



MOBILE BOTTLING

2016 KGGWA Conference

Brent Baker of Old Woolam Custom Bottling

WHY USE A MOBILE BOTTLER?

***WHERE ELSE WILL YOU GET ACCESS TO
\$200,000.00 OF THE LATEST IN BOTTLING
EQUIPMENT, AS WELL AS AN EXPERIENCED
TECH FOR ONLY A FEW THOUSAND A YEAR!!***

-Winemaker/Winery Owner

So little done, So much to do.

-Cecil Rhodes

Preparation for Bottling

Goal

Make bottling day as stress free as possible



THE BOTTLER

- Brent Baker: Owner/ operator of Old Woolam Custom Bottling, Mobile bottling service 5th year providing mobile bottling services.
- Past micro brewery owner and brewer.
- Not winemakers
- Basic presentation, start thinking about mobile bottling



Bottling Process

1. Overview of Mobile Bottling
2. Winery's Preparation for Bottling Day
3. Custom Options
4. Sanitation
5. Pre – Bottling Wine Prep
6. Filtration
7. Quality Control
8. Benefits of Mobile Bottling
9. Costs of Bottling
10. Questions

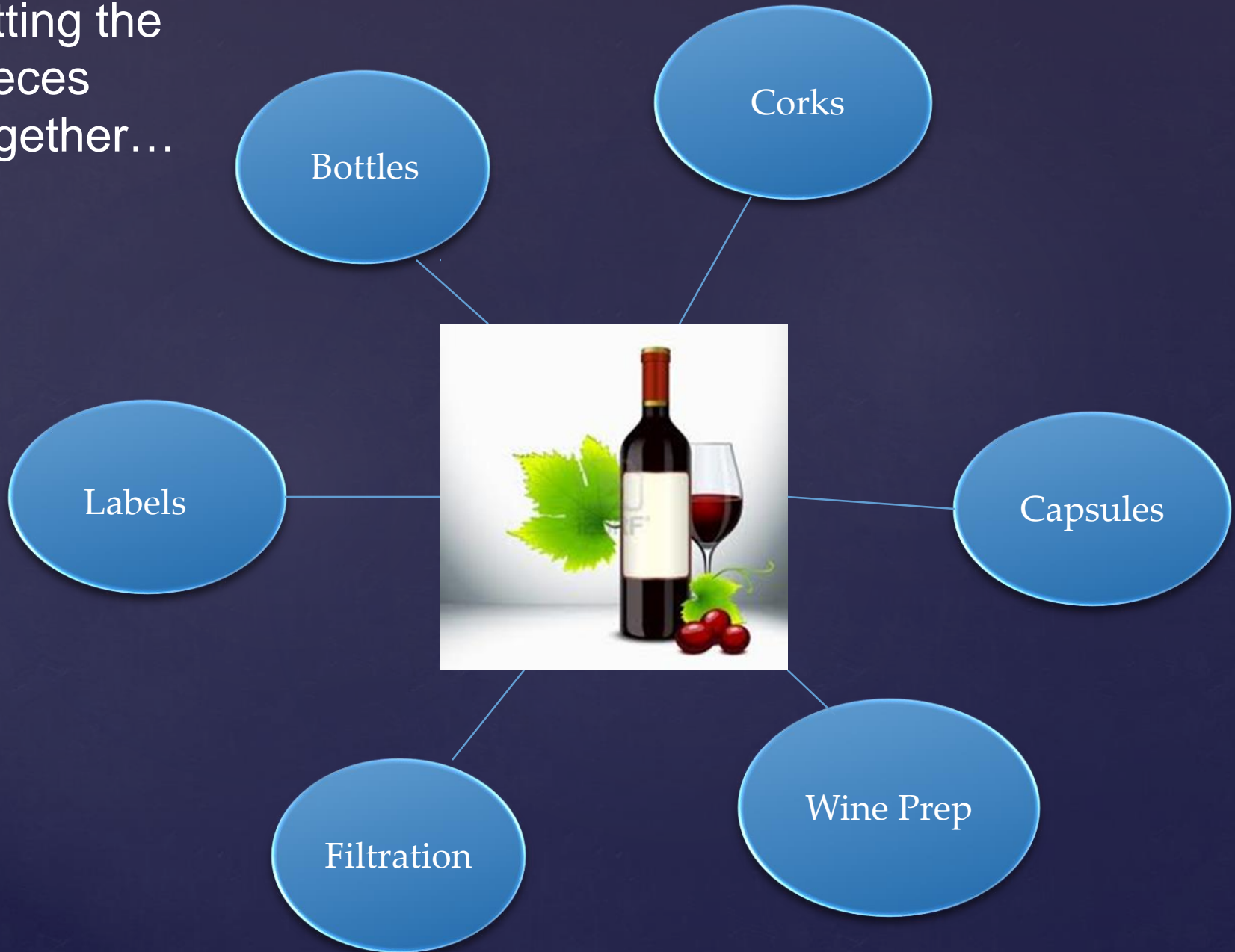


Mobile Bottling Overview

- First US Mobile Line 1989 California
- Very popular in other wine producing countries, Europe and Australia and NZ
- Fully automated, 8 to 16 + spout fillers
- Pre and Post fill sparging, vacuum corking
- Cork and Screwcap Capable
- Speeds from 24 bpm to 100 bpm
- On board steam for sanitation/sterilization
- Final Sterile Filtration Options
- Experienced bottling tech part of service



Fitting the
pieces
together...



Winery's Preparation for Bottling Day

Start long before bottling day!

- Glass Availability
- Label Designs
- TTB Approval
- (20-30 Days - time of year dependent)
- Label Printing
- Dry goods: corks, screw caps, capsules
- Food grade inert gas
- Sterile filters
- Electrical Requirements



Custom Options Provided by the Bottler



Closures:

Cork

Screwcap

Capsules:

pvc, polylam, tin

Bottles:

750ml, 500ml, 375ml



Vacuum Corking

- Hand corkers 13-20 psi
May lead to cork “pushing out”
As well as uneven bicep size



- Vacuum corking decreases pressure on cork
Corks may require different vacuums

Screwcaps

- *Stelvin*
- *Mala*
- *G3*



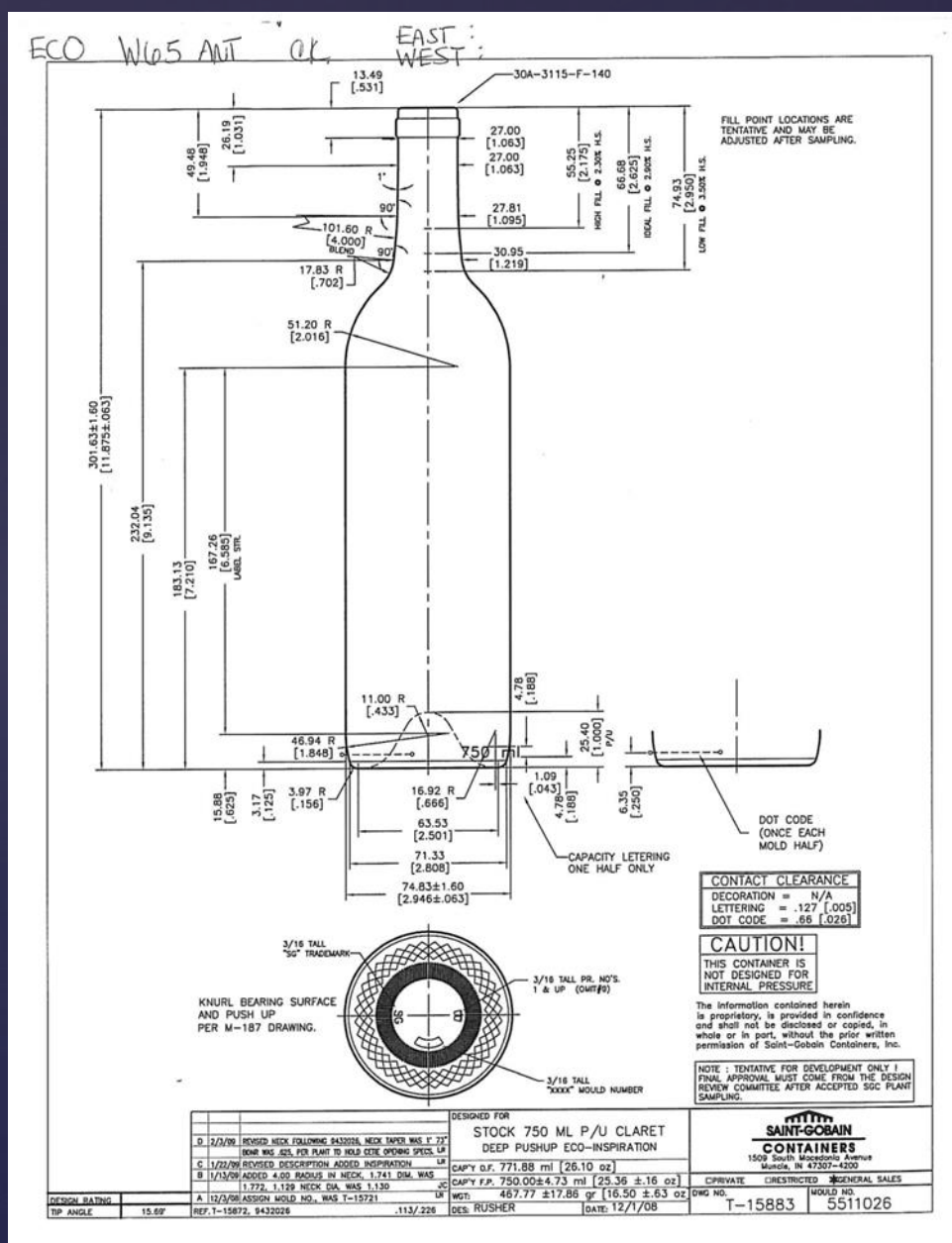
- Generally made of aluminum
- Contains a liner that rests in the top of the capsule
- Easy on and off
- Creates an oxygen barrier

Screwcap specs



- Each screwcap manufacturer (*Mala*, *G3*, *Stelvin*) will have different specs for application
- Resulting in various head pressures
- Different torque/break points upon removal of capsule

Bottle Drawing



BOTTLING LINE SANITATION

Three distinct steps

1. Cleaning – Removing debris
2. Sanitizing – Kill or remove most microbes
3. Sterilizing – Kills everything
 - steam 212°F 20 minutes
 - hot water 182°F 30 minutes, maintaining temp at farthest point
 - ozone



BOTTLING LINE SANITATION

THE MOST IMPORTANT PART OF BOTTLING

1. Clean and sanitize fittings
2. Sanitize wine hoses and pump
3. Steam 212°F, 20 minutes
 - Membrane filters, wine inlet, filler bowl, spouts
4. Spray and wipe down with 70% alcohol (ethanol) Nitrogen sparger, corking jaw, cork hopper, screw cap head, screw cap dispenser and change parts

WINEMAKER MUST APPROVE BEFORE START OF BOTTLING!!

BOTTLING LINE SANITATION

During bottling

1. Times of shut down spray with 70% alcohol (ethanol), filler spouts, nitrogen sparger, leveler, corking jaws, screw cap head, star sets
2. Remove any spilled wine

BOTTLING LINE SANITATION

Post Bottling

1. Flush line, filters and filler bowl
2. Sanitize filters, filler bowl and hoses
3. Drain lines, filters and filler bowl
4. Flush entire line with water
5. Steam entire line 212°F - 20 minutes
6. Scrub walls and floors
7. Hang and drain hoses
8. Clean and sanitize fittings
9. Remove/clean filler spouts

PRE BOTTLING WINE GOALS

WINEMAKER MUST MAKE SURE WINE IS FINISHED PRIOR TO BOTTLING

- Temperature Target
 - Wine @ 58-60°F or wine will expand or compress
 - Too cold will cause bottle sweat, labeling issues
- Desired CO₂ levels
- Correct Sulfite Levels
 - Levels (pH dependent)
- Potassium Sorbate
- Cold Stable
- Heat Stable
- Alcohol matches label





Final Filtration

Filtration falls under two categories

1. Depth filtration – Plate and Frame, DE or Lenticular
Designed to collect particles in the interior
2. Surface/absolute filtration – membrane filters
Designed to collect particles on the surface
Done with cartridge style filters



Final Filtration

Sterile Filtration Goal

- Remove any remaining yeast or bacteria from the wine to help prevent re-fermentation in the bottle
- Utilized in line with bottling line just prior to filling
- Wines must be filtered to “bottle ready” with plate and frame

- Some wineries choose to sterile filter
- Some wineries will by-pass sterile filtration
- Filtration is an art



Final Filtration at Bottling

- .65 nominal pre-filter
does majority of work
protects final filter
- .45 absolute
sterile filter

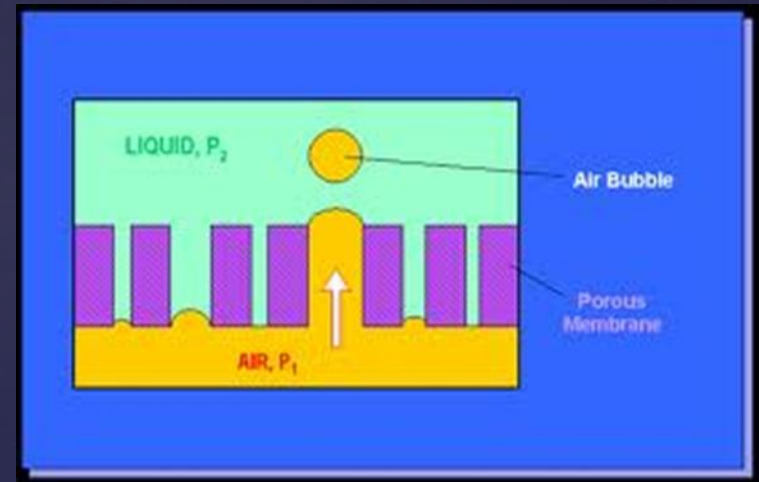
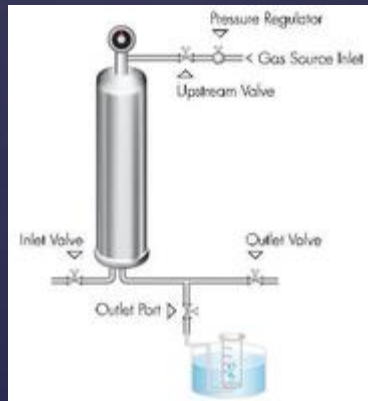


If pre-filtering (depth filtration) is done correctly, filters can be used for thousands of gallons of wine!

Absolute Filter Quality Control

Sterile Filtration Test integrity of filter

- Bubble point
- Compact Star



Quality Control

-Monitor Fill Height

750 ml

500 ml

375 ml



-Cork depth

-Monitor internal bottle pressure/vacuum

Needle pressure/vacuum test every hour

-Screwcaps

Observe Threads

Torque Test Hourly



Benefits of Mobile Bottling

- Owning your own line is a daunting task both financially and technically
- One of, if not the most expensive piece of equipment in wine production
- Utilized only a small fraction of the time
- Time savings over hand bottling, triple or more daily output of hand bottling.
- Single pass to fill, place closure, capsule and label.

Benefits of Mobile Bottling

- Large infrastructure cost not included with the purchase of a line, compressor, air dryer, phase converter etc.
- Maintenance can be difficult, parts expensive and can take time to procure and receive
- Less oxygen pickup and more gentle on the wine than with hand bottling
- Sterility levels that are impossible to achieve via hand bottling

OWNING YOUR OWN LINE

Winery Producing 10,000 gallons annually or 4100 cases.

Small bottling line:	\$ 60,000.00
Digital Phase Converter:	\$ 3,900.00
Air Compressor 5 hp, 80 gal:	\$ 2,000.00
Air dryer:	\$ 1,700.00
Rinser/Sparger:	\$ 3,400.00
Electrical/Air infrastructure	\$ 2,000.00
Miscellaneous:	\$ 2,000.00
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TOTAL INVESTMENT:	\$ 75,000.00

OWNING YOUR OWN

\$75,000.00 bank loan at 5%	ANNUAL
interest for a term of 5 years Princ/Int:	\$16,980.00
Insurance and Maintenance:	\$ 2,500.00
Floor Space:	\$???????
Additional time for learning curve:	\$???????
<u>Labor cost based on 4 people to run:</u>	<u>\$ 5,940.00</u>
Total Annual Cost:	\$25,420.00

Total Days Utilized for 4100 cases: 11 days
Based on bottling 375 cases per day

UTILIZING MOBILE BOTTLER

Having a mobile bottler come in to bottle for you annually.

4100 cases, or 49,200 bottles x \$.27:	\$ 13,284.00
Interest:	\$ 0.00
Maintenance and Insurance:	\$ 0.00
Production floor space:	\$ 0.00
Additional time for learning curve:	\$ 0.00
<u>Labor for 4 people to run:</u>	<u>\$ 3,780.00</u>
Total Annual Cost:	\$ 17,064.00

Having your tanks empty and your bottles full: PRICELESS

Total days for your mobile bottler

For 4100 cases: 7 days

HAND BOTTLING

Winery producing 3,000 gallons annually or 1235 cases.

Labor for 5 people to run manual line:	\$4,218.00
Manual line maintenance:	\$ 500.00
<u>Labor for 4 people to run mobile line:</u>	<u>\$1,080.00</u>
Savings:	\$3,638.00

Addl. cost for mobile line for bottling 1235 cases

Or 14820 bottles at \$.27 per bottle:	\$4,001.40
Additional cost to winery to go mobile:	\$ 363.40

*Manual line figures based on filling, corking, labeling and capsuling. 200 cases per day.

*Mobile line figures based on filling, corking, labeling and capsuling, 650 cases per day

Thank you!

Questions?

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Old Woolam Custom Bottling

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