

**Chemical Waste Treatment Centre**  
**Monitoring Report**  
**Oct 00 - Dec 00**

**I. INTRODUCTION**

This Operation Report is prepared by EPD for the Environment and Planning Committee (EPC) of the Kwai Tsing District Council. It outlines the activities of the Chemical Waste Treatment Centre (CWTC) and provides a summary of environmental performance of the plant.

The environmental performance summary as shown in Section II of this report covers the result of environmental monitoring from October 2000 to December 2000.

**II. ENVIRONMENTAL PERFORMANCE SUMMARY**

Enviropace are required to undertake regular checks on environmental performance of the operation of the plant. These include the following:

- Effluent discharge monitoring
- Stack gas monitoring
- Stabilised residue monitoring

**Effluent Discharge**

Effluent from the CWTC treatment processes has to meet statutory and contractual discharge limits on pollutant concentration. Multiple processes are employed inside the CWTC to treat all liquid wastes to ensure a safe waste management system. These would facilitate immediate warning on any significant change detected in the composition of the effluent, such that prompt corrective response can be effected.

Effluent from the plant is discharged in batches. Each batch is sampled and analyzed, and discharges are permitted only if limits are met. Tables 1 to 3 show the summary of effluent quality from October 2000 to December 2000. No exceedances in effluent discharge limits were observed.

**Stack Gas**

Air emissions from the incineration system are closely monitored by a comprehensive management and monitoring programme to ensure that the system is operating safely and in an environmentally acceptable manner.

A continuous monitoring system on key parameters is installed in the incinerator stack to ensure combustion and air pollutant removal processes are functionally well. Furthermore, the incinerator is equipped with an automatic waste feed cut-off system. In the event that the continuous monitoring system picks up any potential sign of exceedance of any of the control parameters, waste feed to the incinerator will be stopped automatically.

The result for Stack Gas Monitoring from October 2000 to December 2000 are attached in Tables 4 to 6 and compliance in all stack gas control parameters has

been achieved.

### Stabilised Residue

All process residues at the CWTC are detoxified, chemically stabilized and physically immobilized to an environmentally benign state. Samples of the stabilized materials have to pass a series of analytical tests, proven to be innocuous before being sent to an off-site landfill for final disposal.

The summaries of result for Stabilized Residue from October 2000 to December 2000 are attached in Tables 7 to 9. All of the test parameters fell within the control limits and no exceedances occurred.

Table 1

Chemical Waste Treatment Centre  
Effluent Discharge Summary ( October 2000 )

| Parameters              | Control Limits     | Result                | Mean         |
|-------------------------|--------------------|-----------------------|--------------|
| pH                      | 6-10 pH            | 7.2 – 9.5             | N/A          |
| Total Kjeldahl Nitrogen | 100 mg/1           | < 20 mg/1             | N/A          |
| Total Phosphate         | 10 mg/1            | < 1 mg/1              | N/A          |
| Total Sulphate          | 2000 mg/1          | 502.02 – 1028.66 mg/1 | 764.91 mg/1  |
| Total Sulphides         | 10 mg/1            | < 0.84 mg/1           | N/A          |
| Total Cyanide           | 0.1 mg/1           | < 0.04 mg/1           | N/A          |
| Total Suspended Solids  | 100 mg/1           | < 34.91 mg/1          | N/A          |
| Oil and Grease          | 20 mg/1            | < 18.54 mg/1          | N/A          |
| Total Phenols           | 0.5 mg/1           | < 0.3 mg/1            | N/A          |
| Total Residual Chlorine | 1 mg/1             | < 0.71 mg/1           | N/A          |
| Anionic Detergents      | 15 mg/1            | < 2 mg/1              | N/A          |
| Dissolved TOC           | 200 mg/1           | 62.74 – 133.96 mg/1   | 101.13 mg/1  |
| Temperature             | 43                 | 29 – 42.4             | N/A          |
| Floatable Substances    | Not to be detected | Not detected          | Not detected |
| Toxic Metals :          |                    |                       |              |
| Arsenic                 | 2 mg/1             | < 0.25 mg/1           | N/A          |
| Barium                  | 5 mg/1             | < 1 mg/1              |              |
| Cadmium                 | 0.1 mg/1           | < 0.1 mg/1            |              |
| Chromium                | 1 mg/1             | < 0.3 mg/1            |              |
| Copper                  | 2 mg/1             | < 0.56 mg/1           |              |
| Lead                    | 2 mg/1             | < 1 mg/1              |              |
| Manganese               | 5 mg/1             | < 0.2 mg/1            |              |
| Mercury                 | 0.05 mg/1          | < 0.05 mg/1           |              |
| Nickel                  | 2 mg/1             | < 1 mg/1              |              |
| Silver                  | 2 mg/1             | < 0.4 mg/1            |              |
| Tin                     | 5 mg/1             | < 1 mg/1              |              |
| Zinc                    | 2 mg/1             | < 1 mg/1              |              |
| Total Toxic Metals #    | 10 mg/1            | < 6.86 mg/1           |              |
| Boron                   | 5 mg/1             | < 1.79 mg/1           |              |
| Iron                    | 10 mg/1            | < 2 mg/1              | N/A          |

| Parameters                  | Control Limits | Result       | Mean |
|-----------------------------|----------------|--------------|------|
| Pesticides :                |                |              |      |
| Aldrin                      | 0.01 mg/1      | < 0.01 mg/1  | N/A  |
| BHCS                        | 0.01 mg/1      | < 0.01 mg/1  |      |
| DDT                         | 0.01 mg/1      | < 0.01 mg/1  |      |
| Semi-volatile Compounds :   |                |              |      |
| Benzo (A) Pyrene            | 0.1 mg/1       | < 0.1 mg/1   | N/A  |
| Volatile Compounds :        |                |              |      |
| 1,1,1-Trichloroethane       | 0.05 mg/1      | < 0.05 mg/1  | N/A  |
| Polychlorinated Biphenyls : |                |              |      |
| Total PCBs                  | 0.003 mg/1     | < 0.003 mg/1 | N/A  |
| Radioactive Substances :    |                |              |      |
| Gross                       | 10000 pc/1     | < 10000 pc/1 | N/A  |
| Radium-226                  | 30 pc/1        | < 30 pc/1    |      |
| Strontium-90                | 100 pc/1       | < 100 pc/1   |      |

# Total toxic metals include: Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Silver, Tin, Zinc.

Table 2

Chemical Waste Treatment Centre  
Effluent Discharge Summary ( November 2000 )

| Parameters              | Control Limits     | Result             | Mean         |
|-------------------------|--------------------|--------------------|--------------|
| pH                      | 6-10 pH            | 7.4 – 9.4          | N/A          |
| Total Kjeldahl Nitrogen | 100 mg/1           | < 20 mg/1          | N/A          |
| Total Phosphate         | 10 mg/1            | < 1 mg/1           | N/A          |
| Total Sulphate          | 2000 mg/1          | 153.85-780.51 mg/1 | 531.09 mg/1  |
| Total Sulphides         | 10 mg/1            | < 0.5 mg/1         | N/A          |
| Total Cyanide           | 0.1 mg/1           | < 0.05 mg/1        | N/A          |
| Total Suspended Solids  | 100 mg/1           | < 30.96 mg/1       | N/A          |
| Oil and Grease          | 20 mg/1            | < 16.91 mg/1       | N/A          |
| Total Phenols           | 0.5 mg/1           | < 0.30 mg/1        | N/A          |
| Total Residual Chlorine | 1 mg/1             | < 0.68 mg/1        | N/A          |
| Anionic Detergents      | 15 mg/1            | < 2 mg/1           | N/A          |
| Dissolved TOC           | 200 mg/1           | 81.89-147.43 mg/1  | 114.31 mg/1  |
| Temperature             | 43                 | 30 – 38            | N/A          |
| Floatable Substances    | Not to be detected | Not detected       | Not detected |
| Toxic Metals :          |                    |                    |              |
| Arsenic                 | 2 mg/1             | < 0.25 mg/1        | N/A          |
| Barium                  | 5 mg/1             | < 1 mg/1           |              |
| Cadmium                 | 0.1 mg/1           | < 0.1 mg/1         |              |
| Chromium                | 1 mg/1             | < 0.3 mg/1         |              |
| Copper                  | 2 mg/1             | < 0.59 mg/1        |              |
| Lead                    | 2 mg/1             | < 1 mg/1           |              |
| Manganese               | 5 mg/1             | < 0.2 mg/1         |              |
| Mercury                 | 0.05 mg/1          | < 0.05 mg/1        |              |
| Nickel                  | 2 mg/1             | < 1 mg/1           |              |
| Silver                  | 2 mg/1             | < 0.4 mg/1         |              |
| Tin                     | 5 mg/1             | < 1 mg/1           |              |
| Zinc                    | 2 mg/1             | < 1 mg/1           |              |
| Total Toxic Metals #    | 10 mg/1            | < 6.89 mg/1        |              |
| Boron                   | 5 mg/1             | < 1.44 mg/1        |              |
| Iron                    | 10 mg/1            | < 2 mg/1           | N/A          |

| Parameters                  | Control Limits | Result       | Mean |
|-----------------------------|----------------|--------------|------|
| Pesticides :                |                |              |      |
| Aldrin                      | 0.01 mg/1      | < 0.01 mg/1  | N/A  |
| BHCS                        | 0.01 mg/1      | < 0.01 mg/1  |      |
| DDT                         | 0.01 mg/1      | < 0.01 mg/1  |      |
| Semi-volatile Compounds :   |                |              |      |
| Benzo (A) Pyrene            | 0.1 mg/1       | < 0.1 mg/1   | N/A  |
| Volatile Compounds :        |                |              |      |
| 1,1,1-Trichloroethane       | 0.05 mg/1      | < 0.05 mg/1  | N/A  |
| Polychlorinated Biphenyls : |                |              |      |
| Total PCBs                  | 0.003 mg/1     | < 0.003 mg/1 | N/A  |
| Radioactive Substances :    |                |              |      |
| Gross                       | 10000 pc/1     | < 10000 pc/1 | N/A  |
| Radium-226                  | 30 pc/1        | < 30 pc/1    |      |
| Strontium-90                | 100 pc/1       | < 100 pc/1   |      |

# Total toxic metals include: Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Silver, Tin, Zinc.

Table 3

Chemical Waste Treatment Centre  
Effluent Discharge Summary ( December 2000 )

| Parameters              | Control Limits     | Result               | Mean         |
|-------------------------|--------------------|----------------------|--------------|
| pH                      | 6-10 pH            | 7.1 - 9.5            | N/A          |
| Total Kjeldahl Nitrogen | 100 mg/1           | < 30.9 mg/1          | N/A          |
| Total Phosphate         | 10 mg/1            | < 1 mg/1             | N/A          |
| Total Sulphate          | 2000 mg/1          | 513.74 – 968.31 mg/1 | 732.61 mg/1  |
| Total Sulphides         | 10 mg/1            | < 0.5 mg/1           | N/A          |
| Total Cyanide           | 0.1 mg/1           | < 0.05 mg/1          | N/A          |
| Total Suspended Solids  | 100 mg/1           | < 54.24 mg/1         | N/A          |
| Oil and Grease          | 20 mg/1            | < 18.63 mg/1         | N/A          |
| Total Phenols           | 0.5 mg/1           | < 0.35 mg/1          | N/A          |
| Total Residual Chlorine | 1 mg/1             | < 0.68 mg/1          | N/A          |
| Anionic Detergents      | 15 mg/1            | < 2 mg/1             | N/A          |
| Dissolved TOC           | 200 mg/1           | 135.79-189.96 mg/1   | 162.11 mg/1  |
| Temperature             | 43                 | 25.6 – 37            | N/A          |
| Floatable Substances    | Not to be detected | Not detected         | Not detected |
| Toxic Metals :          |                    |                      |              |
| Arsenic                 | 2 mg/1             | < 0.18 mg/1          | N/A          |
| Barium                  | 5 mg/1             | < 1 mg/1             |              |
| Cadmium                 | 0.1 mg/1           | < 0.1 mg/1           |              |
| Chromium                | 1 mg/1             | < 0.3 mg/1           |              |
| Copper                  | 2 mg/1             | < 0.95 mg/1          |              |
| Lead                    | 2 mg/1             | < 1 mg/1             |              |
| Manganese               | 5 mg/1             | < 0.2 mg/1           |              |
| Mercury                 | 0.05 mg/1          | < 0.05 mg/1          |              |
| Nickel                  | 2 mg/1             | < 1 mg/1             |              |
| Silver                  | 2 mg/1             | < 0.41 mg/1          |              |
| Tin                     | 5 mg/1             | < 1 mg/1             |              |
| Zinc                    | 2 mg/1             | < 1 mg/1             |              |
| Total Toxic Metals #    | 10 mg/1            | < 7.25 mg/1          |              |
| Boron                   | 5 mg/1             | < 2.86 mg/1          |              |
| Iron                    | 10 mg/1            | < 2 mg/1             | N/A          |

| Parameters                  | Control Limits | Result       | Mean |
|-----------------------------|----------------|--------------|------|
| Pesticides :                |                |              |      |
| Aldrin                      | 0.01 mg/1      | < 0.01 mg/1  | N/A  |
| BHCS                        | 0.01 mg/1      | < 0.01 mg/1  |      |
| DDT                         | 0.01 mg/1      | < 0.01 mg/1  |      |
| Semi-volatile Compounds :   |                |              |      |
| Benzo (A) Pyrene            | 0.1 mg/1       | < 0.1 mg/1   | N/A  |
| Volatile Compounds :        |                |              |      |
| 1,1,1-Trichloroethane       | 0.05 mg/1      | < 0.05 mg/1  | N/A  |
| Polychlorinated Biphenyls : |                |              |      |
| Total PCBs                  | 0.003 mg/1     | < 0.003 mg/1 | N/A  |
| Radioactive Substances :    |                |              |      |
| Gross                       | 10000 pc/1     | < 10000 pc/1 | N/A  |
| Radium-226                  | 30 pc/1        | < 30 pc/1    |      |
| Strontium-90                | 100 pc/1       | < 100 pc/1   |      |

# Total toxic metals include: Arsenic, Barium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Silver, Tin, Zinc.

Table 4

Chemical Waste Treatment Centre  
Stack Gas Monitoring Summary ( October 2000 )

| Parameters                                   | Control Limits<br>(mg/m <sup>3</sup> ) | Result<br>(mg/m <sup>3</sup> ) | Mean<br>(mg/m <sup>3</sup> ) |
|--|--|--------------------------------|------------------------------|
| Particulates                                 | 75                                     | 1.8 – 2.4                      | 2.1                          |
| Chlorine and Compounds (as Cl <sub>2</sub> ) | 100                                    | < 3.0                          | N/A                          |
| Fluorine and Compounds (as HF)               | 25                                     | < 0.3                          | N/A                          |
| Hydrogen Sulphide                            | 5                                      | Not detected                   | N/A                          |
| Acidity (as Sulphuric Acid)                  | 100                                    | 5.6 – 10.0                     | 7.5                          |
| Sulphur Dioxide                              | 750                                    | 93.9 – 301.0                   | 167.3                        |
| Hydrochloric Acid                            | 38                                     | 31.6 – 38.0                    | 34.8                         |
| Total Phosphorus (as P)                      | 7.5                                    | < 0.582                        | N/A                          |
| Hydrogen Fluoride                            | 7.5                                    | < 0.8                          | N/A                          |
| Hydrogen Bromide                             | 7.5                                    | < 0.8                          | N/A                          |
| Toxic Metals I :                             |  |                                |                              |
| Mercury                                      | 3                                      | < 0.006                        | N/A                          |
| Cadmium                                      | 3                                      | < 0.049                        |                              |
| Antimony                                     | 3                                      | < 0.491                        |                              |
| Toxic Metals II :                            |  |                                |                              |
| Lead   | 10                                     | < 0.582                        | N/A                          |
| Copper                                       | 10                                     | < 0.067                        |                              |
| Arsenic                                      | 10                                     | < 0.006                        |                              |
| Nickel                                       | 10                                     | < 0.116                        |                              |
| Chromium                                     | 10                                     | < 0.049                        |                              |
| Total of Toxic Metals I & II                 | 10                                     | < 1.367                        | N/A                          |
| Dioxin (Monthly)                             | 0.1 ng/m <sup>3</sup>                  | 0.0046 ng/m <sup>3</sup>       | N/A                          |

Table 5

Chemical Waste Treatment Centre  
Stack Gas Monitoring Summary ( November 2000 )

| Parameters                                   | Control Limits<br>(mg/m <sup>3</sup> ) | Result<br>(mg/m <sup>3</sup> ) | Mean<br>(mg/m <sup>3</sup> ) |
|--|--|--------------------------------|------------------------------|
| Particulates                                 | 75                                     | 2.4 – 8.4                      | 4.1                          |
| Chlorine and Compounds (as Cl <sub>2</sub> ) | 100                                    | < 3.5                          | N/A                          |
| Fluorine and Compounds (as HF)               | 25                                     | < 0.4                          | N/A                          |
| Hydrogen Sulphide                            | 5                                      | 0.2                            | N/A                          |
| Acidity (as Sulphuric Acid)                  | 100                                    | < 7.9                          | N/A                          |
| Sulphur Dioxide                              | 750                                    | < 135.8                        | N/A                          |
| Hydrochloric Acid                            | 38                                     | 4.8 – 18.6                     | 11.9                         |
| Total Phosphorus (as P)                      | 7.5                                    | < 0.635                        | N/A                          |
| Hydrogen Fluoride                            | 7.5                                    | < 0.8                          | N/A                          |
| Hydrogen Bromide                             | 7.5                                    | < 0.8                          | N/A                          |
| Toxic Metals I :                             |  |                                |                              |
| Mercury                                      | 3                                      | < 0.006                        | N/A                          |
| Cadmium                                      | 3                                      | < 0.053                        |                              |
| Antimony                                     | 3                                      | < 0.534                        |                              |
| Toxic Metals II :                            |  |                                |                              |
| Lead   | 10                                     | < 0.635                        | N/A                          |
| Copper                                       | 10                                     | < 0.074                        |                              |
| Arsenic                                      | 10                                     | < 0.006                        |                              |
| Nickel                                       | 10                                     | < 0.127                        |                              |
| Chromium                                     | 10                                     | < 0.053                        |                              |
| Total of Toxic Metals I & II                 | 10                                     | < 1.489                        | N/A                          |
| Dioxin (Monthly)                             | 0.1 ng/m <sup>3</sup>                  | 0.0149 ng/m <sup>3</sup>       | N/A                          |

Table 6

Chemical Waste Treatment Centre  
Stack Gas Monitoring Summary ( December 2000 )

| Parameters                                   | Control Limits<br>(mg/m <sup>3</sup> ) | Result<br>(mg/m <sup>3</sup> ) | Mean<br>(mg/m <sup>3</sup> ) |
|--|--|--------------------------------|------------------------------|
| Particulates                                 | 75                                     | 2.4 – 4.7                      | 3.3                          |
| Chlorine and Compounds (as Cl <sub>2</sub> ) | 100                                    | < 3.1                          | N/A                          |
| Fluorine and Compounds (as HF)               | 25                                     | < 0.3                          | N/A                          |
| Hydrogen Sulphide                            | 5                                      | 0.4                            | N/A                          |
| Acidity (as Sulphuric Acid)                  | 100                                    | 4.1 – 7.5                      | 5.7                          |
| Sulphur Dioxide                              | 750                                    | < 402.4                        | N/A                          |
| Hydrochloric Acid                            | 38                                     | 11.3 – 17.5                    | 13.4                         |
| Total Phosphorus (as P)                      | 7.5                                    | < 0.538                        | N/A                          |
| Hydrogen Fluoride                            | 7.5                                    | < 0.8                          | N/A                          |
| Hydrogen Bromide                             | 7.5                                    | < 0.8                          | N/A                          |
| Toxic Metals I :                             |  |                                |                              |
| Mercury                                      | 3                                      | < 0.007                        | N/A                          |
| Cadmium                                      | 3                                      | < 0.045                        |                              |
| Antimony                                     | 3                                      | < 0.455                        |                              |
| Toxic Metals II :                            |  |                                |                              |
| Lead   | 10                                     | < 0.538                        | N/A                          |
| Copper                                       | 10                                     | < 0.062                        |                              |
| Arsenic                                      | 10                                     | < 0.005                        |                              |
| Nickel                                       | 10                                     | < 0.108                        |                              |
| Chromium                                     | 10                                     | < 0.045                        |                              |
| Total of Toxic Metals I & II                 | 10                                     | < 1.266                        | N/A                          |
| Dioxin (Monthly)                             | 0.1 ng/m <sup>3</sup>                  | 0.0047 ng/m <sup>3</sup>       | N/A                          |

Table 7

Chemical Waste Treatment Centre  
Stabilised Materials Summary ( October 2000 )

| Parameters                             | Control Limits<br>(ppm) | Result<br>(ppm) | Mean<br>(ppm) |
|--|-------------------------|-----------------|---------------|
| Section A                              |                         |                 |               |
| pH (water)                             | 8 (lower limit)         | 9.05 – 12.76    | N/A           |
| % Solids                               | 30 (lower limit)        | 42.59 – 99.88   | 66.00         |
| Toxic Metals :                         |                         |                 |               |
| Cadmium                                | 0.5                     | < 0.5           | N/A           |
| Mercury                                | 0.1                     | < 0.03          |               |
| Total Chromium                         | 10                      | < 3.79          |               |
| Copper                                 | -                       | < 5.04          |               |
| Nickel                                 | -                       | < 1.58          |               |
| Lead                                   | -                       | < 12.77         |               |
| Zinc                                   | -                       | < 2.92          |               |
| Total of copper, nickel, lead,<br>zinc | 25                      | < 16.621        |               |
| Iron                                   | 20                      | < 2.29          | N/A           |
| Sulphide                               | 10                      | < 1             | N/A           |
| Ammoniacal Nitrogen                    | 10                      | < 8.97          | N/A           |
| Cyanide                                | 5                       | < 1             | N/A           |
| Section B                              |                         |                 |               |
| Volatile Organic Contents              | 5000                    | < 15            | N/A           |
| Total Organic Halides                  | 10                      | < 2.48          | N/A           |
| Total Chloro Phenols                   | 2                       | < 2             | N/A           |
| Polychlorinated Biphenyls              | 1                       | < 1             | N/A           |
| TCDD equivalent (ITEF<br>method)       | 1 ppb                   | < 1 ppb         | N/A           |

Table 8

Chemical Waste Treatment Centre  
Stabilised Materials Summary ( November 2000 )

| Parameters                          | Control Limits (ppm) | Result (ppm)  | Mean (ppm) |
|-------------------------------------|----------------------|---------------|------------|
| Section A                           |                      |               |            |
| pH (water)                          | 8 (lower limit)      | 11.34 – 12.84 | N/A        |
| % Solids                            | 30 (lower limit)     | 50.53 – 92.76 | 66.50      |
| Toxic Metals :                      |                      |               |            |
| Cadmium                             | 0.5                  | < 0.5         | N/A        |
| Mercury                             | 0.1                  | < 0.02        |            |
| Total Chromium                      | 10                   | < 1.06        |            |
| Copper                              | -                    | < 4.95        |            |
| Nickel                              | -                    | < 0.5         |            |
| Lead                                | -                    | < 4.294       |            |
| Zinc                                | -                    | < 1.26        |            |
| Total of copper, nickel, lead, zinc | 25                   | < 7.961       |            |
| Iron                                | 20                   | < 1.26        | N/A        |
| Sulphide                            | 10                   | < 1           | N/A        |
| Ammoniacal Nitrogen                 | 10                   | < 6.58        | N/A        |
| Cyanide                             | 5                    | < 1           | N/A        |
| Section B                           |                      |               |            |
| Volatile Organic Contents           | 5000                 | < 15          | N/A        |
| Total Organic Halides               | 10                   | < 4.63        | N/A        |
| Total Chloro Phenols                | 2                    | < 2           | N/A        |
| Polychlorinated Biphenyls           | 1                    | < 1           | N/A        |
| TCDD equivalent (ITEF method)       | 1 ppb                | < 1 ppb       | N/A        |

Table 9

Chemical Waste Treatment Centre  
Stabilised Materials Summary ( December 2000 )

| Parameters                          | Control Limits (ppm) | Result (ppm)  | Mean (ppm) |
|-------------------------------------|----------------------|---------------|------------|
| Section A                           |                      |               |            |
| pH (water)                          | 8 (lower limit)      | 11.08 – 12.66 | N/A        |
| % Solids                            | 30 (lower limit)     | 46.48 – 95.40 | 66.80      |
| Toxic Metals :                      |                      |               |            |
| Cadmium                             | 0.5                  | < 0.5         | N/A        |
| Mercury                             | 0.1                  | < 0.02        |            |
| Total Chromium                      | 10                   | < 0.798       |            |
| Copper                              | -                    | < 8.1         |            |
| Nickel                              | -                    | < 6.639       |            |
| Lead                                | -                    | < 14.7        |            |
| Zinc                                | -                    | < 7.936       |            |
| Total of copper, nickel, lead, zinc | 25                   | < 18.865      |            |
| Iron                                | 20                   | < 3.496       | N/A        |
| Sulphide                            | 10                   | < 1           | N/A        |
| Ammoniacal Nitrogen                 | 10                   | < 5.91        | N/A        |
| Cyanide                             | 5                    | < 1           | N/A        |
| Section B                           |                      |               |            |
| Volatile Organic Contents           | 5000                 | < 15          | N/A        |
| Total Organic Halides               | 10                   | < 2.847       | N/A        |
| Total Chloro Phenols                | 2                    | < 2           | N/A        |
| Polychlorinated Biphenyls           | 1                    | < 1           | N/A        |
| TCDD equivalent (ITEF method)       | 1 ppb                | < 1 ppb       | N/A        |