

Hydrogen Water Testing & Certification

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# Laboratory Report

#### Introduction

This report summarizes the analysis of four hydrogen water beverages manufactured by H2 Beverages, Inc., Plano TX. All products were tested for dissolved hydrogen concentration (H<sub>2</sub>) and pH.

# **Product Descriptions**

1) Plus H<sub>2</sub> (ultra high concentration)

Lot #: PLUS H2

Mfg Date: 09092019

Exp Date: 09082020

2) Hydro Shot

Lot #: HYDROSHOT

Mfg Date: 10152019

Exp Date: 10142020

3) Hydro Brew

Lot #: UG TEA

Mfg Date: 07172019

Exp Date: 07162020

4) Hydro Splash

Lot #: CBD FP

Mfg Date: 10152019

Exp Date: 10142020

Products were received for testing 11/8/19.

All products were packaged in new, factory-labeled 250 mL pull-tab aluminum cans.

#### Methods

Beverage temperature at time of testing was 25°C ± 1.5° (room temp)

Laboratory elevation: 864 meters (0.91 atm); all measurements adjusted to SATP.

### 1) Dissolved hydrogen (H<sub>2</sub>)

Test Equipment: SRI 8610C gas chromatograph

Column: Hayesep-D 4M packed column

Column/TCD Temp: 80°C; TCD stabilization time, 2 hrs (drift < 100 uv/min)

Detector: Tungsten-Rhenium TCD (5000 mvsec max) Carrier gas: Nitrogen (99.999%) @20 PSI, 20 mL/min)

Calibration: Performed on day of testing

Calibration curve: best-fit

Calibration conc. units: mg/L (ppm)

Analysis Method: Static headspace/direct injection

For each test, a fresh container was opened and immediately sampled using gastight syringe; sample was injected into headspace and agitated for two minutes to equilibrate; headspace was then sampled using a gastight syringe and injected into the gas chromatograph for analysis. For each product, five tests were conducted, and the mean & standard deviations were calculated.

# 2) pH

Test Equipment: Oakton Digital pH/Temp; calibrated on day of testing (3-point)

For each test, after GC injection of sample, the sample was tested for pH.

# Results

pH:

Dissolved H<sub>2</sub>: Mean - 4.32 ppm SD - 1.08 Mean - 5.3 pH: SD - 0.53 2) Hydro Shot (mfg 10/15/2019) Dissolved H<sub>2</sub>: Mean - 2.16 ppm SD - 0.24 Mean - 3.3 pH: SD - 0.01 3) Hydro Brew (mfg 07/17/2019) Dissolved H<sub>2</sub>: Mean - 2.47 ppm SD - 0.38 pH: Mean - 4.9 SD - 0.03 4) Hydro Splash (mfg 10/15/2019) Dissolved H<sub>2</sub>: Mean - 2.24 ppm SD - 0.20

Mean - 2.8

Approved By:

RSShappe Title: Director of Testing

SD - 0.01

Report Date: 11/11/19