NATIONAL BRAND (216 LOCATIONS) AND PH7X PROOF OF CONCEPT

OBJECTIVE: TO DEMONSTRATE PH7X'S NON-CAUSTIC CLEANING POWDER WILL CLEAN DRAFT BEER LINES BETTER AND SAFER THAN THE CAUSTIC SODA + ACID CURRENTLY BEING USED AT BJ'S

April 2nd Culver City - First Clean

METHODOLOGY

Deep Clean Protocol

2% **pH7X** - 45 minutes recirculation

- **Committed Double IPA**
- **Oasis Amber Ale**
- **Enchantress Pilsner**
- **Prickly Pear Lemonade**

5 gallons for four beer lines

.84 lb (380 grams) **pH7X** = 2% concentration

ATP tests before and after on the rinse water and faucets

DIP slides before and after on the rinse water

April 2nd Culver City - First Clean

ATP TEST RESULTS

Beer Lines Cleaned - pH7X		ATP Faucets	ATP Rinse Water
Committed - Dbl IPA			
	Before	4579	3
	After	36	6
Oasis - Amber Ale			
	Before	4031	26
	After	12	1
Enchantress - Bohemian Pilsner			
	Before	1316	12
	After	75	4
Prickly Pear - Lemonade			
	Before	1100	543
	After	20	6

April 2nd Culver City - First Clean

DIP SLIDE TEST RESULTS

Beer Lines Cleaned - pH7X		Dip Slides (Rinse Water) 2 Weeks	
Committed - Dbl IPA		Aerobic Microbes TVC	Yeasts and Molds
	Before	MODERATE - 10,000	None Visible
	After	LIGHT - 1,000	None Visible
Oasis - Amber Ale			
	Before	VERY LIGHT - 100	HEAVY - Muco spp., Candida
	After	VERY LIGHT - 100	None Visible
Enchantress - Bohemian Pilsner			
	Before	LIGHT - 1,000	None Visible
	After	LIGHT - 1,000	None Visible
Prickly Pear - Lemonade			
	Before	MODERATE - 10,000	HEAVY - Penicillium notatum
	After	LIGHT - 1,000	None Visible

TVC (approx. colony count per ml)

No incubation. Study done at room temp. 70°

April 2nd Culver City - First Clean – RESULTS – 2 weeks post clean

April 2nd PRE 45 min 2% pH7X soak Aerobic Microbes TVC

April 2nd POST 45 min 2% pH7X soak Aerobic Microbes TVC

Committed PRE 45 minute 2% pH7X soak with water in line/fob

Committed POST 45 minute 2% pH7X soak with water in line/fob

April 2nd PRE 45 min 2% pH7X soak Yeast and Molds

April 2nd POST 45 min 2% pH7X soak Yeast and Molds

Oasis PRE 45 minute 2% pH7X soak with water in line/fob

Oasis POST 45 minute 2% pH7X soak with water in line/fob

April 2nd Culver City - First Clean – RESULTS – 2 weeks post clean

Committed PRE 45 minute 2%
pH7X soak with water in line/fob

Committed POST 45 minute 2%
pH7X soak with water in line/fob

April 17th Culver City - Second Clean

METHODOLOGY

Standard Cleaning Protocol

1% **pH7X** - 15 minutes recirculation

- Committed Double IPA
- Oasis Amber Ale
- Enchantress Pilsner
- Prickly Pear Lemonade

5 gallons for four lines

.42 lb (190 grams) pH7X =1% concentration

ATP tests before and after on the rinse water and faucets

DIP slides before and after on the rinse water

April 17th Culver City - Second Clean

ATP TEST RESULTS

Please note how much lower the faucet "before" values are on the Committed (4,579) and Oasis (4,031) that's **pH7X** at work!

Beer Lines Cleaned - pH7X	ATP Faucets	ATP Lines (Rinse Water)
Committed - Dbl IPA		
Before	68	2
After	14	0
Oasis - Amber Ale		
Before	29	2
After	0	0
Enchantress - Bohemian Pilsner		
Before	1129	2
After	51	1
Prickly Pear - Lemonade		
Before	1024	155
After	15	4

April 17th Culver City - Second Clean

DIP SLIDE TEST RESULTS

Beer Lines Cleaned - pH7X	Dip Slides (Rinse Water) 2 Weeks	
Committed - Dbl IPA	**Aerobic Microbes**	**Yeasts and Molds**
Before	**MODERATE - 10,000**	**None Visible**
After	**LIGHT - 1,000**	**None Visible**
Oasis - Amber Ale		
Before	**VERY LIGHT - 100**	**HEAVY - Muco spp., Candida**
After	**VERY LIGHT - 100**	**None Visible**
Enchantress - Bohemian Pilsner		
Before	**LIGHT - 1,000**	**None Visible**
After	**LIGHT - 1,000**	**None Visible**
Prickly Pear - Lemonade		
Before	**MODERATE - 10,000**	**HEAVY - Penicillium notatum**
After	**LIGHT - 1,000**	**None Visible**
	TVC (approx. colony count per ml)	No incubation. Study done at room temp. 70°

April 17th Culver City

COMPARATIVE CLEAN ATP RESULTS

Beer Lines Cleaned pH7X Results		ATP Faucets	ATP Lines (Rinse Water)
Piranha - Pale Ale			
	Before	752	3
	After	1	0
Jeremiah Red - Ale			
	Before	45	5
	After	0	1

15-minute recirculation clean

Beer Lines Cleaned - BJ's 2-Step Results		ATP Faucets	ATP Lines (Rinse Water)
Harvest - Hefeweizen			
	Before	6703	9
	After	2	0
Brewhouse - Blonde			
	Before	177	6
	After	0	0

15-minute recirculation clean

15-minute acid clean

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April 17th Culver City

COMPARATIVE CLEAN DIP SLIDE RESULTS

Beer Lines Cleaned
pH7X Results
Piranha - Pale Ale

	Dip Slides (Rinse Water) 2 Weeks	
	Aerobic Microbes - TVC	Yeasts and Molds
Before	LIGHT - 1,000	LIGHT - Mucor spp., Candida spp.
After	None visible	None visible

Jeremiah Red - Ale

Before	LIGHT - 1,000	MEDIIUM - Mucor spp., Candida spp.
After	None visible	LIGHT - Mucor spp., Candida spp.

15-minute recirculation clean

Beer Lines Cleaned -
BJ's 2-Step Results
Harvest - Hefeweizen

	Dip Slides (Rinse Water) 2 Weeks	
	Aerobic Microbes - TVC	Yeasts and Molds
Before	HEAVY - 100,000	HEAVY - Aspergillus flavus
After	LIGHT - 1,000	LIGHT - Aspergillus flavus

Brewhouse - Blonde

Before	MODERATE - 10,000	HEAVY - Aspergillus flavus
After	None visible	MEDIUM - Aspergillus flavus

15-minute recirculation clean
15-minute acid clean

No incubation
Study done at room temp. 74°

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April 17th Culver City – Comparative Dip Slide – RESULTS

BJ's 15 min 1% Caustic Recirc + 15 min Acid Recirc

PRE-Clean Rinse Water After 2 Weeks
Aerobic Microbes-TVC

POST Clean Rinse Water After 2 Weeks
Aerobic Microbes-TVC

PRE-Clean Rinse Water After 2 Weeks
Yeast & Molds

POST Clean Rinse Water After 2 Weeks
Yeast and Molds

SNP's 15 min 1% pH7X Recirc

PRE-Clean Rinse Water After 2 Weeks
Aerobic Microbes-TVC

POST Clean Rinse Water After 2 Weeks
Aerobic Microbes-TVC

PRE-Clean Rinse Water After 2 Weeks
Yeast & Molds

POST Clean Rinse Water After 2 Weeks
Yeast and Molds

SUMMARY

PH7X POWDER WORKS

We have successfully demonstrated that **pH7X** cleans BJ's draft beer lines in Reno, Chandler, Mesa, West Covina and now Culver City.

SAFER FOR BJ's CUSTOMERS

No risk of a "mistake" causing injury or even death ...with caustic out of BJ's Brewpubs.

WHY RISK IT?

Every time you clean your lines with caustic you are exposing BJ's to a potential lawsuit.

SAFER FOR BJ's EMPLOYEE's

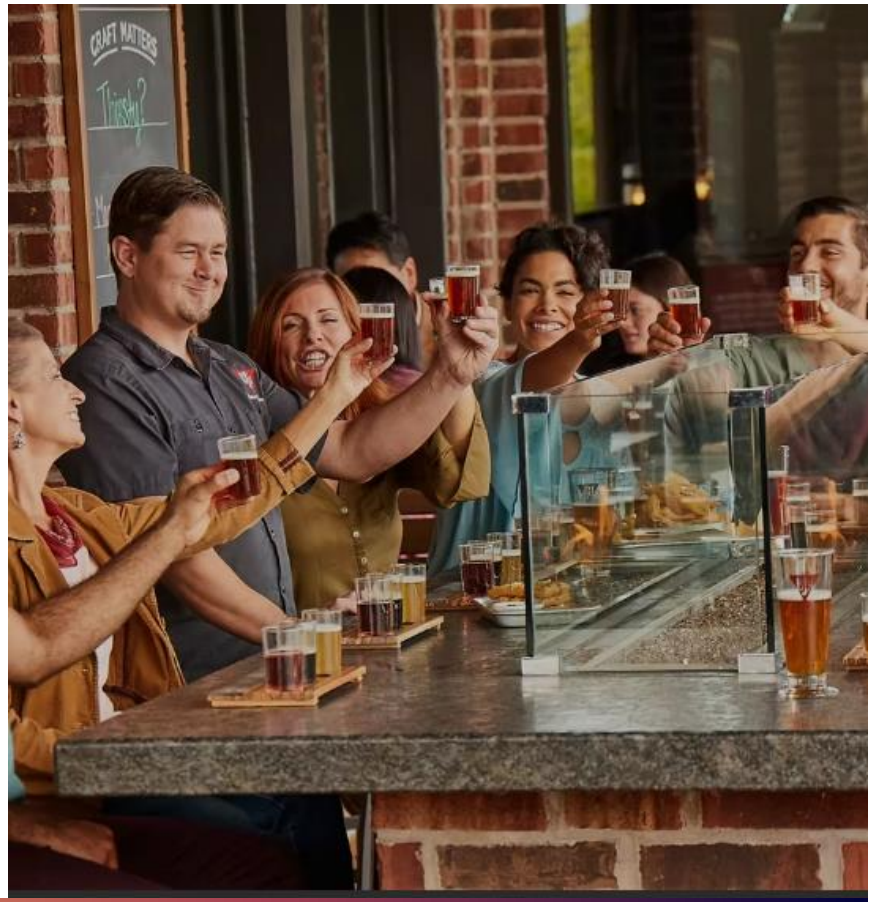
No more exposure to caustic.

BETTER FOR THE ENVIRONMENT

Instead of caustic,
pH7X quickly breaks down to sodium in the discharge water.

BETTER FOR BJ's BOTTOM LINE

- Reduced Costs
- Easier on your Equipment
- Reduced Liability
- Lower Workers Comp
- Higher Beer Sales



AND THE BEER TASTES BETTER!!

WHAT'S NEXT

- ONBOARDING AT EDWARD DON
- ADDING DYE TO THE FORMULA
- IMPLEMENTATION PLANNING
- ESTIMATED USAGE THRU 2024
- Q3 NEEDS
- DEVELOPMENT OF TRAINING MODULES
- ONLINE TRAINING
- VIDEO
- ONSITE