

City Of Detroit Water Mineral Analysis					by Mike Krawczak
Mineral	Symbol	Units	Amount	Acceptable Brewing Range	Comments
Aluminum	Al	mg/l	0.089		
Iron	Fe	mg/l	0.039		
Copper	Cu	mg/l	0.023		
Magnesium	Mg ⁺⁺	mg/l	7.05	10-15 mg/l	Higher levels cause unpleasant sourness
Calcium	Ca ⁺⁺	mg/l	23.4	50-100 mg/l	Required for mash enzyme stabilization/yeast nutrient. Improves hot break and clarity of beer
Sodium	Na ⁺	mg/l	7.85	<150 mg/l	Rounds out flavor and accentuates sweetness at 70-100 mg/l
Potassium	K	mg/l	1.2		
Maganese	Mn	mg/l	0.002		
Zinc	Zn	mg/l	0.1		
Silica	SiO ₂	mg/l	23.2		
Sulfate	SO ₄ ⁻	mg/l	37.2	<150 mg/l	Increases perception of hop bitterness and makes the beer seem drier
Chloride	Cl ⁻	mg/l	22.2	<200 mg/l	Rounds out beer flavor, keep low if paired with Sodium (NA ⁺)
Phosphorus	P	mg/l	0.26		
Total Hardness		mg/l	136 *		
Total Alkalinity		mg/l	90 *	Varies By Style	
(1) Bi-Carbonate Alkalinity		mg/l	90 *	0-250 mg/l	
Carbonate Alkalinity		mg/l	0 *		
Non-Carbonate Hardness		mg/l	46 *	<i>(Also known as permanent hardness)</i>	
PH			7.89		
Residual Alkalinity			69	Water good for amber to brown beer (SRM 14)	
Residual alkalinity = CaCO ₃ - (Ca * 0.714) - (Mg * 0.585)					
					(1) Ideal bicarbonate varies by style, high amounts in pale mash increase PH and decrease enzyme activity.
* As CaCo					