

# CLLEEN Water and Power™

## CLLEEN VAP™

### Brine Crystallization Frac Solution

#### How to Reduce Brine Disposal Costs

- Crystallize the brine instead of storing and/or disposing of it in its liquid state
- Eliminate deep-well injection of brine as disposal
- Reduce trucking costs



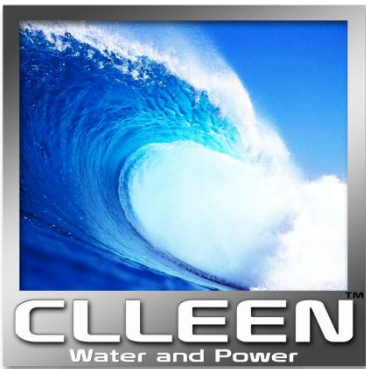
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OR **Your Authorised CLLEEN™ Water and Power Reseller**

www.waterdesalinationplants.com



# What is the CLLEEN VAP™ process?

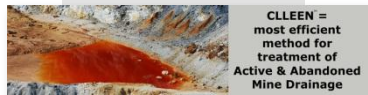
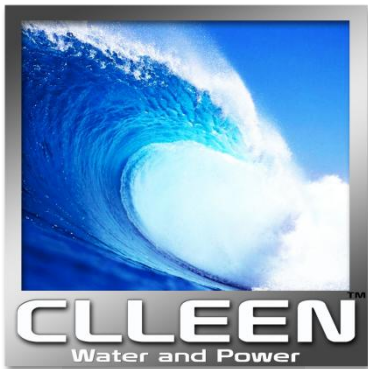
## 1. CLLEEN VAP™

- Use of CLLEEN™ Multi Stage Flash system with atmospheric vapor release to:
  - ✓ treat brine directly from the pit/pond/lagoon
  - ✓ and produce crystallized salt
- Deep well injection or diffusion or other discharge of **brine** is unnecessary

## 2. Dry Salt Product

- For sale
- Or Recycle
- Or Landfill disposal

The most cost-effective, environmentally friendly & community friendly Zero Liquid Discharge (ZLD)

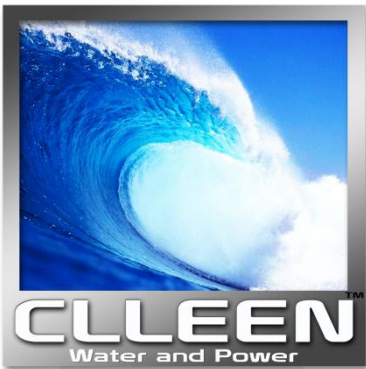


## What CLLEEN™ provides:

Simple, environmentally-friendly, on-site evaporation of pit/pond/lagoon flowback and produced water that:

- Is cheaper than brine injection disposal
- Eliminates brine injection and trucking costs to injection wells
- Qualifies for a PA DEP air quality permit exemption, which means the customer needs no additional permitting for it to be on-site
- Can treat 5,700 barrels/day of flowback or produced water, operating 20 out of every 24 hours
- Provides Labor and logistics for operation
- Provides Remote (via satellite signal) monitoring of operation





## What the customer provides:

- Hydrogen peroxide (or similar sufficient treatment) to drop solids out of the water into the pit
- Shipping/transportation costs to the site.
- 480V/60Hz/3 phase AC power to the CLLEEN VAP™ system
- Pumping (with a 1000micron screen – 18” mesh or higher) from the pit/pond/lagoon to the CLLEEN VAP™ crystallizer.
- Dry salts disposal to a landfill.
- 48 hours allowance for set up to begin, and 48 hours for breakdown, when complete