



**FCUBED**

*Solar Water Processors*

Presenter: Robert Pyman, International Markets

Budiman P Sophian, Indonesia Rep.

[www.fcubed.com.au](http://www.fcubed.com.au)

# Carocell™

DIRECT SOLAR WATER  
DESALINATION / PURIFICATION



- Carocell - produces pure clean potable water from any water source (including seawater, polluted/contaminated, ground/bore water)
- Emits no green house gas emissions
- Uses no chemicals, no membranes, no electronics, no filters and no ongoing power source
- Modular - small or large scale
- Cost effective and super efficient

Carocell™

# ZLD

ZERO LIQUID DISCHARGE TECHNOLOGY



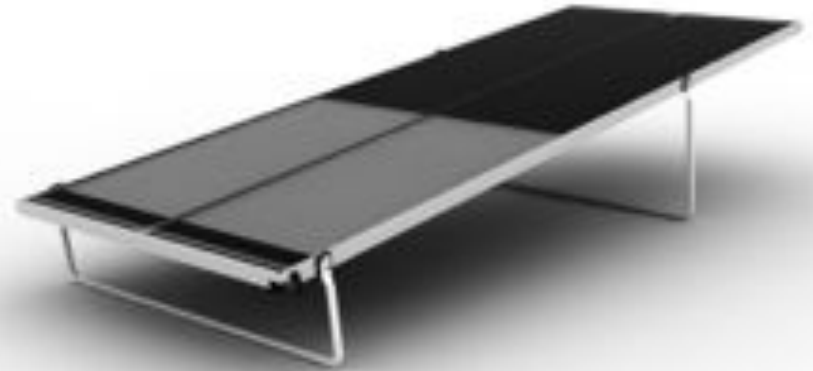
**ZLD is the manipulation of concentration of water using solar energy for:**

1. Metal reclamation
2. By product production
3. Salt Harvesting



# SOLAR FILTRATION

(RAPID SOLAR RADIATION – RSR)



SOLAR FILTRATION has the ability to process high volumes of water, only using the sun's natural radiation.

SOLAR FILTRATION can be used as a treatment for potable water, grey water or pre-treatment for other forms of desalination such as reverse osmosis.



# One of Product for CSR Program 2012 – Indonesia



# TirtaSurya 3000 at Smart House-Menko Kesra



# CSR Program from Pupuk Bontang-East Kalimantan



# Instalation TirtaSurya 1502 – 300Liter/Day at Sabu Island





# Produce Drinking water and Pure Salt at Sabu Island



# Fresh Water - Peoples Sabu Island happiness



# Test Lab Mutu Agung Lestari Water from Sabu Island



## LAPORAN HASIL UJI REPORT OF TESTING

Nomor Serit : 018013L/19/10  
Serial Number

Contah : Air Minum  
 Sampel :  
 Untuk Analisa : Kimia, Fisika & Mikrobiologi  
 Tujuan Uji :  
 Keterangan Contoh : Lemah, Di bawah standar program Jambai  
 Deskripsi dari contoh :  
 Di ambil dari : PT LOPF INTERNASIONAL ( Drinking Water - Desalasi )  
 Lokasi dari : Gedung A, 1<sup>st</sup> floor, Jl. RD. Sabu-Aru, Karang, 8011 Jakarta 10000, Indonesia  
 Dari : PT LOPF INTERNASIONAL  
 By :  
 Metode Pengambilan Contoh :  
 Method of Sampling :  
 Tanggal Pengambilan Contoh :  
 Date of Sampling :  
 Tanggal Penyerahan Contoh :  
 Date of Received : 07 Mei 2019  
 Tanggal Pelaksanaan Analisa :  
 Date of Analysis : 08 - 14 Mei 2019

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Dibuat dan Tanggal: 11 Mei 2019



Laboratorium Kimia & Lingkungan

The Institute has been accredited by the National Accreditation Board for Testing Laboratories (NABL) for the following testing services:  
 1. Environmental Testing Laboratory (ETL) - ISO 17025:2017  
 2. Calibration Laboratory (CAL) - ISO 17025:2017  
 3. Chemical Testing Laboratory (CTL) - ISO 17025:2017  
 4. Microbiology Testing Laboratory (MTL) - ISO 17025:2017  
 5. Physical Testing Laboratory (PTL) - ISO 17025:2017  
 6. Water Testing Laboratory (WTL) - ISO 17025:2017  
 7. Food Testing Laboratory (FTL) - ISO 17025:2017  
 8. Textile Testing Laboratory (TTL) - ISO 17025:2017  
 9. Metallurgical Testing Laboratory (MTL) - ISO 17025:2017  
 10. Mechanical Testing Laboratory (MTL) - ISO 17025:2017  
 11. Electrical Testing Laboratory (ETL) - ISO 17025:2017  
 12. Thermal Testing Laboratory (TTL) - ISO 17025:2017  
 13. Acoustic Testing Laboratory (ATL) - ISO 17025:2017  
 14. Vibration Testing Laboratory (VTL) - ISO 17025:2017  
 15. Radiation Testing Laboratory (RTL) - ISO 17025:2017  
 16. Environmental Testing Laboratory (ETL) - ISO 17025:2017  
 17. Calibration Laboratory (CAL) - ISO 17025:2017  
 18. Chemical Testing Laboratory (CTL) - ISO 17025:2017  
 19. Microbiology Testing Laboratory (MTL) - ISO 17025:2017  
 20. Physical Testing Laboratory (PTL) - ISO 17025:2017  
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 25. Mechanical Testing Laboratory (MTL) - ISO 17025:2017  
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 27. Thermal Testing Laboratory (TTL) - ISO 17025:2017  
 28. Acoustic Testing Laboratory (ATL) - ISO 17025:2017  
 29. Vibration Testing Laboratory (VTL) - ISO 17025:2017  
 30. Radiation Testing Laboratory (RTL) - ISO 17025:2017



PT MUTUAGUNG LESTARI
HASIL UJI Test Result

Nomor Serit : 018013L/19/10  
Serial Number

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Parameter	Satuan	Hasil	Perbandingan (%) (di atas/bawah standar nasional)	Metode Analisa / Teknik
<b>PHISA</b>				
Salinitas (TDS)	mg/liter	10	100	SN 361001/21/2018
Keasaman	pH	8,08	3	SN 361001/21/2018
Demak	mg/liter	10	100	SN 361001/21/2018
Demak	mg/liter	10	100	SN 361001/21/2018
Temperatur Udara (Luft)	°C	20	± 2°C	SN 361001/21/2018
Temperatur Air (Luft)	°C	20,5	± 2°C	SN 361001/21/2018
<b>KIMIA</b>				
Ammonia (NH <sub>3</sub> -N)	mg/liter	0,00	0,000	SN 361001/21/2018
Nitrat (NO <sub>3</sub> -N)	mg/liter	0,00	0	SN 361001/21/2018
Nitrit (NO <sub>2</sub> -N)	mg/liter	<0,02	1	SN 361001/21/2018
Phosphat (CaCO <sub>3</sub> )	mg CaCO <sub>3</sub> /l	11,5	100	SN 361001/21/2018
Fluorida (F <sup>-</sup> )	mg/liter	0,00	20	SN 361001/21/2018
Sulfat (SO <sub>4</sub> <sup>2-</sup> )	mg/liter	<0,10	20	SN 361001/21/2018
Bromida (Br <sup>-</sup> )	mg/liter	<0,01	1,0	SN 361001/21/2018
Klorida (Cl <sup>-</sup> )	mg/liter	0,17	0,3	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	2	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	0,4	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	0,05	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	0,02	1	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,002	0,01	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,00	0,01	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	0,01	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	0,05	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	1,0	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	<0,01	0,2	SN 361001/21/2018
Permanganat (MnO <sub>4</sub> <sup>-</sup> )	mg/liter	0,20	-	SN 361001/21/2018
<b>MIKROBIOLOGI</b>				
Coli - Total (Coliform)	unit/100 ml	0	0	SN 361001/21/2018
Coli - Fekalis	unit/100 ml	0	0	SN 361001/21/2018



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# Test Lab from FDA Philippine

 Republic of the Philippines  
Department of Health  
Food and Drug Administration  
**CENTER FOR DEVICE REGULATION,  
RADIATION HEALTH, AND RESEARCH**

 **FDA**  
Food and Drug Administration

CDRUHR Registration No: A-12-179

### CERTIFICATE OF HEALTH RELATED DEVICE REGISTRATION

Pursuant to the Provision of Administrative Order No. 2005-0033 known as the Guidelines on the Issuance of Certificate of Health Related Device Registration for Water Purification Equipment and Devices, the product described hereunder has been found to conform with the requirements and standards for registration of Water Purification Equipment and Device per existing regulations in force as of date hereof.

**IMPORTER:** ONE RENEWABLE ENERGY ENTERPRISE, INC.  
2311 Corporate Centre, 3 Vargas Street, cor Marikina Avenue,  
Ortigas Centre, Pasig City

**PRODUCT NAME:** CAROCELL WATER DESALINATION/PURIFICATION

**DESCRIPTION:** WATER TREATMENT SYSTEM  
*(Please see attached diagram)*

**CLAIMS:** Safe Drinking Water

The product water collected from the CAROCELL SOLAR WATER DESALINATION/PURIFICATION of ONE RENEWABLE ENERGY ENTERPRISE, INC. complied with the Microbiological, Physical and Chemical requirements of the Philippine National Standards for Drinking Water (PNSDW) for the parameters analyzed and can be used as Safe Drinking Water. This water device shall apply to raw water with the same physical and chemical characteristics as the water collected and examined.

This registration shall be valid for three (3) years and shall expire on December 19, 2014 subject to the special conditions listed on the reverse side of this certificate.

No change in the labeling and commercial presentation of this product shall be made at anytime during the effectivity of this registration without prior written approval of this office.

This registration is subject to suspension, revocation or recall should any violation of Administrative Order 2005-0033 and/or regulations issued there under involving the product be committed.

Witness My Hand and Seal of this Department this 20<sup>th</sup> day of January, 2012

**BY AUTHORITY OF THE SECRETARY OF HEALTH:**

  
AGNETTE P. PERALTA, MSc  
Director IV, CDRUHR III

O.R. No. 8079812  
Approved: Pp. 1,190.05  
Date issued: May 25, 2012

Reg. 24, San Lazaro Compound, Binod Avenue, Sta. Cruz, 1801 Manila • Fresh Line 602 • 960 Unit 3800 • Telefax: 711-6114  
URL: [www.fda.gov.ph](http://www.fda.gov.ph) e-mail: [consumer@fda.gov.ph](mailto:consumer@fda.gov.ph), [regaffair@fda.gov.ph](mailto:regaffair@fda.gov.ph)



# Distilled Water in bottle at Singapore Market



# Other idea for Village – Small Entrepreneurs







Implementasi di  
 Lebih dari 200 site  
 Di Indonesia







# • **PT. LOFI International**

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