
2,6-dichlorophenol	87-65-0	0.5	Textile and Leather: 0.5	n.d.
3,4-dichlorophenol	95-77-2	0.5	Textile and Leather: 0.5	n.d.
3,5-dichlorophenol	591-35-5	0.5	Textile and Leather: 0.5	n.d.
2,3,4-trichlorophenol	15950-66-0	0.5	Textile and Leather: 0.5	n.d.
2,3,5-trichlorophenol	933-78-8	0.5	Textile and Leather: 0.5	n.d.
2,3,6-trichlorophenol	933-75-5	0.5	Textile and Leather: 0.5	n.d.
2,4,5-trichlorophenol	95-95-4	0.5	Textile and Leather: 0.5	n.d.
2,4,6-trichlorophenol	88-06-2	0.5	Textile and Leather: 0.5	n.d.
3,4,5-trichlorophenol	609-19-8	0.5	Textile and Leather: 0.5	n.d.
2,3,5,6-tetrachlorophenol	935-95-5	0.5	Textile and Leather: 0.5	n.d.
2,3,4,6-tetrachlorophenol	58-90-2	0.5	Textile and Leather: 0.5	n.d.
2,3,4,5-tetrachlorophenol	4901-51-3	0.5	Textile and Leather: 0.5	n.d.
Pentachlorophenol (PCP)	87-86-5	0.5	Textile and Leather: 0.5	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1F: Dimethyl Formamide (DMFa)

Test method: EPA 8015, EPA 8270 E, determination by GC-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Dimethyl formamide; N,N-dimethylformamide (DMFa)	68-12-2	1000	Textile only: 1000	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1G: Dyes – Carcinogenic or Equivalent Concern

Test method: MS-0045537, Based on Liquid extraction, determination by LC-MS/MS Based on DIN 54231

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Basic violet 3 with >0.1% of Michler's Ketone	548-62-9	500	Textile and Leather: 500	n.d.
C.I. Acid Red 26	3761-53-3	500	Textile and Leather: 500	n.d.
C.I. Acid Violet 49	1694-09-3	500	Textile and Leather: 500	n.d.
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	500	Textile and Leather: 500	n.d.
C.I. Basic Green 4 (Malachite Green Chloride)	569-64-2	500	Textile and Leather: 500	n.d.
C.I. Basic Green 4 (Malachite Green Oxalate)	2437-29-8	500	Textile and Leather: 500	n.d.
C.I. Basic Green 4 (Malachite Green)	10309-95-2	500	Textile and Leather: 500	n.d.
C.I. Basic Red 9	569-61-9	500	Textile and Leather: 500	n.d.
C.I. Basic Violet 14	632-99-5	500	Textile and Leather: 500	n.d.
C.I. Direct Black 38	1937-37-7	500	Textile and Leather: 500	n.d.
C.I. Direct Blue 6	2602-46-2	500	Textile and Leather: 500	n.d.
C.I. Direct Red 28	573-58-0	500	Textile and Leather: 500	n.d.
C.I. Disperse Blue 1	2475-45-8	500	Textile only: 500	n.d.
C.I. Disperse Blue 3	2475-46-9	500	Textile only: 500	n.d.
Disperse Orange 11	82-28-0	500	Textile only: 500	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1H: Dyes – Disperse (Allergenic)

Test method: MS-0045537, Based on Liquid extraction, determination by LC-MS/MS Based on DIN 54231

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Disperse Blue 102	12222-97-8	50	Textile only: 50	n.d.
Disperse Blue 106	12223-01-7	50	Textile only: 50	n.d.
Disperse Blue 124	61951-51-7	50	Textile only: 50	n.d.
Disperse Blue 26	3860-63-7	50	Textile only: 50	n.d.
Disperse Blue 35	12222-75-2	50	Textile only: 50	n.d.
Disperse Blue 35	56524-77-7	50	Textile only: 50	n.d.
Disperse Blue 7	3179-90-6	50	Textile only: 50	n.d.
Disperse Brown 1	23355-64-8	50	Textile only: 50	n.d.
Disperse Orange 1	2581-69-3	50	Textile only: 50	n.d.
Disperse Orange 3	730-40-5	50	Textile only: 50	n.d.
Disperse Orange 37/59/76	13301-61-6	50	Textile only: 50	n.d.
Disperse Red 1	2872-52-8	50	Textile only: 50	n.d.
Disperse Red 11	2872-48-2	50	Textile only: 50	n.d.
Disperse Red 17	3179-89-3	50	Textile only: 50	n.d.
Disperse Yellow 1	119-15-3	50	Textile only: 50	n.d.
Disperse Yellow 3	2832-40-8	50	Textile only: 50	n.d.
Disperse Yellow 39	12236-29-2	50	Textile only: 50	n.d.
Disperse Yellow 49	54824-37-2	50	Textile only: 50	n.d.
Disperse Yellow 9	6373-73-5	50	Textile only: 50	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

1I: Dyes – Navy Blue Colourant

Test method: MS-0045537, Based on Liquid extraction, determination by LC-MS/MS Based on DIN 54231

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Component 1: C39H23Cl-CrN7O12S 2Na	118685-33-9	500	Textile and Leather: 500	n.d.
Component 2: LC-MS C46H-30CrN10O20S2 3Na	Not Allocated	500	Textile and Leather: 500	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1J: Flame Retardants

Test method: MS-0045539, MS-0045540, MS-0045541, MS-0045542, MS-0045610, Based on USEPA 8270E, EN ISO 22032, USEPA 527 & USEPA 8321B determination by GC-MS & (total boron via ICP-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
2,2-bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	25	Textile: 25	n.d.
Bis(2,3-dibromopropyl) phosphate (BIS)	5412-25-9	25	Textile: 25	n.d.
Decabromodiphenyl ether (DecaBDE)	1163-19-5	25	Textile: 25	n.d.
Hexabromocyclodecane (HBCDD)	3194-55-6	25	Textile: 25	n.d.
Octabromodiphenyl ether (OctaBDE)	32536-52-0	25	Textile: 25	n.d.
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	25	Textile: 25	n.d.
Polybromobiphenyls (PBB)	59536-65-1	25	Textile: 25	n.d.
Tetrabromobisphenol A (TBBPA)	79-94-7	25	Textile: 25	n.d.
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	25	Textile: 25	n.d.
Tris(1-aziridinyl)phosphine oxide (TEPA)	545-55-1	25	Textile: 25	n.d.
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	25	Textile: 25	n.d.
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	25	Textile: 25	n.d.
Tris(2,3,-dibromopropyl)-phosphate (TRIS)	126-72-7	25	Textile: 25	n.d.
Decabromobiphenyl (DecaBB)	13654-09-6	25	Textile: 25	n.d.
Dibromobiphenyls (DiBB)	Multiple	25	Textile: 25	n.d.
Octabromobiphenyls (OctaBB)		25	Textile: 25	n.d.
Dibromopropylether	21850-44-2	25	Textile: 25	n.d.
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	25	Textile: 25	n.d.
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	25	Textile: 25	n.d.
Monobromobiphenyls (MonoBB)	Multiple	25	Textile: 25	n.d.
Monobromodiphenylethers (MonoBDEs)		25	Textile: 25	n.d.
Nonabromobiphenyls (NonaBB)		25	Textile: 25	n.d.
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	25	Textile: 25	n.d.
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	25	Textile: 25	n.d.
Tribromodiphenylethers (TriBDEs)	Multiple	25	Textile: 25	n.d.
Boric acid	10043-35-3 11113-50-1	100 (Limit refers to elemental boron, not the salt)	Textile: 100	n.d.
Diboron trioxide	1303-86-2		Textile: 100	n.d.
Disodium octaborate	12008-41-2		Textile: 100	n.d.
Disodium tetraborate anhydrous	1303-96-4 1330-43-4		Textile: 100	n.d.
Tetraboron disodium heptaoxide, hydrate	12267-73-1		Textile: 100	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting)

Table 1K: Glycols / Glycol Ethers

Test method: MS-0045544, Based on US EPA 8270 E (Liquid Extraction, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
2-ethoxyethanol	110-80-5	50	Textile and Leather: 50	n.d.
2-ethoxyethyl acetate	111-15-9	50	Textile and Leather: 50	n.d.
2-methoxyethanol	109-86-4	50	Textile and Leather: 50	n.d.
2-methoxyethylacetate	110-49-6	50	Textile and Leather: 50	n.d.
2-methoxypropylacetate	70657-70-4	50	Textile and Leather: 50	n.d.
Bis(2-methoxyethyl)-ether	111-96-6	50	Textile and Leather: 50	n.d.
Ethylene glycol dimethyl ether	110-71-4	50	Textile and Leather: 50	n.d.
Triethylene glycol dimethyl ether	112-49-2	50	Textile and Leather: 50	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1L: Halogenated Solvents

Test method: MS-0045545, Based on US EPA 8260 D, Headspace, determination by GC-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
1,2-dichloroethane	107-06-2	1	Textile and Leather: 1	n.d.
Methylene chloride	75-09-2	1	Textile and Leather: 1	n.d.
Tetrachloroethylene	127-18-4	1	Textile and Leather: 1	n.d.
Trichloroethylene	79-01-6	1	Textile and Leather: 1	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1M: Organotin Compounds

Test method: MS-0045534, Based on ISO 17353 (Liquid Extraction, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Dipropyltin compounds (DPT)	Multiple	0.01	Textile and Leather: 0.01	n.d.
Mono-, di- and tri-butyltin derivatives		0.01	Textile and Leather: 0.01	n.d.
Mono-, di- and tri-methyltin derivatives		0.01	Textile and Leather: 0.01	n.d.
Mono-, di- and tri-octyltin derivatives		0.01	Textile and Leather: 0.01	n.d.
Mono-, di- and tri-phenyltin derivatives		0.01	Textile and Leather: 0.01	n.d.
Tetrabutyltin compounds (TeBT)		0.01	Textile and Leather: 0.01	n.d.
Tripropyltin Compounds (TPT)		0.01	Textile and Leather: 0.01	n.d.
Tetraoctyltin compounds (TeOT)		0.01	Textile and Leather: 0.01	n.d.
Tricyclohexyltin (TCyHT)		0.01	Textile and Leather: 0.01	n.d.
Tetraethyltin Compounds (TeET)		0.01	Textile and Leather: 0.01	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1N: Other/Miscellaneous Chemicals

 Test method: MS-0045504, Based on Liquid extraction, determination by LC-MS/MS
 Borate, zinc salt: Determined as total boron and total zinc via ICP-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
AEEA [2-(2-aminoethylamino)ethanol]	111-41-1	500	Textile: 500	n.d.
Bisphenol A	80-05-7	10	Textile: 10	n.d.
Thiourea	62-56-6	50	Textile: 50	n.d.
Quinoline	91-22-5	50	Textile: 50	n.d.
Borate, zinc salt	12767-90-7	100 (Limit refers to boron and zinc individually, not the salt)	Textile: 100	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 10: Perfluorinated and Polyfluorinated Chemicals (PFCs)

Test method: MS-0045538, Based on PFCs: EPA 537:2020, determination by LC-MSMS & FTOH: BS EN 12673- 1999 (Derivatisation with acetic anhydride, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Perfluorooctane sulfonate (PFOS) and related substances, Perfluorooctanoic acid (PFOA)	Multiple	0.01	Textile and Leather: 0.01	n.d.
Perfluorooctanoic acid (PFOA) related substances		1	Textile and Leather: 1	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1P: Phthalates – including all other esters of ortho-phthalic acid

 Test method: MS-0045532, Based on US EPA 8270E, ISO 18856,
 (Dichloromethane extraction, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
1,2-benzenedicarboxylic acid, di-C6-8 branched and liearalkyl esters , C7-rich (DIHP)	71888-89-6 84777-06-0	10	Textile and Leather: 10	n.d.
1,2-benzenedicarboxylic acid, di-C7-11 branched and liearalkyl esters (DHNUP)	68515-42-4 68515-50-4	10	Textile and Leather: 10	n.d.
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	10	Textile and Leather: 10	n.d.
Butyl benzyl phthalate (BBP)	85-68-7	10	Textile and Leather: 10	n.d.
Di-cyclohexyl phthalate (DCHP)	84-61-7	10	Textile and Leather: 10	n.d.
Di-iso-decyl phthalate (DIDP)	26761-40-0	10	Textile and Leather: 10	n.d.
Di-iso-octyl phthalate (DIOP)	27554-26-3	10	Textile and Leather: 10	n.d.
Di-isobutyl phthalate (DIBP)	84-69-5	10	Textile and Leather: 10	n.d.
Di-isononyl phthalate (DINP)	28553-12-0	10	Textile and Leather: 10	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	10	Textile and Leather: 10	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	10	Textile and Leather: 10	n.d.
Di-n-pentylphthalates	131-18-0	10	Textile and Leather: 10	n.d.
Di-n-propyl phthalate (DPRP)	131-16-8	10	Textile and Leather: 10	n.d.
Di(ethylhexyl) phthalate (DEHP)	117-81-7	10	Textile and Leather: 10	n.d.
Dibutyl phthalate (DBP)	84-74-2	10	Textile and Leather: 10	n.d.
Diethyl phthalate (DEP)	84-66-2	10	Textile and Leather: 10	n.d.
Diisopentylphthalates	605-50-5	10	Textile and Leather: 10	n.d.
Dinonyl phthalate (DNP)	84-76-4	10	Textile and Leather: 10	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1Q: Polycyclic Aromatic Hydrocarbons (PAHs)

 Test method: MS-0045517, Based on USEPA 8270E and DIN 38407-39,
 (Solvent extraction, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Acenaphthene	83-32-9	1	Textile and Leather: 1	n.d.
Acenaphthylene	208-96-8	1	Textile and Leather: 1	n.d.
Anthracene	120-12-7	1	Textile and Leather: 1	n.d.
Benzo[a]anthracene	56-55-3	1	Textile and Leather: 1	n.d.
Benzo[a]pyrene (BaP)	50-32-8	1	Textile and Leather: 1	n.d.
Benzo[b]fluoranthene	205-99-2	1	Textile and Leather: 1	n.d.
Benzo[e]pyrene	192-97-2	1	Textile and Leather: 1	n.d.
Benzo[ghi]perylene	191-24-2	1	Textile and Leather: 1	n.d.
Benzo[j]fluoranthene	205-82-3	1	Textile and Leather: 1	n.d.
Benzo[k]fluoranthene	207-08-9	1	Textile and Leather: 1	n.d.
Chrysene	218-01-9	1	Textile and Leather: 1	n.d.
Dibenz[a,h]anthracene	53-70-3	1	Textile and Leather: 1	n.d.
Fluoranthene	206-44-0	1	Textile and Leather: 1	n.d.
Fluorene	86-73-7	1	Textile and Leather: 1	n.d.
Indeno[1,2,3-cd]pyrene	193-39-5	1	Textile and Leather: 1	n.d.
Naphthalene	91-20-3	1	Textile and Leather: 1	n.d.
Phenanthrene	85-01-8	1	Textile and Leather: 1	n.d.
Pyrene	129-00-0	1	Textile and Leather: 1	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1R: Restricted Aromatic Amines (Cleavable from Azo-colourants)

Test method: MS-0045516, Based on 8270E, EN ISO 14362-1 and EN ISO 14362-3, determination by GC-MS

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
2-naphthylamine	91-59-8	0.1	Textile and Leather: 0.1	n.d.
2-Naphthylammoniumacetate	553-00-4	0.1	Textile and Leather: 0.1	n.d.
2,4-xylidine	95-68-1	0.1	Textile and Leather: 0.1	n.d.
2,4,5-trimethylaniline	137-17-7	0.1	Textile and Leather: 0.1	n.d.
2,4,5-trimethylaniline hydrochloride	21436-97-5	0.1	Textile and Leather: 0.1	n.d.
2,6-xylidine	87-62-7	0.1	Textile and Leather: 0.1	n.d.
3,3'-dichlorobenzidine	91-94-1	0.1	Textile and Leather: 0.1	n.d.
3,3-dimethoxybenzidine	119-90-4	0.1	Textile and Leather: 0.1	n.d.
3,3-dimethylbenzidine	119-93-7	0.1	Textile and Leather: 0.1	n.d.
4-aminoazobenzene	60-09-3	0.1	Textile and Leather: 0.1	n.d.
4-aminodiphenyl	92-67-1	0.1	Textile and Leather: 0.1	n.d.
4-chloro-o-toluidine	95-69-2	0.1	Textile and Leather: 0.1	n.d.
4-chloro-o-toluidinium chloride	3165-93-3	0.1	Textile and Leather: 0.1	n.d.
4-chloroaniline	106-47-8	0.1	Textile and Leather: 0.1	n.d.
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	0.1	Textile and Leather: 0.1	n.d.
4-methoxy-m-phenylenediamine	615-05-4	0.1	Textile and Leather: 0.1	n.d.
4-methyl-m-phenylenediamine	95-80-7	0.1	Textile and Leather: 0.1	n.d.
4,4-methylenebis-(2-chloro-aniline)	101-14-4	0.1	Textile and Leather: 0.1	n.d.
4,4-methylenedi-o-toluidine	838-88-0	0.1	Textile and Leather: 0.1	n.d.
4,4-methylenedianiline	101-77-9	0.1	Textile and Leather: 0.1	n.d.
4,4-oxydianiline	101-80-4	0.1	Textile and Leather: 0.1	n.d.
4,4-thiodianiline	139-65-1	0.1	Textile and Leather: 0.1	n.d.
5-nitro-o-toluidine	99-55-8	0.1	Textile and Leather: 0.1	n.d.
6-methoxy-m-toluidine	120-71-8	0.1	Textile and Leather: 0.1	n.d.
Benzidine	92-87-5	0.1	Textile and Leather: 0.1	n.d.
o-aminoazotoluene	97-56-3	0.1	Textile and Leather: 0.1	n.d.
o-anisidine	90-04-0	0.1	Textile and Leather: 0.1	n.d.
o-toluidine	95-53-4	0.1	Textile and Leather: 0.1	n.d.

Abbreviation: µg/ L = microgram per liter

RL = Reporting Limit

n.d. = not detected (< Reporting Limit)

Table 1S: UV Absorbers

 Test method: MS-0045504, Based on USEPA 8270, USEPA 527 and USEPA 8321B
 Dichloromethane Extraction, determination by GC-MS or LC-MS (-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	100	Textile only: 100	n.d.
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	100	Textile only: 100	n.d.
2-benzotriazol-2-yl-4,6-ditertbutylphenol (UV-320)	3846-71-7	100	Textile only: 100	n.d.
2,4-Di-tert-butyl-6-(5-chlorobenzotriazole-2-yl)phenol (UV-327)	3864-99-1	100	Textile only: 100	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

Table 1T: Volatile Organic Compounds (VOC)

 Test method: MS-0045611, Based on ISO 11423-1, US EPA 8270E and BS EN 12673-1999
 (Headspace, determination by GC-MS)

Parameter	CAS no.	Reporting Limit (µg/L)	ZDHC Limit (µg/L)	Result
				M001 (µg/L)
Benzene	71-43-2	1	Textile and Leather: 1	n.d.
m-cresol	108-39-4	1	Textile and Leather: 1	n.d.
o-cresol	95-48-7	1	Textile and Leather: 1	n.d.
p-cresol	106-44-5	1	Textile and Leather: 1	n.d.
Xylene	1330-20-7	1	Textile and Leather: 1	n.d.
Toluene	108-88-3	1	Textile and Leather: 1	n.d.

Abbreviation: µg/ L = microgram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

ZDHC HEAVY METALS WASTEWATER PARAMETERS
Table 2: Heavy Metals

 Test method: MS-0045514, Based on USEPA 200.8, USEPA 6010C, USEPA 6020A, ISO 17294)
 MS-0045515, (Based IS 3025, Part 52), determination by ICP-OES

Parameter	CAS no.	Reporting Limit (mg/L)	ZDHC Limit (mg/L)	Result
				M002 (mg/L)
Antimony	-	0.01	Textile and Leather: 0.1	n.d.
Chromium (VI)	-	0.001	Textile: 0.05 Leather: 0.15	n.d.
Barium	-	0.01	-	n.d.
Selenium	-	0.01	-	n.d.
Tin	-	0.01	-	n.d.
Arsenic	-	0.005	Textile and Leather: 0.05	n.d.
Chromium, total	-	0.05	Textile: 0.2 Leather: 1.5	n.d.
Cobalt	-	0.01	Textile and Leather: 0.05	n.d.
Cadmium	-	0.01	Textile and Leather: 0.1	n.d.
Copper	-	0.25	Textile and Leather: 1	n.d.
Lead	-	0.01	Textile and Leather: 0.1	n.d.
Nickel	-	0.05	Textile and Leather: 0.2	n.d.
Silver	-	0.005	Textile and Leather: 0.1	n.d.
Zinc	-	0.5	Textile and Leather: 5	n.d.
Mercury	-	0.001	Textile and Leather: 0.01	n.d.

Abbreviation: mg/L= milligram per liter
 RL = Reporting Limit
 n.d. = not detected (< Reporting Limit)

ZDHC CONVENTIONAL PARAMETERS AND ANIONS
Table 3: pH value

Test Method: US EPA 150.1

Parameter	Reporting limit	Result
		M002
pH value	-	7.2

Remarks:

Parameter	ZDHC Limit		
	Foundational	Progressive	Aspirational
pH value	Textile and Leather: 6-9		

Table 3: Temperature difference

Test method: USEPA 170.1

Parameter	Reporting Limit (°C)	Result
		M002 (°C)
Temperature - Discharge pipe	-	31.2
Temperature - Receiving water	-	33.2
Temperature difference	-	2.0 (Aspirational)

Abbreviation: °C = Degrees Celsius

Remarks:

Parameter	ZDHC Limit (°C)		
	Foundational	Progressive	Aspirational
Temperature	Δ +15	Δ +10	Δ +5

Table 3: E. Coli

Test Method: SM9222G

Parameter	Reporting Limit (MPN / 100ml)	Result
		M002 (MPN / 100ml)
E. Coli	10	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit		
	Foundational	Progressive	Aspirational
E. Coli	Textile and Leather: 126 MPN/100-ml		

Table 3: Colour

Test Method: ISO 7887– Method B

Parameter	Reporting Limit	Result
		M002
Colour [m ⁻¹] (436nm; 525nm; 620nm)	[m ⁻¹]	1.7; 0.8; 0.4 (Aspirational)

Abbreviation: nm = nanometer

Remarks:

Parameter	ZDHC Limit [m ⁻¹]		
	Foundational	Progressive	Aspirational
Colour	7;5;3	5;3;2	2;1;1

Table 3: Persistent Foam

Test Method: Visual estimation

Parameter	Reporting Limit	Result
		M002
Persistent Foam, cm	-	Absent

Remarks:

Parameter	ZDHC Limit		
	Foundational	Progressive	Aspirational
Persistent Foam	Textile and Leather: No indication of Persistent foam in receiving water		

Table 3: Wastewater Flowrate

Test Method: Calculation from Customer's information

Parameter	Reporting Limit	Result
		M002
Wastewater Flowrate	-	4512 m ³ per day

Remarks:

Parameter	ZDHC Limit (m ³)		
	Foundational	Progressive	Aspirational
Wastewater Flowrate	-		

Table 3: Ammonium-Nitrogen

Test Method: USEPA 350.1

Parameter	Reporting Limit (mg/L)	Result
		M002
Ammonium-Nitrogen	0.5	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Ammonium-Nitrogen	Textile: 10 Leather: 15	Textile: 1 Leather: 10	Textile: 0.5 Leather: 1

Table 3: AOX

Test Method: ISO 9562

Parameter	Reporting Limit (mg/L)	Result
		M002
Adsorbable Organic Halogen	0.1	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Adsorbable Organic Halogen	Textile only: 3	Textile only: 0.5	Textile only: 0.1

Table 3: Biochemical Oxygen Demand 5-days concentration (BOD₅)

Test Method: USEPA 405.1

Parameter	Reporting Limit (mg/L)	Result
		M002
BOD ₅	2	9 (Progressive)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
BOD ₅	Textile: 30 Leather: 50	Textile: 15 Leather: 30	Textile: 8 Leather: 20

Table 3: Chemical Oxygen Demand (COD)

Test Method: USEPA 410.4

Parameter	Reporting Limit (mg/L)	Result
		M002
COD	10	31 (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
COD	Textile: 150 Leather: 250	Textile: 80 Leather: 150	Textile: 40 Leather: 100

Table 3: Dissolved Oxygen (DO)

Test Method: EPA 360.1

Parameter	Reporting Limit (mg/L)	Result
		M002
DO	0.05	6.1

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
DO	Textile and Leather: Sample and report only		

Table 3: Oil & Grease

Test Method: US EPA 1664 B

Parameter	Reporting Limit (mg/L)	Result
		M002
Oil & Grease	0.5	1 (Progressive)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Oil & Grease	Textile: 10 Leather: 20	Textile: 2 Leather: 10	Textile: 0.5 Leather: 5

Table 3: Total Phenols / Phenol Index

Test Method: APHA 5530C

Parameter	Reporting Limit (mg/L)	Result
		M002
Total Phenols	0.001	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Total Phenols	Textile and Leather: 0.5	Textile: 0.01 Leather: 0.3	Textile: 0.001 Leather: 0.1

Table 3: Total Chlorine

Test Method: EPA 330.5

Parameter	Reporting Limit (mg/L)	Result
		M002
Chlorine	0.2	n.d.

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Chlorine	Textile and Leather: Sample and report only		

Table 3: Total Dissolved Solids (TDS)

Test Method: USEPA 160.1

Parameter	Reporting Limit (mg/L)	Result
		M002
TDS	10	465

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
TDS	Textile and Leather: Sample and report only		

Table 3: Total Nitrogen

Test Method: SM 4500N-C

Parameter	Reporting Limit (mg/L)	Result
		M002
Total Nitrogen	1	4.8 (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Total Nitrogen	Textile: 20 Leather: 35	Textile: 10 Leather: 20	Textile: 5 Leather: 10

Table 3: Total Phosphorus

Test Method: GB/T 11893

Parameter	Reporting Limit (mg/L)	Result
		M002
Total Phosphorus	0.1	0.5 (Progressive)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Total Phosphorus	Textile and Leather: 3	Textile: 0.5 Leather: 1	Textile: 0.1 Leather: 0.5

Table 3: Total Suspended Solids (TSS)

Test Method: USEPA 160.2

Parameter	Reporting Limit (mg/L)	Result
		M002
TSS	5	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
TSS	Textile: 50 Leather: 70	Textile: 15 Leather: 50	Textile: 5 Leather: 20

Table 3: Chloride

Test Method: IS 3025 (Part 32)

Parameter	Reporting Limit (mg/L)	Result
		M002
Chloride	0.15	79.84

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Chloride	Textile and Leather: Sample and report only		

Table 3: Cyanide, total

Test Method: APHA 4500 CN

Parameter	Reporting Limit (mg/L)	Result
		M002
Cyanide, total	0.05	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Cyanide, total	Textile only: 0.2	Textile only: 0.1	Textile only: 0.05

Table 3: Dissolved anion - Sulfate

Test Method: IS 3025 (Part 24)

Parameter	Reporting Limit (mg/L)	Result
		M002
Dissolved anion - Sulfate	5	68

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Dissolved anion - Sulfate	Textile and Leather: Sample and report only		

Table 3: Dissolved anion - Sulfide (S²⁻)

 Test Method: APHA 4500 S²⁻ (D)

Parameter	Reporting Limit (mg/L)	Result
		M002
Dissolved anion - Sulfide (S ²⁻)	0.01	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Dissolved anion - Sulfide (S ²⁻)	Textile: 0.5 Leather: 1	Textile: 0.05 Leather: 0.5	Textile: 0.01 Leather: 0.2

Table 3: Dissolved anion - Sulfite

Test Method: EN ISO 10304-3

Parameter	Reporting Limit (mg/L)	Result
		M002
Dissolved anion - Sulfite	0.2	n.d. (Aspirational)

Abbreviation: mg/L = milligram per liter
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameter	ZDHC Limit (mg/L)		
	Foundational	Progressive	Aspirational
Dissolved anion - Sulfite	Textile only: 2	Textile only: 0.5	Textile only: 0.2

ZDHC SLUDGE PARAMETERS

Disposal Pathway of Sludge: C

Table 4A: Heavy Metals

 Test Method: MS-0045514, (Based on USEPA 200.8, USEPA 6010C, USEPA 6020A, ISO 17294)
 MS-0045515, (Based on IS 3025, Part 52), determination by ICP-OES

 Leachate testing: Leachate Extraction: EPA 1311
 Analysis: MS-0045514, MS-0045515, determination by ICP-OES

Parameter	Result	
	M003 (mg/kg- dw)	M003 (mg/L)–Leachate test
Antimony (Sb)	n.d.	NA
Arsenic	n.d.	NA
Barium	30.0	NA
Cadmium	n.d.	NA
Cobalt	n.d.	NA
Copper	41.0	NA
Lead	n.d.	NA
Nickel	18.0	NA
Selenium	n.d.	NA
Silver	n.d.	NA
Total Chromium	50.0	NA
Zinc	85.0	NA
Chromium (VI)	n.d.	NA
Mercury	n.d.	NA

Abbreviation: mg/L = milligram per liter
 mg/kg- dw = milligram per kilogram- dry weight
 NA = Not Applicable
 n.d. = not detected (< Reporting Limit)

Remarks:

Parameters	Lab Reporting Limit		ZDHC Limit			
	Total (mg/kg- dw)	Leachate (mg/L)	Sludge			
			Reporting Limit	Threshold Values	Leachate	Max Total Metals limit
Antimony (Sb) (*)	2	0.01	5	12	15	data
Arsenic	1	0.005	5	10	5	75
Barium	25	0.01	200	700	100	data
Cadmium	1	0.01	1	3	1	85
Cobalt	25	0.01	400	1600	80	data
Copper	10	0.25	50	200	25	4300
Lead	1	0.01	5	10	5	840
Nickel	10	0.05	20	70	20	420
Selenium	1	0.01	5	10	1	100
Silver	10	0.005	50	100	5	data
Total Chromium	10	0.05	50	100	15	3000
Zinc	25	0.5	400	1000	250	7500
Chromium (VI)	1	0.001	20	50	5	50
Mercury	0.10	0.001	1	1	0.2	57

Notes: Leachate testing is required if the Total Metals sampled and tested exceed the Total Metals Threshold Values (mg/kg).

Table 4A: Cyanide

Test Method: Preparation: US EPA 9013A, Analysis: US EPA 9014

Parameter	M003 (mg/kg- dw)		
	Reporting Limit	Result	ZDHC Limit
Cyanide	20	n.d.	Textile only: 100

Abbreviation: mg/kg- dw = milligram per kilogram- dry weight
 n.d. = not detected (< Reporting Limit)

Table 4A: pH value

Test Method: EPA SW 9045D

Parameter	M003 (s.u)	
	Reporting Limit	Result
pH value	-	5.6

Remarks:

Parameter	ZDHC Limit (s.u)
pH value	5-11

Table 4A: % Solids (Total solids)

Test method: EPA 160.3

Parameter	M003
	Result (%)
% Solids (Total solids)	77.8%

Abbreviation: % = g per 100 g of sludge

Table 4A: Fecal Coliform

Test Method: EPA 1681

Parameter	M003 (MPN/g)	
	Reporting Limit	Result
Fecal Coliform	0.18	370

Table 4A: Paint Filter Test

Test method: EPA SW-846 or EPA 9095B

Parameter	Result
	M003
Paint Filter Test	Absence of free liquids

Table 4A: Alkylphenols (APs) and Alkylphenol Ethoxylates (APEOs): Including all isomers

Test Method: MS-0045536, Based on ISO 18857-2 and ISO 18254-1

Parameter	Result
	M003 (mg/kg-dw)
NPs	n.d.
OPs	n.d.
NPEOs	n.d.
OPEOs	n.d.

Abbreviation: RL = Reporting Limit
 mg/kg-dw = milligram per kilogram- dry weight
 n.d. = not detected (< Reporting Limit)

Remarks:

List of APs and APEOs being tested

Parameter	CAS No.	Reporting Limit	ZDHC Limit
		Sludge (mg/kg-dw)	Sludge (mg/kg-dw)
Nonylphenol ethoxylates (NPEO)	9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	0.2	-
Nonylphenol (NP), mixed isomers	104-40-5 11066-49-2 25154-52-3 84852-15-3		
Octylphenol ethoxylates (OPEO)	9002-93-1 9036-19-5 68987-90-6		
Octylphenol (OP), mixed isomers	140-66-9 1806-26-4 27193-28-8		

Table 4A: Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: MS-0045517, Based on USEPA 3541, USEPA 3550C, USEPA 36404 and 8270E

Parameter	Result
	M003 (mg/kg-dw)
Acenaphthene	n.d.
Acenaphthylene	n.d.
Anthracene	n.d.
Benzo[a]anthracene	n.d.
Benzo[a]pyrene (BaP)	n.d.
Benzo[b]fluoranthene	n.d.
Benzo[e]pyrene	n.d.
Benzo[ghi]perylene	n.d.
Benzo[j]fluoranthene	n.d.
Benzo[k]fluoranthene	n.d.
Chrysene	n.d.
Dibenz[a,h]anthracene	n.d.
Fluoranthene	n.d.
Fluorene	n.d.
Indeno[1,2,3-cd]pyrene	n.d.
Naphthalene	n.d.
Phenanthrene	n.d.
Pyrene	n.d.

Abbreviation: mg/kg-dw = milligram per kilogram- dry weight
 n.d. = not detected (< Reporting Limit)

Remarks:

List of PAH being tested

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

Table 4A: Chlorotoluenes

Test Method: MS-0045535, Based on USEPA 3541, USEPA 3550C, USEPA 3640A and 8270E

Parameter	CAS No.	M003 (mg/kg- dw)		
		Reporting Limit	Result	ZDHC Limit
mono-, di-, tri-, tetra- and penta- chlorotoluene	Multiple	0.1	n.d.	-

Abbreviation: mg/kg-dw = milligram per kilogram- Dry weight
 n.d. = not detected (< Reporting Limit)

---END---