

Safety & Environmental Report 2023

Data by Site

Notes on figures

- The Energy Consumption statistics are crude-oil equivalents of heavy oil, diesel oil, kerosene, gasoline, LP gas or etc.
- The recycling ratio represents the percentage of sold-off/recycled waste.
- Air emission data is measured at exhaust vents and water quality data at the final discharge outlet.
- For PRTR-targeted substances, Special Class 1 restricted substances (the amount usage of 0.5 ton or more per year) and Class 1 restricted substances (the amount usage of 1 ton or more per year) are stated in this report. Figures are rounded to one decimal place.
- All data was from FY2022. It was measured between April 1st, 2022 and March 31, 2023.

Notes on Standard Values

- The standard value for air emission is set to the strictest standard value referring to applicable laws, regulations and standards for the equipments. The observed values are the minimum/maximum among recorded values during the period.
- The standard values for air emission and water quality are the strictest values referring to the applicable laws, regulations and customer's agreements at each site.
- Column marked with an Em Dash ("-") indicates that they are not indispensable.

About Self-Control Standard

- It is the standard to control which defined by calculating value of processing ability from value of past performance. (self-control standard \leq legal standard)

TAIYO YUDEN CO., LTD. Takasaki Global Center

- Total energy consumption (Crude oil equivalent) : 303 kL/year
- Total waste generated : 46 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.
- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Tone River
- Drain destination : Karasu River(Via Sewage)

TAIYO YUDEN CO., LTD. Haruna Plant

- Total energy consumption (Crude oil equivalent) : 8,326 kL/year
- Total waste generated : 220 tons/year (recycling rate: 100 %)
- Air emission : **Air Pollution Control Act and Prefectural Ordinances**

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|------------------------------|-------------|------------------|----------------|-----------------------|--------------------|-------------|
| Firing furnace (Electricity) | | Soot and dust | 0.25 | 0.01 | g/m ³ N | 0.04 |
| Generator (Diesel) | Heavy oil A | NOx | 950 | 950 | ppm | 730 |
| | | SOx | 17.5 | 8.0 | K value | 0.14 |
| | | Soot and dust | 0.1 | 0.1 | g/m ³ N | 0.03 |

- Water quality : **Water Quality Pollution Control Act**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|-------------------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.8~8.6 | 6.5~8.0 | - | 7.3 | 7.5 | 7.6 |
| Biochemical oxygen demand | 25 | 15 | mg/L | 1 | 2 | 6 |
| Suspended solids | 50 | 20 | mg/L | <1 | <1 | 1 |
| N-hexane extract (mineral content) | 5 | 2 | mg/L | <1 | | |
| Copper content | 3 | 0.1 | mg/L | <0.01 | | |
| Zinc content | 2 | 0.5 | mg/L | <0.01 | 0.02 | 0.02 |
| Soluble iron content | 10 | 0.1 | mg/L | <0.01 | | |
| Soluble manganese content | 10 | 0.1 | mg/L | <0.01 | 0.02 | 0.04 |
| Chromium content | 2 | 0.02 | mg/L | <0.01 | | |
| Nitrogen content | 120 | 15 | mg/L | 4.3 | 5.3 | 9.0 |
| Phosphorus content | 16 | 0.1 | mg/L | <0.05 | 0.06 | 0.07 |

- PRTR restricted substances In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|-------------------------|-----------------|-----------------|----------------|
| Vanadium compound | 0 | 0 | 0 |
| Xylene | 0.02 | 0 | 0 |

- Water source : Spring Water
- Drain destination : Karasu River

TAIYO YUDEN CO., LTD. Nakanojo Plant

- Total energy consumption (Crude oil equivalent) : 3,302 kL/year
- Total waste generated : 225 tons/year (recycling rate: 100 %)
- Air emission : **Air Pollution Control Act and Prefectural Ordinances**

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|------------------------------|--------|------------------|----------------|-----------------------|--------------------|-------------|
| Firing furnace (Electricity) | | Soot and dust | 0.25 | 0.06 | g/m ³ N | 0.004 |
| Firing furnace | LP gas | NOx | 180 | 35 | ppm | <6 |
| | | Soot and dust | 0.25 | 0.005 | g/m ³ N | 0.013 |

- Water quality : **Sawage Ordinance (Town of Nakanojo)**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Boron and its compounds | 10 | 8.5 | mg/L | 0.01 | 0.03 | 0.05 |
| Hydrogen ion concentration | 5.0~9.0 | 5.0~8.1 | - | 7.4 | 7.7 | 8.0 |
| Biochemical oxygen demand | 600 | 124 | mg/L | 5 | 65 | 120 |
| Suspended solids | 600 | 31 | mg/L | 2.0 | 5.4 | 11.0 |
| N-hexane extract (mineral content) | 5 | 3 | mg/L | <1 | | |
| N-hexane extract (animal/plant content) | 30 | 3 | mg/L | <1 | 2.9 | 5.0 |
| Copper content | 3 | 0.4 | mg/L | 0.01 | 0.03 | 0.05 |
| Zinc content | 2 | 0.7 | mg/L | 0.03 | 0.01 | 0.4 |
| Soluble iron content | 10 | 0.3 | mg/L | <0.01 | | |
| Soluble manganese content | 10 | 0.3 | mg/L | <0.01 | | |

- PRTR restricted substances In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|--|-----------------|-----------------|----------------|
| Silver and its water-soluble compounds | 0 | 0 | 0.2 |
| Chromium and chromium(III) compounds | 0 | 0 | 0.05 |
| Nickel compound | 0 | 0 | 8.1 |

- Water source : Spring Water
- Drain destination : Momose River(Via Sewage)

TAIYO YUDEN CO., LTD. Tamamura Plant

- Total energy consumption (Crude oil equivalent) : 25,403 kL/year
- Total waste generated : 1,645 tons/year (recycling rate: 100 %)
- Air emission : **Air Pollution Control Act**

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|------------------------------|------|------------------|----------------|-----------------------|--------------------|-------------|
| Firing furnace (Electricity) | | Soot and dust | 0.25 | 0.16 | g/m ³ N | 0.04 |

- Water quality : **Water Quality Pollution Control Act and Agreement**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Lead and its compounds | 0.1 | 0.01 | mg/L | <0.01 | | |
| Arsenic and its compounds | 0.1 | 0.01 | mg/L | <0.01 | | |
| Fluorine and its compounds | 8 | 0.3 | mg/L | <0.1 | | |
| Hydrogen ion concentration | 5.8~8.6 | 6.9~8.0 | - | 7.6 | 7.8 | 8.2 |
| Biochemical oxygen demand | 25 | 13 | mg/L | 1.0 | 2.5 | 8.0 |
| Suspended solids | 50 | 30 | mg/L | 1.0 | | |
| N-hexane extract (mineral content) | 5 | 1 | mg/L | <1 | | |
| N-hexane extract (animal/plant content) | 30 | 1 | mg/L | | | |
| Copper content | 3 | 0.03 | mg/L | 0.02 | | |
| Zinc content | 2 | 0.5 | mg/L | 0.05 | | |
| Soluble iron content | 10 | 0.12 | mg/L | 0.02 | | |
| Soluble manganese content | 10 | 0.5 | mg/L | 0.01 | | |
| Chromium content | 2 | 0.01 | mg/L | <0.01 | | |
| Coliform bacteria count | 3,000 | 1,400 | Num/cm ³ | <30 | | |
| Nitrogen content | 120 | 18 | mg/L | 2.9 | 5.4 | 9.1 |
| Phosphorus content | 16 | 5 | mg/L | 0.3 | 1.0 | 1.8 |

- PRTR restricted substances

In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|-------------------------|-----------------|-----------------|----------------|
| Toluene | 8.1 | 0 | 7.4 |
| Nickel | 0.03 | 0 | 24.2 |
| Nickel compound | 0 | 0 | 0.5 |
| Methylnaphthalene | 0.08 | 0 | 0 |

- Water source : Tone River
- Drain destination : Karasu River

TAIYO YUDEN CO., LTD. Yawatabara Plant

- Total energy consumption (Crude oil equivalent) : 879 kL/year
- Total waste generated : 47 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality: **Pollution Control Agreement**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.8~8.6 | 6.4~8.3 | - | 7.2 | 7.6 | 8.1 |
| Biochemical oxygen demand | 25 | 14 | mg/L | 1.0 | 1.6 | 4.0 |
| Suspended solids | 50 | 12 | mg/L | 1.0 | 3.8 | 22 |
| N-hexane extract (animal/plant content) | 30 | 1.2 | mg/L | 1.0 | | |
| Coliform bacteria count | 3,000 | 1,500 | Num/cm ³ | 30 | | |
| Nitrogen content | 120 | 16 | mg/L | 0.4 | 4.3 | 16 |
| Phosphorus content | 16 | 2.7 | mg/L | 0.3 | 0.7 | 2.4 |
| Soluble iron content | 10 | 0.036 | mg/L | 0.01 | | |
| Soluble manganese content | 10 | 0.034 | mg/L | 0.01 | | |

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Tone River
- Drain destination : Karasu River

TAIYO YUDEN CO., LTD. R&D Center

- Total energy consumption (Crude oil equivalent) : 1,627 kL/year
- Total waste generated : 112 tons/year (recycling rate: 100 %)
- Air emission : **Air Pollution Control Act**

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|--------------------|----------------|------------------|----------------|-----------------------|--------------------|-------------|
| Generator (Diesel) | Heavy fuel oil | NOx | 950 | 900 | ppm | 569 |
| | | SOx | 8 | 2.7 | K value | 0.9 |
| | | Soot and dust | 0.1 | 0.06 | g/m ³ N | 0.03 |

- Water quality : **Pollution Control Agreement**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|--|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Boron and its compounds | 10 | 0.2 | mg/L | 0.01 | | |
| Fluorine and its compounds | 8 | 0.2 | mg/L | 0.1 | | |
| Ammonia and its compounds, Nitrous and Nitric acid compound | 100 | 60 | mg/L | 23 | | |
| Hydrogen ion concentration | 5.8~8.6 | 6.0~8.4 | - | 6.4 | 7.4 | 7.6 |
| Biochemical oxygen demand | 25 | 18 | mg/L | 1.0 | 5.8 | 12 |
| Suspended solids | 50 | 30 | mg/L | 1.0 | 6.8 | 21 |
| N-hexane extract (animal/plant content) | 30 | 10 | mg/L | 1 | | |
| Phenolic content | 1 | 0.3 | mg/L | 0.1 | | |
| Copper content | 3 | 0.1 | mg/L | 0.01 | | |
| Zinc content | 2 | 0.2 | mg/L | 0.03 | | |
| Soluble iron content | 10 | 0.1 | mg/L | 0.05 | | |
| Soluble manganese content | 10 | 0.1 | mg/L | 0.01 | | |
| Chromium content | 2 | 0.1 | mg/L | 0.01 | | |
| Coliform bacteria count | 3,000 | 500 | Num/cm ³ | 30 | | |
| Nitrogen content | 120 | 80 | mg/L | 17 | 40 | 61 |
| Phosphorus content | 16 | 12 | mg/L | 1.7 | 4.9 | 6.3 |

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Groundwater Wells
- Drain destination : Karasu River

TAIYO YUDEN CHEMICAL TECHNOLOGY CO., LTD.

- Total energy consumption (Crude oil equivalent) : 3,354 kL/year
- Total waste generated : 1,143 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : **Water Quality Pollution Control Act and Agreement**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Boron and its compounds | 10 | 1 | mg/L | 0.8 | 1.5 | 2.2 |
| Fluorine and its compounds | 8 | 6 | mg/L | 0.2 | 0.3 | 0.4 |
| Ammonia (Sum of Ammonia, Nitric & Nitrous acid) | 100 | 30 | mg/L | 16.6 | 20.7 | 25.2 |
| Hydrogen ion concentration | 5.8~8.6 | 6.2~8.3 | - | 6.3 | 6.9 | 7.6 |
| Biochemical oxygen demand | 25 | 7 | mg/L | 2.0 | 7.9 | 20.0 |
| Suspended solids | 50 | 6 | mg/L | 3.0 | 17.3 | 36 |
| N-hexane extract (animal/plant content) | 5 | 1 | mg/L | <1.0 | | |
| Copper content | 3 | 0.02 | mg/L | 0.1 | 1.0 | 2.8 |
| Zinc content | 2 | 0.05 | mg/L | 0.06 | 0.08 | 0.11 |
| Soluble iron content | 10 | 0.3 | mg/L | 0.5 | 0.9 | 1.6 |
| Soluble manganese content | 10 | 0.1 | mg/L | 0.06 | 0.10 | 0.16 |
| Chromium content | 2 | 0.1 | mg/L | <0.01 | | |
| Coliform bacteria count | 3,000 | 400 | Num/cm ³ | <30 | <30 | 88 |
| Nitrogen content | 60 | 18 | mg/L | 19 | 37 | 48 |
| Phosphorus content | 8 | 2 | mg/L | 0.3 | 4.1 | 7.8 |
| Formaldehyde | 10 | 1 | mg/L | <1.0 | | |
| Phenol | 1 | 0.2 | mg/L | <0.1 | | |

- PRTR restricted substances In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|---|-----------------|-----------------|----------------|
| Nickel | 0.8 | 5.7 | 0 |
| Nickel compound | 0.2 | 0 | 9.6 |
| copper salts <small>(water-soluble, except complex salts)</small> | 0.01 | 0.2 | 0.1 |
| Boron compound | 0.6 | 0.7 | 0 |

- Water source : Kanna River
- Drain destination : Ayu River

TAIYO YUDEN TECHNO SOLUTIONS CO., LTD.

- Total energy consumption (Crude oil equivalent) : 952 kL/year
- Total waste generated : 56 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.

■ PRTR restricted substances In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|--|-----------------|-----------------|----------------|
| Methylenebis(4,1-phenylene) diisocyanate | 0 | 0 | 0.5 |
| Tritolyl phosphate | 0 | 0 | 0.6 |

- Water source : Tone River
- Drain destination : Karasu River

FUKUSHIMA TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 4,442 kL/year
- Total waste generated : 390 tons/year (recycling rate: 90.2 %)
- Air emission : Measurement was not performed since the facility subjected to legal regulations was out of service.
- Water quality : **Pollution Control Agreement**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Boron and its compounds | 10 | 1.48 | mg/L | 0.8 | 1.1 | 1.4 |
| Fluorine and its compounds | 8 | 0.05 | mg/L | 0.05 | 0.10 | 0.05 |
| Hydrogen ion concentration | 5.8~8.6 | 6.5~7.9 | - | 6.9 | 7.4 | 7.7 |
| Biochemical oxygen demand | 20 | 5 | mg/L | 1.0 | 1.6 | 5.2 |
| Suspended solids | 50 | 3.2 | mg/L | 1.0 | 1.5 | 4.0 |
| N-hexane extract (mineral content) | 1 | 0.5 | mg/L | 0.5 | | |
| N-hexane extract (animal/plant content) | 10 | 0.6 | mg/L | 0.5 | | |
| Phenolic content | 1 | 0.03 | mg/L | <0.02 | | |
| Copper content | 2 | 0.1 | mg/L | 0.01 | 0.05 | 0.06 |
| Zinc content | 2 | 0.59 | mg/L | 0.05 | 0.1 | 0.2 |
| Soluble iron content | 10 | 0.3 | mg/L | 0.1 | 0.3 | 0.5 |
| Soluble manganese content | 10 | 0.05 | mg/L | 0.01 | 0.02 | 0.04 |
| Chromium content | 2 | 0.06 | mg/L | 0.05 | 0.10 | 0.05 |
| Coliform bacteria count | 3,000 | 648 | Num/cm ³ | 0 | 1.3 | 10 |
| Nitrogen content | 120 | 28.4 | mg/L | 4.6 | 8.7 | 28 |
| Phosphorus content | 16 | 3.6 | mg/L | 0.02 | 0.7 | 3.0 |

■ PRTR restricted substances In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|--|-----------------|-----------------|----------------|
| Silver and its water-soluble compounds | 0 | 0.3 | 3.8 |
| Boron compound | 0 | 0.1 | 0 |

- Water source : Surigami River
- Drain destination : Abukuma River

NIIGATA TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 47,166 kL/year
- Total waste generated : 5,288 tons/year (recycling rate: 100 %)
- Air emission : **Air Pollution Control Act**

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|------------------------------|------|------------------|----------------|-----------------------|--------------------|-------------|
| Firing furnace (Electricity) | | Soot and dust | 0.25 | 0.17 | g/m ³ N | 0.07 |

- Water quality : **Water Quality Pollution Control Act is not applicable to this site and measurement was performed voluntarily.**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.8~8.6 | 6.0~8.4 | - | 6.7 | 7.4 | 7.9 |
| Biochemical oxygen demand | 160 | 24 | mg/L | 0.8 | 4.0 | 11 |
| Suspended solids | 200 | 20 | mg/L | 1.0 | 5.0 | 16.0 |
| N-hexane extract (mineral content) | 5 | 1 | mg/L | <0.5 | | |
| N-hexane extract (animal/plant content) | 30 | | mg/L | | | |
| Coliform bacteria count | 3,000 | 33 | Num/cm ³ | 0.0 | 0.2 | 2.0 |
| Nitrogen content | 120 | 5 | mg/L | 1.2 | 2.0 | 2.9 |
| Phosphorus content | 16 | 6 | mg/L | 0.1 | 0.4 | 0.9 |
| Lead and its compounds | 0.1 | 0.01 | mg/L | <0.01 | | |
| Arsenic and its compounds | 0.1 | 0.01 | mg/L | <0.01 | | |
| Copper content | 3 | 0.2 | mg/L | 0.02 | 0.04 | 0.06 |
| Zinc content | 2 | 1.2 | mg/L | 0.1 | 0.2 | 0.3 |
| Soluble iron content | 10 | 0.41 | mg/L | 0.03 | 0.08 | 0.12 |
| Soluble manganese content | 10 | 0.05 | mg/L | 0.02 | 0.03 | 0.03 |
| Chromium content | 2 | 0.01 | mg/L | <0.01 | | |
| Fluorine and its compounds | 8 | 0.6 | mg/L | <0.5 | | |

- PRTR restricted substances In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|-------------------------|-----------------|-----------------|----------------|
| Toluene | 17.7 | 14.9 | 14.7 |
| Nickel | 0 | 2.6 | 56.9 |
| Nickel compound | 0 | 0.1 | 2.4 |

- Water source : Kakizaki River
- Drain destination : Hokura River

TAIYO YUDEN ENERGY DEVICE CO., LTD.

- Total energy consumption (Crude oil equivalent) : 1,011 kL/year
- Total waste generated : 2,458 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.
- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Hokkwa River
- Drain destination : Hokkwa River

WAKAYAMA TAIYO YUDEN CO., LTD.

- Total energy consumption (Crude oil equivalent) : 4,892 kL/year
- Total waste generated : 238 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : **Water Quality Pollution Control Act and**

Enforcement Ordinance of the Anti-pollution Regulation (Wakayama Prefecture)

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Boron and its compounds | 10 | 0.94 | mg/L | 0.1 | 0.2 | 0.8 |
| Fluorine and its compounds | 8 | 0.8 | mg/L | 0.8 | | |
| Ammonia | 100 | 24 | mg/L | 0.1 | 1.9 | 20.0 |
| Hydrogen ion concentration | 5.8~8.6 | 5.8~8.6 | - | 6.5 | 7.0 | 7.8 |
| Biochemical oxygen demand | 160 | 28.5 | mg/L | 1.6 | 8.6 | 24.0 |
| Chemical oxygen demand | 160 | 18.5 | mg/L | 3.4 | 9.3 | 16.0 |
| Suspended solids | 200 | 17.8 | mg/L | 1.0 | 3.4 | 15.0 |
| N-hexane extract (mineral content) | 5 | 0.6 | mg/L | 0.5 | 0.5 | 0.6 |
| N-hexane extract (animal/plant content) | 30 | 1.3 | mg/L | 0.5 | 0.7 | 1.2 |
| Phenolic content | 5 | 0.5 | mg/L | 0.5 | | |
| Copper content | 3 | 0.3 | mg/L | 0.3 | | |
| Zinc content | 2 | 0.4 | mg/L | 0.2 | 0.2 | 0.4 |
| Soluble iron content | 10 | 0.3 | mg/L | 0.1 | 0.1 | 0.3 |
| Soluble manganese content | 10 | 0.1 | mg/L | 0.1 | | |
| Chromium content | 2 | 0.2 | mg/L | 0.2 | | |
| Coliform bacteria count | 3,000 | 24 | Num/cm ³ | 0.8 | 6.6 | 20.0 |
| Nitrogen content | 120 | 61 | mg/L | 0.3 | 5.0 | 51.0 |
| Phosphorus content | 16 | 0.01 | mg/L | 0.01 | | |
| Nickel | 3 | 0.01 | mg/L | 0.01 | | |

■ PRTR restricted substances

In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|--|-----------------|-----------------|----------------|
| Ferric Chloride | 0 | 7.6 | 0 |
| Silver and its water-soluble compounds | 0 | 4.1 | 0 |
| Chromium and chromium(III) compounds | 0 | 1.0 | 0 |
| Toluene | 1.9 | 5.2 | 0 |

- Water source : Kirime River
- Drain destination : Inami River

TAIYO YUDEN Mobile Technology Co., Ltd.

- Total energy consumption (Crude oil equivalent) : 11,750 kL/year
- Total waste generated : 107 tons/year (recycling rate: 100 %)

<<Head Office / Main Plant>>

■ Air emission : **Air Pollution Control Act**

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|-----------|----------|------------------|----------------|-----------------------|------|-------------|
| Boiler | Town gas | NOx | 45 | 42 | ppm | 30 |

■ Water quality : **Sewerage Act, Sewerage Regulations**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Boron and its compounds | 10 | 2 | mg/L | 0.1 | | |
| Fluorine and its compounds | 8 | 5.5 | mg/L | 0.3 | 0.7 | 1.1 |
| Hydrogen ion concentration | 5.7~8.7 | 6.1~8.3 | - | 6.9 | 7.1 | 7.5 |
| Biochemical oxygen demand | 300 | 240 | mg/L | 2 | 59 | 110 |
| Suspended solids | 300 | 120 | mg/L | 12 | 28 | 44 |
| Copper content | 3 | 0.3 | mg/L | 0.10 | 0.07 | 0.10 |
| Nitrogen content | 120 | 102 | mg/L | 5.4 | 13.5 | 21.0 |
| Phosphorus content | 16 | 6 | mg/L | 0.3 | 0.6 | 1.1 |

■ PRTR restricted substances

In tons/year

| Chemical Substance Name | Total Emissions | Total Transfers | Total Recycles |
|---|-----------------|-----------------|----------------|
| Hydrogen fluoride and its water-soluble salts | 0 | 0.8 | 0 |

- Water source : Tama River
- Drain destination : Tama River(Via sewage)

<<Tokorozawa Plant>>

- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : **Water Quality Pollution Control Act and Sewerage Act**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|-------------------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.0~9.0 | 6.0~8.0 | - | 6.8 | 7.2 | 7.6 |
| Biochemical oxygen demand | 600 | 20 | mg/L | 1.1 | 1.5 | 1.9 |
| Suspended solids | 600 | 20 | mg/L | 2.7 | 10.9 | 30.0 |
| N-hexane extract (mineral content) | 5 | 1.2 | mg/L | <0.2 | 0.2 | <0.2 |
| Nitrogen content | 240 | 30 | mg/L | 0.4 | 11.9 | 24.0 |
| Phosphorus content | 32 | 1 | mg/L | <0.1 | 0.1 | <0.2 |

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Ara River
- Drain destination : Singashi River(Via Sewage)

Kankyo Assist Co., Ltd.

- Total energy consumption (Crude oil equivalent) : 29 kL/year
- Total waste generated : 2.8 ton/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.
- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Tone River
- Drain destination : Karasu River

ELNA CO., LTD.

- Total energy consumption (Crude oil equivalent) : 348 kL/year
- Total waste generated : 28 tons/year (recycling rate: 100 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : Measurement was not performed since no facility was subject to legal regulations.
- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Hokkwa River
- Drain destination : Hokkwa River

ELNA TOHOKU CO., LTD.

- Total energy consumption (Crude oil equivalent) : 2,218 kL/year
- Total waste generated : 280 tons/year (recycling rate: 93.6 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality : **Sewerage Regulations**

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.0~9.0 | 5.0~9.0 | - | 5.9 | 7.5 | 8.4 |
| Biochemical oxygen demand | 600 | 176 | mg/L | 9 | 79 | 210 |
| Suspended solids | 600 | 21 | mg/L | 1 | 12 | 22 |
| N-hexane extract (mineral content) | 5 | 1 | mg/L | 0.5 | | |
| N-hexane extract (animal/plant content) | 30 | 7.3 | mg/L | 1.5 | 4.3 | 11.0 |
| Iodine consumption | 220 | 6 | mg/L | 0.5 | 9.0 | 30.0 |

- PRTR restricted substances : Total usage amount is under notification obligation.
- Water source : Asaseishikawa River
- Drain destination : Iwaki River(Via Sewage)

KOREA KYONG NAM TAIYO YUDEN CO., LTD.

■ Total energy consumption (Crude oil equivalent) : 42,909 kL/year

■ Total waste generated : 6,229 tons/year (recycling rate: 87.2 %)

■ Air emission :

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|----------------|------|-------------------------|----------------|-----------------------|--------------------|-------------|
| Scrubber | | Soot and dust | 30 | 5.9 | g/m ³ N | 2.3 |
| | | SOx | 200 | 6.7 | ppm | 0.3 |
| | | Ammonia | 30 | 3 | ppm | 3 |
| | | Nickel | 2 | 1 | g/m ³ N | 0.3 |
| | | Copper | 4 | 0.2 | g/m ³ N | <0.003 |
| | | Total Hydrocarbon (THC) | 200 | 55 | ppm | 0.9 |
| RTO | | Toluene | 30 | 0.8 | ppm | 0.5 |
| | | Nickel | 2 | 1 | g/m ³ N | 0.03 |
| | | Total Hydrocarbon (THC) | 110 | 45 | ppm | 14.1 |
| Drying furnace | | Soot and dust | 30 | 4.5 | g/m ³ N | 1.9 |
| Bag filter | | Soot and dust | 30 | 4.5 | g/m ³ N | 2.0 |

■ Water quality :

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---|---------------|-----------------------|---------------------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.8~8.6 | 6.0~8.0 | - | 6.1 | 7.3 | 8.5 |
| Biochemical oxygen demand | 300 | 34 | mg/L | 2.6 | 11.5 | 23.3 |
| Total organic carbon | 170 | 10 | mg/L | 1.4 | 4.2 | 9.2 |
| Suspended solids | 300 | 25 | mg/L | 1.6 | 8.8 | 24 |
| N-hexane extract (mineral content) | 5 | 1.1 | mg/L | <0.5 | | |
| N-hexane extract (animal/plant content) | 30 | 1.1 | mg/L | 0.30 | 0.65 | 1.00 |
| Copper content | 3 | 1 | mg/L | 0.01 | 0.05 | 0.02 |
| Fluorine and its compounds | 15 | 2 | mg/L | <0.15 | | |
| Nitrogen content | 60 | 42 | mg/L | 24 | 32 | 42 |
| Phosphorus content | 20 | 1.5 | mg/L | 0.01 | 0.12 | 0.34 |
| Anionic surfactant | 5 | 0.5 | mg/L | <0.09 | | |
| Tin | 5 | 0.5 | mg/L | <0.02 | 0.02 | 0.02 |
| Nickel | 3 | 1.5 | mg/L | 0.03 | 0.32 | 0.57 |
| Chromium content | 2 | 1 | mg/L | <0.007 | | |
| Zinc content | 5 | 0.3 | mg/L | 0.007 | | |
| Phenol | 3 | 1.5 | mg/L | <0.007 | | |
| Soluble manganese content | 10 | 0.2 | mg/L | 0.23 | | |
| Soluble iron content | 10 | 0.5 | mg/L | 0.1 | | |
| Coliform bacteria count | 3,000 | 100 | Num/cm ³ | 50 | | |
| Trichloroethylene | 0.3 | 0.15 | mg/L | <0.001 | | |
| Tetrachloroethylene | 0.1 | 0.05 | mg/L | <0.001 | | |

■ Water source : Jinjunamgang River

■ Drain destination : Yonghyeon Sea

TAIYO YUDEN (GUANGDONG) CO., LTD.

- Total energy consumption (Crude oil equivalent) : 31,896 kL/year
- Total waste generated : 1,380 tons/year (recycling rate: 100 %)
- Air emission :

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|----------------|-------------|------------------------------|----------------|-----------------------|---------------------|-------------|
| Boiler | Natural gas | Ringelmann smoke density | 1 | 1 | class | <1 |
| | | Sulfur dioxide | 50 | 50 | mg/m ³ N | <4 |
| | | Total suspended particulates | 20 | 20 | mg/m ³ N | <20 |
| | | NOx | 150 | 150 | mg/m ³ N | 102 |
| Generator | Kerosene | Ringelmann smoke density | 1 | 1 | class | 0.5 |
| | | Sulfur dioxide | 550 | 338 | mg/m ³ N | 111 |
| | | Total suspended particulates | 120 | 93 | mg/m ³ N | <20 |
| | | NOx | 240 | 240 | mg/m ³ N | 117 |
| Cafeteria | Natural gas | Oily smoke | 2 | 2 | ppm | 1.2 |
| Scrubber | - | Hydrogen chloride | 30 | 15 | mg/m ³ N | 1.7 |
| | | NOx | 120 | 100 | mg/m ³ N | 2.7 |
| RTO | Natural gas | Toluene | 20 | 20 | mg/m ³ N | 0.2 |
| | | Methanol | 190 | 190 | mg/m ³ N | 0.09 |
| Firing furnace | - | Non-Methane Hydrocarbons | 120 | 60 | mg/m ³ N | 5.1 |
| | | Particulate matter | 120 | 120 | mg/m ³ N | 0 |

- Water quality :
- Industrial wastewater

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|--|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Ammonia and similar nitrogen compounds | 15 | 6 | mg/L | 0.004 | 0.14 | 0.45 |
| Hydrogen ion concentration | 6.0~9.0 | 6.8~8.5 | - | 7.3 | 7.5 | 7.9 |
| Chemical oxygen demand | 80 | 50 | mg/L | 5 | 9 | 14 |
| Suspended solids | 30 | 15 | mg/L | 5.0 | 5.2 | 7.0 |
| Zinc content | 1 | 0.5 | mg/L | 0.11 | | |
| Nitrogen content | 20 | 15 | mg/L | 2.8 | 7.1 | 14.6 |
| Copper content | 0.5 | 0.2 | mg/L | 0.001 | 0.02 | 0.08 |
| Nickel | 0.5 | 0.3 | mg/L | 0.003 | 0.02 | 0.10 |

Human sewage

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 6.0~9.0 | 6.0~9.0 | - | 6.8 | 6.9 | 7.0 |
| Biochemical oxygen demand | 300 | 300 | mg/L | 4.4 | 4.8 | 5.2 |
| Chemical oxygen demand | 500 | 500 | mg/L | 19.0 | 30.5 | 23.0 |
| Suspended solids | 400 | 400 | mg/L | 11.0 | 20.0 | 18.0 |
| Animal/Vegetable oils | 100 | 100 | mg/L | 0.16 | 0.74 | 1.16 |
| Petroleum | 20 | 20 | mg/L | ND | 0.36 | 0.71 |

- Water source : Dong River
- Drain destination : Dong River

TAIYO YUDEN (PHILIPPINES), INC.

- Total energy consumption (Crude oil equivalent) : 16,649 kL/year
- Total waste generated : 1,058 tons/year (recycling rate: 87.5 %)
- Air emission :

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|-----------|------|-------------------|----------------|-----------------------|---------------------|-------------|
| Scrubber | - | Hydrogen sulfide | 7 | 5.6 | mg/m ³ N | <1.0 |
| | | Nitrogen oxides | 500 | 400 | mg/m ³ N | 11 |
| | | Pariculate matter | 200 | 160 | mg/m ³ N | 0.3 |
| | | Sulfur oxides | 700 | 600 | mg/m ³ N | 5 |

- Water quality :

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|---------|-------|-------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 6.0~9.0 | 6.6 ~ 8.4 | - | 7 | 7 | 8 |
| Biochemical oxygen demand | 100 | 80 | mg/L | 2 | 12 | 32 |
| Chemical oxygen demand | 200 | 160 | mg/L | 10 | 42 | 113 |
| Suspended solids | 100 | 80 | mg/L | 3 | 6 | 12 |
| Oil & Grease | 10 | 8 | mg/L | <1 | | |
| Silver | 1 | 0.8 | mg/L | <0.01 | | |
| Lead and its compounds | 0.1 | 0.08 | mg/L | <0.01 | | |
| Zinc content | 1.5 | 1.2 | mg/L | <0.003 | 0.016 | 0.029 |
| Nickel | 0.3 | 0.2 | mg/L | 0.08 | 0.18 | 0.26 |
| Fluorine and its compounds | 3 | 2.4 | mg/L | 0.02 | 0.10 | 0.11 |
| Boron and its compounds | 20 | 16 | mg/L | 0.6 | 1.9 | 4.6 |
| Trichloroethylene | 9.0 | 7.2 | mg/L | <0.0003 | | |
| Arsenic and its compounds | 0.04 | 0.03 | mg/L | <0.0007 | | |
| Chromium content | 0.1 | 0.08 | mg/L | <0.009 | | |
| Soluble iron content | 7.5 | 6 | mg/L | 0.1 | 0.7 | 2.5 |
| Soluble manganese content | 4 | 3.2 | mg/L | 0.01 | 0.03 | 0.06 |
| Mercury | 0.004 | 0.003 | mg/L | <0.0004 | | |
| Phenol | 0.5 | 0.4 | mg/L | <0.001 | 0.018 | 0.035 |
| Anionic surfactant | 15 | 12 | mg/L | <0.05 | 0.12 | 0.18 |

- Water source : Groundwater Wells
- Drain destination : Mactan Channel Sea

TAIYO YUDEN (SARAWAK) SDN.BHD.

- Total energy consumption (Crude oil equivalent) : 37,511 kL/year
- Total waste generated : 4,675 tons/year (recycling rate: 81.2 %)
- Air emission :

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|-----------|--------|-------------------|----------------|-----------------------|---------------------|-------------|
| Scrubber | - | Hydrogen chloride | 0.03 | 0.0007 | g/m ³ N | 0.001 |
| | | Sulfuric acid | 0.005 | 0.04 | g/m ³ N | 0.001 |
| Boiler | LP gas | Dust Particulate | 0.05 | 0.01 | g/m ³ N | 0.02 |
| | | Dark Smoke | 20 | 20 | % | 0 |
| RTO | LP gas | Dust Particulate | 0.05 | 0.02 | mg/m ³ N | 0.02 |
| | | Dark Smoke | 20 | 20 | % | 1.00 |

- Water quality :

Industrial wastewater

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Temperature | 40 | 31 | °C | 27 | 28 | 29 |
| Hydrogen ion concentration | 5.5~9.0 | 6.98~8.88 | - | 7.2 | 7.7 | 8.1 |
| Biochemical oxygen demand | 50 | 40 | mg/L | 2.0 | 7.2 | 24.0 |
| Chemical oxygen demand | 200 | 160 | mg/L | 19 | 37 | 73 |
| Suspended solids | 100 | 80 | mg/L | 5.0 | 5.6 | 8.0 |
| Zinc content | 2 | 1.2 | mg/L | 0.1 | | |
| Copper content | 1 | 0.6 | mg/L | 0.2 | 0.3 | 0.7 |
| Nickel | 1 | 0.8 | mg/L | 0.2 | 0.4 | 0.9 |
| Tin | 1 | 0.9 | mg/L | 0.3 | | |
| Soluble iron content | 5 | 3.4 | mg/L | 0.5 | 1.4 | 3.7 |

Human sewage

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.5~9.0 | 7.0~8.8 | - | 7.0 | 7.7 | 8.0 |
| Biochemical oxygen demand | 50 | 2.4 | mg/L | 2.0 | | |
| Chemical oxygen demand | 200 | 26 | mg/L | 10.0 | 11.8 | 18.0 |
| Suspended solids | 100 | 5.0 | mg/L | 5.0 | | |
| Ammonia Nitrogen | 50 | 4.7 | mg/L | 0.5 | 1.2 | 2.6 |
| Oil & Grease | 20 | 1.2 | mg/L | 1.0 | | |

- Water source : Kitang River
- Drain destination : Sarawak River

ELNA-SONIC SDN. BHD.

- Total energy consumption (Crude oil equivalent) : 3,931 kL/year
- Total waste generated : 314 tons/year (recycling rate: 100 %)
- Air emission :

| Equipment | Fuel | Emissions to Air | Emission Limit | Self-control Standard | Unit | Actual Max. |
|-------------------|------|--------------------|----------------|-----------------------|--------------------|-------------|
| Equipment exhaust | - | Particulate matter | 150 | 100 | g/m ³ N | 2.9 |

- Water quality :
- Industrial wastewater

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.5~9.0 | 6.0~8.5 | - | 7.3 | 7.4 | 7.6 |
| Biochemical oxygen demand | 50 | 40 | mg/L | 10 | 12 | 14 |
| Chemical oxygen demand | 200 | 160 | mg/L | 44 | 53 | 60 |
| Suspended solids | 100 | 80 | mg/L | 3 | 4 | 6 |
| Zinc content | 2 | 1.6 | mg/L | 0.1 | 0.3 | 0.9 |
| Copper content | 1 | 0.8 | mg/L | 0.05 | 0.13 | 0.30 |
| Nickel | 1 | 0.8 | mg/L | 0.1 | | |
| Tin | 1 | 0.8 | mg/L | 0.5 | | |
| Boron and its compounds | 4 | 3.2 | mg/L | 0.1 | | |
| Oil & Grease | 10 | 8 | mg/L | 1 | | |
| Lead and its compounds | 1 | 0.4 | mg/L | 0.1 | | |
| Soluble iron content | 5 | 4 | mg/L | 0.1 | 0.2 | 0.4 |

Human sewage

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|---------------------------|---------------|-----------------------|------|--------|------|------|
| | | | | Min. | Ave. | Max. |
| Biochemical oxygen demand | 100 | 80 | mg/L | 8 | 12 | 18 |
| Chemical oxygen demand | 300 | 240 | mg/L | 32 | 52 | 76 |
| Suspended solids | 120 | 96 | mg/L | 10 | 13 | 16 |
| Ammoniacal nitrogen | 80 | 64 | mg/L | 2.6 | 6.3 | 12.1 |

- Water source : Muda River
- Drain destination : Juru River

TANIN ELNA CO., LTD.

- Total energy consumption (Crude oil equivalent) : 3,038 kL/year
- Total waste generated : 368 tons/year (recycling rate: 41.1 %)
- Air emission : Measurement was not performed since no facility was subject to legal regulations.
- Water quality :

Industrial wastewater

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|-----------------------------|---------------|-----------------------|------|-------------------|------|------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.5~9.0 | 6.0~8.0 | - | 7.9 | | |
| Total Dissolved Solids | 3,000 | 2,700 | mg/L | 442 | | |
| Suspended solids | 50 | 45 | mg/L | 8 | | |
| Biochemical oxygen demand | 20 | 18 | mg/L | 1.3 | | |
| Chemical oxygen demand | 120 | 108 | mg/L | 25.6 | | |
| Sulfide as H ₂ S | 1 | 0.9 | mg/L | ND | | |
| Cyanide as HCN | 0.2 | 0.18 | mg/L | ND | | |
| Oil & Grease | 5 | 4.5 | mg/L | 5.9 ^{*1} | | |
| Formaldehyde | 1 | 0.9 | mg/L | 0.2 | | |
| Phenol | 1 | 0.9 | mg/L | ND | | |
| Free chlorine | 1 | 0.9 | mg/L | ND | | |
| Total kjeldahl Nitrogen | 100 | 90 | mg/L | 7.4 | | |
| Zinc content | 5 | 4.5 | mg/L | 0.03 | | |
| Chromium hexavalent | 0.25 | 0.23 | mg/L | ND | | |
| Chromium trivalent | 0.75 | 0.68 | mg/L | ND | | |
| Arsenic and its compounds | 0.25 | 0.23 | mg/L | ND | | |
| Copper content | 2.0 | 1.8 | mg/L | ND | | |
| Mercury | 0.005 | 0.0045 | mg/L | ND | | |
| Cadmium | 0.03 | 0.027 | mg/L | ND | | |
| Barium | 1.0 | 0.9 | mg/L | 0.1 | | |
| Selenium | 0.02 | 0.018 | mg/L | ND | | |
| Lead and its compounds | 0.2 | 0.18 | mg/L | ND | | |
| Nickel | 1.0 | 0.9 | mg/L | ND | | |
| Soluble manganese content | 5.0 | 4.5 | mg/L | 0.02 | | |

*1: Oil & Grease exceeds the legal standard because of production change.

Human sewage

| Item | Effluent Std. | Self-control Standard | Unit | Actual | | |
|----------------------------|---------------|-----------------------|------|--------|------|--------------------|
| | | | | Min. | Ave. | Max. |
| Hydrogen ion concentration | 5.5~9.0 | 6.0~8.0 | - | 5.8 | 7.0 | 7.9 |
| Biochemical oxygen demand | 20 | 18 | mg/L | 1.3 | 8.1 | 21.5 ^{*2} |
| Chemical oxygen demand | 120 | 108 | mg/L | 17 | 44 | 127 ^{*2} |
| Suspended solids | 50 | 45 | mg/L | 4 | 13 | 30 |
| Nitrogen content | 100 | 90 | mg/L | 0.6 | 4.3 | 13.9 |
| Oil & Grease | 5 | 4.5 | mg/L | 0.3 | 2.7 | 10.1 ^{*2} |

*2: Biochemical oxygen demand, Chemical oxygen demand and Oil & Grease exceeds the legal standard because of the temporary change in the number of workers.

- Water source : Groundwater Wells
- Drain destination : Ping River