



WHEN THOSE UNDER YOUR CARE REQUIRE THE CLEANEST AIR™

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**Gillware, Inc.**  
1802 Wright Street  
Madison, WI 53704

**Test Reports**  
**August, 2018**

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**Gillware, Inc.**

1802 Wright Street  
Madison, WI 53704

**Laminar s/n: 9811024 - Hood #1**

**Purpose:** To determine if the cleanzone meets ISO Class 5 in the "at rest" mode in accordance with ISO 14644.1:2015

**Procedure:** A zone classification of ISO Class 5 is desired in this area. The air being supplied to this area is of a non-unidirectional pattern. The minimum number of sample locations required for classification was determined by the area and Table A.1.

$$A = \frac{6.000}{10.76} \text{ ft}^2 = 0.558 \text{ m}^2$$

Table A.1: 1 Location(s)

No fewer than one location shall be sampled and at least three samples shall be taken for any cleanzone. Sample locations shall be uniformly spaced except as limited by equipment within the cleanzone. Sample volume will be taken at a minimum of two liters and a minimum sample time of one minute.

**Statistical Analysis:** 0.5µ particle size/m<sup>3</sup>

Average Particle Concentrations:

- Location #: 1) 18
- 2) 54

**Mean of the Averages:** 36

**Standard Deviation:** 25

**Compliance Determination:** Since the average particle concentration at each location is less than 3,520 particles per m<sup>3</sup>, the air sample is verified as complying with airborne cleanliness ISO Class 5 at 0.5µ in accordance with ISO 14644.1:2015

Testing Technician(s): Erik Thompson Date: 8/1/2018

Particle Counter: Met-One Model #: 3313 Serial #: 030701057 Cal. Due: 3/20/2019

**Gillware, Inc.**

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**Laminar s/n: 9811024 - Hood #1**

```
S/N 030701057
LOCATION=1      09:16:26 AUGUST 01,2018
2 CYCLES      Flowrate=28.32 LPM
PERIOD=00:01:00 /CU M
SIZE          CUMULATIVE DIFFERENTIAL
0.3µm        40000          40000
0.5µm        40000          0
1.0µm        40000          0
3.0µm        40000          0
10.0µm       40000          0
```

```
S/N 030701057
LOCATION=1      09:17:31 AUGUST 01,2018
2 CYCLES      Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE          CUMULATIVE DIFFERENTIAL
0.3µm        46400          46400
0.5µm        46400          0
1.0µm        46400          0
3.0µm        46400          0
10.0µm       46400          0
```

```
S/N 030701057
LOCATION=2      09:19:08 AUGUST 01,2018
2 CYCLES      Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE          CUMULATIVE DIFFERENTIAL
0.3µm        28000          28000
0.5µm        28000          0
1.0µm        28000          0
3.0µm        28000          0
10.0µm       28000          0
```

```
S/N 030701057
LOCATION=2      09:20:13 AUGUST 01,2018
2 CYCLES      Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE          CUMULATIVE DIFFERENTIAL
0.3µm        20600          20600
0.5µm        20600          0
1.0µm        20600          0
3.0µm        20600          0
10.0µm       20600          0
```



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Madison, WI 53704

**Laminar s/n: 204670538 - Hood #2**

**Purpose:** To determine if the cleanzone meets ISO Class 5 in the "at rest" mode in accordance with ISO 14644.1:2015

**Procedure:** A zone classification of ISO Class 5 is desired in this area. The air being supplied to this area is of a non-unidirectional pattern. The minimum number of sample locations required for classification was determined by the area and Table A.1.

$$A = \frac{6.000}{10.76} \text{ ft}^2 = 0.558 \text{ m}^2$$

Table A.1: 1 Location(s)

No fewer than one location shall be sampled and at least three samples shall be taken for any cleanzone. Sample locations shall be uniformly spaced except as limited by equipment within the cleanzone. Sample volume will be taken at a minimum of two liters and a minimum sample time of one minute.

**Statistical Analysis:** 0.5µ particle size/m<sup>3</sup>

Average Particle Concentrations:

Location #: 1) 0  
2) 0

**Mean of the Averages:** 0

**Standard Deviation:** 0

**Compliance Determination:** Since the average particle concentration at each location is less than 3,520 particles per m<sup>3</sup>, the air sample is verified as complying with airborne cleanliness ISO Class 5 at 0.5µ in accordance with ISO 14644.1:2015

Testing Technician(s): Erik Thompson Date: 8/1/2018

Particle Counter: Met-One Model #: 3313 Serial #: 030701057 Cal. Due: 3/20/2019

**Gillware, Inc.**

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**Laminar s/n: 204670538 - Hood #2**

```
S/N 030701057
LOCATION=1 09:09:46 AUGUST 01,2018
2 CYCLES Flowrate=28.32 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm
0.5µm
1.0µm
3.0µm
5.0µm
10.0µm
```

```
S/N 030701057
LOCATION=1 09:10:51 AUGUST 01,2018
2 CYCLES Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 2604 2604
0.5µm
1.0µm
3.0µm
5.0µm
10.0µm
```

```
S/N 030701057
LOCATION=2 09:12:06 AUGUST 01,2018
2 CYCLES Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 1391 1391
0.5µm
1.0µm
3.0µm
5.0µm
10.0µm
```

```
S/N 030701057
LOCATION=2 09:13:11 AUGUST 01,2018
2 CYCLES Flowrate=28.32 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 1201 1201
0.5µm
1.0µm
3.0µm
5.0µm
10.0µm
```



# Gillware, Inc.

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## Laminar - Hood #3

```
S/N 030701057
LOCATION=1 08:59:28 AUGUST 01, 2018
2 CYCLES Flowrate=28.32 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 777 777
0.5µm
1.0µm
5.0µm
10.0µm
```

```
S/N 030701057
LOCATION=1 09:00:33 AUGUST 01, 2018
2 CYCLES Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 328 328
0.5µm
1.0µm
5.0µm
10.0µm
```

```
S/N 030701057
LOCATION=2 09:02:08 AUGUST 01, 2018
2 CYCLES Flowrate=28.32 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 424 424
0.5µm
1.0µm
5.0µm
10.0µm
```

```
S/N 030701057
LOCATION=2 09:03:13 AUGUST 01, 2018
2 CYCLES Flowrate=28.03 LPM
PERIOD=00:01:00 /CU M
SIZE CUMULATIVE DIFFERENTIAL
0.3µm 5707 5707
0.5µm
1.0µm
5.0µm
10.0µm
```