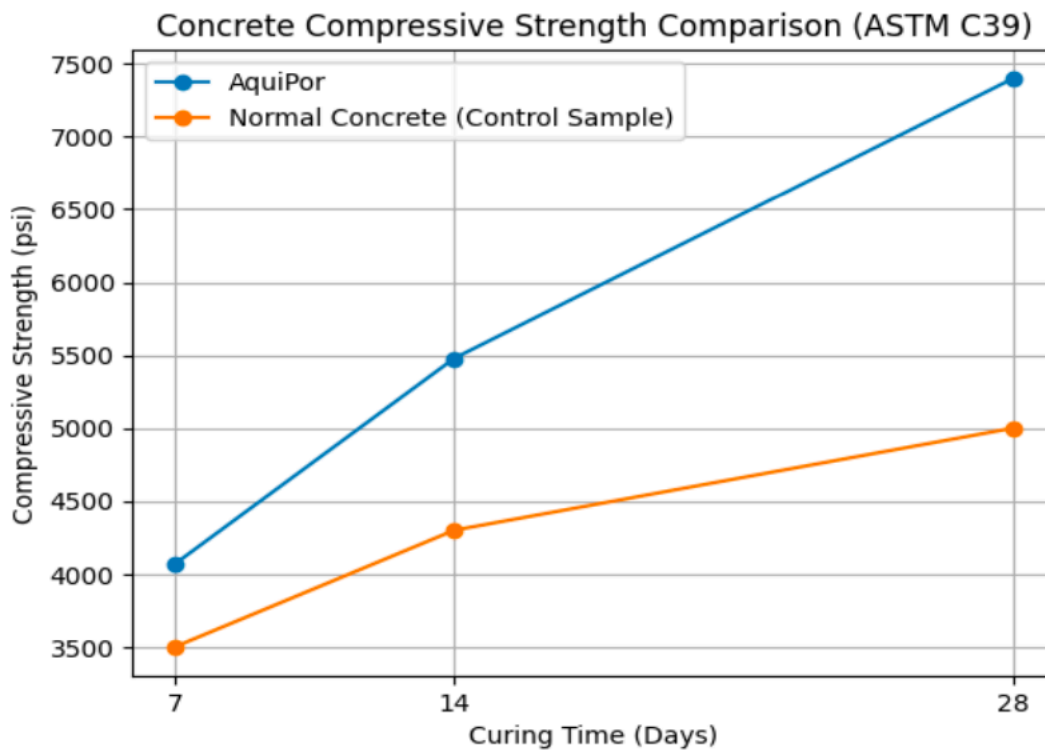


Test Result Summary Pursuant to ASTM C39 – Concrete Compressive Strength

AquiPor's porous hydrate technology in a 6.25 sack mix (Type 1L), with a 0.43 w/c ratio, compared to an equivalent Type 1L control sample.



**In-house testing performed by ACI certified field technicians.*

Client: Aquipor technologies
Project: Aquipor Investigation
Contact: Greg Johnson
Cast date: 8/18/2025

AET Project No: P-0041956
AET Project Mgr.: J. Tanesi
Technician: D. Quinn
Approved By: J. Tanesi
Report Date: 10/13/2025

TEST RESULTS of ASTM C642,
 DENSITY, ABSORPTION, AND VOIDS in HARDENED CONCRETE

Mix ID	Control	Aquipor
Oven-Dry Mass in Air (A), g	1741.0	1546.0
Saturated Surface-Dry Mass after Immersion (B), g	1849.0	1671.0
Saturated Surface-Dry Mass after Immersion and Boil (C), g	1850.0	1676.0
Apparent Mass in Water after Immersion and Boiling (D), g	1084.0	984.0
Bulk Density, Dry (g_1), Mg/m ³	2.27	2.23
Bulk Density, After Immersion, g/cm ³	2.41	2.41
Bulk Density, After Immersion and Boil, g/cm ³	2.42	2.42
Apparent Density (g_2), Mg/m ³	2.65	2.75
Absorption, After Immersion, %	6.2	8.1
Absorption, After Immersion and Boil, %	6.3	8.4
Volume of Permeable Pore Space, %	14.2	18.8
Wet Unit Weight, lb/ft ³	150.7	151.1

Notes:

1. 4 by 8 in. cylinders were cast on August 18, 2025. tests were performed at 28 days.
2. The test results represent the specimen tested and the method specified.
3. 1 g/cm³ = 1 Mg/m³.



REPORT OF HEAT OF HYDRATION

Project:
AquiPor Investigation

Reported To:
AquiPor Technologies
4118 E 33rd Ave.
Spokane, WA 99223

AET Project No.: P-0041956

Attn: Greg Johnson
Date: May 27, 2025

INTRODUCTION

This report presents the results of laboratory work performed by our firm on a powder sample you identified as “AquiPor Technologies 25/3/31.” Dr. Jussara Tanesi, Principal Engineer, American Engineering Testing, submitted the sample to the Chemistry Laboratory on April 11, 2025. The scope of our work was limited to the determination of the heat of hydration of the sample in accordance with ASTM C1702 at test ages 3 and 7 days.

TEST RESULTS

<u>Sample Identification</u>	<u>Average Heat of Hydration, kJ/kg [cal/g]</u>	
	<u>3 Days</u>	<u>7 Days</u>
Aqui Por Technologies 25/3/31	6 [1]	11 [3]

TEST PROCEDURES

Laboratory testing was performed on May 1, 2025, and subsequent dates. The mass of paste used for testing was 75 grams (50 grams powder + 25 grams water). Testing was performed in triplicate using a Calmetrix i-Cal 8000 HPC isothermal calorimeter to determine the heat of hydration at 3 and 7 days in accordance with ASTM C1702-17, “Standard Test Method for Measurement of Hydration of Hydraulic Cementitious Materials Using Isothermal Conduction Calorimetry,” Method B - External Mixing. The calorimeter was calibrated on January 17, 2021, and its performance was verified with the analysis of Cement and Concrete Reference Laboratory (CCRL) reference cement.



REPORT OF CHEMICALLY BOUND WATER

Project:
AquiPor Investigation

Reported To:
AquiPor Technologies
4118 E 33rd Ave
Spokane, WA 99223

AET Project No.: P-0041956

Attn: Greg Johnson
Date: May 15, 2025

INTRODUCTION

This report presents the results of laboratory work performed by our firm on one (1) sample submitted by Jussara Tanesi, American Engineering Testing, Inc., on your behalf on April 11, 2025. The scope of our work was limited to documenting the chemically bound water content of the sample in accordance with ASTM C1897, Method B.

TEST RESULTS

Table 1 – Chemically Bound Water Content – Cured at 40 °C for 7 Days

<u>Sample Identification</u>	<u>Bound Water</u>	<u>Grams per 100 Grams of Dried Paste</u>	
		<u>Average Bound Water</u>	<u>Bound Water Corrected</u>
AET-4576303.0100	4.18 3.75	3.96	2.90

TEST PROCEDURES

Laboratory testing was performed on April 11, 2025, and subsequent dates in accordance with ASTM C1897-20, “Standard Test Method for Measuring the Reactivity of Supplementary Cementitious Materials by Isothermal Calorimetry and Bound Water Measurements.” The sample was tested in duplicate, conditioned at 40°C, and mixed in a blender with potassium solution at 1600r/min. Results presented in Table 1 are reported on a dry weight 40 °C basis.



Permeable Paver Column Study Fact Sheet

Advanced Stormwater Management Through Sub-Micron Porosity

STUDY GOAL

The goal of this study was to evaluate Aquipor’s permeable pavers as a stormwater best management practice (BMP) in a laboratory setting. This involved flow-through column testing of permeable pavers to evaluate the design infiltration rate and treatment performance for reducing TSS and 6PPDQ.

STUDY PLAN

The specific study objectives to achieve this goal included:

- **Flushing Test:** Deionized water was used to flush the pavers and assess whether they are leaching pollutants regulated by the by the Washington State National Pollutant Discharge Elimination System (NPDES) Permit for owners of Municipal Separate Storm Sewer Systems (MS4) [MS4 Permit].
- **Water Quality Testing:** Eight simulated storm events were run using synthetic stormwater to measure TSS removal performance. In addition, one event was conducted using natural stormwater to evaluate the pavers’ ability to reduce 6PPDQ.
- **Infiltration Rate Monitoring:** The infiltration rate was measured throughout testing to assess the changes over time as well as determine the design infiltration rate and identify when maintenance would be needed.
- **Design and Maintenance Guidance:** The study results and a literature search were used to define design and maintenance guidance for field applications.

RESULTS

Removal Efficiency (%)		Infiltration Rate (inches/hour)	
TSS	6PPDQ	Initial	Design
96.8	81.6%	1.37	0.5

- **Flushing Test:** Effluent concentrations were measured for total suspended solids (TSS), dissolved copper (cu) and zinc (zn), total phosphorus, oils, and hardness. All were below the TAPE effluent concentration range. Recommend retesting after addition flushing to determine if the concentrations measured are washing of the pavers and would stop after additional flushing or if they are leaching from the pavers.
- **Water Quality Testing:** The average TSS removal efficiency from duplicate pavers was 96.8% which exceeds the TAPE treatment performance criteria of 80%. The 6PPDQ removal efficiency from a single paver was 81.6% which is consistent with other permeable pavement studies.
- **Infiltration Rate Monitoring:** The initial infiltration rate was 1.37 in/hr. The rate declined over the water quality testing due to TSS build up (see right). Maintenance was conducted to restore the rate using practices similar to what is expected in field: vacuuming and pressure washing. The design infiltration rate selected was 0.5 in/hr which is the infiltration rate when maintenance would be needed.



Maintenance: Before (top) & After (bottom)

NEXT STEPS

Results from the study will be used to enter the pavers into the Technology Assessment Protocol – Ecology (TAPE) program and obtain a pilot use level designation (PULD) and further evaluate the pavers treatment and infiltration performance in the field.



Infiltration Rate Results

Green highlights

- Initial rate
- Rate after maintenance

Test Number	Paver 2 Rate (in/hr)	Paver 3 Rate (in/hr)	Average Rate (in/hr)
1	0.74	0.97	0.86
2	1.09	1.62	1.36
3	2.49	3.67	3.08
4	1.19	1.58	1.39
5	1.10	1.57	1.34
6	0.39	0.67	0.53
7	0.15	0.44	0.29
8	0.29	0.46	0.37
9	0.33	0.56	0.45
10	0.92	0.99	0.95
11	0.36	0.47	0.41
12	0.14	0.24	0.19
13*	-	0.98	-

* Results represent Paver 6 which was used for 6PPDQ testing.



Total Suspended Solids (TSS) Results & Testing

Filtration / Pollutant Removal

Simulated Storm Number	Date	TSS Loading (mg/L)	Influent Concentration (mg/L)			Effluent Concentration (mg/L)			Removal Efficiency (%)		
			Sample 1	Sample 2	Average	Paver 2	Paver 3	Average	Paver 2	Paver 3	Average
1	9/25/25	100	33.6	0.2	16.9	0.7	13.6	7.2	95.9	19.5	57.7
2	9/26/25	100	0.7	20	3.35	0.7	20	10.4	79.1	-457	-189
3	10/24/25	300	74.5	214	144.3	4.1	1.8	2.9	97.2	98.8	98.0
4	10/27/25	300	123	104	113.5	3.7	4.6	4.2	96.7	95.9	96.3
5	11/13/25	300	57.6	111	84.3	4.4	2.6	3.5	94.8	96.9	95.9
6	11/24/25	300	77.1	109	93.05	1.3	0.9	1.1	98.6	99	98.8
7	1/6/26	300	74.5	200	137.3	3.7	3.2	2.5	97.3	97.7	97.5
8	1/7/26	300	106	87.9	97	3.1	3.4	3.3	96.8	96.5	96.7
9	1/20/2026	300	135	109	122	2.6	17	9.8	97.9	86.1	92
10	1/22/2026	300	106	123	114.5	1	0.9	1	99.1	99.2	99.2
Tests 3-10 Average			113.23			3.0	4.3	3.6	97.3	96.3	96.8



6PPDQ (Tire Wear Particles/Toxins) Results & Testing

Filtration and Removal

Influent Concentration (ng/L)	Effluent Concentration (ng/L)	Removal Efficiency (%)
76	14	81.6