

Model: SE210
Run # 2

Page 1 of 7
Date 9-22-21
Tech Ken Schar

FILTER TYPE: Gelman 47mm A/E

[illegible]

| Dry Down Weight | | | | | | | | | | |
|-----------------|--------|----|-----|----|-----|----|-----|-------|----------|--------|
| Date | Time | P1 | F1 | P2 | F2 | P3 | F3 | Gr/hr | Lb/MMbtu | Btu |
| 22-21 | 10:40p | Ø | 7.8 | Ø | 7.5 | Ø | 3.5 | 4.0 | 0.37 | 23,858 |
| 23-21 | 5:30 A | Ø | 5.6 | Ø | 5.1 | Ø | 1.3 | 2.8 | 0.26 | 23,858 |
| 24-21 | 7:00 A | Ø | 4.1 | Ø | 4.0 | Ø | 0.3 | 2.1 | 0.196 | 23,858 |
| 27-21 | 7:00 A | Ø | 3.5 | Ø | 3.5 | Ø | 0.1 | 1.8 | 0.167 | 23,858 |
| 28-21 | 7:00 A | Ø | 3.1 | Ø | 3.3 | Ø | 0.1 | 1.7 | 0.153 | 23,858 |
| 1 A | | | | | | | | | | |

Manufacturer: Alternate Heating Systems
Job #G104711998
Reviewer:

Model: SE210
Run 2

Page 27 of 5
Date 9-22-21
Tech Karl Staler

Pre/Post Checks

Moisture Meter Calibration Check:

| | | | | |
|---------------------|-------------|-------------|--------------|--------------|
| Time: <u>6:00 A</u> | X: <u>✓</u> | Y: <u>✓</u> | 12: <u>✓</u> | 22: <u>✓</u> |
|---------------------|-------------|-------------|--------------|--------------|

Facility Conditions:

Air Velocity

Smoke Capture Check

Pre-Test

Post-Test

| | |
|--------------|--------------|
| <u>0</u> fpm | <u>0</u> fpm |
| <u>✓</u> | <u>✓</u> |

Wood Heater Conditions:

Date Wood Heater Stack Cleaned

Date Dilution Tunnel Cleaned

Induced Draft Check

Tunnel Velocity

| | |
|----------------|--------------|
| <u>9-20-21</u> | |
| <u>9-20-21</u> | |
| <u>✓</u> | <u>✓</u> |
| <u>0.147</u> | <u>0.123</u> |

Pitot Leak Check:

Side A

Side B

| | |
|----------|----------|
| <u>✓</u> | <u>✓</u> |
| <u>✓</u> | <u>✓</u> |

Temperature System:

Ambient (65° - 90°F)

| |
|-----------------|
| <u>81.48</u> °F |
|-----------------|

Proportional Checks:

CO Analyzer Drift Check

CO₂ Analyzer Check

O₂ Analyzer Check

Thermocouple check

| |
|----------|
| <u>✓</u> |
| <u>✓</u> |
| <u>✓</u> |
| <u>✓</u> |

Sampling Train ID Numbers:

Probe

Filter Front

Filter Back

Filter 5G-3 (<90°F)

Train 1

Train 2

Train 3

| | | |
|----------|-----------|-----------|
| <u>4</u> | <u>5</u> | <u>6</u> |
| <u>7</u> | <u>9</u> | <u>11</u> |
| <u>8</u> | <u>10</u> | <u>12</u> |
| | | |

Pre-Test Scale Audit

Manufacturer: Alternate Heating Systems
Job #G104711998
Reviewer:

Model:SE210
Run 2

Page 37 of
Date 9-22-21
Tech. [Signature]
48

| Scale Type | Audit Weight | | Measured Weight | |
|------------|----------------|---------------|-----------------|------|
| Platform | <u>25.00</u> | lbs., Class F | <u>25.00</u> | lbs. |
| Wood | <u>10.00</u> | lbs., Class F | <u>10.00</u> | lbs. |
| Analytical | <u>100.000</u> | mg, Class S | <u>100.000</u> | mg. |

LIMITS OF WEIGHT RANGES

ANALYTICAL SCALE: 50%-150% of dry filter weight, ± 0.1 mg
PLATFORM SCALE 20%-80% of ideal test load weight, ± 0.1 lbs. or 1%
WOOD SCALE 20%-80% of ideal test load weight, ± 0.1 lbs. or 1%

Manufacturer: Alternate Heating Systems Model: SE210
Job #G104711998 Run 2
Reviewer:

Page 47 of 47
Date 9-22-21
Tech. [Signature]

SAMPLING EQUIPMENT CHECK OUT

Leakage Checks Tunnel Samplers

| | SAMPLE 1 | | SAMPLE 2 | | SAMPLE 3 | |
|---|----------|-----------|----------|-----------|----------|-----------|
| Unplugged Flow Rate = .25cfm | Pre-Test | Post-Test | Pre-Test | Post-Test | Pre-test | Post Test |
| Vacuum (inches Hg.) | 10" | 10 | 10" | 10 | 10" | 10 |
| Final 1 minute DGM (ft ³) | 0 | 0 | 0 | 0 | 0 | 0 |
| Initial 1 minute DGM (ft ³) | 0 | 0 | 0 | 0 | 0 | 0 |
| Change (C) (ft ³) | 0 | 0 | 0 | 0 | 0 | 0 |
| Allowable leakage .04 x Sample rate or .02cfm | 0.0100 | 0.0100 | 0.0100 | 0.0100 | 0.0100 | 0.0100 |
| Check OK | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Leakage Checks Flue Gas Sampler

| Plugged Probe | Pre Test | Post Test |
|-------------------------------|----------|-----------|
| Vacuum (inches Hg.) | 10" | 10" |
| Rotometer Reading (mm) | 0 | 0 |
| Flow Rate (CFM) | 0 | 0 |
| Allowable (.04 x Sample Rate) | .04 | .04 |
| Check OK | ✓ | ✓ |

Manufacturer: Alternate Heating Systems

Model: SE210

Job #G104711998

 Run 2

Reviewer:

 Page 57 of 57
 Date 9-22-21
 Tech. [Signature]
[Signature]

CONTINUOUS ANALYZERS

Pre-Test (Adjust and Record)

| | ZERO | | SPAN | | CAL. (Record Only) | |
|-----------------|----------|-----------|--------------|--------------|--------------------|--------------|
| CO ₂ | <u>0</u> | <u>0</u> | <u>24.94</u> | <u>24.92</u> | <u>12.00</u> | <u>11.99</u> |
| CO | <u>0</u> | <u>0</u> | <u>7.75</u> | <u>7.748</u> | <u>3.97</u> | <u>4.00</u> |
| O ₂ | <u>0</u> | <u>0</u> | <u>20.90</u> | <u>20.89</u> | <u>9.98</u> | <u>10.01</u> |
| | Actual | Should Be | Actual | Should Be | Actual | Should Be |

Post Test (Record Only)

| | Zero | Span | Cal. | Zero Drift | Span Drift | Cal. Drift | OK? | Not OK* |
|-----------------|-------------|--------------|--------------|-------------|-------------|-------------|----------|---------|
| CO ₂ | <u>0.01</u> | <u>24.72</u> | <u>11.91</u> | <u>0.01</u> | <u>0.20</u> | <u>0.69</u> | <u>✓</u> | |
| CO | <u>0.02</u> | <u>7.68</u> | <u>3.94</u> | <u>0.02</u> | <u>0.07</u> | <u>0.03</u> | <u>✓</u> | |
| O ₂ | <u>0.05</u> | <u>20.60</u> | <u>9.87</u> | <u>0.05</u> | <u>0.29</u> | <u>0.11</u> | <u>✓</u> | |

 * Greater than $\pm 5\%$ of the range used.

Manufacturer: Alternate Heating Systems

Model: SE210

Job #G104711998

Run 2

Reviewer:

Page 6 of 7

Date 9-22-21

Tech. [Signature]

TEST DATA LOG

RAW DRY GAS METER READINGS

| | System 1 | System 2 | System 3 |
|----------------------------|----------|----------|----------|
| Final (ft ³) | 119.242 | 119.298 | 8.485 |
| Initial (ft ³) | 0 | 0 | 0 |

AMBIENT CONDITIONS

| | Start | End |
|------------------------|-------|-------|
| Barometer. (inches Hg) | 29.28 | 29.17 |
| Ambient (°F) | 85.0 | 87.7 |
| Humidity (%) | 33.4 | 29.2 |

Manufacturer: Alternate Heating Systems

Model: SE210

Job # G104711998

Run 2

Reviewer:

Page 77 of 77
 Date 9-22-21
 Tech [Signature]

COMMENTS

| | |
|--|---|
| PreTest STARTED 4:13 AM, UNIT cleaned, | |
| Scaled TARED, 82 lbs of PreTest AND | |
| COAL Bed Added. | |
| 5:25 AM UNIT STIRRED, | |
| 5:45 AM UNIT STIRRED. | |
| 8:09 AM TEST STARTED | |
| 10:19 pm Test complete | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | TEST LOAD CONFIGURATION NA |
| | |
| | |
| | |
| | |
| | |
| | |