



**BUREAU
VERITAS**

TEST REPORT

Technical Report: (6614)104-0796-R1

July 8, 2014

The report is amendment of and supersedes the previous report (6614)104-0796 dated April 29, 2014
Date Received: April 14, 2014

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JACK WOLFSKIN

Ausrüstung für Draussen GmbH & Co. KGaA

Jack Wolfskin Kreisel 1 · 65510 Idstein/Ts., Germany

Factory Company Name: 5045
Factory Address: 5045
Project No.: /
Client Reference No.: /
Sample Type: Grab Sample*
Sample Pick Up Date: April 10, 2014
Test Period: April 14, 2014 to April 29, 2014

Sample Description: Sample(s) received is/are stated to be:
I001) Clear transparent liquid (Incoming water)
I002) Light grey liquid (Wastewater before treatment)
I003) Clear transparent liquid (Wastewater after treatment)
I004) Black mud (Sludge in clarifier)

REMARK

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

| | |
|-------------------------------|---|
| General enquiry and invoicing | Mr. Roland Xue (021) 24081906 Roland.Xue@cn.bureauveritas.com |
| Technical enquiry-Chemical | Mr. Christ Ye (021) 24081949 Christ.ye@cn.bureauveritas.com |

This report shown the test result of the environment samples of above factory which collected on specific date and time.
The results of this report shall not be used for any regulatory compliance purposes.

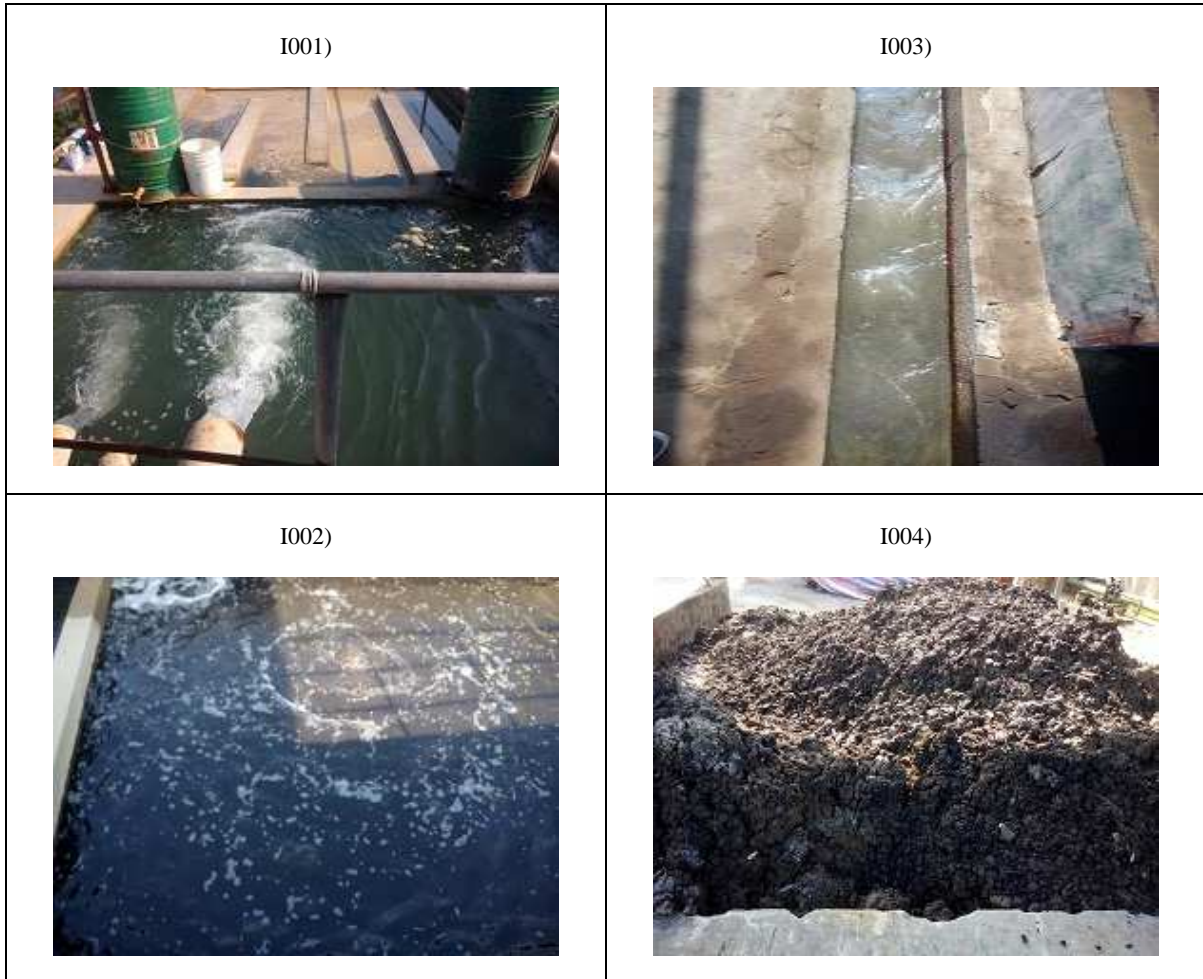
* The grab sampling is agreed with client.

**BUREAU VERITAS
CONSUMER PRODUCTS SERVICES DIVISION
(SHANGHAI)**

PREPARED BY: Roland


Matthias Chan
Director (North China Analytical Support)

Photo of the Sample/ Sampling Location





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Executive Summary

| 11 Priority Chemical Groups | I001 | I002 | I003 | I004 |
|---|------|------|------|------|
| Phthalates | ● | ● | ● | ○ |
| Brominated and Chlorinated Flame Retardants | ○ | ○ | ○ | ○ |
| Azo Dyes | ○ | ○ | ○ | ○ |
| Organotin Compounds | ○ | ○ | ○ | ○ |
| Chlorobenzenes | ○ | ● | ● | ○ |
| Chlorinated Solvents | ○ | ○ | ○ | ○ |
| Chlorophenols | ○ | ○ | ○ | ○ |
| Short-Chained Chlorinated Paraffins | ○ | ○ | ○ | ○ |
| Heavy Metals | ● | ● | ● | ● |
| APs and APEOs | ● | ● | ● | ● |
| Perfluorinated Chemicals | ○ | ○ | ○ | ● |

| Traditional Parameters | I003 |
|---|--------------------------|
| Color | See result in page 7 - 8 |
| pH Value | |
| Total Suspended Solids (TSS) | |
| Biochemical Oxygen Demand (BOD ₅) | |
| Chemical Oxygen Demand (COD) | |

Note / Key :

- ● – Detected
- ○ – Not Detected



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Objective

The environment samples were tested for below 11 Priority Chemical Groups according to the Joint Roadmap: Toward Zero Discharge of Hazardous Chemicals.

11 Priority Chemical Groups

- 1) Phthalates
- 2) Brominated and Chlorinated Flame Retardants
- 3) Azo Dyes
- 4) Organotin Compounds
- 5) Chlorobenzenes
- 6) Chlorinated Solvents
- 7) Chlorophenols
- 8) Short-Chain Chlorinated Paraffins
- 9) Heavy Metals
- 10) APs and APEOs
- 11) Perfluorinated Chemicals

Sampling Plan

Basically, four environment samples were sampled per factory, including 1) Incoming water; 2) Wastewater before treatment; 3) Wastewater after treatment; and 4) Sludge in clarifier. Total number of sample collected will be depended on the actual factory facilities and manufacturing processes.

Method of sampling used is grab sampling (agreed with client.). Grab samples are discrete samples that are taken at a location to provide a 'snapshot' of the water quality characteristics at that time. For the purposes of quantifying water or wastewater constituents, grab samples will show the concentrations at that location and time of sampling. They will not provide any information about the concentrations outside that point in time.

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.



Test Result

11 Priority Chemical Groups

Phthalates

Test results of Phthalates are as below.

| Phthalates | I001 | I002 | I003 | I004 |
|-------------------|---------------|----------------|----------------|-------------|
| BBP | ND | ND | ND | ND |
| DBP | ND | 0.00416 | 0.00296 | ND |
| DEHP | 0.0142 | 0.0220 | 0.0142 | ND |
| DNOP | ND | ND | ND | ND |
| DINP | ND | ND | ND | ND |
| DIDP | ND | ND | ND | ND |
| DMP | ND | ND | ND | ND |
| DEP | ND | ND | ND | ND |
| DPRP | ND | ND | ND | ND |
| DIBP | ND | 0.00328 | 0.00212 | ND |
| DCHP | ND | ND | ND | ND |
| DnHP | ND | ND | ND | ND |
| DNP | ND | ND | ND | ND |
| DIOP | ND | ND | ND | ND |
| DMEP | ND | ND | ND | ND |

Chlorobenzenes

Test results of Chlorobenzenes are as below.

| Chlorobenzenes | I001 | I002 | I003 | I004 |
|---|-------------|----------------|----------------|-------------|
| Chlorobenzene | ND | 0.00169 | 0.00028 | ND |
| 1,2-Dichlorobenzene | ND | ND | ND | ND |
| 1,3-Dichlorobenzene, 1,4-Dichlorobenzene | ND | ND | ND | ND |
| 1,2,3-Trichlorobenzene | ND | ND | ND | ND |
| 1,2,4-Trichlorobenzene | ND | ND | ND | ND |
| 1,3,5-Trichlorobenzene | ND | ND | ND | ND |
| 1,2,3,4-Tetrachlorobenzene | ND | ND | ND | ND |
| 1,2,3,5-Tetrachlorobenzene, 1,2,4,5-Tetrachlorobenzene | ND | ND | ND | ND |
| Pentachlorobenzene | ND | ND | ND | ND |
| Hexachlorobenzene | ND | ND | ND | ND |



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Test Result

Heavy Metals

Test results of Heavy Metals are as below.

| Heavy Metals | I001 | I002 | I003 | I004 |
|---------------------|----------------|----------------|----------------|-------------|
| As | ND | 0.00108 | ND | 1.96 |
| Cd | ND | ND | ND | ND |
| Hg | ND | ND | ND | 0.11 |
| Pb | ND | 0.00290 | ND | 3.89 |
| Sb | ND | 0.308 | 0.0196 | 110 |
| Co | ND | 0.00463 | ND | 1.36 |
| Ni | ND | 0.00127 | ND | 2.87 |
| Cu | ND | ND | ND | 6.26 |
| Zn | 0.00396 | 0.0740 | 0.0442 | 31.9 |
| Cr | ND | 0.0622 | 0.00224 | 23.1 |
| Mn | 0.0234 | 0.0606 | 0.0392 | 9.09 |
| Cr VI | ND | ND | ND | ND |
| CN | ND | ND | ND | ND |

APs and APEOs

Test results of APs and APEOs are as below.

| APs and APEOs | I001 | I002 | I003 | I004 |
|----------------------|----------------|----------------|---------------|-------------|
| OP | ND | ND | ND | ND |
| NP | 0.00144 | 0.0143 | 0.0025 | 30.9 |
| OPEOs | ND | 0.00846 | ND | ND |
| NPEOs | ND | ND | ND | 41.7 |

Perfluorinated Chemicals

Test results of Perfluorinated Chemicals are as below.

| Perfluorinated Chemicals | I001 | I002 | I003 | I004 |
|---------------------------------|-------------|-------------|-------------|----------------|
| C8: | | | | |
| PFOA | ND | ND | ND | 0.00269 |
| PFOS | ND | ND | ND | ND |
| C6: | | | | |
| PFHxA | ND | ND | ND | ND |
| PFHxS | ND | ND | ND | ND |
| C4: | | | | |
| PFBA | ND | ND | ND | ND |
| PFBS | ND | ND | ND | ND |



Test Result

Others Priority Chemical Groups

| | I001 | I002 | I003 | I004 |
|---|-------------|-------------|-------------|-------------|
| Brominated and Chlorinated Flame Retardants | ND | ND | ND | ND |
| Azo Dyes | ND | ND | ND | ND |
| Organotin Compounds | ND | ND | ND | ND |
| Chlorinated Solvents | ND | ND | ND | ND |
| Chlorophenols | ND | ND | ND | ND |
| Short-Chained Chlorinated Paraffins | ND | ND | ND | 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.).
- NA = Not applicable.
- All results are in ppm as unit.
- ppm = part(s) per million.

Traditional Parameters

Color

Test Method : Qualitative Observation by Visual

| Tested Item(s) | Result | Unit | Conclusion |
|-----------------------|-------------------|-------------|-------------------|
| I003 | Clear transparent | - | DATA |

pH Value

Test Method : With reference to APHA 4500-H+ B:2012 & U. S. EPA 150.2

| - | Unit | Result |
|---------------------|-------------|---------------|
| Test Item(s) | - | I003 |
| Parameter | - | - |
| Temp. of sample | deg. C | 16.3 |
| pH value of sample | - | 7.0 |
| Conclusion | - | DATA |

Note:

Temp. = Temperature deg. C = degree Celsius (°C)
 APHA = American Public Health Association Standard Methods for the Examination of Water and Wastewater
 U. S. EPA = United States Environmental Protection Agency



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Test Result

Total Suspended Solids (TSS)

Test Method : With reference to APHA 2540 D:2012

| Tested Item(s) | Result | Unit | Conclusion |
|-----------------------|---------------|-------------|-------------------|
| I003 | 12 | mg/L | DATA |

Note:

mg/L = milligram per liter

Detection Limit (mg/L) : 5

APHA = American Public Health Association Standard Methods for the Examination of Water and Wastewater

Biochemical Oxygen Demand (BOD₅)

Test Method : With reference to APHA 5210 B:2012

| Tested Item(s) | Result | Unit | Conclusion |
|-----------------------|---------------|-------------|-------------------|
| I003 | 47.2 | mg/L | DATA |

Note:

mg/L = milligram per liter

Detection Limit (mg/L) : 2

APHA = American Public Health Association Standard Methods for the Examination of Water and Wastewater

Chemical Oxygen Demand (COD)

Test Method : With reference to APHA 5220 B:2012 & U. S. EPA 410.3

| Tested Item(s) | Result | Unit | Conclusion |
|-----------------------|---------------|-------------|-------------------|
| I003 | 95 | mg/L | DATA |

Note:

mg/L = milligram per liter

Detection Limit (mg/L) : 2

APHA = American Public Health Association Standard Methods for the Examination of Water and Wastewater

U. S. EPA = United States Environmental Protection Agency

Discussion

According to the test results, the priority chemical groups are found. It is suggested that further factory audit is required to identify the source of pollutants in the inventory.

END



APPENDIX A

List of Phthalates :

| No. | Test Method | Reporting Limit | | Unit | |
|-----|--|-------------------------|-----|---------------------------------|------------|
| 1 | With reference to U. S. EPA 8270D. (For Wastewater) | Each: 0.001 | | ppm | |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C and with reference to U. S. EPA 8270D. (For Sludge) | Each: 0.3 | | ppm | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Butyl benzyl phthalate (BBP) | 85-68-7 | 9 | Di-n-propyl phthalate (DPRP) | 131-16-8 |
| 2 | Dibutyl phthalate (DBP) | 84-74-2 | 10 | Di-iso-butyl phthalate (DIBP) | 84-69-5 |
| 3 | Di-2-ethylhexyl phthalate (DEHP) | 117-81-7 | 11 | Di-cyclohexyl phthalate (DCHP) | 84-61-7 |
| 4 | Di-n-octyl phthalate (DNOP) | 117-84-0 | 12 | Di-n-hexyl phthalate (DnHP) | 84-75-3 |
| 5 | Di-iso-nonyl phthalate (DINP) | 28553-12-0 & 68515-48-0 | 13 | Dinonyl phthalate (DNP) | 84-76-4 |
| 6 | Di-iso-decyl phthalate (DIDP) | 26761-40-0 & 68515-49-1 | 14 | Di-iso-octyl phthalate (DIOP) | 27554-26-3 |
| 7 | Dimethyl phthalate (DMP) | 131-11-3 | 15 | Dimethoxyethyl phthalate (DMEP) | 117-82-8 |
| 8 | Diethyl phthalate (DEP) | 84-66-2 | - | - | - |

List of Brominated Flame Retardants :

| No. | Test Method | Reporting Limit | | Unit | |
|-----|---|--|-----|---|-----------|
| 1 | With reference to U. S. EPA 527 and with reference to U. S. EPA 8321B. (For Wastewater) | Each (PBBs & PBDEs): 0.00005; Each (TRIS, TBBPA & HBCCD): 0.0005; Each (Others): 0.025 | | ppm | |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C, with reference to U. S. EPA 527 and with reference to U. S. EPA 8321B. (For Sludge) | Each (PBBs & PBDEs): 0.3; Each (Others): 0.25 | | ppm | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Polybromobiphenyls (PBBs) | Various | 5 | Bis(2,3-dibromopropyl) phosphate | 5412-25-9 |
| 2 | Tris(2,3-dibromopropyl) phosphate (TRIS) | 126-72-7 | 6 | Hexabromocyclododecane (HBCDD) | 3194-55-6 |
| 3 | Polybromodiphenyl ethers (PBDEs) | Various | 7 | 2,2-Bis(bromomethyl)-1,3-propanediol (BBMP) | 3296-90-0 |
| 4 | Tetrabromobisphenol A (TBBPA) | 79-94-7 | - | - | - |

List of Chlorinated Flame Retardants :

| No. | Test Method | Reporting Limit | | Unit | |
|-----|---|-----------------------------|-----|---|------------|
| 1 | With reference to U. S. EPA 527 and with reference to U. S. EPA 8321B. (For Wastewater) | TCEP: 0.00005; TDCP: 0.0005 | | ppm | |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C, with reference to U. S. EPA 527 and with reference to U. S. EPA 8321B. (For Sludge) | Each: 0.5 | | ppm | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Tris(2-chloroethyl) phosphate (TCEP) | 115-96-8 | 2 | Tris(1,3-dichloro-isopropyl) phosphate (TDCP) | 13674-87-8 |

| List of Aromatic Amines in Azo Colorants : | | | | | |
|--|---|----------|-----|--|----------|
| No. | Test Method | | | Reporting Limit | Unit |
| 1 | With reference to German Standard DIN 38407-16, with reference to European Standard EN 14362-1 incorporating Corrigendum and with reference to European Standard EN 14362-3. (For Wastewater) | | | Each: 0.0001 | ppm |
| 2 | With reference to German Standard DIN 38407-16, with reference to European Standard EN 14362-1 incorporating Corrigendum and with reference to European Standard EN 14362-3. (For Sludge) | | | Each: 0.1 | ppm |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | 4-Aminodiphenyl (Biphenyl-4-ylamine or Xenylamine) | 92-67-1 | 14 | p-Cresidine (6-Methoxy-m-toluidine) | 120-71-8 |
| 2 | Benzidine | 92-87-5 | 15 | 4,4'-Methylene-bis-(2-chloraniline) (2,2'-Dichloro-4,4'-methylene-dianiline) | 101-14-4 |
| 3 | 4-Chloro-o-toluidine | 95-69-2 | 16 | 4,4'-Oxydianiline | 101-80-4 |
| 4 | 2-Naphthylamine | 91-59-8 | 17 | 4,4'-Thiodianiline | 139-65-1 |
| 5 | o-Aminoazotoluene (4-Amino-2',3'-dimethylazobenzene or 4-o-tolyazo-o-toluidine) | 97-56-3 | 18 | o-Toluidine (2-Aminotoluene) | 95-53-4 |
| 6 | 5-nitro-o-toluidine (2-Amino-4-nitrotoluene) | 99-55-8 | 19 | 4-Methyl-m-phenylenediamine (2,4-Toluenediamine) | 95-80-7 |
| 7 | 4-Chloroaniline (p-Chloroaniline) | 106-47-8 | 20 | 2,4,5-Trimethylaniline | 137-17-7 |
| 8 | 4-Methoxy-m-phenylenediamine (2,4-Diaminoanisole) | 615-05-4 | 21 | o-Anisidine (2-Methoxyaniline) | 90-04-0 |
| 9 | 4,4'-Diaminodiphenylmethane (4,4'-Methylenedianiline) | 101-77-9 | 22 | 4-Aminoazobenzene (p-Aminoazobenzene) | 60-09-3 |
| 10 | 3,3'-Dichlorobenzidine (3,3'-Dichlorobiphenyl-4,4'-ylenediamine) | 91-94-1 | 23 | 2,4-Xylidine (2,4-dimethylaniline) | 95-68-1 |
| 11 | 3,3'-Dimethoxybenzidine (o-Dianisidine) | 119-90-4 | 24 | 2,6-Xylidine (2,6-dimethylaniline) | 87-62-7 |
| 12 | 3,3'-Dimethylbenzidine (4,4'-Bi-o-toluidine) | 119-93-7 | 25 | Aniline | 62-53-3 |
| 13 | 4,4'-Methylenedi-o-toluidine (3,3'-Dimethyl-4,4'-diaminodiphenylmethane) | 838-88-0 | - | - | - |

| List of Organotin Compounds : | | | | | |
|-------------------------------|---|---------|-----|--------------------------|---------|
| No. | Test Method | | | Reporting Limit | Unit |
| 1 | With reference to European Standard EN ISO 17353. (For Wastewater) | | | Each: 0.00001 | ppm |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C and with reference to International Standard ISO 23161. (For Sludge) | | | Each: 0.01 | ppm |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Monobutyltin (MBT) | Various | 5 | Triphenyltin (TPhT) | Various |
| 2 | Dibutyltin (DBT) | | 6 | Tricyclohexyltin (TCyHT) | |
| 3 | Dioctyltin (DOT) | | 7 | Trioctyltin (TOT) | |
| 4 | Tributyltin (TBT) | | 8 | Tripropyltin (TPT) | |



| List of Chlorobenzenes : | | | | | |
|---------------------------------|---|-----------------------|-----|---|----------------------|
| No. | Test Method | | | Reporting Limit | Unit |
| 1 | With reference to U. S. EPA 8260B and with reference to U. S. EPA 8270D. (For Wastewater) | | | Each: 0.00002 | ppm |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C, with reference to U. S. EPA 8260B and with reference to U. S. EPA 8270D. (For Sludge) | | | Each: 0.1 | ppm |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Chlorobenzene | 108-90-7 | 6 | 1,3,5-Trichlorobenzene | 108-70-3 |
| 2 | 1,2-Dichlorobenzene | 95-50-1 | 7 | 1,2,3,4-Tetrachlorobenzene | 634-66-2 |
| 3 | 1,3-Dichlorobenzene, 1,4-Dichlorobenzene | 541-73-1, 106-46-7 | 8 | 1,2,3,5-Tetrachlorobenzene, 1,2,4,5-Tetrachlorobenzene | 634-90-2, 95-94-3 |
| 4 | 1,2,3-Trichlorobenzene | 87-61-6 | 9 | Pentachlorobenzene | 608-93-5 |
| 5 | 1,2,4-Trichlorobenzene | 120-82-1 | 10 | Hexachlorobenzene | 118-74-1 |

| List of Chlorinated Solvents : | | | | | |
|---------------------------------------|---|----------|-----|---------------------------|----------|
| No. | Test Method | | | Reporting Limit | Unit |
| 1 | With reference to U. S. EPA 8260B. (For Wastewater) | | | Each: 0.1 | ppm |
| 2 | With reference to U. S. EPA 5021, with reference to U. S. EPA 8021B and with reference to U. S. EPA 8260B. (For Sludge) | | | Each: 0.3 | ppm |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | 1,2-Dichloroethane | 107-06-2 | 7 | 1,1,1-Trichloroethane | 71-55-6 |
| 2 | 1,1-Dichloroethylene | 75-35-4 | 8 | Carbon Tetrachloride | 56-23-5 |
| 3 | Methylene Chloride | 75-09-2 | 9 | Trichloroethylene | 79-01-6 |
| 4 | cis-1,2-Dichloroethylene | 156-59-2 | 10 | 1,1,2-Trichloroethane | 79-00-5 |
| 5 | trans-1,2-Dichloroethylene | 156-60-5 | 11 | 1,1,1,2-Tetrachloroethane | 630-20-6 |
| 6 | Chloroform | 67-66-3 | 12 | Tetrachloroethylene | 127-18-4 |

| List of Chlorophenols : | | | | | |
|--------------------------------|--|-----------|-----|---|--|
| No. | Test Method | | | Reporting Limit | Unit |
| 1 | With reference to U. S. EPA 8270D. (For Wastewater) | | | Each: 0.0005 | ppm |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C and with reference to U. S. EPA 8270D. (For Sludge) | | | Each: 0.025 | ppm |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Pentachlorophenol | 87-86-5 | 8 | 3,4,5-Trichlorophenol, 2,3,4-Trichlorophenol | 609-19-8, 15950-66-0 |
| 2 | 2,3,4,5-Tetrachlorophenol | 4901-51-3 | 9 | 2,3-Dichlorophenol | 576-24-9 |
| 3 | 2,3,4,6-Tetrachlorophenol | 58-90-2 | 10 | 3,4-Dichlorophenol | 95-77-2 |
| 4 | 2,3,5,6-Tetrachlorophenol | 935-95-5 | 11 | 2,4-Dichlorophenol, 2,5-Dichlorophenol, 2,6-Dichlorophenol, 3,5-Dichlorophenol | 120-83-2, 583-78-8, 87-65-0, 591-35-5 |
| 5 | 2,4,6-Trichlorophenol | 88-06-2 | 12 | 2-Chlorophenol | 95-57-8 |
| 6 | 2,3,5-Trichlorophenol | 933-78-8 | 13 | 3-Chlorophenol | 108-43-0 |
| 7 | 2,4,5-Trichlorophenol | 95-95-4 | 14 | 4-Chlorophenol | 106-48-9 |



| List of Short Chain Chlorinated Paraffins : | | | | | |
|--|---|-----------------|-----|------------------|---------|
| No. | Test Method | Reporting Limit | | Unit | |
| 1 | With reference to International Standard ISO 12010. (For Wastewater) | 0.0004 | | ppm | |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C and with reference to International Standard ISO 12010. (For Sludge) | 0.03 | | ppm | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Short Chain Chlorinated Paraffins | 85535-84-8 | - | - | - |

| List of Heavy Metals : | | | | | |
|-------------------------------|---|--|-----|----------------------------|---------|
| No. | Test Method | Reporting Limit | | Unit | |
| 1 | With reference to U. S. EPA 3015A and with reference to U. S. EPA 6020A./ With reference to U. S. EPA 7196A./ With reference to APHA 4500 CN- C:2012 & APHA 4500 CN- E:2012 (For Wastewater) | Cd: 0.0001; Hg: 0.00005; CN ⁻ : 0.02 Each (Others): 0.001 | | ppm | |
| 2 | With reference to U. S. EPA 3051A and with reference to U. S. EPA 6020A./ With reference to U. S. EPA 3051A, with reference to U. S. EPA 6020A, with reference to U. S. EPA 3060A and with reference to U. S. EPA 7196A./ With reference to U. S. EPA 9010C, with reference to U. S. EPA 9013 and with reference to U. S. EPA 9014 (For Sludge) | Hg: 0.02; Zn: 4; Cr VI: 0.4; CN ⁻ : 0.5 Each (Others): 1 | | ppm | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Arsenic (As) | Various | 8 | Copper (Cu) | Various |
| 2 | Cadmium (Cd) | | 9 | Zinc (Zn) | |
| 3 | Mercury (Hg) | | 10 | Chromium (Cr) | |
| 4 | Lead (Pb) | | 11 | Manganese (Mn) | |
| 5 | Antimony (Sb) | | 12 | Chromium VI (Cr VI) | |
| 6 | Cobalt (Co) | | 13 | Cyanide (CN ⁻) | |
| 7 | Nickel (Ni) | | - | - | |

| List of Alkylphenols & Alkylphenol Ethoxylates : | | | | | |
|---|---|---|-----|-------------------------------|---------|
| No. | Test Method | Reporting Limit | | Unit | |
| 1 | With reference to ASTM International Standard ASTM D7065. (For Wastewater) | Each (OP & NP): 0.001; Each (OPEOs & NPEOs): 0.005 | | ppm | |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C and with reference to ASTM International Standard ASTM D7065. (For Sludge) | Each: 0.2 | | ppm | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Octylphenol (OP) | Various | 3 | Nonylphenol (NP) | Various |
| 2 | Octylphenoethoxylates (OPEOs) | | 4 | Nonylphenoethoxylates (NPEOs) | |



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List of Perfluorinated Chemicals :

| No. | Test Method | Reporting Limit | Unit | | |
|-----|--|-----------------|------|-------------------------------------|------------|
| 1 | In house method and analysis by Liquid Chromatograph Mass Spectrometer (LC-MS). (For Wastewater) | Each: 0.00001 | ppm | | |
| 2 | With reference to ASTM International Standard D5369, with reference to U. S. EPA 3540C, in house method and analysis by Liquid Chromatograph Mass Spectrometer (LC-MS). (For Sludge) | Each: 0.001 | ppm | | |
| No. | Name of Analytes | CAS-No. | No. | Name of Analytes | CAS-No. |
| 1 | Perfluorooctanoic acid (PFOA) | 335-67-1 | 4 | Perfluorohexane sulphonates (PFHxS) | 3871-99-6 |
| 2 | Perfluorooctane sulphonates (PFOS) | 2795-39-3 | 5 | Perfluorobutanoic acid (PFBA) | 375-22-4 |
| 3 | Perfluoro-n-hexanoic acid (PFHxA) | 307-24-4 | 6 | Perfluorobutane sulphonates (PFBS) | 29420-49-3 |

Note / Key :

ppm = part(s) per million

U. S. EPA = United States Environmental Protection Agency

APHA = American Public Health Association



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APPENDIX B

| General Data | | | | |
|--|-------------------------------|-------------|---|--|
| Laboratory Sample Number | 6614-104-0796 | | | |
| Client Name | Jack Wolfskin | | | |
| Field Contact Person | / | | Phone No: 0591-85361756 | |
| Project (Facility Name and Address) | 5045 | | | |
| | 5045 | | | |
| Sampling Location / Description | Pipe/Clear transparent liquid | | | |
| Sample Identification | Incoming water | | | |
| Sample Type | Grab sample | | | |
| Name of Sampler | Zero Zhuang | | | |
| Date and time collected | 2014.04.10 | | 15:36 | |
| Field Data | | | | |
| Field Parameters | pH : 6.5 | | Temp : 21.0°C | Color : clear transparent |
| Control No. of field equipment | / | | CA-014A | / |
| Analysis Required and Preservation Method | | | | |
| Sampler container number | I001-1,I001-2,I001-3 | | | |
| Volume collected | 10L | | | |
| Tests | Test required | Sample size | Type of container | Preservation method |
| 1. Phthalate | Y | 500 mL | Amber Glass, pre-add 6.5mL of 1M H ₂ SO ₄ | Acidify to pH 2 with H ₂ SO ₄ and store at 4°C |
| 2. Brominated and chlorinated Flame retardant | Y | 500 mL | | |
| 3. Banned Azodyes | Y | 500 mL | | |
| 4. Organotin Compounds | Y | 500 mL | | |
| 5. Chlorobenzenes | Y | 500 mL | | |
| 6. Chlorophenols | Y | 500 mL | | |
| 7. SCCPs | Y | 500 mL | | |
| 8. APEOs/APs | Y | 500 mL | | |
| 9. Heavy Metals except CrVI | Y | 500 mL | Amber Glass, pre-add 6.5mL of 2M HNO ₃ | Acidify to pH 2 with HNO ₃ and store at 4°C |
| 10. CrVI | Y | 500 mL | Amber Glass, wash with pesticide grade acetone | Fill to full bottle and store at 4°C |
| 11. Chlorinated Solvents | Y | 500 mL | | |
| 12. PFCs | Y | 500 mL | PE, pre-add 3.4mL of 1M H ₂ SO ₄ | Acidify to pH 2 with H ₂ SO ₄ and store at 4°C |



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| General Data | | | | |
|---|--------------------------|-------------|---|--|
| Laboratory Sample Number | 6614-104-0796 | | | |
| Client Name | Jack Wolfskin | | | |
| Field Contact Person | / | | Phone No: 0591-85361756 | |
| Project (Facility Name and Address) | 5045 | | | |
| | 5045 | | | |
| Sampling Location / Description | Gutter/Light grey liquid | | | |
| Sample Identification | Water before treatment | | | |
| Sample Type | Grab sample | | | |
| Name of Sampler | Zero Zhuang | | | |
| Date and time collected | 2014.04.10 | | 15:50 | |
| Field Data | | | | |
| Field Parameters | pH : 6.0 | | Temp : 36.0°C | Color : Light grey |
| Control No. of field equipment | / | | CA-014A | / |
| Analysis Required and Preservation Method | | | | |
| Sampler container number | I002-1,I002-2,I002-3 | | | |
| Volume collected | 10L | | | |
| Tests | Test required | Sample size | Type of container | Preservation method |
| 1. Phthalate | Y | 500 mL | Amber Glass, pre-add 6.5mL of 1M H ₂ SO ₄ | Acidify to pH 2 with H ₂ SO ₄ and store at 4°C |
| 2. Brominated and chlorinated Flame retardant | Y | 500 mL | | |
| 3. Banned Azodyes | Y | 500 mL | | |
| 4. Organotin Compounds | Y | 500 mL | | |
| 5. Chlorobenzenes | Y | 500 mL | | |
| 6. Chlorophenols | Y | 500 mL | | |
| 7. SCCPs | Y | 500 mL | | |
| 8. APEOs/APs | Y | 500 mL | | |
| 9. Heavy Metals except CrVI | Y | 500 mL | Amber Glass, pre-add 6.5mL of 2M HNO ₃ | Acidify to pH 2 with HNO ₃ and store at 4°C |
| 10. CrVI | Y | 500 mL | Amber Glass, wash with pesticide grade acetone | Fill to full bottle and store at 4°C |
| 11. Chlorinated Solvents | Y | 500 mL | | |
| 12. PFCs | Y | 500 mL | PE, pre-add 3.4mL of 1M H ₂ SO ₄ | Acidify to pH 2 with H ₂ SO ₄ and store at 4°C |



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| General Data | | | | |
|---|---------------------------------|-------------|---|--|
| Laboratory Sample Number | 6614-104-0796 | | | |
| Client Name | Jack Wolfskin | | | |
| Field Contact Person | / | | Phone No: 0591-85361756 | |
| Project (Facility Name and Address) | 5045 | | | |
| | 5045 | | | |
| Sampling Location / Description | Gutter/Clear transparent liquid | | | |
| Sample Identification | Water after treatment | | | |
| Sample Type | Grab sample | | | |
| Name of Sampler | Zero Zhuang | | | |
| Date and time collected | 2014.04.10 | | 16:00 | |
| Field Data | | | | |
| Field Parameters | pH : 6.0 | | Temp : 30.0°C | Color : Clear transparent |
| Control No. of field equipment | / | | CA-014A | / |
| Analysis Required and Preservation Method | | | | |
| Sampler container number | I003-1,I003-2,I003-3 | | | |
| Volume collected | 10L | | | |
| Tests | Test required | Sample size | Type of container | Preservation method |
| 1. Phthalate | Y | 500 mL | Amber Glass, pre-add 6.5mL of 1M H ₂ SO ₄ | Acidify to pH 2 with H ₂ SO ₄ and store at 4°C |
| 2. Brominated and chlorinated Flame retardant | Y | 500 mL | | |
| 3. Banned Azodyes | Y | 500 mL | | |
| 4. Organotin Compounds | Y | 500 mL | | |
| 5. Chlorobenzenes | Y | 500 mL | | |
| 6. Chlorophenols | Y | 500 mL | | |
| 7. SCCPs | Y | 500 mL | | |
| 8. APEOs/APs | Y | 500 mL | | |
| 9. Heavy Metals except CrVI | Y | 500 mL | Amber Glass, pre-add 6.5mL of 2M HNO ₃ | Acidify to pH 2 with HNO ₃ and store at 4°C |
| 10. CrVI | Y | 500 mL | Amber Glass, wash with pesticide grade acetone | Fill to full bottle and store at 4°C |
| 11. Chlorinated Solvents | Y | 500 mL | | |
| 12. PFCs | Y | 500 mL | PE, pre-add 3.4mL of 1M H ₂ SO ₄ | Acidify to pH 2 with H ₂ SO ₄ and store at 4°C |



| General Data | | | | |
|---|-----------------------|-------------|--|--------------------------------------|
| Laboratory Sample Number | 6614-104-0796 | | | |
| Client Name | Jack Wolfskin | | | |
| Field Contact Person | / | | | Phone No: 0591-85361756 |
| Project (Facility Name and Address) | 5045 | | | |
| | 5045 | | | |
| Sampling Location / Description | Sludge Tank/Black mud | | | |
| Sample Identification | Sludge | | | |
| Sample Type | Grab sample | | | |
| Name of Sampler | Zero Zhuang | | | |
| Date and time collected | 2014.04.10 | | 16:05 | |
| Field Data | | | | |
| Field Parameters | pH : / | | Temp : 22 °C | Color : Black |
| Control No. of field equipment | / | | / | / |
| Analysis Required and Preservation Method | | | | |
| Sampler container number | I004-1,I004-2 | | | |
| Volume collected | 500g | | | |
| Tests | Test required | Sample size | Type of container | Preservation method |
| 1. Phthalate | Y | 10 g | Amber Glass, wash with nitric acid | Store at 4°C |
| 2. Brominated and chlorinated Flame retardant | Y | 10 g | | |
| 3. Banned Azodyes | Y | 10 g | | |
| 4. Organotin Compounds | Y | 10 g | | |
| 5. Chlorobenzenes | Y | 10 g | | |
| 6. Chlorophenols | Y | 10 g | | |
| 7. SCCPs | Y | 10 g | | |
| 8. APEOs/APs | Y | 10 g | | |
| 9. Heavy Metals except CrVI | Y | 10 g | | |
| 10. CrVI | Y | 10 g | Amber Glass, wash with pesticide grade acetone | Fill to full bottle and store at 4°C |
| 11. Chlorinated Solvents | Y | 10 g | | |
| 12. PFCs | Y | 10 g | PE, wash with pesticide grade acetone | Store at 4°C |