

© Groundwater Engineering Pte Ltd 2013

Emergency Drinking Water Supply

Seb Fisher

Managing Director, Groundwater Engineering

February 2014



www.groundwaterinternational.com



Company Profile

Groundwater Engineering is an international company specializing in water well engineering, dewatering and groundwater control for clients in the construction, mining and oil & gas industries

Backed by decades of industry experience and technical expertise we are committed to providing our clients with high quality and cost-effective solutions to their groundwater problems based on offering services in:

- Contracting
- Consultancy
- Equipment sales and rental



Synopsis

- Emergency drinking water
- Available technology
 - Lifesaver C2
 - MECKOW Aquapur
- Water source
- Application

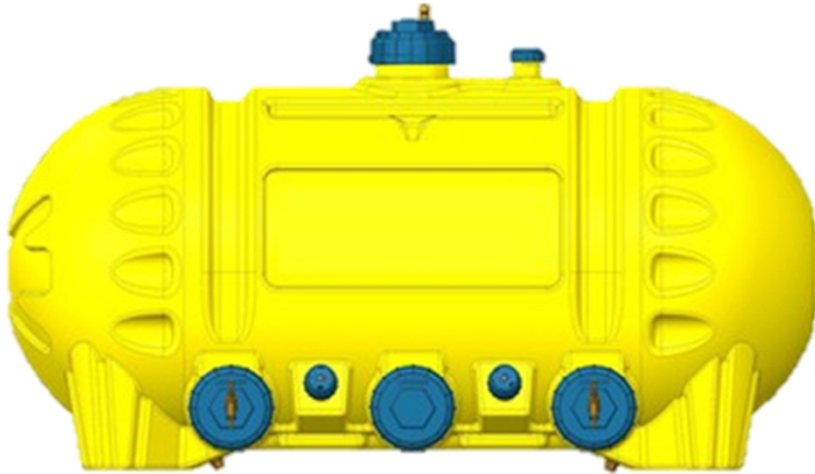


Emergency Drinking Water

- There are many situations where drinking water is urgently needed, but the raw water source is not fit to drink
 - Disaster relief areas
 - Refugee camps
- Modular, portable drinking water treatment systems are available which can be rapidly deployed in emergency situations



LIFESAVER C2





LIFESAVER C2 Overview

- The **LIFESAVER C2** tank filter is a 750 litre water bowser containing proven nanofiltration technology. It is capable of delivering up to 2 million litres of safe, sterile drinking water from any water source (Does not filter salt from sea water)
- The **LIFESAVER C2** is fitted with 2 cartridges, each operating Failsafe technology - the filters will auto shut-off at the end of their capacity. The tank also includes 2 additional cartridges sealed in military grade foil producing over 2 million litres of water



LIFESAVER C2 Overview

- Clean drinking water is produced entirely without access to electricity or harsh chemicals
- The drinking water that is produced is sterile. Directly after filtration it can be used in surgery or consumed without any risk of containing viruses, bacteria, cysts, parasites, fungi etc



LIFESAVER C2 Technology

- The **LIFESAVER C2** comes with its own aluminium stand and steps that allows it to be used on a variety of surfaces. It can be supplied without if necessary





LIFESAVER C2 Technology

- The **LIFESAVER C2**'s patented technology is the world's first all-in-one nanofiltration system that removes all bacteria, viruses, cysts, parasites, fungi and all other microbiological waterborne pathogens without the need for any foul tasting chemicals
- Replaces the need for bottled water with its logistic cost and environmental issues



LIFESAVER C2 Technology

- The technology works by filling the **LIFESAVER C2**'s tank filter with dirty water or water that needs treatment.
- You can then store the untreated water until you need to drink it.
- When you need to drink the water, you simply pump the handle three times and open the tap, and you have clean, safe Sterile drinking water

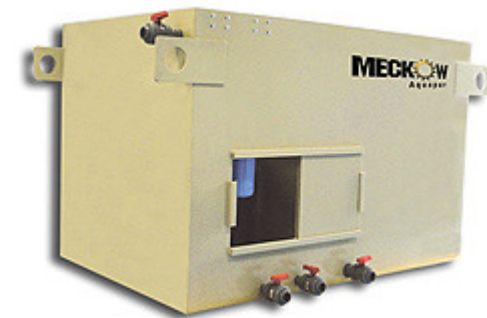
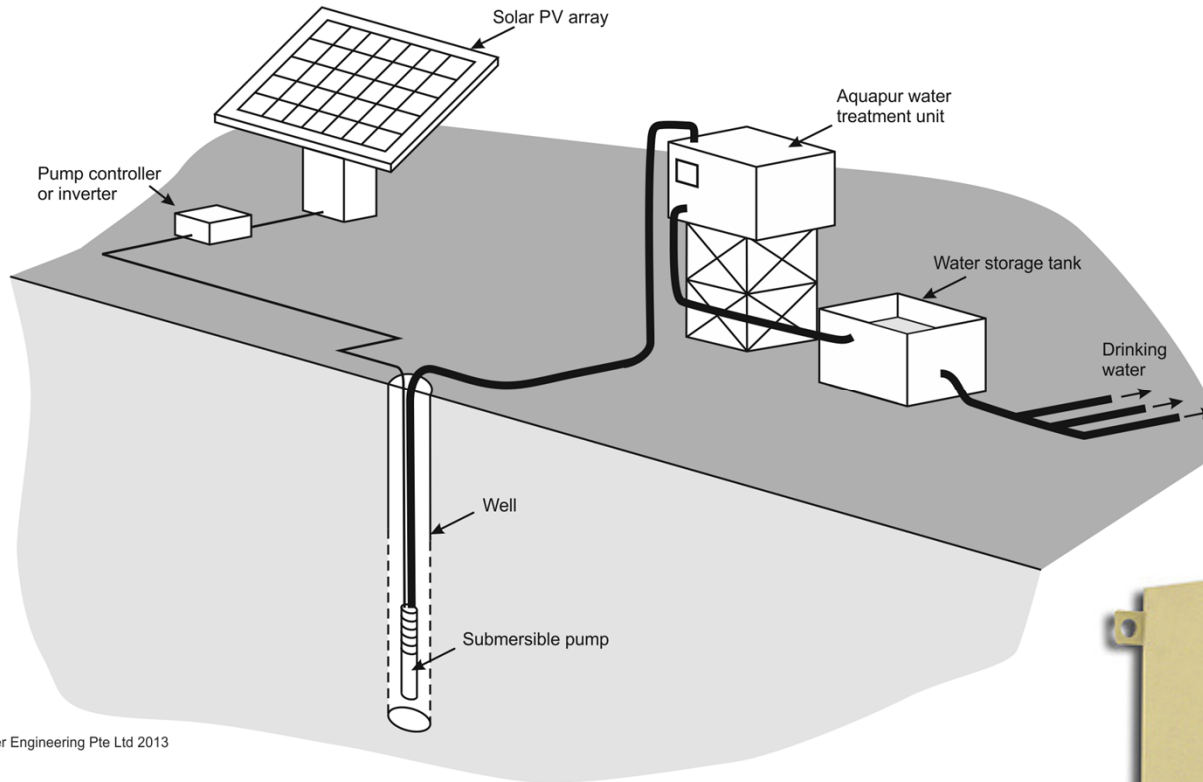


LIFESAVER C2 Technology

- The tank filter has two built in drains on the underneath of the two feet. These can be opened and the tank completely drained. This is also very useful if you then wish to move the **LIFESAVER C2** to another location
- Fail-safe and reliable water purification equipment that gives you crystal clear drinking water. **LIFESAVER C2** is very easy to use and can be done by everyone, older adults as well as children



MECKOW Aquapur





MECKOW Aquapur Overview

- **MECKOW Aquapur** is a water purification system which can transform contaminated water from almost any non-saline source into safe, clean drinking water
- There are two tapped outlets on an **Aquapur** unit:
 - The first provides safe clean drinking water.
 - The second can be utilized for hygiene purposes, such as hand washing to help prevent the possible spread of diseases



MECKOW Aquapur Overview

- **Aquapur** requires no electricity for the filtration process and produces 1000 litres of safe clean water per hour. Eliminating diseases and sufficient to supply up to 2000 people per day, with safe clean drinking water, the **Aquapur** unit is therefore ideal for communities in the developing World



MECKOW Aquapur Technology

- Produces a constant supply of safe drinking water – each unit is sufficient for a community of 2000 people
- Operates without the need for electrical power
- Can be easily transported, installed and maintained. at very low cost, requiring minimal training to operate
- Requires only very occasional, simple replacement of consumable items – which are always readily available – worldwide



MECKOW Aquapur Technology

- Withstands the extremes of the elements and successive relocation, by being strongly made from materials which ensure a satisfactory working life for the system of more than 25 years
- It requires no specialist skill for installation or routine maintenance
- Maintenance involves simply removing the primary filters, before washing and replacing them. The chemicals used for purifying the water are readily available world-wide, the frequency of replenishment being dependent on the quality of the source water

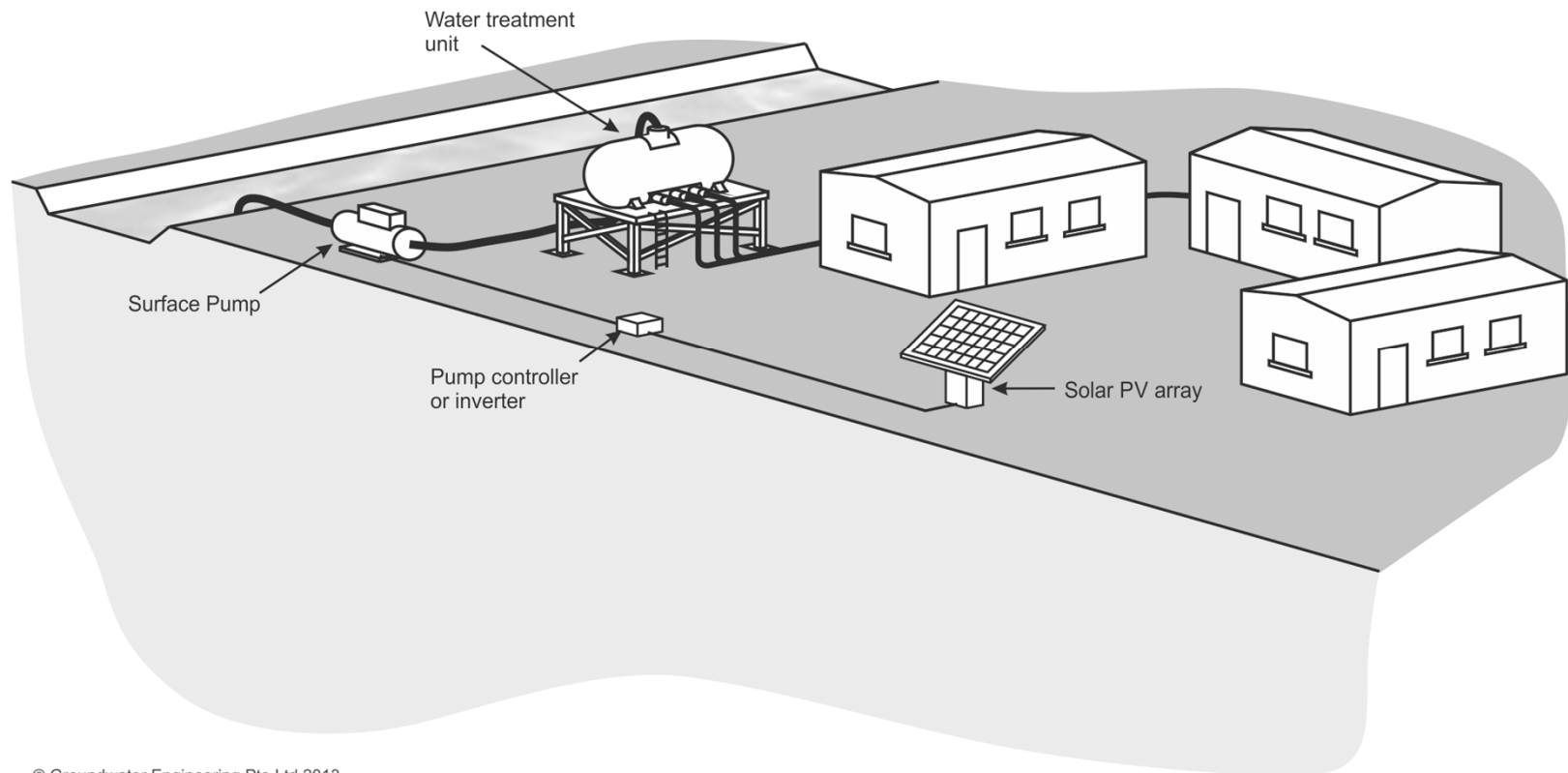


Water Source

- Water from almost any source may be processed and purified by these technologies, provided that the source is not salty, for example:
 - Stream or river water
 - Borehole water where there is concern over water quality
 - Piped supplies which are presently unsafe for use
 - Questionable stored water in tanks or reservoirs



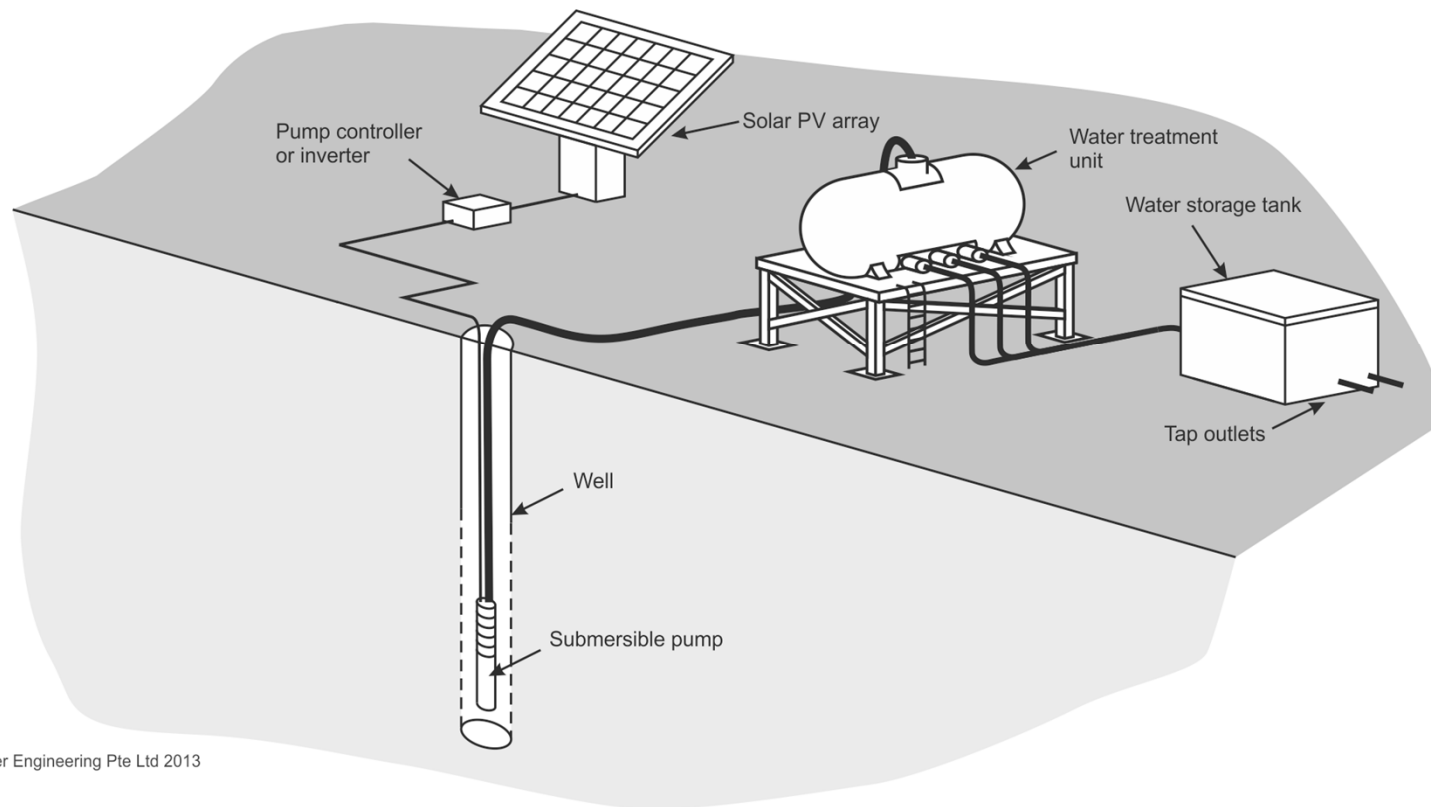
Water Source



© Groundwater Engineering Pte Ltd 2013



Water Source



© Groundwater Engineering Pte Ltd 2013



Application

- These units are able to provide clean, sterile drinking water to:

Communities

Schools

Hospitals

Refugee camps

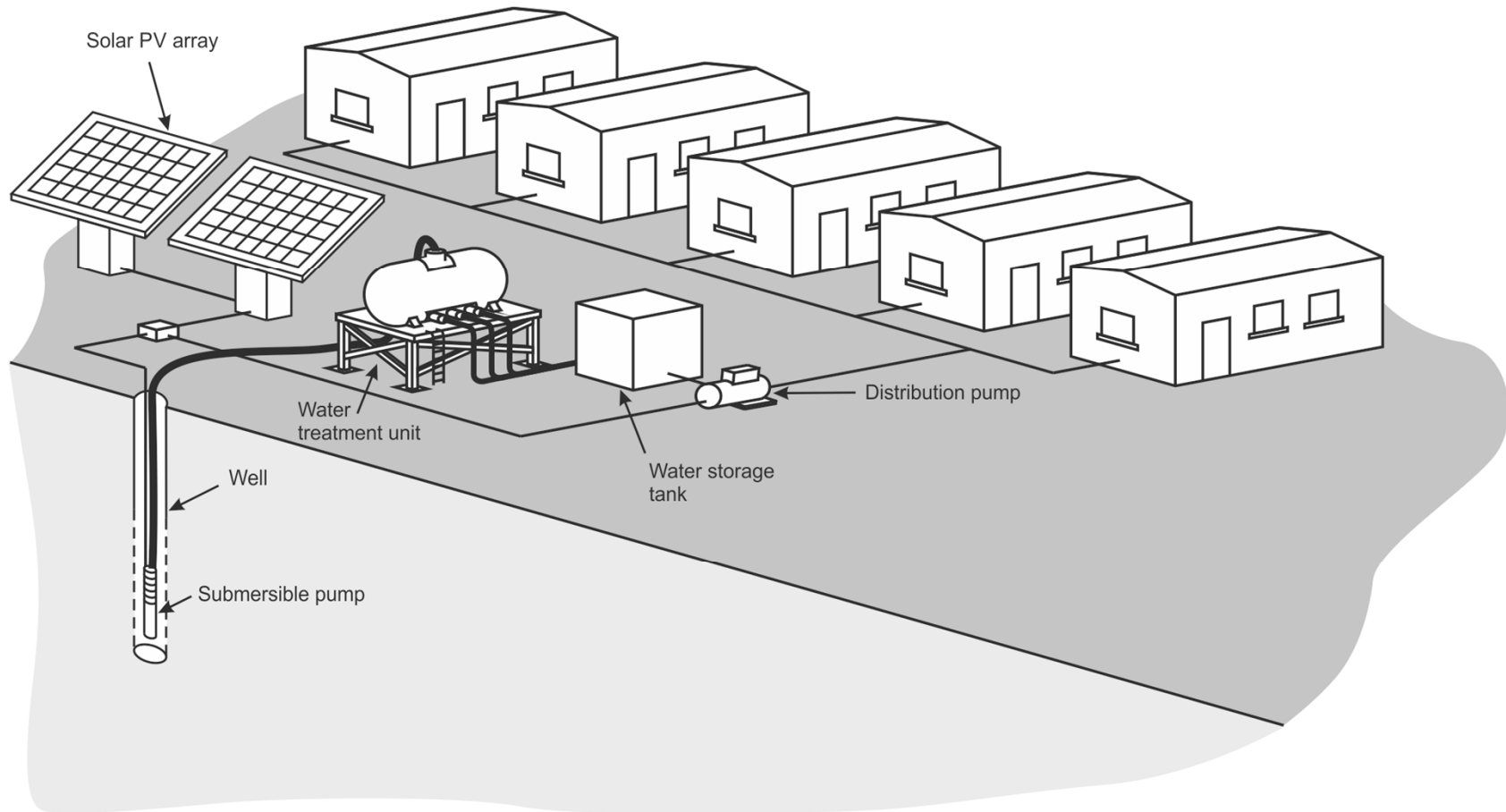
Military deployments



- It is therefore able to have a significant instant impact on people and children around the world in disaster relief zones
- This can ensure governments and municipalities in an emergency situation with clean drinking water to all connected municipalities and their citizens



Application



© Groundwater Engineering Pte Ltd 2013



Thank you for your attention!

Seb Fisher

Managing Director, Groundwater Engineering

sf@groundwaterinternational.com



www.groundwaterinternational.com