

Water Quality Update

- Compliance with Regulations
- Future Regulations
- Complaint Data
- Upcoming Lead and Copper Rule Testing

COMPLIANCE WITH REGULATIONS

2016 SPRWS Water Quality Test Results

Key to Chart

- MCL** Maximum Contaminant Level. The highest level allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.
- MCLG** Maximum Contaminant Level Goal. Below this level there is no known or expected health risk. MCLGs allow for a margin of safety.
- NA** Not Applicable.
- AL** Action Level. An amount of a contaminant that if exceeded, triggers a specific response that the water system must follow.
- TT** Treatment Technique. A required process intended to reduce the level of a substance in drinking water.
- ppb** Parts Per Billion. Units of a substance in pure form, found in every billion units of water.
- ppm** Parts Per Million. Units of a substance in pure form, found in every million units of water.
- NTU** Nephelometric Turbidity Unit. A measure of water clarity. A good indicator of filtration effectiveness.
- MRDL** Maximum Residual Disinfectant Level.
- MRDLG** Maximum Residual Disinfectant Level Goal.
- Oocysts/Liter** A measurement of the number of *Cryptosporidium* spores.
- 90%** 90th Percentile Level. This is the value obtained after disregarding the 10 percent of the samples taken that had the highest levels.
- This is the value used to determine compliance with federal standards. It sometimes is the highest value detected and sometimes is an average of all detected values. If it is an average, it may contain sampling from a previous year.
- ** Follow-up sampling showed no contamination present.

Regulated substances detected in raw water

Substance (units)	Highest Level Allowed (MCL)	Highest Level Detected	Range Detected	Average Level*	Recommended Maximum (MCLG)	Typical Source	Meets Standards?
<i>Cryptosporidium</i> (oocysts/liter)	N/A	0.058	nd-0.058	N/A	N/A	Human and animal fecal waste	Yes

Regulated substances controlled prior to distribution and measured out in the system

Substance (units)	Highest Level Allowed (MCL)	Highest Level Detected	Range Detected	Average Level*	Recommended Maximum (MCLG)	Typical Source	Meets Standards?
Fluoride	4	0.82	0.79 - 0.82	0.81	4	State mandated dental health additive; fertilizer, aluminum factory discharge	Yes
Total Coliform Bacteria	Present in ≤ 5% of monthly samples	1%**	N/A	1%**	0 present	Naturally present in the environment	Yes
Nitrate as Nitrogen (ppm)	10.4	0.32	N/A	0.32	10.4	Fertilizer, sewer, natural deposits	Yes
Trihalomethanes (Total THM) (ppb)	80	50.7	31.8 - 50.7	43.43	8	Disinfection by-product	Yes
Haloacetic Acids (HAA5) (ppb)	60	38.3	19.2 - 38.3	32.85	0	Disinfection by-product	Yes
2,4-D (ppb)	70	N/A	N/A	0.3	70	Runoff from herbicide used on row crops	Yes

Substance (units)	Maximum Residual Disinfectant Level Goal	Maximum Residual Disinfectant Level	Lowest Monthly Average	Highest Quarterly Average	Typical Source
Chlorine (ppm)	4.0	4.0	2.73-2.2	2.96	Microbe control additive

Turbidity (NTU)

Substance (units)	Highest Level Allowed	Lowest Monthly Percent of Samples Meeting the Limits	Highest Single Measurement	Average Level	Typical Source
Turbidity	TT	100 %	0.093 NTU	0.033	Soil runoff

Regulated substances controlled at the customer's tap

Substance (units)	Action Level (AL) (90 percent of samples must be at or under this level)	Number of Sites Over the Action Level	90 % of samples were below this level	Typical Source
Lead (ppb) (7/9/2014)	15.0	3 out of 50	9.8	Corrosion of home plumbing
Copper (ppm) (7/9/2014)	1.3	0 out of 50	0.04	Corrosion of home plumbing

FUTURE REGULATIONS

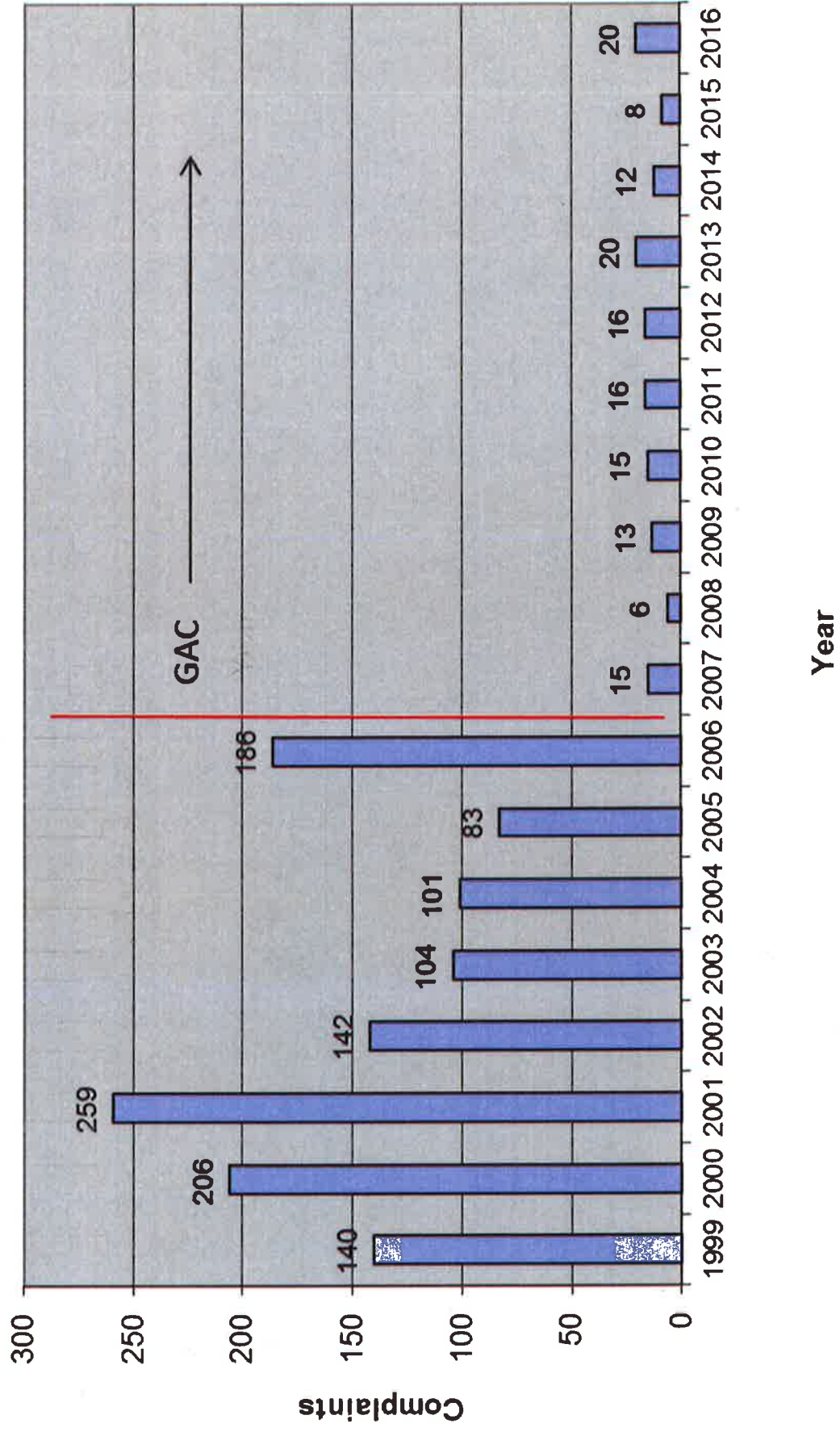
UCMR Summary

Tests with Detectable Results
from
Six Sampling Events and 316 Test Results

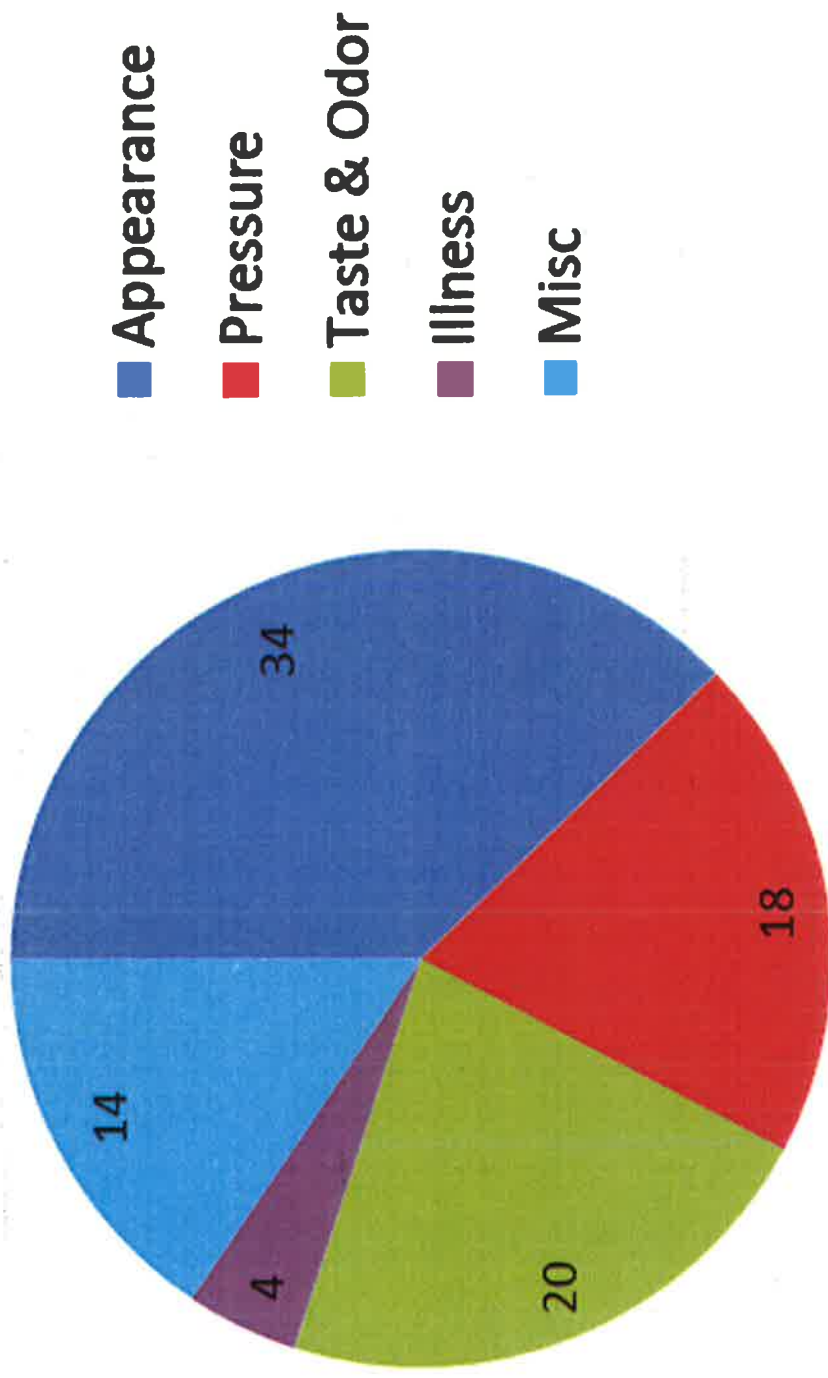
display_location_desc	collection_date	description	ug/L
Distribution	11/13/2008 0:00	N-Nitrosodimethylamine (NDMA)	0
	2/4/2009 0:00	N-nitroso-diethylamine (NDEA)	0.01
	5/5/2009 0:00	N-Nitrosodimethylamine (NDMA)	0.01
	12/18/2013 9:25	N-Nitrosodimethylamine (NDMA)	0.02
		Chromium-6	0.12
Max. Res. Time in Dist. Sy		Strontium	52.4
		Total Chromium	0.37
		Vanadium	0.56
	3/11/2014 11:10	Chromium-6	0.2
		Molybdenum	1.2
		Strontium	61
		Total Chromium	0.29
		Vanadium	0.5
	6/4/2014 14:15	Chromium-6	0.13
		Strontium	61.8
		Total Chromium	0.31
		Vanadium	0.45
	9/17/2014 11:05	Chlorate	26.5
		Chromium-6	0.12
		Molybdenum	1
TREATMENT PLANT #1		Strontium	75.9
		Total Chromium	0.35
		Vanadium	0.46
	11/13/2008 0:00	N-Nitrosodimethylamine (NDMA)	0.01
	2/4/2009 0:00	N-Nitrosodimethylamine (NDMA)	0.01
Treatment Plant #1 EPTD:	5/5/2009 0:00	N-Nitrosodimethylamine (NDMA)	0.01
	12/18/2013 8:15	Chromium-6	0.08
		Molybdenum	1
		Strontium	48.2
		Total Chromium	0.25
		Vanadium	0.58
	3/11/2014 10:30	Chromium-6	0.19
	5/12/2014 8:05	Strontium	59.1
		Total Chromium	0.44
		Vanadium	0.54
	6/4/2014 13:30	Chromium-6	0.12
		Strontium	66
		Total Chromium	0.31
		Vanadium	0.47
	9/17/2014 10:15	Chlorate	29.1
		Chromium-6	0.39
		Molybdenum	1
		Strontium	77.9
		Total Chromium	0.61
		Vanadium	0.4

COMPLAINTS

T&O Complaints



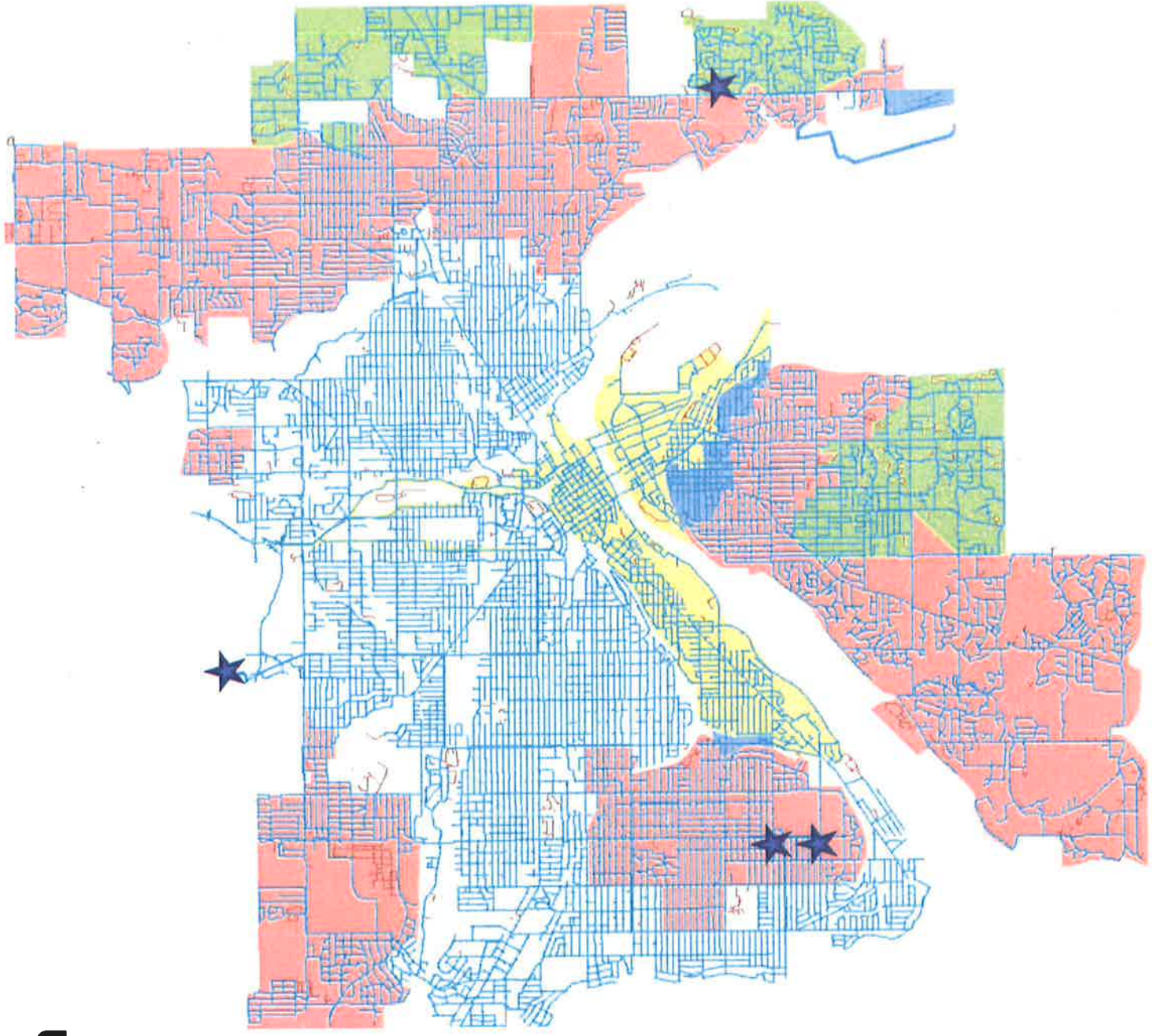
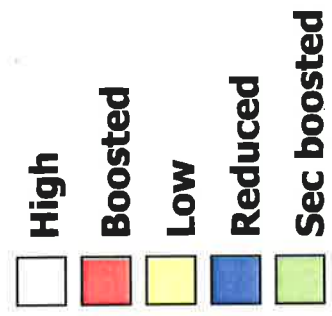
Customer Complaints in 2016 by Category



Distribution System

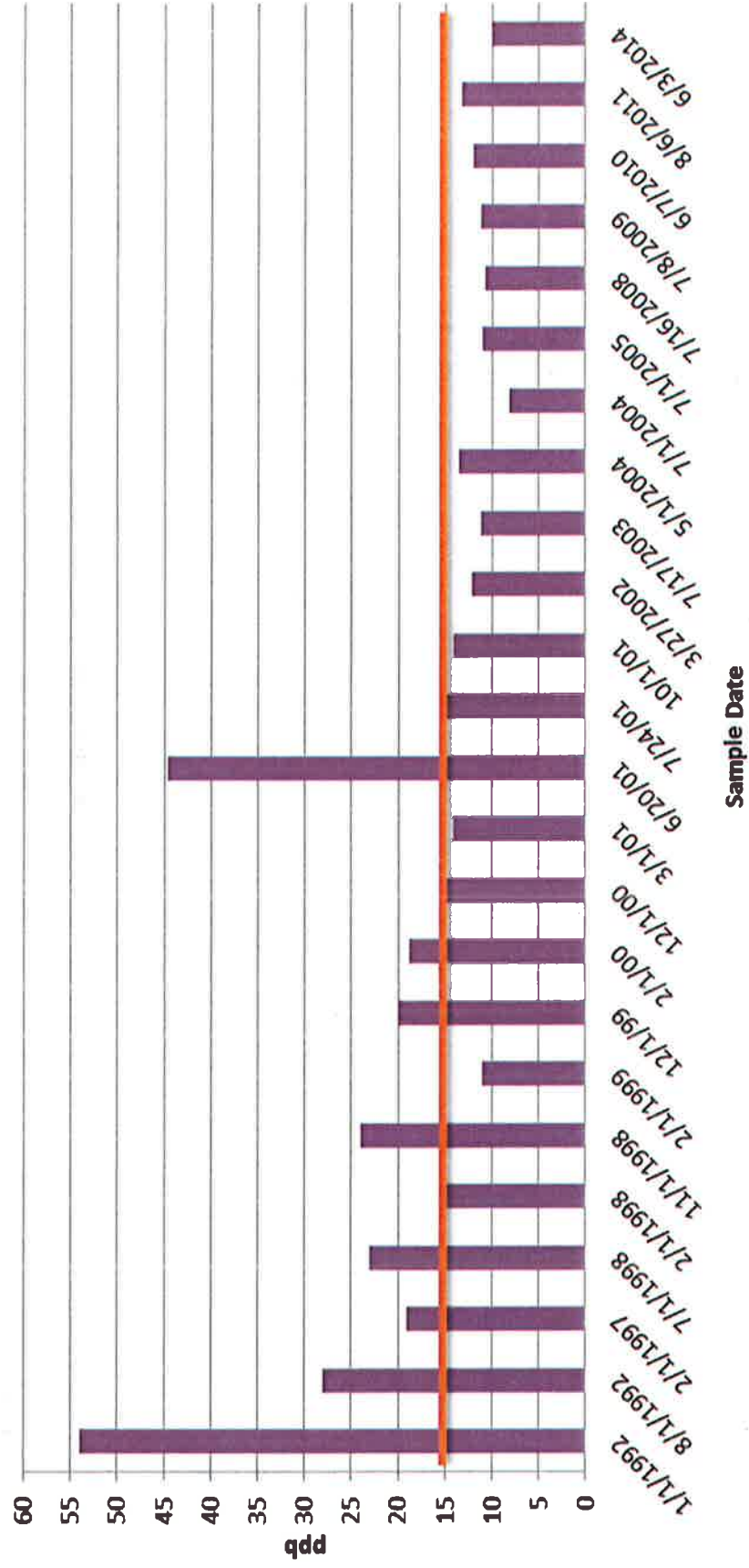


Pressure Zones



LEAD AND COPPER RULE

Lead 90th Percentile

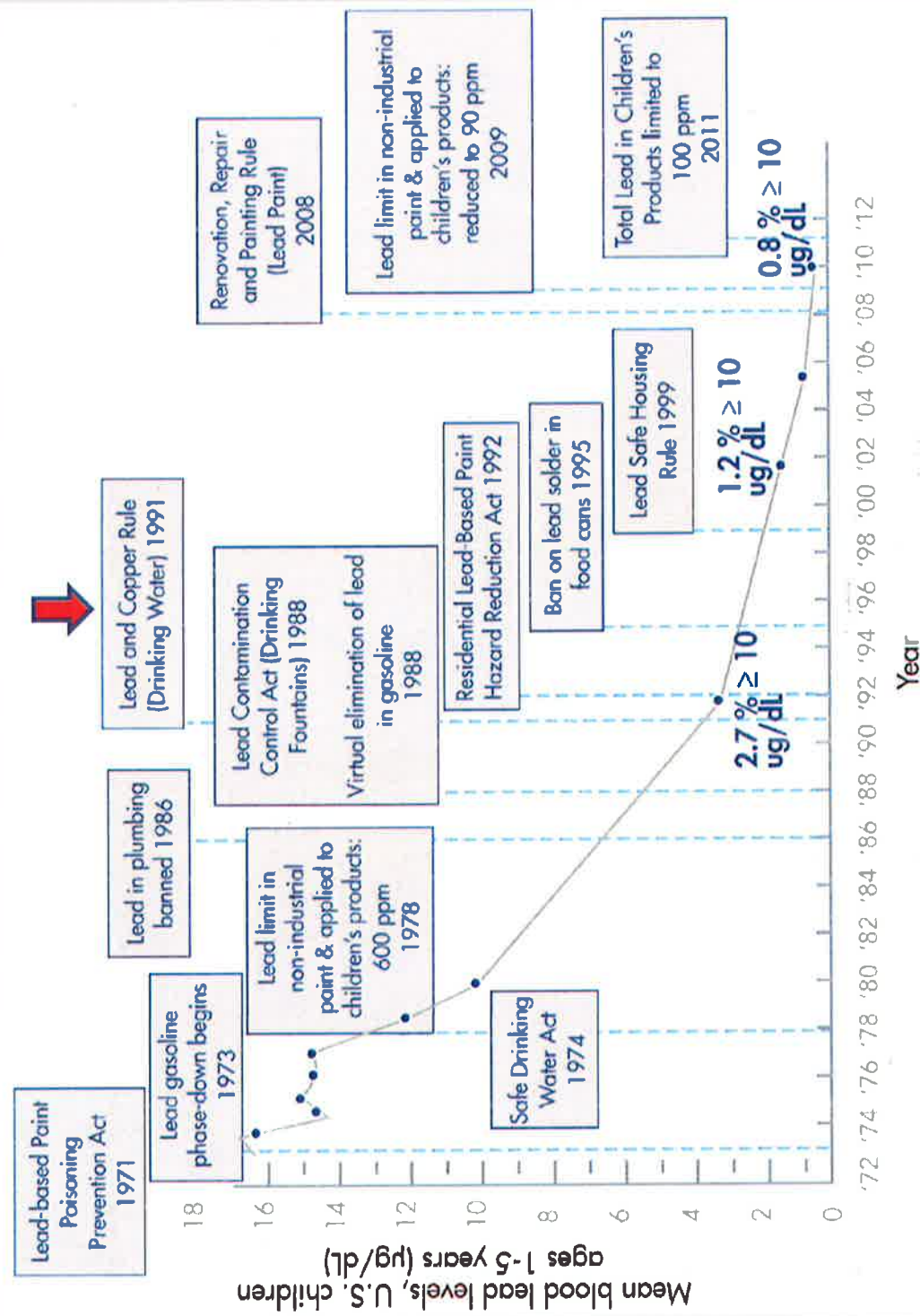


EPA Revisions to Lead and Copper Rule and Recommendations from Advisory Council

- Remove entire lead service line
- Pro-active education
- Expand corrosion control and monitoring
- Health-based Household Action Level
 - Engage local or state Health Departments for advice when results are high at a specific residence
- Encourage free testing for customers while taking sample results off of compliance monitoring
 - This would engage customer and utility instead of dissuading dialogue
 - Our “walk-in samples” are an opportunity to educate the customer

FIGURE 1

Lead poisoning prevention policies have reduced population blood levels



Source: Brown MJ and Falk H. Toolkit for establishing laws to control the use of lead paint. Module C.iii. Conducting blood lead prevalence studies. Global Alliance to Eliminate Lead Paint (2016).