



# Centro de Biologia Experimental Oceanus Ltda

## Laboratory of water analyses

REG.INEA:UN015590/55.11.10 CCL NºIN018913  
CNPJ 28383198/0001-59. INSC. MUN. 313818-6 Almirante Cochrane street, 37, Tijuca, CEP 20550-040  
- Rio de Janeiro, RJ, Tel-Fax- (55 - 21) 2567-0819 / 2567-3871

### CERTIFICATION OF MEASUREMENT FOR WATER'S QUALITY

Nº 62328

#### ESTABLISHMENT'S DATA

**CORPORATE NAME:** C & C TECHNOLOGIES DO BRASIL LTDA

**NICKNAME:** C & C TECHNOLOGIES

**ADDRESS:** MAURÍCIO SILVA TELES STREET, 95 / 230

**NEIGHBORHOOD:** BARRA DA TIJUCA

**DISTRICT:** RJ/RJ

**CITY:** RIO DE JANEIRO

**TELEPHONE:** (21) 2408-6006

#### DATA SAMPLE

**SHIP:** ANDREW CHARLES

**HARBOR:** GIRASSOL

#### SAMPLE DATA

**COLLECTION POINT:** MAIN TANK

**SAMPLE ORIGIN:** TRATED WATER

**COLLECTION RESPONSABLE NAME:** HAMILTON BARBOSA

**VOLUME:** 650 mL

**SAMPLING HOUR:** 16:10

**SAMPLING DATE:** 06.08.12

**ARRIVAL HOUR IN LABORATORY:** 17:30

**ARRIVAL DATE IN LABORATORY:** 06.08.12

#### ANALYTICAL RESEULTS OF THE SAMPLE

##### Physico-chemical Analysis

| Parameters                          | Unit  | Results <sup>1</sup> | MVA <sup>2-3</sup> | QL    |
|-------------------------------------|-------|----------------------|--------------------|-------|
| pH                                  | -     | 6,6                  | 6,0 - 9,5          | -     |
| Residual Chlorine(Cl <sub>2</sub> ) | mg/L  | < 0,01               | 0,2 - 5,0          | 0,01  |
| Turbidity                           | NTU   | 4,98                 | 5                  | 0,01  |
| Total Iron (Fe)                     | mg/L  | 0,626                | 0,3                | 0,047 |
| Chloride                            | mg/L  | 67,6                 | 250                | 0,006 |
| Hardness                            | mg/L  | 32                   | 500                | 2     |
| Total dissolved solids              | mg/L  | 392                  | 1000               | 1     |
| Color                               | uH    | 5                    | 15                 | 5     |
| Conductivity                        | µS/cm | 309,5                | -                  | 0,01  |
| Alkalinity                          | mg/L  | 8,8                  | -                  | 0,1   |

#### ADOPTED METHODS

##### Physical and Chemical Analyses:

pH: SMEWW 4500 H B – Eletrometric Method;  
Iron: SMEWW 3500 Fe – Phenanthroline Method;  
Chloride: SMEWW 4500 - Chloride;  
Residual Chlorine: SMEWW 4500 G – Colorimetric Method;  
Conductivity: SMWW 2510 B;  
Color: SMEWW – 2120 B- Visual Comparison Method;  
Turbidity: SMEWW 2130 B – Nephelometric Method;  
Hardness: SMEWW 2340 C – EDTA Titrimetric Method;  
Total dissolved solids: SMEWW 2540 B;  
Alkalinity: SMEWW 2320 B – Titration Method.



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### REFERENCES

- 1- Officers: MS n° 2914 ANVISA of Health Department of 12<sup>th</sup> December, 2011. Standard of water potability destined to the human consumption.
- 2- Analytical methodology: Standard Methods for Examination of Water and Wastewater 20th Edition – American Public Health Association – APHA.
- 3- Agriculture Department. National Secretariat of Farming Defense. Methods for Control of Products of Animal Origin and its ingredients. II Methods Physical and Chemical, 1981.

### OBSERVATIONS

#### **SUBTITLE:**

- 1- Collected water referring results;
- 2- MS N° 2914 ANVISA/MS limits;
- 3 - MVA: Maximum value allowed.

QL- Quantification limit  
NUT – Unit of turbidity

Note 1: These results restrict only the analyzed water.

Note 2: This report can only be reproduced if complete.

Note 3: The sample's collection follows the described procedures in POP COL – 001.

Note 4: The sample data provided are the responsibility of the applicant.

### ANALYSES FINDING

**The analyzed water is not in the limits established for MS N.º 2914 ANVISA**

Rio de Janeiro, June 13<sup>th</sup>, 2012.

PhD Ronaldo Leão  
Technical responsible  
CRBio-02339/85