



Know Your ABCs

Well Disinfection, Shock Chlorination & Flushing



Kevin Ryan
USEPA Region 9
(415) 972-3806
ryan.kevin@epa.gov




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Bureau of Environmental and Coastal Quality
Safe Drinking Water Program
becqsdw@becq.gov.mp
(670) 664-8518

- Eli Cabrera, Administrator, Bureau of Environmental and Coastal Quality

- Ray Masga, Director, Department of Environmental Quality



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Bureau of Environmental and Coastal Quality
Safe Drinking Water Program
becqsdw@becq.gov.mp
(670) 664-8518

- Loy Atatlig
- Emma Iriarte
- Glenn Arriola
- Austin Flores





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Why are we here? What Elephant in the Room?



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Super Typhoon Yutu

- Why are we here?
- Involved drinking water community
 - BECQ Well Drilling and Well Operation Regulations
 - Misconception on regulations
 - Well disinfection - aka shock chlorination



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Yutu PWS Findings



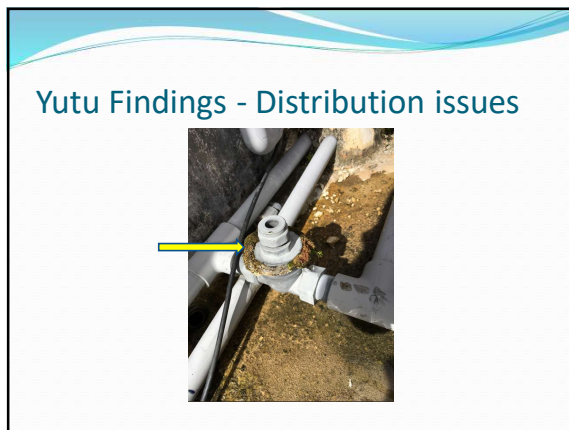

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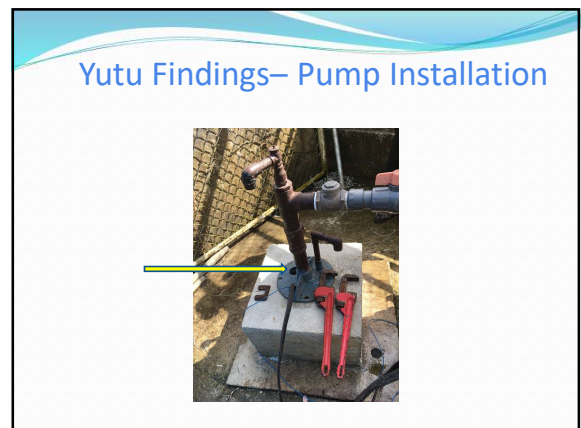
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How To Get it Done Pump and Purge



- Well logs, depth, size of casing, volume of water
- Calculate disinfection dose, dependent on time (50 ppm to 100 ppm)
- Agitate the well, start, stop x 3, recycle
- Ensure adequate contact time for disinfection (24-hours)
- Proper flushing techniques –super chlorinated water
- Bacteriological sampling and analysis
- Identification of contamination source(s)

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Disinfection of Well Casing or Water Pipe

Diameter of pipe casing (in inches)	65% Available Chlorine (Calcium Hypochlorite-tablets)	5-25 % Sodium Hypochlorite (Household bleach)	Chlorine required to dose 100 feet of pipe at 100 parts per million (PPM)
2	½ ounce	4 ounces	Per 100 feet of pipe
4	2 ounce	18 ounces	100'
6	4 ounces	40 ounces	100'
8	6 ounces	64 oz. (1/2 gallon)	100'
10	8 ounces	112 ounces	100'

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Disinfection of Well Casing or Water Pipe

Diameter of pipe casing (in inches)	65% Available Chlorine (Calcium Hypochlorite-tablets)	5-25 % Sodium Hypochlorite (Household bleach)	Chlorine required to dose 100 feet of pipe at 100 parts per million (PPM)
12	12 ounces	160 ounces	Per 100 feet of pipe
16	22 ounces	2 gallons	100'
20	34 ounces	428 ounces	100'
24	3 pounds	4 2/3 gallons	100'
	Make solution, before adding to		

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Yutu Flushing – Post Disinfection



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Yutu Well Flushing – Post Disinfection



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Yutu – Well Disinfection



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Yutu – Downhole Chlorination



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Yutu – Downhole Chlorination



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Yutu – Anything wrong?



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Yutu – PPE for Chlorination



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In memory of Joe Kaipat, Founder,
CNMI PWSS Program



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