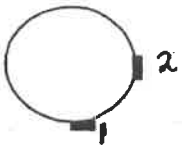
# ECSI, INC. - VELOCITY TRAVERSE DATA

Client: Sterigenics
Location: Willowbrook - Plant 1
Source: AAT Safe Cell System Inlet

Run #: 1
Probe Type: Std.
Stack I.D.: 36 In.

Date: ~~8/8/2018~~ 8/21/18
Baro Press: ~~29.35~~ ~~29.00~~ 28.95
DSCFM:

Port Sketch:




| Inches From Port | Port 1 Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle | Port 2 Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.7 | 1 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 101.2 | 1.5 | 1 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 103.3 | 5.0 |
| 2.4 | 2 | 0.15 | 0.15 | #DIV/0! | #DIV/0! | 101.2 | 5.6 | 2 | 0.22 | 0.22 | #DIV/0! | #DIV/0! | 103.3 | 4.6 |
| 4.2 | 3 | 0.18 | 0.18 | #DIV/0! | #DIV/0! | ~~101.7~~ 102 | 2.0 | 3 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 103.2 | 3.6 |
| 6.3 | 4 | 0.20 | 0.20 | #DIV/0! | #DIV/0! | 102.2 | 1.8 | 4 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 103.1 | 5.1 |
| 9.0 | 5 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 102.4 | 1.0 | 5 | 0.23 | 0.23 | #DIV/0! | #DIV/0! | 102.9 | 3.0 |
| 12.9 | 6 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 102.5 | 0.5 | 6 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 102.8 | 2.6 |
| 23.1 | 7 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 103.5 | 1.0 | 7 | 0.16 | 0.16 | #DIV/0! | #DIV/0! | 102.6 | 8.8 |
| 27.0 | 8 | 0.23 | 0.23 | #DIV/0! | #DIV/0! | 104 | 1.4 | 8 | 0.19 | 0.19 | #DIV/0! | #DIV/0! | 102.6 | 6.3 |
| 29.7 | 9 | 0.17 | 0.25 | #DIV/0! | #DIV/0! | 104.3 | 2.4 | 9 | 0.24 | 0.24 | #DIV/0! | #DIV/0! | 102.5 | 4.1 |
| 31.8 | 10 | 0.19 | 0.19 | #DIV/0! | #DIV/0! | 104.4 | 0.5 | 10 | 0.22 | 0.22 | #DIV/0! | #DIV/0! | 102.5 | 2.2 |
| 33.6 | 11 | 0.26 | 0.26 | #DIV/0! | #DIV/0! | 104.6 | 1.5 | 11 | 0.26 | 0.26 | #DIV/0! | #DIV/0! | 102.4 | 2.8 |
| 35.3 | 12 | 0.19 | 0.19 | #DIV/0! | #DIV/0! | 105 | 1.8 | 12 | 0.22 | 0.22 | #DIV/0! | #DIV/0! | 102.5 | 2.1 |
| | 13 | | | | | | | 13 | | | | | | |
| | 14 | | | | | | | 14 | | | | | | |
| | 15 | | | | | | | 15 | | | | | | |
| | 16 | | | | | | | 16 | | | | | | |
| | 17 | | | | | | | 17 | | | | | | |
| | 18 | | | | | | | 18 | | | | | | |
| | 19 | | | | | | | 19 | | | | | | |
| | 20 | | | | | | | 20 | | | | | | |
| | 21 | | | | | | | 21 | | | | | | |
| | 22 | | | | | | | 22 | | | | | | |
| | 23 | | | | | | | 23 | | | | | | |
| | 24 | | | | | | | 24 | | | | | | |
| | | | | | | | | Average Values: | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! | | |

* Stack static pressure measured at -0.25" H2O

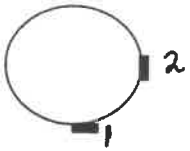
* pitot tube P-41-2 was leak checked @ 2" H2O, max scale on the manometer

# ECSI, INC. - VELOCITY TRAVERSE DATA

Client: Sterigenics | Run #: 1 | Date: ~~9/8/2010~~ 9/21/18 | Port Sketch:

Location: Willowbrook - Plant 1 | Probe Type: Std. | Baro Press: ~~29.35~~ 29.00

Source: AAT Safe Cell System Inlet | Stack I.D.: 36 in. | DSCFM:




| | Port 1 | | | | | | | Port 2 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inches From Port | Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle | Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle |
| 0.7 | 1 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 101.2 | 1.5 | 1 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 103.3 | 5.0 |
| 2.4 | 2 | 0.15 | 0.15 | #DIV/0! | #DIV/0! | 101.2 | 5.6 | 2 | 0.22 | 0.22 | #DIV/0! | #DIV/0! | 103.3 | 4.6 |
| 4.2 | 3 | 0.18 | 0.18 | #DIV/0! | #DIV/0! | 10~~01.7~~ | 2.0 | 3 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 103.2 | 3.6 |
| 6.3 | 4 | 0.20 | 0.20 | #DIV/0! | #DIV/0! | 102.2 | 1.8 | 4 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 103.1 | 5.1 |
| 9.0 | 5 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 102.4 | ~~1.0~~ | 5 | 0.23 | 0.23 | #DIV/0! | #DIV/0! | 102.9 | 3.0 |
| 12.9 | 6 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 102.5 | 0.5 | 6 | 0.25 | 0.25 | #DIV/0! | #DIV/0! | 102.8 | 2.6 |
| 23.1 | 7 | 0.21 | 0.21 | #DIV/0! | #DIV/0! | 103.5 | 1.0 | 7 | 0.16 | 0.16 | #DIV/0! | #DIV/0! | 102.6 | 8.8 |
| 27.0 | 8 | 0.23 | 0.23 | #DIV/0! | #DIV/0! | 104 | 1.4 | 8 | 0.19 | 0.19 | #DIV/0! | #DIV/0! | 102.6 | 6.3 |
| 29.7 | 9 | 0.19 | 0.25 | #DIV/0! | #DIV/0! | 104.3 | 2.4 | 9 | 0.24 | 0.24 | #DIV/0! | #DIV/0! | 102.5 | 4.1 |
| 31.8 | 10 | 0.19 | 0.19 | #DIV/0! | #DIV/0! | 104.4 | 0.5 | 10 | 0.22 | 0.22 | #DIV/0! | #DIV/0! | 102.5 | 2.2 |
| 33.6 | 11 | 0.26 | 0.26 | #DIV/0! | #DIV/0! | 104.6 | 1.5 | 11 | 0.26 | 0.26 | #DIV/0! | #DIV/0! | 102.4 | 2.8 |
| 35.3 | 12 | 0.19 | 0.19 | #DIV/0! | #DIV/0! | 105 | 1.8 | 12 | 0.22 | 0.22 | #DIV/0! | #DIV/0! | 102.5 | 2.1 |
| | 13 | | | | | | | 13 | | | | | | |
| | 14 | | | | | | | 14 | | | | | | |
| | 15 | | | | | | | 15 | | | | | | |
| | 16 | | | | | | | 16 | | | | | | |
| | 17 | | | | | | | 17 | | | | | | |
| | 18 | | | | | | | 18 | | | | | | |
| | 19 | | | | | | | 19 | | | | | | |
| | 20 | | | | | | | 20 | | | | | | |
| | 21 | | | | | | | 21 | | | | | | |
| | 22 | | | | | | | 22 | | | | | | |
| | 23 | | | | | | | 23 | | | | | | |
| | 24 | | | | | | | 24 | | | | | | |
| | | | | | | | | | | | Average Values: | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |

* pitot tube P-4-2 was leak checked @ 2" H2O, max scale on the manometer

# ECSI, INC. - VELOCITY TRAVERSE DATA

Client: Sterigenics
Location: Willowbrook - Plant 1
Source: AAT Safe Cell System Outlet

Run #: 1
Probe Type: Std.
Stack I.D.: 20x30 = 4.17 ft²

Date: ~~11/7/2017~~ 9/21/18
Baro Press: ~~29.35~~ ~~29.00~~ 28.95
DSCFM:

Port Sketch: 0 0 0 0 / 1 2 3 4

| Port 1 & 2 | | | | | | | | Port 3 & 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inches From Port | Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle | Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle | |
| 2.5 | 1 | 0.55 | 0.55 | #DIV/0! | #DIV/0! | 97.8 | 3.8 | 1 | 0.~~45~~.38 | 0.~~45~~.38 | #DIV/0! | #DIV/0! | ~~109.5~~ 102.5 | ~~1.8~~ | 2.6 |
| 5.0 | 2 | 0.70 | 0.70 | #DIV/0! | #DIV/0! | 107.7 | 4.8 | 2 | ~~0.52~~ .51 | ~~0.52~~ .51 | #DIV/0! | #DIV/0! | 105 105 | ~~2.0~~ | 2.2 |
| 7.5 | 3 | 0.75 | 0.75 | #DIV/0! | #DIV/0! | 109.1 | 3.0 | 3 | ~~0.60~~ .42 | ~~0.60~~ .42 | #DIV/0! | #DIV/0! | 109 107.1 | ~~0.5~~ | 3.6 |
| 10.0 | 4 | 0.80 | 0.80 | #DIV/0! | #DIV/0! | 108.1 ~~109.6~~ | ~~2.65~~ | 4 | 0.42 | 0.42 | #DIV/0! | #DIV/0! | 108.1 | 2.8 | |
| 12.5 | 5 | 0.85 | 0.85 | #DIV/0! | #DIV/0! | 109.4 | 0.8 | 5 | 0.50 | .50 | #DIV/0! | #DIV/0! | 107.1 | 2.8 | |
| 15.0 | 6 | 1.09 | 1.09 | #DIV/0! | #DIV/0! | 109.5 | 1.8 | 6 | 0.70 | 0.70 | #DIV/0! | #DIV/0! | 108.9 | 2.2 | |
| 17.5 | 7 | 1.3 | 1.3 | #DIV/0! | #DIV/0! | 109.6 | 0.5 | 7 | 0.91 | 0.91 | #DIV/0! | #DIV/0! | 109.1 | 2.6 | |
| 2.5 | 1 | 0.35 | 0.35 | #DIV/0! | #DIV/0! | 101.5 | 1.8 | 1 | .45 | .45 | #DIV/0! | #DIV/0! | 104.5 | 1.8 | |
| 5.0 | 2 | 0.38 | 0.38 | #DIV/0! | #DIV/0! | 104.8 | 3.0 | 2 | .52 | .52 | #DIV/0! | #DIV/0! | 105 | 2.0 | |
| 7.5 | 3 | 0.45 | 0.45 | #DIV/0! | #DIV/0! | 107.9 | 2.0 | 3 | .60 | .60 | #DIV/0! | #DIV/0! | 109 | 0.5 | |
| 10.0 | 4 | 0.38 | 0.38 | #DIV/0! | #DIV/0! | 108.6 | 1.2 | 4 | .60 | .60 | #DIV/0! | #DIV/0! | 109.1 | 3.6 | |
| 12.5 | 5 | 0.46 | 0.46 | #DIV/0! | #DIV/0! | 109.0 | 3.2 | 5 | .40 | .40 | #DIV/0! | #DIV/0! | 109.0 | 3.5 | |
| 15.0 | 6 | 0.60 | 0.60 | #DIV/0! | #DIV/0! | 109.1 | 4.5 | 6 | .80 | .80 | #DIV/0! | #DIV/0! | 108 | 5.2 | |
| 17.5 | 7 | 0.90 | 0.90 | #DIV/0! | #DIV/0! | 109.1 | 5.2 | 7 | .85 | .85 | #DIV/0! | #DIV/0! | 107.1 | 1.8 | |
| | | | | | | | | | | | Average Values: | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |

*stack static pressure measured at 0.25" $H_2O$

* Pitot tube P-42 was leak checked @ 2" $H_2O$, max scale on the manometer

# ECSI, INC. - VELOCITY TRAVERSE DATA

Client: Sterigenics | Run #: 1 | Date: ~~11/7/2017~~ 9/21/18 | Port Sketch: 0 0 0 0 / 1 2 3 4

Location: Willowbrook - Plant 1 | Probe Type: Std. | Baro Press: ~~29.95~~ 29.00

Source: AAT Safe Cell System Outlet | Stack I.D.: 20x30 | DSCFM:

| | Port 1 & 2 | | | | | | | Port 3 & 4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Inches From Port | Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle | Point# | Delta P Low | Delta P High | Delta P Average | Delta P Sq Root | Stack Temp (F) | Cyclonic Angle | |
| 2.5 | 1 | 0.55 | 0.55 | #DIV/0! | #DIV/0! | 97.8 | 3.8 | 1 | 0.~~45~~.28 | 0.~~45~~.28 | #DIV/0! | #DIV/0! | ~~109.5~~ 103.5 | ~~1.8~~ | 2.6 |
| 5.0 | 2 | 0.70 | 0.70 | #DIV/0! | #DIV/0! | 107.7 | 4.8 | 2 | ~~0.52~~ .31 | ~~0.52~~ .31 | #DIV/0! | #DIV/0! | 105 105 | ~~2.0~~ | 2.2 |
| 7.5 | 3 | 0.75 | 0.75 | #DIV/0! | #DIV/0! | 109.1 | 3.0 | 3 | ~~0.60~~ .42 | ~~0.60~~ .42 | #DIV/0! | #DIV/0! | 109 107.5 | ~~0.5~~ | 3.6 |
| 10.0 | 4 | 0.80 | 0.80 | #DIV/0! | #DIV/0! | 109.1 ~~109.0~~ | ~~2.6~~ | 4 | 0.42 | 0.42 | #DIV/0! | #DIV/0! | 108.1 | 2.8 | |
| 12.5 | 5 | 0.85 | 0.85 | #DIV/0! | #DIV/0! | 109.4 | 0.8 | 5 | 0.50 | .50 | #DIV/0! | #DIV/0! | 107.1 | 2.8 | |
| 15.0 | 6 | 1.09 | 1.09 | #DIV/0! | #DIV/0! | 109.5 | 1.8 | 6 | 0.70 | 0.70 | #DIV/0! | #DIV/0! | 108.9 | 2.2 | |
| 17.5 | 7 | 1.3 | 1.3 | #DIV/0! | #DIV/0! | 109.6 | 0.5 | 7 | 0.91 | 0.91 | #DIV/0! | #DIV/0! | 109.1 | 2.6 | |
| 2.5 | 1 | 0.35 | 0.35 | #DIV/0! | #DIV/0! | 101.5 | 1.8 | 1 | .45 | .45 | #DIV/0! | #DIV/0! | 104.5 | 1.8 | |
| 5.0 | 2 | 0.38 | 0.38 | #DIV/0! | #DIV/0! | 104.8 | 3.0 | 2 | .52 | .52 | #DIV/0! | #DIV/0! | 105 | 2.0 | |
| 7.5 | 3 | 0.45 | 0.45 | #DIV/0! | #DIV/0! | 107.9 | 2.0 | 3 | .60 | .60 | #DIV/0! | #DIV/0! | 109 | 0.5 | |
| 10.0 | 4 | 0.38 | 0.38 | #DIV/0! | #DIV/0! | 108.6 | 1.2 | 4 | .60 | .60 | #DIV/0! | #DIV/0! | 109.1 | 3.6 | |
| 12.5 | 5 | 0.46 | 0.46 | #DIV/0! | #DIV/0! | 109.0 | 3.2 | 5 | .40 | .40 | #DIV/0! | #DIV/0! | 109.0 | 3.5 | |
| 15.0 | 6 | 0.60 | 0.60 | #DIV/0! | #DIV/0! | 109.1 | 4.5 | 6 | .80 | .80 | #DIV/0! | #DIV/0! | 108 | 5.2 | |
| 17.5 | 7 | 0.90 | 0.90 | #DIV/0! | #DIV/0! | 109.1 | 5.2 | 7 | .85 | .85 | #DIV/0! | #DIV/0! | 107.1 | 1.8 | |
| | | | | | | | | | | | Average Values: | #DIV/0! | #DIV/0! | #DIV/0! | #DIV/0! |

* Pitot tube P-42 was leak checked @ 2" $H_2O$, max scale on the manometer