

SOFTLINES WASTEWATER TESTING

TEST REPORT LA-231801

Number: MATIAS E ARAUJO

Date of sampling	20/09/2023
Reporting Date	29/09/2023

Audit ID	152859	Audit firm	INTERTEK PORTUGAL
Company name	MATIAS & ARAÚJO S.A.		
Contact person	GABRIELA COSTA		
Type of tax - tax ID no	503938238		
Address	TRAVESSA DA CRUZ DE PEDRA-LIJÓ		
Region state province	BARCELOS		
Town city / village	LOJÓ		
Zip/Post code	4750543		
Country	PORTUGAL		

Type of wastewater discharge	
ETP	No ETP
Pre - treatment	YES
Equalization tank	YES
Type of waste discharge	Indirect discharge
Description of discharge	After going through a homogenization tank where they undergo a chemical process of Ph regulation, the wastewater goes to the municipal Wastewater treatment plant - AGUAS DE BARCELOS.
[If direct discharge] ambient temperature of receiving water body:	N/A
Average total industrial wastewater generated:	450 m3/day

Sludge Disposal	N/A
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Sampler accreditation certification number (ZDHC):		8F1465014750	
Sample description	Simple	Composite	Comments
(1) Untreated wastewater (BT)	N/A	[Colour light blue, composite sample at 9:00; 9:40; 10:50; 12:00; 12:50; 13:20; 14:10] [Sampling location: Latitude 41°33'34"N, Longitude 8°36'22"W]	09:00h- 10,16 ph 3.52ms 31,1 ^e 09:40h- 10,31 ph 4.67ms 33,7 ^e 10:50h- 9,62 ph 903ns 34,0 ^e 12:00h- 10,09 ph 2.73ms 32,4 ^e 12:50h- 10,06 ph 2.92ms 37,0 ^e 13:20h- 10,13 ph 3.17ms 36,0 ^e 14:10h- 10,05 ph 2.93ms 35,8 ^e
(2) Treated wastewater (AT)	N/A	N/A	

(3) Sludge	N/A	N/A	
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Local Legal Data	
Local Legal Standard name [a]	AGUAS DE BARCELOS S.A
Parameters (ZDHC WWG V2) exceeded local regulation:	No exceeded
Discharge permit provided:	Yes

Internal description – Intertek Lab Issuing Final Test Report	
Internal codification number	LA-231801
Reference sample number	MATIAS E ARAUJO
Received on	21/09/2023
Analysis carried out from	21/09/2023 to 29/09/2023
Arrival Temperature at Lab	12.1°C
Comments	Maximum recommended temperature during transportation has been exceeded, so the results may not reflect the initial state of the sample (T), the applicant has approved the testing performance.
Reporting date	29/09/2023

Internal description – Intertek Subcontracted Lab	
Internal codification number	N/A
Reference sample number	N/A
Received on	N/A
Analysis carried out from	N/A
Arrival Temperature at Lab	N/A
Comments	N/A
Reporting date	N/A

Summary of test results		
Wastewater Test items	Sample 1 (Before treatment)	Sample 2 (After treatment)
Global effluent parameters ZDHC	N/A	N/A
Heavy metals	D	N/A
Alkylphenols (APs) & Alkylphenol ethoxylates (APEOs)	ND	
Chlorobenzenes and Chlorotoluenes	ND	
Chlorophenols	ND	
Azo dyes	ND	
Carcinogenic dyes	ND	
Disperse dyes	ND	
Flame retardants	ND	
Glycols	ND	
Chlorinated solvents	ND	
Organotin compounds	ND	
Phthalates	ND	
Perfluorinated chemicals (PFCs)	ND	
Polycyclic aromatic hydrocarbons (PAHs)	ND	
Volatile organic compounds (VOCs)	ND	
Anti - Microbials & Biocides	ND	
Chlorinated parafins	ND	
N,N-di-methylformamide (DMFa)	ND	
Dyes-Navy Blue Colourant	ND	
Other/Miscellaneous Chemicals (^)	ND	
UV Absorbers	ND	

Remark (Indicated in each parameter)

ND = Not detected

D = Detected

* = See remark

@ = Maximum holding time exceeded,
red flag in the ZDHC Gateway – Wastewater Module.
Probable error in results due to the holding time.

= Non accredited parameter

[a] = The local legal standard name and legal standard no. is referenced to discharge permit (or contractual agree by CETP) that provided by company.

N/A = Not applicable

- = Did not perform

(f)= parameter tested in field

(T)= handling temperature exceeded

(S) = The analysis was subcontracted to Intertek [xxxxx] for testing.

(^) = Borate, zinc salt would report ND when total boron or total zinc less than 100 µg/L

Sludge Test items	Sample
Sludge Parameters – Step 1 - Metals	N/A
Sludge Parameters – Step 1 - Anions	N/A
Sludge Parameters - Step 1 – Conventional	N/A
Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	N/A
Sludge Parameters - Step 1 - MRSL - Polycyclic Aromatic Hydrocarbons (PAHs)	N/A
Sludge Parameters - Step 1 - MRSL – Chlorotoluenes	N/A
Sludge Parameters - Step 2 – Metals	N/A

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(^) = Report total boron & total zinc individually, and no conversion from boron / zir

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For and on behalf of
Intertek Ibérica Spain S.L.U.



Miriam Laca , Environmental Manager

Test results

1. Global effluent parameters

Parameters	Test method	Limit			Legal Requirement	Lab Reporting Limit	Result Sample
		Foundational	Progressive	Aspirational			Before Treatment
Temperature	EPA 170.1	35°C	30°C	25°C	N/A	N/A	N/A
Temperature difference [°C]	EPA 170.1	Δ+15°C	Δ+10°C	Δ+5°C	N/A	N/A	N/A
TSS	EPA 160.2	50 mg/L	15 mg/L	5 mg/L	N/A	4 mg/L	N/A
COD	ISO 6060	150 mg/L	80 mg/L	40 mg/L	N/A	30 mg/L	N/A
Total-N	ISO11905-01/DIN 38405-9	20 mg/L	10 mg/L	5 mg/L	N/A	0.5 mg/L	N/A
pH	EPA 150.1	6-9	6-9	6-9	N/A	3-13	N/A
Colour [m-1]	ISO 7887-B	7;5;3	5;3;2	2;1;1	N/A	N/A	N/A
BOD ₅	EPA 5210	30 mg/L	15 mg/L	8 mg/L	N/A	3 mg/L	N/A
Ammonium-N	EPA 350.1/ ISO 7150-1	10 mg/L	1 mg/L	0.5 mg/L	N/A	0.5 mg/L	N/A
Total-P	EPA200.8	3 mg/L	0.5 mg/L	0.1 mg/L	N/A	0.05 mg/L	N/A
AOX	ISO 9562	3 mg/L	0.5 mg/L	0.1 mg/L	N/A	0.05 mg/L	N/A
Oil and grease	EPA1664-B	10 mg/L	2 mg/L	0.5 mg/L	N/A	5 mg/L	N/A
Phenol	SM5530	0.5 mg/L	0.01 mg/L	0.001 mg/L	N/A	0.1 mg/L	N/A
E. Coli	SM 9221B / SM 9221F&G	126 [MPN/100-ml]	126 [MPN/100-ml]	126 [MPN/100-ml]	N/A	126 [MPN/100-ml]	N/A
Foam	/	Not visible	Not visible	Not visible	N/A	N/A	N/A
Cyanide	ISO 6703/ EPA 335.2	0.2 mg/L	0.1 mg/L	0.05 mg/L	N/A	0.01 mg/L	N/A
Sulfide	SM 4500-S2-D	0.5 mg/L	0.05 mg/L	0.01 mg/L	N/A	0.1 mg/L	N/A
Sulphite	ISO 10304-3	2 mg/L	0.5 mg/L	0.2 mg/L	N/A	0.2 mg/L	N/A
Dissolved Oxygen (DO)	ISO 5814	Sample and report only	Sample and report only	Sample and report only	N/A	1 mg/L	N/A
Total Chlorine	USEPA 330.5	Sample and report only	Sample and report only	Sample and report only	N/A	0.05 mg/L	N/A

Total Dissolved Solids (TDS)	SM 2540-C / USEPA 160.1	Sample and report only	Sample and report only	Sample and report only	N/A	10 mg/L	N/A
Chloride	SM 4110-C	Sample and report only	Sample and report only	Sample and report only	N/A	1 mg/L	N/A
Sulfate	SM 4110-C	Sample and report only	Sample and report only	Sample and report only	N/A	5 mg/L	N/A
Wastewater Flowrate	/				N/A	N/A	N/A

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2. Heavy metals

With reference to US EPA 200.8, US EPA 3005A, US EPA 6020a, US EPA 3015A and by Inductively Coupled Argon Plasma-Mass Spectrometry (ICP-MS) analysis. Chromium VI: With reference to EPA 7196A and ISO 18412, Colourimetric UV/VIS.

Heavy metals	CAS no.	Limit			Lab Reporting limit (mg/L)	Legal Requirement	Result Sample 2 (Before treatment)
		Foundational	Progressive	Aspirational			
Arsenic (As)	Various	0.05 mg/L	0.01 mg/L	0.005 mg/L	0.0005	1	0.0185
Cadmium (Cd)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0002	0.2	ND
Mercury (Hg)	Various	0.01 mg/L	0.005 mg/L	0.001 mg/L	0.0003	0.05	ND
Lead (Pb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0005	1	0.0008
Antimony (Sb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0005	N/A	N/A
Cobalt (Co)	Various	0.05 mg/L	0.02 mg/L	0.01 mg/L	0.001	N/A	N/A
Nickel (Ni)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.001	N/A	N/A
Silver (Ag)	Various	0.1 mg/L	0.05 mg/L	0.005 mg/L	0.005	N/A	N/A
Copper (Cu)	Various	1 mg/L	0.5 mg/L	0.25 mg/L	0.001	N/A	N/A
Zinc (Zn)	Various	5.0 mg/L	1.0 mg/L	0.5 mg/L	0.01	N/A	N/A
Total Chromium (Cr)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.001	N/A	N/A
Chromium VI (Cr VI)	Various	0.05 mg/L	0.005 mg/L	0.001 mg/L	0.05	0.1	ND
Barium	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	N/A	N/A
Selenium	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.002	N/A	N/A
Tin	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	N/A	N/A

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3. Alkylphenols (APs) & AlkylphenolEthoxylates (APEOs)

NP/OP: With reference to ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 with GC-MS or LC-MS-MS analysis.

OPEO/NPEO (n>2): With reference to ASTM D7742 or ISO 18857-2

Alkylphenols (APs) & Alkylphenoethoxylates (APEOs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Octylphenol (OP), mixed isomers	140-66-9/ 1806-26-4/ 27193-28-8	0.005	0.005	ND	ppm
Nonylphenol (NP), mixed isomers	104-40-5/ 11066-49-2/ 25154-52-3/ 84852-15-3	0.005	0.005	ND	ppm
Octylphenoethoxylates (OPEOs)	9002-93-1; 9036-19-5; 68987-90-6	0.005	0.005	ND	ppm
Nonylphenoethoxylates (NPEOs)	9016-45-9/26027-38-3/ 37205-87-1/ 68412-54-4/127087-87-0	0.005	0.005	ND	ppm

4. Chlorobenzenes & Chlorotoluenes

With reference to USEPA 8260D, USEPA 8270E, Purge and Trap, Head Space, Dichloromethane extraction followed by GC-MS analysis.

Chlorobenzenes & Chlorotoluenes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Chlorobenzene	108-90-7	0.0002	0.0002	ND	ppm
1,2-Dichlorobenzene	95-50-1	0.0002	0.0002	ND	ppm
1,3-Dichlorobenzene	541-73-1	0.0002	0.0002	ND	ppm
1,4-Dichlorobenzene	106-46-7	0.0002	0.0002	ND	ppm
1,2,3-Trichlorobenzene	87-61-6	0.0002	0.0002	ND	ppm
1,2,4-Trichlorobenzene	120-82-1	0.0002	0.0002	ND	ppm
1,3,5-Trichlorobenzene	108-70-3	0.0002	0.0002	ND	ppm
1,2,3,4-Tetrachlorobenzene	634-66-2	0.0002	0.0002	ND	ppm
1,2,3,5-Tetrachlorobenzene	634-90-2	0.0002	0.0002	ND	ppm
1,2,4,5-Tetrachlorobenzene	95-94-3	0.0002	0.0002	ND	ppm
Pentachlorobenzene	608-93-5	0.0002	0.0002	ND	ppm
Hexachlorobenzene	118-74-1	0.0002	0.0002	ND	ppm
2-Chlorotoluene	95-49-8	0.0002	0.0002	ND	ppm
3-Chlorotoluene	108-41-8	0.0002	0.0002	ND	ppm
4-Chlorotoluene	106-43-4	0.0002	0.0002	ND	ppm
2,3-Dichlorotoluene	32768-54-0	0.0002	0.0002	ND	ppm

2,4-Dichlorotoluene	95-73-8	0.0002	0.0002	ND	ppm
2,5-Dichlorotoluene	19398-61-9	0.0002	0.0002	ND	ppm
2,6-Dichlorotoluene	118-69-4	0.0002	0.0002	ND	ppm
3,4-Dichlorotoluene	95-75-0	0.0002	0.0002	ND	ppm
3,5-Dichlorotoluene	25186-47-4	0.0002	0.0002	ND	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.0002	0.0002	ND	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.0002	0.0002	ND	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.0002	0.0002	ND	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.0002	0.0002	ND	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.0002	0.0002	ND	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.0002	0.0002	ND	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.0002	0.0002	ND	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.0002	0.0002	ND	ppm
Pentachlorotoluene	877-11-2	0.0002	0.0002	ND	ppm

5. Chlorophenols

With reference to US EPA 8270E solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS;

Chlorophenols	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
2-Chlorophenol	95-57-8	0.0005	0.0005	ND	ppm
3-Chlorophenol	108-43-0	0.0005	0.0005	ND	ppm
4-Chlorophenol	106-48-9	0.0005	0.0005	ND	ppm
2,3-Dichlorophenol	576-24-9	0.0005	0.0005	ND	ppm
2,4-Dichlorophenol	120-83-2	0.0005	0.0005	ND	ppm
2,5-Dichlorophenol	583-78-8	0.0005	0.0005	ND	ppm
2,6-Dichlorophenol	87-65-0	0.0005	0.0005	ND	ppm
3,4-Dichlorophenol	95-77-2	0.0005	0.0005	ND	ppm
3,5-Dichlorophenol	591-35-5	0.0005	0.0005	ND	ppm
2,3,4-Trichlorophenol	15950-66-0	0.0005	0.0005	ND	ppm
2,3,5-Trichlorophenol	933-78-8	0.0005	0.0005	ND	ppm
2,3,6-Trichlorophenol	933-75-5	0.0005	0.0005	ND	ppm
2,4,5-Trichlorophenol	95-95-4	0.0005	0.0005	ND	ppm
2,4,6-Trichlorophenol	88-06-2	0.0005	0.0005	ND	ppm
3,4,5-Trichlorophenol	609-19-8	0.0005	0.0005	ND	ppm

Number: MATIAS E ARAUJO

2,3,4,5-Tetrachlorophenol	4901-51-3	0.0005	0.0005	ND	ppm
2,3,4,6-Tetrachlorophenol	58-90-2	0.0005	0.0005	ND	ppm
2,3,5,6-Tetrachlorophenol	935-95-5	0.0005	0.0005	ND	ppm
Pentachlorophenol (PCP)	87-86-5	0.0005	0.0005	ND	ppm

6. Azo dyes

With reference to ISO14362-1/3 by Liquid Chromatography-tandem Mass Spectrometry (LC-MS-MS) analysis.

Azo Dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	0.0001	0.0001	ND	ppm
4,4'-Diaminodiphenylmethane	101-77-9	0.0001	0.0001	ND	ppm
4,4'-Oxydianiline	101-80-4	0.0001	0.0001	ND	ppm
4-Chloroaniline	106-47-8	0.0001	0.0001	ND	ppm
3,3'-Dimethoxybenzidine	119-90-4	0.0001	0.0001	ND	ppm
3,3'-Dimethylbenzidine	119-93-7	0.0001	0.0001	ND	ppm
p-Cresidine	120-71-8	0.0001	0.0001	ND	ppm
2,4,5-Trimethylaniline	137-17-7	0.0001	0.0001	ND	ppm
4,4'-Thiodianiline	139-65-1	0.0001	0.0001	ND	ppm
4-Aminoazobenzene	60-09-3	0.0001	0.0001	ND	ppm
4-methoxy-m-phenylenediamine	615-05-4	0.0001	0.0001	ND	ppm
3,3'-Dimethyl-4,4'-diaminodiphenyl	838-88-0	0.0001	0.0001	ND	ppm
2,6-Xylidine	87-62-7	0.0001	0.0001	ND	ppm
o-Anisidine	90-04-0	0.0001	0.0001	ND	ppm
2-Naphthylamine	91-59-8	0.0001	0.0001	ND	ppm
3,3'-Dichlorobenzidine	91-94-1	0.0001	0.0001	ND	ppm
4-Aminobiphenyl	92-67-1	0.0001	0.0001	ND	ppm
Benzidine	92-87-5	0.0001	0.0001	ND	ppm
o-Toluidine	95-53-4	0.0001	0.0001	ND	ppm
2,4-Xylidine	95-68-1	0.0001	0.0001	ND	ppm
4-Chloro-o-toluidine	95-69-2	0.0001	0.0001	ND	ppm
4-Methyl-m-phenylenediamine	95-80-7	0.0001	0.0001	ND	ppm
o-Aminoazotoluene	97-56-3	0.0001	0.0001	ND	ppm
5-Nitro-o-toluidine	99-55-8	0.0001	0.0001	ND	ppm
2-Naphthylammoniumacetate	553-00-4	0.0001	0.0001	ND	ppm
2,4,5-trimethylaniline hydrochloride	21436-97-5	0.0001	0.0001	ND	ppm
4-chloro-o-toluidinium chloride	3165-93-3	0.0001	0.0001	ND	ppm
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	0.0001	0.0001	ND	ppm

7. Carcinogenic dyes

With reference to DIN 54231:2022-09 by Liquid Chromatography-tandem Mass Spectrometry (LC-MS-MS) analysis.

Carcinogenic dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
C.I. Direct Black 38	1937-37-7	0.5	0.5	ND	ppm
C.I. Direct Blue 6	2602-46-2	0.5	0.5	ND	ppm
C.I. Acid Red 26	3761-53-3	0.5	0.5	ND	ppm
C.I. Basic Red 9	569-61-9	0.5	0.5	ND	ppm
C.I. Direct Red 28	573-58-0	0.5	0.5	ND	ppm
C.I. Basic Violet 14	632-99-5	0.5	0.5	ND	ppm
C.I. Disperse Blue 1	2475-45-8	0.5	0.5	ND	ppm
C.I. Disperse Blue 3	2475-46-9	0.5	0.5	ND	ppm
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	0.5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green chloride)	569-64-2	0.5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	0.5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green)	10309-95-2	0.5	0.5	ND	ppm
Disperse Orange 11	82-28-0	0.5	0.5	ND	ppm
Basic violet 3 with >0.1% of Michler's Ketoneb	548-62-9	0.5	0.5	ND	ppm
C.I. Acid Violet 49	1694-09-3	0.5	0.5	ND	ppm

8. Disperse dyes

With reference to DIN 54231:2022-09 by Liquid Chromatography-tandem Mass Spectrometry (LC-MS-MS) analysis.

Disperse dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Disperse Yellow 1	119-15-3	0.05	0.05	ND	ppm
Disperse Blue 102	12222-97-8	0.05	0.05	ND	ppm
Disperse Blue 106	12223-01-7	0.05	0.05	ND	ppm
Disperse Yellow 39	12236-29-2	0.05	0.05	ND	ppm
Disperse Orange 37/59/76	13301-61-6	0.05	0.05	ND	ppm
Disperse Brown 1	23355-64-8	0.05	0.05	ND	ppm
Disperse Orange 1	2581-69-3	0.05	0.05	ND	ppm
Disperse Yellow 3	2832-40-8	0.05	0.05	ND	ppm
Disperse Red 11	2872-48-2	0.05	0.05	ND	ppm

Disperse Red 1	2872-52-8	0.05	0.05	ND	ppm
Disperse Red 17	3179-89-3	0.05	0.05	ND	ppm
Disperse Blue 7	3179-90-6	0.05	0.05	ND	ppm
Disperse Blue 26	3860-63-7	0.05	0.05	ND	ppm
Disperse Yellow 49	54824-37-2	0.05	0.05	ND	ppm
Disperse Blue 35	12222-75-2	0.05	0.05	ND	ppm
Disperse Blue 124	61951-51-7	0.05	0.05	ND	ppm
Disperse Yellow 9	6373-73-5	0.05	0.05	ND	ppm
Disperse Orange 3	730-40-5	0.05	0.05	ND	ppm
Disperse Blue 35	56524-77-7	0.05	0.05	ND	ppm

9. Flame retardants

Other flame retardant substances: With reference to USEPA 8270E, ISO 22032, USEPA 527 and USEPA 8321B, Dichloromethane extraction GC-MS or LC-MS-MS analysis.

Borate salt: determined as total boron via ICP analysis (ICP/MS).

Flame retardants	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	0.025	0.025	ND	ppm
Decabromodiphenyl ether (DecaBDE)	1163-19-5	0.025	0.025	ND	ppm
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	0.025	0.025	ND	ppm
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	0.025	0.025	ND	ppm
Octabromodiphenyl ether (OctaBDE)	32536-52-0	0.025	0.025	ND	ppm
Bis(2,3-dibromopropyl) phosphate	5412-25-9	0.025	0.025	ND	ppm
Tris(1-aziridinyl)phosphine oxide (TEPA)	545-55-1	0.025	0.025	ND	ppm
Polybromobiphenyls (PBBs)	59536-65-1	0.025	0.025	ND	ppm
Tetrabromobisphenol A (TBBPA)	79-94-7	0.025	0.025	ND	ppm
Hexabromocyclododecane (HBCDD)	3194-55-6	0.025	0.025	ND	ppm
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	0.025	0.025	ND	ppm
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	0.025	0.025	ND	ppm
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	0.025	0.025	ND	ppm
Decabromobiphenyl (DecaBB)	13654-09-6	0.025	0.025	ND	ppm
Dibromobiphenyls (DiBB)	Various	0.025	0.025	ND	ppm
Octabromobiphenyls (OctaBB)	Various	0.025	0.025	ND	ppm
Dibromopropylether	21850-44-2	0.025	0.025	ND	ppm
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	0.025	0.025	ND	ppm
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	0.025	0.025	ND	ppm
Monobromobiphenyls (MonoBB)	Various	0.025	0.025	ND	ppm
Monobromodiphenylethers (MonoBDEs)	Various	0.025	0.025	ND	ppm
Nonabromobiphenyls (NonaBB)	Various	0.025	0.025	ND	ppm
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	0.025	0.025	ND	ppm
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	0.025	0.025	ND	ppm
Tribromodiphenylethers (TriBDEs)	Various	0.025	0.025	ND	ppm
Boric acid**	10043-35-3 / 11113-50-1	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Diboron trioxide**	1303-86-2	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Disodium octaborate**	12008-41-2	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm

Number: MATIAS E ARAUJO

Disodium tetraborate anhydrous**	1303-96-4 / 1330-43-4	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Tetraboron disodium heptaoxide, hydrate**	12267-73-1	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm

** Report total boron directly, no conversion from Boron salt.

10. Glycols

With reference to US EPA 8270E, Liquid extraction, LC-MS or GC-MS analysis.

Glycols	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Bis(2-methoxyethyl)-ether	111-96-6	0.05	0.05	ND	ppm
2-ethoxyethanol	110-80-5	0.05	0.05	ND	ppm
2-ethoxyethyl acetate	111-15-9	0.05	0.05	ND	ppm
Ethylene glycol dimethyl ether	110-71-4	0.05	0.05	ND	ppm
2-methoxyethanol	109-86-4	0.05	0.05	ND	ppm
2-methoxyethylacetate	110-49-6	0.05	0.05	ND	ppm
2-methoxypropylacetate	70657-70-4	0.05	0.05	ND	ppm
Triethylene glycol dimethyl ether	112-49-2	0.05	0.05	ND	ppm

11. Chlorinated solvents

With reference to US EPA 8260B, and by Headspace Gas Chromatography Mass Spectrometric (HS-GC/MS) analysis.

Chlorinated solvents	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
1,2-Dichloroethane	107-06-2	0.001	0.001	ND	ppm
Methylene chloride	75-09-2	0.001	0.001	ND	ppm
Trichloroethene	79-01-6	0.001	0.001	ND	ppm
Tetrachloroethene	127-18-4	0.001	0.001	ND	ppm

12. Organotin compoundsWith reference to ISO 17353, Derivatisation with NaB (C₂H₅)₄, with GC-MS analysis.

Organotin compounds	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Mono-, di-and tri-methyltin derivatives	Various	0.00001	0.00001	ND	ppm
Mono-, di-and tri-butyltin derivatives	Various	0.00001	0.00001	ND	ppm
Mono-, di-and tri-phenyltin derivatives	Various	0.00001	0.00001	ND	ppm
Mono-, di-and tri-octyltin derivatives	Various	0.00001	0.00001	ND	ppm

Number: MATIAS E ARAUJO

Tricyclohexyltin (TCyHT)	Various	0.00001	0.00001	ND	ppm
Dipropyltin compounds (DPT)	Various	0.00001	0.00001	ND	ppm
Tetrabutyltin compounds (TeBT)	Various	0.00001	0.00001	ND	ppm
Tripropyltin Compounds (TPT)	Various	0.00001	0.00001	ND	ppm
Tetraoctyltin compounds (TeOT)	Various	0.00001	0.00001	ND	ppm
Tetraethyltin Compounds (TeET)	Various	0.00001	0.00001	ND	ppm

13. Phthalates

With reference to USEPA 8270E, ISO 18856, Dichloromethane extraction GC-MS analysis.

Phthalates	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	0.01	0.01	ND	ppm
Dimethoxyethyl phthalate (DMEP)	117-82-8	0.01	0.01	ND	ppm
Di-n-octyl phthalate (DNOP)	117-84-0	0.01	0.01	ND	ppm
Di-iso-decyl phthalate (DIDP)	26761-40-0/68515-49-1	0.01	0.01	ND	ppm
Di-iso-nonyl phthalate (DINP)	28553-12-0/68515-48-0	0.01	0.01	ND	ppm
Di-n-hexyl phthalate (DnHP)	84-75-3	0.01	0.01	ND	ppm
Dibutyl phthalate (DBP)	84-74-2	0.01	0.01	ND	ppm
Butyl benzyl phthalate (BBP)	85-68-7	0.01	0.01	ND	ppm
Diethyl phthalate (DEP)	84-66-2	0.01	0.01	ND	ppm
Di-n-propyl phthalate (DPRP)	131-16-8	0.01	0.01	ND	ppm
Di-iso-butyl phthalate (DIBP)	84-69-5	0.01	0.01	ND	ppm
Di-cyclohexyl phthalate (DCHP)	84-61-7	0.01	0.01	ND	ppm
Di-iso-octyl phthalate (DIOP)	27554-26-3	0.01	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	0.01	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C6-11-branched alkyl esters, C7-rich (DIHP)	71888-89-6	0.01	0.01	ND	ppm
Di-n-pentylphthalates	131-18-0	0.01	0.01	ND	ppm
Diisopentylphthalates	605-50-5	0.01	0.01	ND	ppm
Dinonyl phthalate (DNP)	84-76-4	0.01	0.01	ND	ppm

14. Perfluorinated chemicals (PFCs)

PFCs: With reference to EPA 537:2020 with LC-MS/MS

FTOH: With reference to EPA 8270, GC-MS, Derivatization with acetic anhydride followed by GC-MS

Perfluorinated chemicals (PFCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Perfluoro-octanoic acid (PFOA)	335-67-1	0.00001	0.00001	ND	ppm
Perfluoro-octane-sulfonic acid (L-PFOS)	1763-23-1	0.00001	0.00001	ND	ppm
Perfluoro-octane-sulfon-amide (PFOSA)	754-91-6	0.00001	0.00001	ND	ppm
N-Methyl-perfluoro-octane-sulfon-amide (N-Me-FOSA)	31506-32-8	0.00001	0.00001	ND	ppm
N-Ethyl-perfluoro-octane-sulfon-amide (N-Et-FOSA)	4151-50-2	0.00001	0.00001	ND	ppm
N-Methyl-perfluoro-octane-sulfon-amido-ethanol (N-Me-FOSE alcohol)	24448-09-7	0.00001	0.00001	ND	ppm
N-Ethyl-Perfluoro-octane-sulfon-amido-ethanol (N-Et-FOSE alcohol)	1691-99-2	0.00001	0.00001	ND	ppm
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	0.001	0.001	ND	ppm
2-Perfluorooctylethanol (8:2 FTOH)	678-39-7	0.001	0.001	ND	ppm
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	0.001	0.001	ND	ppm
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	0.001	0.001	ND	ppm
Methyl perfluorooctanoate (Me-PFOA)	376-27-2	0.001	0.001	ND	ppm
Ethyl perfluorooctanoate Et-PFOA	3108-24-5	0.001	0.001	ND	ppm

15. Polycyclic aromatic hydrocarbons (PAHs)

With reference to US EPA 8270E, solvent extraction GC-MS analysis.

Polycyclic aromatic hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Benzo(a)pyrene (BaP)	50-32-8	0.001	0.001	ND	ppm
Anthracene	120-12-7	0.001	0.001	ND	ppm
Pyrene	129-00-0	0.001	0.001	ND	ppm
Benzo(ghi)perylene	191-24-2	0.001	0.001	ND	ppm
Benzo(e)pyrene	192-97-2	0.001	0.001	ND	ppm
Indeno (1,2,3-cd)pyrene	193-39-5	0.001	0.001	ND	ppm
Benzo(j)fluoranthene	205-82-3	0.001	0.001	ND	ppm
Benzo(b)fluoranthene	205-99-2	0.001	0.001	ND	ppm
Fluoranthene	206-44-0	0.001	0.001	ND	ppm
Benzo(k)fluoranthene	207-08-09	0.001	0.001	ND	ppm

Acenaphthylene	208-96-8	0.001	0.001	ND	ppm
Chrysene	218-01-9	0.001	0.001	ND	ppm
Dibenz(a,h)anthracene	53-70-3	0.001	0.001	ND	ppm
Benzo(a)anthracene	56-55-3	0.001	0.001	ND	ppm
Acenaphthene	83-32-9	0.001	0.001	ND	ppm
Phenanthrene	85-01-8	0.001	0.001	ND	ppm
Fluorene	86-73-7	0.001	0.001	ND	ppm
Naphthalene	91-20-3	0.001	0.001	ND	ppm

16. Volatile organic compounds (VOCs)

With reference to USEPA 8260D Static headspace for determination of VOC in wastewater. With reference EPA 8270 by GC-MS analysis.

Volatile organic compounds (VOCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Benzene	71-43-2	0.001	0.001	ND	ppm
Xylene	1330-20-7	0.001	0.001	ND	ppm
o-cresol	95-48-7	0.001	0.001	ND	ppm
p-cresol	106-44-5	0.001	0.001	ND	ppm
m-cresol	108-39-4	0.001	0.001	ND	ppm
Toluene*	108-88-3	0.001	0.001	ND	ppm

*Report for mock leather only

17. Anti - Microbials & Biocides

OPP, Triclosan: With reference to USEPA 8270E Solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS analysis;
Permethrin: With reference to USEPA 8270E Solvent extraction, followed by GC-MS analysis; With reference to ISO 14154:2005 without derivatization and determination by LC-MS or LC-MS-MS analysis.

Anti - Microbials & Biocides	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
o-Phenylphenol (+salts)	90-43-7	0.1	0.1	ND	ppm
Triclosan	3380-34-5	0.1	0.1	ND	ppm
Permethrin	Multiple	0.5	0.5	ND	ppm

18. Chlorinated paraffins

For MCCP: With reference to EPA 3510, analysis by ISO18219-2:2021 with GC-MS-NCI or LC-MS-MS analysis.

For SCCP: With reference to EPA 3510, analysis by ISO18219-1:2021, ISO 12010:2019 with GC-MS-NCI or LC-MS-MS analysis.

Chlorinated paraffins	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Short-chain Chlorinated paraffin (C10 – C13)	85535-84-8	0.025	0.025	ND	ppm
Medium-chain Chlorinated paraffins (MCCPs) (C14-C17)	85535-85-9	0.500	0.500	ND	ppm

19. N,N-di-methylformamide (DMFa)

With reference to EPA 8015, EPA 8270E.

N,N-di-methylformamide (DMFa)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Dimethyl formamide; N,N-dimethylformamide(DMFa)*	68-12-2	1	1	ND	ppm

*Report for mock leather only

20. Dyes-Navy Blue Colourant

By Liquid extraction, LC-MS analysis.

Dyes-Navy Blue Colourant	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Component 1: C39H23Cl-CrN7O12S 2Na	118685-33-9	0.5	0.5	ND	ppm
Component 2: C46H-30CrN10O20S2 3Na	Not Allocated	0.5	0.5	ND	ppm

21. Other/Miscellaneous Chemicals

Others: With reference to Liquid extraction, LC-MS-MS analysis. Borate salt: determined as total boron and total zinc via ICP analysis.

Other/Miscellaneous Chemicals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
AEEA [2-(2-aminoethylamino)ethanol]	111-41-1	0.5	0.5	ND	ppm
Bisphenol A	80-05-7	0.01	0.01	ND	ppm
Thiourea	62-56-6	0.05	0.05	ND	ppm
Quinoline	91-22-5	0.05	0.05	ND	ppm
Borate, zinc salt (^)	12767-90-7	0.1 ppm in Boron/ 0.1 ppm in Zinc	0.1 ppm in Boron/ 0.1 ppm in Zinc	Boron: ND Zinc:0.232	ppm

22. UV Absorbers

With reference to USEPA 8270, ISO 22032, USEPA 527 and USEPA 8321B, dichloromethane extraction GC-MS or LC-MS-MS analysis.

UV Absorbers	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol(UV-350)	36437-37-3	0.1	0.1	ND	ppm
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.1	0.1	ND	ppm
2-benzotriazol-2-yl-4,6-di-tertbutylphenol (UV-320)	3846-71-7	0.1	0.1	ND	ppm
2,4-Di-tert-butyl-6-(5-chlorobenzotriazole-2-yl) phenol (UV-327)	3864-99-1	0.1	0.1	ND	ppm

Remark

ND = Not detected

D = Detected

(f)= parameter tested in field

@ = Maximum holding time exceeded, red flag in the ZDHC Gateway – Wastewater Module. Probable error in results due to the holding time.

N/A = Not applicable

- = Did not perform

(T)= handling temperature exceeded

= Non accredited parameter

(S) = The samples were subcontracted to Intertek [xxxxx] for testing.

(^)= Borate, zinc salt would report ND when total boron or total zinc less than 100 µg/L

23. Sludge Parameters – Step 1 - Metals

Other heavy metals: With reference to acid/peroxide digestion EPA 3050, EPA 3051A, EPA 6010D, EPA 200.8 or EPA 6020B, HJ 803 with ICP/OES, or ICP-MS analysis. Chromium VI: With reference to alkaline digestion USEPA 3060a, USEPA 3051A, USEPA 7196, USEPA 200.8 or USEPA 7199, HJ 1082 with Colourimetric UV/VIS, or Colourimetric IC analysis. Mercury: With reference to Dissolution, acid digestion USEPA 7473, USEPA 7471 b, USEPA 3051A or USEPA 3051a USEPA 7471b, USEPA 200.8 or USEPA 6020b, GB/T 22105.1, HJ 923 with CVAA or ICP MS analysis.

Sludge Parameters – Step 1 - Metals	CAS No.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	0.25	5	N/A	ppm
Arsenic	Various	0.25	5	N/A	ppm
Barium	Various	0.25	200	N/A	ppm
Cadmium	Various	0.1	1	N/A	ppm
Cobalt	Various	0.25	400	N/A	ppm
Copper	Various	0.25	50	N/A	ppm
Lead	Various	0.25	5	N/A	ppm
Nickel	Various	0.25	20	N/A	ppm
Selenium	Various	0.5	5	N/A	ppm
Silver	Various	2.5	50	N/A	ppm
Total Chromium	Various	0.25	50	N/A	ppm
Zinc	Various	2.5	400	N/A	ppm
Chromium (VI)	Various	5	20	N/A	ppm
Mercury	Various	0.1	1	N/A	ppm

24. Sludge Parameters – Step 1 - Anions

With reference to USEPA 9013, USEPA 9014, USEPA 9213, HJ745 with Colourimetry or ISE analysis.

Sludge Parameters – Step 1 - Anions	CAS No.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Cyanide	-	20	20	N/A	ppm

25. Sludge Parameters - Step 1 – Conventional

Sludge Parameters – Step 1 - Conventional	Test Method	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
pH	USEPA SW 9045D	3-13	N/A	N/A	Unit pH
% Solids	USEPA 160.3	N/A	N/A	N/A	%
Paint Filter Test(*)	USEPA 9095B	N/A	N/A	N/A	N/A
Fecal Coliform	USEPA 1681	10 MPN/g	10 MPN/g	N/A	MPN/g

(*) Report "Pass" when Paint Filter Test does not contain free liquid; Report "Fail" when Paint Filter Test does contain free liquid.

26. Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs):

including all isomers.

With reference to USEPA 3540/3541, USEPA 3550, ISO 18857-2, ASTM D7065, ISO 18254-1, with GC-MS and LC-MS-MS analysis.

Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Nonylphenol ethoxylates (NPEO)	9016-45-9; 26027-38-3; 37205-87-1; 68412-54-4; 127087-87-0	0.4	0.4	N/A	ppm
Nonylphenol (NP), mixed isomers	104-40-5; 11066-49-2; 25154-52-3; 84852-15-3	0.4	0.4	N/A	ppm
Octylphenol ethoxylates (OPEO)	9002-93-1; 9036-19-5; 68987-90-6	0.4	0.4	N/A	ppm
Octylphenol (OP), mixed isomers	140-66-9; 1806-26-4; 27193-28-8	0.4	0.4	N/A	ppm

27. Sludge Parameters - Step 1 - MRSL - Polycyclic Aromatic Hydrocarbons (PAHs)

With reference to US EPA 3540/3541, US EPA 3550, US EPA 3640, US EPA 827, HJ 805-2016 with GC-MS analysis.

Sludge Parameters - Step 1 - MRSL - Polycyclic Aromatic Hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Acenaphthene	83-32-9	0.2	0.2	N/A	ppm
Acenaphthylene	208-96-8	0.2	0.2	N/A	ppm
Anthracene	120-12-7	0.2	0.2	N/A	ppm
Benzo[a]anthracene	56-55-3	0.2	0.2	N/A	ppm
Benzo[a]pyrene (BaP)	50-32-8	0.2	0.2	N/A	ppm
Benzo[b]fluoranthene	205-99-2	0.2	0.2	N/A	ppm
Benzo[e]pyrene	192-97-2	0.2	0.2	N/A	ppm
Benzo[ghi]perylene	191-24-2	0.2	0.2	N/A	ppm
Benzo[j]fluoranthene	205-82-3	0.2	0.2	N/A	ppm
Benzo[k]fluoranthene	207-08-9	0.2	0.2	N/A	ppm

Chrysene	218-01-9	0.2	0.2	N/A	ppm
Dibenz[a,h]anthracene	53-70-3	0.2	0.2	N/A	ppm
Fluoranthene	206-44-0	0.2	0.2	N/A	ppm
Fluorene	86-73-7	0.2	0.2	N/A	ppm
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	0.2	N/A	ppm
Naphthalene	91-20-3	0.2	0.2	N/A	ppm
Phenanthrene	85-01-8	0.2	0.2	N/A	ppm
Pyrene	129-00-0	0.2	0.2	N/A	ppm

28. Sludge Parameters - Step 1 - MRSL – Chlorotoluenes

With reference to US EPA 3540/3541, US EPA 3550, US EPA 3650, US EPA 827, HJ 605 with GC-MS analysis.

Sludge Parameters - Step 1 - MRSL – Chlorotoluenes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
2-Chlorotoluene	95-49-8	0.2	0.2	N/A	ppm
3-Chlorotoluene	108-41-8	0.2	0.2	N/A	ppm
4-Chlorotoluene	106-43-4	0.2	0.2	N/A	ppm
2,3-Dichlorotoluene	32768-54-0	0.2	0.2	N/A	ppm
2,4-Dichlorotoluene	95-73-8	0.2	0.2	N/A	ppm
2,5-Dichlorotoluene	19398-61-9	0.2	0.2	N/A	ppm
2,6-Dichlorotoluene	118-69-4	0.2	0.2	N/A	ppm
3,4-Dichlorotoluene	95-75-0	0.2	0.2	N/A	ppm
3,5-Dichlorotoluene	25186-47-4	0.2	0.2	N/A	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.2	0.2	N/A	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.2	0.2	N/A	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.2	0.2	N/A	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.2	0.2	N/A	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.2	0.2	N/A	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	0.2	N/A	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	0.2	N/A	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.2	N/A	ppm
Pentachlorotoluene	877-11-2	0.2	0.2	N/A	ppm

29. Sludge Parameteres - Step 2 – Metals

With reference to toxicity leachate extraction procedure EPA 1311 followed by Acid digestion, EPA 3051A, , with ICP-OES, ICP-MS or ISO 11885, ISO 17294-2, USEPA 200.7, USEPA 200.8, USEPA 6010c, USEPA 6020a analysis.

Chromium VI: With reference to toxicity leachate extraction procedure EPA 1311 followed by ISO 18412, USEPA 7196 or USEPA 7199 Colourimetric UV/VIS, or Colourimetric IC analysis.

Mercury: With reference to toxicity leachate extraction procedure EPA 1311 followed by acid digestion EPA 7471b , EPA 3051a with ISO 12846 or ISO 17852, EPA 6020b CVAA or ICP MS analysis.

Sludge Parameteres - Step 2 – Metals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	0.0005	0.6	N/A	ppm
Arsenic	Various	0.0005	0.5	N/A	ppm
Barium	Various	0.001	35	N/A	ppm
Cadmium	Various	0.0002	0.15	N/A	ppm
Cobalt	Various	0.001	80	N/A	ppm
Copper	Various	0.001	10	N/A	ppm
Lead	Various	0.0005	0.5	N/A	ppm
Nickel	Various	0.001	3.5	N/A	ppm
Selenium	Various	0.002	0.5	N/A	ppm
Silver	Various	0.005	5	N/A	ppm
Total Chromium	Various	0.001	5	N/A	ppm
Zinc	Various	0.01	50	N/A	ppm
Chromium (VI)	Various	0.05	2.5	N/A	ppm
Mercury	Various	0.0003	0.05	N/A	ppm

Appendix 1: Reference to ZDHC WWSG v2.1 Table 4B

Parameters	Total metals and anions threshold values (mg/kg)	Disposal pathways					
		A and B (Leachate result in mg/L)	C	D	E	F	G
			(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)
Arsenic	10	Report only if required to test	5	2.75	0.5	0.5	0.5
Cadmium	3		1	0.58	0.15	0.15	0.15
Total Chromium	100		15	10	5	5	5
Lead	10		5	2.75	0.5	0.5	0.5
Antimony	12		15	7.8	0.6	0.6	0.6
Barium	700		100	67.5	35	35	35
Cobalt	1600		80	80	80	80	80
Copper	200		25	17.5	10	10	10
Nickel	70		20	11.75	3.5	3.5	3.5
Selenium	10		1	0.75	0.5	0.5	0.5
Silver	100		5	5	5	5	5
Zinc	1000		250	150	50	50	50
Chromium VI	50		5	3.75	2.5	2.5	2.5
Mercury	1		0.2	0.125	0.05	0.05	0.05

Appendix 2: reference to ZDHC WWSG v2.1 Table 4C

Parameters	Disposal pathways										
	A and B	C	D	E	F	G					
pH	Sample and report only	5 – 11 s.u.	5 – 11 s.u.	5 – 11 s.u.	6.5 – 9 s.u.	6.5 – 9 s.u.					
% Solids		Sample and report only	Sample and report only	Sample and report only	Sample and report only	Sample and report only					
Fecal Coliform				Pass Paint filter test			Sample and report only	Sample and report only			
Paint Filter Test							< 1000 (MPN/g)		Sample and report only		
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers		< 0.4 mg/kg									
Polycyclic							< 0.2 mg/kg				
Aromatic		Sample and report only									
Hydrocarbons (PAHs)											
Chlorotoluenes	Sample and report only										

Appendix 2: reference to ZDHC WWSG v2.1 Table 4D

Parameters	Disposal pathways					
	A and B	C	D	E	F	G
Cyanide	Report only if required to test	100 mg/kg	85 mg/kg	70 mg/kg	70 mg/kg	70 mg/kg



Photo of wastewater before treatment area

Photo of wastewater after treatment area

Photo of wastewater sampling point (before treatment)

Photo of wastewater sampling point (after treatment)

Photo of Sludge Area

Photo of Sludge Sampling Point



Photo of facility gate



Photo of wastewater sample (before treatment)

Photo of wastewater sample (after treatment)

Photo of sludge sample

Sampling protocol for wastewater & sludge:

Sampling Protocol for Wastewater and Sludge acc. ZDHC SAP 2.1 incl. App

Customer:	INDITEX			
Address:	SPAIN			
Facility type & name:	MATIAS & ARAUJO S.A.			
Facility location / address:	TRAVESSA DA CRUZ DE PEDRA-LIJÓ-BARCELÓS			
Operator of facility:	GABRIELA COSTA			
Cause of sampling:	ZDHC	Date of sampling: 20/09/2023		
Sample General ID (if available):	152839	<input type="checkbox"/> direct discharge <input checked="" type="checkbox"/> <u>indirect</u> discharge <input type="checkbox"/> Zero Liquid Discharge (ZLD) <input type="checkbox"/> MMCF	<input type="checkbox"/> without treatment <input checked="" type="checkbox"/> with pre-treatment <input type="checkbox"/> with own ETP	Discharge to: AGUAS DE BARCELÓS
Discharge description:	After going through a homogenization tank where they undergo a chemical process of Ph regulation, the <u>waste wa</u> to the municipal Wastewater treatment plant - AGUAS DE BARCELÓS			
Weather conditions:	on sampling day: CLOUDS/RAIN	on day before: Sunny		

Sample Type and Details (also see page 2)

<input type="checkbox"/> Effluent Discharge	<input type="checkbox"/> direct: Enter sampling times in Sample Details (page 2), and measure field parameters. or <input checked="" type="checkbox"/> indirect: Enter sampling time(s) for indirect discharge. Field parameters are not required, except on client's request.	<input checked="" type="checkbox"/> with Homogenisation / Equalisation Tank (HT) pre Hydraulic Retention Time (HRT): <u>~ 12</u> h [= Volume of tank [m³] / Flow rate [m³/h]] If HRT > 12h, grab sampling for both untreated and t wastewater from a point after the HT could be appli							
<input type="checkbox"/> Untreated Wastewater	<input type="checkbox"/> Incoming Water	<input type="checkbox"/> MMCF							
<input type="checkbox"/> Sludge with below disposal pathway: SEE ADDITIONAL COMMENTS Age of <u>sludge</u> : _____ days									
<input checked="" type="radio"/> A >1000 °C offsite incineration	<input type="radio"/> B Landfill with significant control	<input type="radio"/> C Building products processed >1000 °C	<input type="radio"/> D Landfill with limited control <input type="radio"/> E Incineration / Building products processed <1000 °C <input type="radio"/> F Landfill with no control <input type="radio"/> G Land ap						
Sludge volume produced: _____ m³/h <input type="checkbox"/> L/sec <input type="checkbox"/> other unit (specify): _____ per facility info <input type="checkbox"/> measured <input type="checkbox"/>									
<input type="checkbox"/> Process Chemical	<input type="checkbox"/> liquid	<input type="checkbox"/> solid (powder/granulate/ <u>pieces</u>)	<input checked="" type="checkbox"/> in process <input type="checkbox"/> from warehouse						
Times of sampling (if applicable)	Untreated Wastewater:	1	2	3	4	5	6	7	SI
	Indirect Discharge:	1-	2-	3-	4-	5-	6-	7	
	Incoming Water:	1	2	3	4	5	6	or Grab:	
(for direct discharge, see page 2)		GPS coordinates of sampling points:							



TEST REPORT LA-231801

Number: MATIAS E ARAUJO

SAMPLING PROTOCOL (PAGE 2 OF 3)

Picture ID (or Date & Time / Interval):

Incoming W.: Lat.: N S Long.: E W

Untreated WW: Lat.: N S Long.: E W

Effluent: Lat.: N S Long.: E W

Sludge: Lat.: N S Long.: E W

Sample Details Field parameters usually are required only for direct discharge. If client requests also for indirect discharge, use below field

<input checked="" type="checkbox"/> Composite Sample	<input type="checkbox"/> Grab Sample (Use column for Averaged Readings and fields at right)						Volume of aliquot(s):	25000
Time of taking discrete sample	1 9:00H	2 09:40H	3 10:50H	4 12:00H	5 12:50H	6 13:20	14:10	
pH:	10.16ph	10.31ph	9.62ph	10.09ph	10.06ph	10.13ph	10.05ph	
Temp. WW discharge of receiving water	31.1°C	33.7°C	34.0°C	32.4°C	37.0°C	36.0°C	35.8°C	
Flow rate:	h							
Dissolved Oxygen:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Chlorine:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Persistent foam:	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no	

Use comment field if number of samples is greater than six, or if above fields are otherwise not sufficient.

Sampling technique: automated sampling with beaker/bowl other: FAUCET

Wastewater Flow Data (Effluent/Discharge)

System:	<input checked="" type="checkbox"/> Flow meter (in facility)	<input type="checkbox"/> Pipe (O)	<input type="checkbox"/> Flume (U)	<input type="checkbox"/> Weir (W)
Diameter [cm]	X			
Water Depth [cm]	X			
Flow Speed [cm/sec]	X			

General Field Parameters and Sensory Data (as far as applicable)

Type	T ambient air [°C]	Odour	Colour	Foaming	Floati
Incoming				<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> y
Untreated	25.4	NO	Light Blue/Violet	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> y
Effluent				<input type="radio"/> yes <input type="radio"/> no	<input type="radio"/> y

Field Testing QA/QC

Parameter	Lab Control Sample target value	Lab Control Sample measured value	Accuracy [%]
pH			
Total Chlorine			

Sludge treatment



SAMPLING PROTOCOL (PAGE 3 OF 3)

Additional comments (e.g., abbreviations used, alternatively measured flow and readings, etc.):

ZDHC Wastewater Sampling - Facility Confirmation

The Wastewater samples have been collected under the facility's normal production scale and wastewater flow rate. The sam listed below was on-site and collected the samples.

Sampling person (name & email address):

Filipe silva

filipematec@gmail.com

Facility Name:

MATIAS&ARAUJO

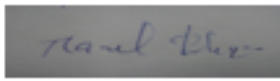
Sampler's ZDHC accreditation no.:

8F1465014750

Facility's Representative name:

GABRIELA COSTA

Sampler's Signature:



Facility's Representative Signature and Stamp:



SOFTLINES WASTEWATER TESTING

TEST REPORT LA-231801

Number: MATIAS E ARAUJO

Testing period: From 21/09/2023 to 29/09/2023

Testing period Subcontracted Lab (if applicable): N/A

End of report

This report is made solely on the basis of your instructions and/or information and materials supplied. Results refer only to samples received in the lab. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.











Unit
°C
°C
mg/L
mg/L
mg/L
Unit pH
m-1
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
[MPN/100-ml]
mg/L
mg/L
mg/L
mg/L
mg/L



Number: MATIAS E ARAUJO

mg/L
mg/L
mg/L
m3/day

µg/L.



Unit
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L
mg/L

µg/L.



































G
(Total metals limit in mg/kg)
75
85
3000
840
Sample and report only
4300
420
100
Sample and report only
7500
50
57









