

School / Facility Radon Testing Report Form

School Year: **24-25**

| | | | |
|-----------------------|--|--|--|
| Facility: | Silver Spring International Middle School | | |
| Address: | 313 Wayne Avenue | | |
| | Silver Spring, MD 20910 | | |
| Reason for Testing: | Scheduled Re-Testing - <input checked="" type="checkbox"/> 2-year or <input type="checkbox"/> 5-year schedule <input type="checkbox"/> Clearance Testing (Post-Mitigation) <input type="checkbox"/> Building Envelope or HVAC Upgrades <input type="checkbox"/> New Construction – Addition or Facility | | |
| Current Radon Status: | <input checked="" type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) <input type="checkbox"/> Not Previously Tested (New Facility) | | |
| Round of Testing: | <input type="checkbox"/> Initial Testing -or- <input checked="" type="checkbox"/> Follow-up Testing | | |
| Testing Status: | <input checked="" type="checkbox"/> No Further Testing Needed -or- <input type="checkbox"/> Follow-Up Testing Required | | |

Conclusion (When Testing Status is - No Further Testing Needed)

| Mitigation - | Facility Radon Status: | | |
|--|--|-----------------------|-------|
| <input type="checkbox"/> Not Required <input checked="" type="checkbox"/> Required (≥ 4.0 -pCi/L) Rooms: Gym | <input checked="" type="checkbox"/> No Change in Status <input type="checkbox"/> Active Mitigation (2-year regular schedule) <input type="checkbox"/> No Active Mitigation (5-year regular schedule) | | |
| Number of Rooms Tested | 66 | Lowest Value (pCi/L) | < 0.3 |
| Number of Rooms (≥ 4.0 -pCi/L) | 1 | Highest Value (pCi/L) | 7.0 |

Instructions: Submit one testing report form per-facility. Include the following as attachments:

Attachment 1- Summary Data Tables – containing the following: (see attached samples tables)

- Testing Results – lab/detector Identification, by room number/name (alpha-numeric order) as depicted on facility map/floor plan provided by the facility/school at the time of test device deployment;
- Summary Results – list of rooms by test result ≥ 2.0 -pCi/L; ≥ 2.7 -pCi/L; ≥ 4.0 -pCi/L; and ≥ 8.0 -pCi/L;
- QA/QC Results - (field blanks and duplicates) indicating location collected; trip and office blanks; and spike sample results;
- Invalid Measurement Locations – missed locations, missing and or damaged/compromised testing devices.

Attachment 2 – Laboratory Report(s)

Attachment 3 – Sampling Location Map(s) – indicating approximate location of samples, duplicates and blanks.

Detector and Deployment

| | | |
|--|---|---|
| Detector/Device Type: | <input checked="" type="checkbox"/> Passive | <input checked="" type="checkbox"/> Charcoal Absorption (CAD) <input type="checkbox"/> Alpha Track (ATD) <input type="checkbox"/> Other |
| | <input type="checkbox"/> Continuous | <input type="checkbox"/> Electret ion Chamber (EIC) <input type="checkbox"/> Electronic Integration (EID) |
| Other—Specify here: | | |
| Detector/Device Name: | Air Chek – Radon Test Kits | |
| Manufacturer: | Radon Lab | |
| Person(s) Deploying or Retrieving Test Devices and certification number | | Organization/Company |
| Shakia Dawkins | | KCI Technologies, Inc. |
| Shannon King | | KCI Technologies, Inc. |
| | | |
| <i>If noncertified individuals, the qualified measurement professional providing oversight -</i> | | |
| Tyler McCleaf, CSP – Cert. #111004-RMP | | KCI Technologies, Inc. |

Testing

| | | | | | |
|---|------------------------|---|--|---|----------|
| <input checked="" type="checkbox"/> Short-Term | Length of Test (days): | 3 | Date of Deployment and Retrieval (mm/dd/yy): | 12/17/24 | 03/18/25 |
| <input type="checkbox"/> Long-Term | | | | 12/20/24 | 03/21/25 |
| Does the test period include weekends, school breaks or holidays? | | | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| <i>If “Yes” please explain/detail in the space below:</i> | | | | | |
| | | | | | |
| Was HVAC operating under occupied conditions? | | | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| <i>If “No” please explain/detail in the space below:</i> | | | | | |
| | | | | | |

Testing (continued)

| Round of Testing | Detectors Deployed | | | | |
|-----------------------------|--------------------|-----------|----------------|-----------|-------|
| | Ground-Contact | | Upper-Level(s) | | Total |
| | Initial | Follow-Up | Initial | Follow-Up | |
| Test Locations ¹ | 60 | 4 | 4 | 0 | 68 |
| Duplicates ² | 7 | 2 | 0 | 0 | 9 |
| Field Blanks ³ | 3 | 1 | 0 | 0 | 4 |
| Grand Total | | | | | 81 |

1 – include all detectors deployed (duplicates, field blanks); 1 detector per occupied (or intended to be occupied) ground-contact space ≤ 2,000-square feet; large spaces ≥ 2,000-square feet - 1 detector per 2,000-square feet or part thereof; and upper floors - 10% of all occupied or intended to be occupied rooms per floor (these are in addition to ground contact locations)

2 - 10% of all locations tested, per floor

3 – 5% of all locations tested, per floor

Quality Assurance / Quality Control (QA/QC)

A Quality Assurance plan that is consistent with ANSI/AARST MS-QA (Radon Measurement Systems Quality Assurance) was submitted under separate cover, and is available to review at the MCPS Radon Testing and Mitigation Program website. The following number of QA/QC samples are associated this facility.

| Round of Testing | QA/QC Samples | | Total |
|-------------------------------|----------------|-----------|-------|
| | Initial | Follow-Up | |
| Spikes ¹ | Not applicable | | 10 |
| Trip Blanks ² | 1 | 1 | 2 |
| Office Blanks ^{3, 4} | 1 | 1 | 2 |
| | | | 14 |

1 - 3% of EIC detectors; and 3% from each LOT of CAD and ATD detectors; a maximum of 6-spiked measurements per month for both EIC detectors and each LOT of CAD and ATD detectors.

2 – One per shipping container from start of detector deployment

3 – One per facility tested as devices are removed/allocated from the storage location for deployment;

4 - One additional blank, analyzed prior to deployment, for storage locations that have not been evaluated or monitored, for detectors that have been stored for more than 30-day durations.

Quality Assurance / Quality Control (continued)

| | |
|---|---|
| Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Quality Control measurements comply with QA/QC requirements in the submitted testing organization's/company's QA plan? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Round of Testing | Initial Follow-Up |
| All Field, Trip and Office Blanks are \leq (less than or equal to) to the Method Detection Limit? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| For all Duplicate Samples ¹ , the higher value is $\leq 2x$ the lower value? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are less than the Warning Level ³ ? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are less than the Control Level ³ ? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

1 – Duplicate Control – a “NO” response constitute a control failure and the space/location represented by the duplicate sample becomes an invalid measurement location and should be listed in the “Invalid Measurement Locations” Table attached to this report.

2 - The objective of duplicate tests is to assess the precision error of the measurement method or, how well two side-by-side measurements agree or disagree. Precision involving duplicates is calculated by using Relative Percent Difference (RPD). RPD is equal to the difference between the higher test result minus the lower value test result divided by the average of the two duplicate test results, multiplied by 100. The RPD result is then compared to the warning and control limits.

3 - The Warning Level is set at the deviation from ideal performance that would be expected to occur by chance only 5% of the time, and Control Limits are set at that deviation from ideal performance that would be expected to occur by chance only 1% of the time. The Warning Level indicates a potential problem, which should be investigated. The Control Level indicates that the measurement system should be subject to corrective action.

The control and warning levels for duplicates, based on the averaged duplicate test result, are -

| Average concentration of the two duplicate test results | Warning Level | Control Level |
|---|---------------|----------------|
| < 2.0-pCi/L | 1-pCi/L | Not applicable |
| Between 2.0 and 3.9-pCi/L | 50% RPD | 67% RPD |
| ≥ 4.0 -pCi/L | 28% RPD | 36% RPD |

Summary of Test Results¹ and Determination of Valid Measurements²

| Round of Testing | Ground-Contact | | Upper-Level(s) | | Total |
|--|----------------|-----------|----------------|-----------|-------|
| | Initial | Follow-Up | Initial | Follow-Up | |
| Number of test locations: | 60 | 2 | 4 | 0 | 66 |
| Number of locations ≥ 8.0 -pCi/L: | 0 | 0 | 0 | 0 | 0 |
| Number of locations ≥ 4.0 and ≤ 8 -pCi/L: | 2 | 0 | 0 | 0 | 2 |
| Number of locations ≥ 2.7 and < 4 -pCi/L: | 0 | 0 | 0 | 0 | 0 |
| Number of locations ≥ 2.0 and < 2.7 -pCi/L: | 1 | 0 | 0 | 0 | 1 |
| Number of missing required test locations ³ : | 1 | 0 | 0 | 0 | 1 |
| Number of failed duplicate control locations: | 1 | 0 | 0 | 0 | 1 |
| Percentage of missing test locations for the facility ^{4,5} : | 1.66% | 0 | 0 | 0 | 0 |

1 – for locations with multiple test results, report consistent with Section 7.2(When Two Test Results Disagree) and 8.1.2 (Averaging) of ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings;

2 - the allowance is to be calculated individually for Ground-Contact and Upper-Level(s) Test Locations;

3 – includes missed or inaccessible locations upon deployment or retrieval, damaged (not able to analyze) and missing detectors upon retrieval;

4 – if all valid measurements are < 4.0 -pCi/L and the total number of test locations are ≥ 18 , there is an allowance of $\leq 33\%$. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023;

5 – if any valid measurements are ≥ 4.0 -pCi/L and the total number of test locations are ≥ 20 , there is an allowance of $\leq 25\%$ of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023.

Summary of Test Results¹ and Determination of Valid Measurements² (continued)

| Round of Testing | Initial | Follow-Up |
|---|---|---|
| Were test devices deployed in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Were valid measurements obtained in all occupied and intended to be occupied rooms in contact with the ground, and, if applicable, 10% of upper floor rooms? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <i>If Yes to both above – then Testing Status – ‘No Further Testing Needed’ mark ‘NA’ below and complete Conclusions section</i> | | |
| If No to either above, were all results obtained under 4.0-pCi/L and were sufficient valid measurements obtained?^{1,2} <i>If Yes, then - ‘No Further Testing Needed’ complete Conclusion section on first page.</i> <i>If No, then - ‘Follow-up Testing Required’ continue below.</i> | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA |

1 – if all valid measurements are <4.0-pCi/L and the total number of test locations are ≥18, there is an allowance of ≤33%. If less than 18 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings to determine the allowance;
 2 – if any valid measurements are ≥4.0-pCi/L and the total number of test locations are ≥20, there is an allowance of ≤25% of the total locations tested. If less than 20 test locations please review section 6.2 of the ANSI/AARST MA-MFLB 2023 – Conducting Measurements of Radon in Multifamily, School, Commercial and Mix-Use Buildings to determine the number the allowance.

Follow-Up Testing

Required –

- If an insufficient number (greater than the allowance provided above) of valid measurements were obtained during the initial round of testing (the “missing required test locations” in the table above);
- Any location test results ≥ 4.0-pCi/L;
- Any location where duplicates fail QC checks; and or
- At the discretion of MCPS IAQ Staff

| Reason for Follow-Up Testing | Testing Procedure | Follow-up Result | Conclusion |
|-------------------------------------|--|------------------|-----------------------------------|
| Insufficient Number of Measurements | Follow same procedures as Initial Testing | Not Applicable | Follow Initial Testing procedures |
| Results ≥ 4.0-pCi/L | Deploy two Short-term follow-up tests and required blanks and duplicates; Average the results of the two tests | ≥4.0 | Mitigation Required |
| Failed QC checks | | ≥2.0 and <4.0 | Consider Mitigation |
| | | <2.0 | Mitigation Not Required |

- ***If follow-up testing identifies additional spaces requiring additional testing it will be performed as part of the ongoing follow-testing round.***

Attachment 1:

Summary Data Tables

| Table 1- Radon Testing Results | | |
|---|-------------|--------|
| Silver Spring International Middle School | | |
| Test Period: 12/17/2024 - 12/20/2024 | | |
| | | |
| Kit Number | Room / Area | Result |
| 11919430 | 103 | 0.7 |
| 11919422 | 104 | < 0.3 |
| 11919437 | 104 | < 0.3 |
| 11919449 | 105 | < 0.3 |
| 11919421 | 106 | 0.7 |
| 11919445 | 107 | 0.9 |
| 11919459 | 110 | < 0.3 |
| 11919479 | 110 | < 0.3 |
| 11919447 | 111 | < 0.3 |
| 11919472 | 112 | 1.9 |
| 11919467 | 113 | 0.9 |
| 11919468 | 114 | 1.0 |
| 11919475 | 114 | 1.1 |
| 11919416 | 116 | 0.8 |
| 11919482 | 117 | < 0.3 |
| 11919462 | 118 | < 0.3 |
| 11919450 | 119 | < 0.3 |
| 11919452 | 119 | < 0.3 |
| 11919481 | 120 | 0.6 |
| 11919469 | 122 | 0.6 |
| 11919457 | 123 | < 0.3 |
| 11919471 | 126 | < 0.3 |
| 11919455 | 127 | 0.7 |
| 11919432 | 128 | 0.5 |
| 11919448 | 128 | < 0.3 |
| 11919418 | 130 | 1.6 |
| 11919425 | 131 | 1.5 |
| 11919493 | 132 | < 0.3 |
| 11919485 | 133 | < 0.3 |
| 11919483 | 134 | < 0.3 |
| 11919484 | 135 | < 0.3 |
| 11919490 | 136 | < 0.3 |
| 11919464 | 137 | < 0.3 |
| 11919498 | 137 | 0.9 |
| 11919426 | 138 | < 0.3 |
| 11919458 | 138 | 0.8 |
| 11919492 | 139 | < 0.3 |

| Table 1- Radon Testing Results | | |
|---|----------------|--------|
| Silver Spring International Middle School | | |
| Test Period: 12/17/2024 - 12/20/2024 | | |
| | | |
| Kit Number | Room / Area | Result |
| 11919413 | 140 | < 0.3 |
| 11919496 | 236 | < 0.3 |
| 11919495 | 240 | < 0.3 |
| 11919499 | 246 | 0.5 |
| 11907006 | 308 | < 0.3 |
| 11919500 | 308 | < 0.3 |
| 11919436 | 105 | < 0.3 |
| 11919443 | 105A | < 0.3 |
| 11919441 | 105C | < 0.3 |
| 11919442 | 105D | < 0.3 |
| 11919428 | 105E | < 0.3 |
| 11919433 | 105G | < 0.3 |
| 11919434 | 105H | < 0.3 |
| 11919429 | 106B | 0.5 |
| 11919435 | 106C | < 0.3 |
| 11919420 | 106E | 0.8 |
| 11919427 | 106F | < 0.3 |
| 11919423 | 106G | < 0.3 |
| 11919460 | 107B | 0.6 |
| 11919473 | 107B | < 0.3 |
| 11919424 | 110A | 1.0 |
| 11919476 | 114B | 1.3 |
| 11919461 | 114C | 2.1 |
| 11919474 | 114C | 1.8 |
| 11919453 | 114E | 1.3 |
| 11919465 | 114F | 1.4 |
| 11919477 | 114G | 1.0 |
| 11919446 | 119A | 0.7 |
| 11919454 | 119A | 1.0 |
| 11919451 | 119CR | 0.8 |
| 11919456 | 127A | 0.5 |
| 11919463 | 139B | < 0.3 |
| 11919419 | CAFETERIA | 1.0 |
| 11919438 | CAFETERIA | 0.5 |
| 11919440 | GYM | 6.8 |
| 11919470 | GYM | 7.0 |
| 11919414 | KITCHEN OFFICE | 1.1 |

[illegible]

| Table 3 - QC Radon Testing Results | | | |
|---|---------|--------------|--------|
| Silver Spring International Middle School | | | |
| Test Period: 12/17/2024 - 12/20/2024 | | | |
| | | | |
| Kit Number | QC Type | Room / Area | Result |
| 11919422 | D | 104 | < 0.3 |
| 11919479 | D | 110 | < 0.3 |
| 11919452 | FB | 119 | < 0.3 |
| 11919432 | D | 128 | 0.5 |
| 11919464 | FB | 137 | < 0.3 |
| 11919426 | D | 138 | < 0.3 |
| 11907006 | D | 308 | < 0.3 |
| 11919473 | FB | 107B | < 0.3 |
| 11919474 | D | 114C | 1.8 |
| 11919446 | D | 119A | 0.7 |
| 11907208 | OB | OFFICE BLANK | < 0.3 |
| 11907209 | TB | TRAVEL BLANK | < 0.3 |

| Table 3a - Duplicate Worksheet / Data Validation | | | | | | | | | | | | |
|--|----------|-------------|--|-------|-------------------------|-----------------|-------------------------|---------|--------------------------------------|----------|---------------|--|
| Silver Spring International Middle School | | | | | | | | | | | | |
| Test Period: 12/17/2024 - 12/20/2024 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Sample ID | | | Duplicate Concentrations (pCi/L) and OC Checks | | | | | | | | | |
| Kit Numbers | | Room / Area | Higher | Lower | Check #1 (Pass/Fail) | 2x the Lower | Check #2 (Pass/Fail) | Average | Relative Percent Difference (RPD) | Check #3 | | |
| 11919437 | 11919422 | 104 | 0.3 | 0.3 | ✓ | 0.6 | PASS | 0.3 | <1-pCi/L | ✓ | | |
| 11919479 | 11919459 | 110 | 0.3 | 0.3 | ✓ | 0.6 | PASS | 0.3 | <1-pCi/L | ✓ | | |
| 11919461 | 11919474 | 114C | 2.1 | 1.8 | ✓ | 3.6 | PASS | 2.0 | <1-pCi/L | ✓ | | |
| 11919446 | 11075950 | 119A | 1.0 | 0.7 | ✓ | 1.4 | PASS | 0.9 | <1-pCi/L | ✓ | | |
| 11919448 | 11919432 | 128 | 0.5 | 0.3 | ✓ | 0.6 | PASS | 0.4 | <1-pCi/L | ✓ | | |
| 11919426 | 11919458 | 138 | 0.8 | 0.3 | ✓ | 0.6 | FAIL | 0.6 | <1-pCi/L | ✗ | | |
| 11919500 | 11907006 | 308 | 0.3 | 0.3 | ✓ | 0.6 | PASS | 0.3 | <1-pCi/L | ✓ | | |
| NOTES: QC Check #1 - Data Entry QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower QC Check #3 - Meets RPD Limits, by average duplicate concentration | | | | | | | Average (pCi/L) | | Warning Level | | Control Level | |
| | | | | | | | < 2.0 | | 1-pCi/L | | NA | |
| | | | | | | | Between 2.0 and 3.9 | | 50% RPD | | 67% RPD | |
| | | | | | | | ≥ 4.0 | | 28% RPD | | 36% RPD | |

[illegible]

| Table 1- Radon Testing Results | | |
|--|-------------|--------|
| Silver Spring International Middle School RT | | |
| Test Period: 3/18/2025 - 3/21/2025 | | |
| | | |
| Kit Number | Room / Area | Result |
| 11892463 | 138 | 0.8 |
| 11892468 | 138 | < 0.3 |
| 11892469 | 138 | 0.6 |
| 11892464 | GYM | 1.3 |
| 11892465 | GYM | 1.4 |
| 11892466 | GYM | 1.5 |
| 11892467 | GYM | < 0.3 |

[illegible]

| Table 3 - QC Radon Testing Results | | | |
|---|---------|--------------|--------|
| Silver Spring International Middle School | | | |
| Test Period: 3/18/2025 - 3/21/2025 | | | |
| | | | |
| Kit Number | QC Type | Room / Area | Result |
| 11892466 | D | GYM | 1.5 |
| 11892467 | FB | GYM | < 0.3 |
| 11892469 | D | 138 | 0.6 |
| 11892482 | OB | OFFICE BLANK | < 0.3 |
| 11892483 | TB | TRAVEL BLANK | < 0.3 |

| Table 3a - Duplicate Worksheet / Data Validation | | | | | | | | | | |
|--|----------------------|-------------|--|-------|-------------------------|-----------------|-------------------------|---------|--------------------------------------|---------------|
| Silver Spring International Middle School RT | | | | | | | | | | |
| Test Period: 3/18/2025 - 3/21/2025 | | | | | | | | | | |
| | | | | | | | | | | |
| Sample ID | | | Duplicate Concentrations (pCi/L) and QC Checks | | | | | | | |
| Kit Numbers | | Room / Area | Higher | Lower | Check #1 (Pass/Fail) | 2x the Lower | Check #2 (Pass/Fail) | Average | Relative Percent Difference (RPD) | Check #3 |
| 11892466 | 11892464 11892465 | GYM | 1.5 | 1.4 | ✓ | 2.8 | PASS | 1.5 | <1-pCi/L | ✓ |
| 11892469 | 11892463 11892468 | 138 | 0.6 | 0.6 | ✓ | 1.2 | PASS | 0.6 | <1-pCi/L | ✓ |
| NOTES: QC Check #1 - Data Entry QC Check #2 - Higher duplicate concentration is < or = to 2x the Lower QC Check #3 - Meets RPD Limits, by average duplicate concentration - enter 2 if RPD is BELOW warning and control levels, AND passes QC Check 1 and 2 - enter 1 if RPD is ABOVE warning and BELOW control levels, AND passes QC Check 1 and 2 - enter 0 if RPD is ABOVE control level, or 'FAILS' QC Check 1 or 2 | | | | | | | Average (pCi/L) | | Warning Level | Control Level |
| | | | | | | | < 2.0 | | 1-pCi/L | NA |
| | | | | | | | Between 2.0 and 3.9 | | 50% RPD | 67% RPD |
| | | | | | | | ≥ 4.0 | | 28% RPD | 36% RPD |

[illegible]

Attachment 2:

Laboratory Reports

Radon test result report for:

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|----------------|----------------------|----------------------|-----------|------------|
| 11919430 | 103 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.7 ± 0.3 | 2024-12-23 |
| 11919422 | 104 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919437 | 104 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919436 | 105 CONFERENCE | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919449 | 105 MAIN | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919443 | 105A | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919441 | 105C | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919442 | 105D | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919428 | 105E | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919433 | 105G | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919434 | 105H | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919421 | 106 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.7 ± 0.3 | 2024-12-23 |
| 11919429 | 106B | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.5 ± 0.3 | 2024-12-23 |
| 11919435 | 106C | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919420 | 106E | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.8 ± 0.3 | 2024-12-23 |
| 11919427 | 106F | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919423 | 106G | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919445 | 107 HEALTH | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.9 ± 0.3 | 2024-12-23 |
| 11919460 | 107B | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.6 ± 0.3 | 2024-12-23 |
| 11919473 | 107B | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919479 | 110 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919459 | 110 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919424 | 110A | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 1.0 ± 0.3 | 2024-12-23 |
| 11919447 | 111 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919472 | 112 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.9 ± 0.3 | 2024-12-23 |
| 11919467 | 113 | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 0.9 ± 0.3 | 2024-12-23 |
| 11919475 | 114 MEDIA | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 1.1 ± 0.3 | 2024-12-23 |
| 11919468 | 114 MEDIA | 2024-12-17 @ 8:00 am | 2024-12-20 @ 8:00 am | 1.0 ± 0.3 | 2024-12-23 |
| 11919476 | 114B | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.3 ± 0.3 | 2024-12-23 |
| 11919474 | 114C | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.8 ± 0.3 | 2024-12-23 |
| 11919461 | 114C | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 2.1 ± 0.3 | 2024-12-23 |
| 11919453 | 114E | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.3 ± 0.3 | 2024-12-23 |
| 11919465 | 114F | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.4 ± 0.3 | 2024-12-23 |
| 11919477 | 114G | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.0 ± 0.3 | 2024-12-23 |
| 11919416 | 116 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.8 ± 0.3 | 2024-12-23 |
| 11919482 | 117 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919462 | 118 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |

Radon test result report for:

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|----------------|-----------------------|----------------------|-----------|------------|
| 11919452 | 119 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919450 | 119 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919446 | 119A | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.7 ± 0.3 | 2024-12-23 |
| 11919454 | 119A | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.0 ± 0.3 | 2024-12-23 |
| 11919451 | 119CR | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.8 ± 0.3 | 2024-12-23 |
| 11919481 | 120 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.6 ± 0.3 | 2024-12-23 |
| 11919469 | 122 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.6 ± 0.3 | 2024-12-23 |
| 11919457 | 123 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919471 | 126 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919455 | 127 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.7 ± 0.3 | 2024-12-23 |
| 11919456 | 127A | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.5 ± 0.3 | 2024-12-23 |
| 11919448 | 128 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919432 | 128 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.5 ± 0.3 | 2024-12-23 |
| 11919418 | 130 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.6 ± 0.3 | 2024-12-23 |
| 11919425 | 131 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 1.5 ± 0.3 | 2024-12-23 |
| 11919493 | 132 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919485 | 133 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919483 | 134 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919484 | 135 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919490 | 136 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919464 | 137 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919498 | 137 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.9 ± 0.3 | 2024-12-23 |
| 11919458 | 138 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | 0.8 ± 0.3 | 2024-12-23 |
| 11919426 | 138 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919492 | 139 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919463 | 139B | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919413 | 140 | 2024-12-17 @ 9:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919496 | 236 | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919495 | 240 | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919499 | 246 | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | 0.5 ± 0.3 | 2024-12-23 |
| 11919500 | 308 | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11907006 | 308 | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | < 0.3 | 2024-12-23 |
| 11919438 | CAFETERIA | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | 0.5 ± 0.3 | 2024-12-23 |
| 11919419 | CAFETERIA | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | 1.0 ± 0.3 | 2024-12-23 |
| 11919470 | GYM | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | 7.0 ± 0.6 | 2024-12-23 |
| 11919440 | GYM | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | 6.8 ± 0.5 | 2024-12-23 |
| 11919414 | KITCHEN OFFICE | 2024-12-17 @ 10:00 am | 2024-12-20 @ 8:00 am | 1.1 ± 0.3 | 2024-12-23 |

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|-----------------------|----------------------|-------|------------|
| 11482799 | O | 2024-12-16 @ 10:00 am | 2024-12-19 @ 1:00 pm | < 0.3 | 2024-12-23 |
| 11907208 | O | 2024-12-17 @ 10:00 am | 2024-12-20 @ 1:00 pm | < 0.3 | 2024-12-23 |

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**TRAVEL
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|-----------------------|----------------------|-------|------------|
| 11482800 | T | 2024-12-16 @ 10:00 am | 2024-12-19 @ 1:00 pm | < 0.3 | 2024-12-23 |
| 11907209 | T | 2024-12-17 @ 10:00 am | 2024-12-20 @ 1:00 pm | < 0.3 | 2024-12-23 |

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EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20001560

NOMINAL Conditions: Radon Conc 50.6 pCi/L Rel. Hum 50.6 % Temp. 70.8 F

Date Start: 12/14/24 Date Stop: 12/17/24 Date Start: _____ Date Stop: _____

Time Start: 0815 Time Stop: 0815 Time Start: _____ Time Stop: _____

Device No.'s: (3) CHAR BAGS Device No.'s: _____

11477880, 11477883, 11477896 _____

B4 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

December 23, 2024

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**SK
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|----------------------|------------|------------|
| 11477880 | SK1 | 2024-12-14 @ 8:00 am | 2024-12-17 @ 8:00 am | 52.0 ± 4.2 | 2024-12-23 |
| 11477883 | SK2 | 2024-12-14 @ 8:00 am | 2024-12-17 @ 8:00 am | 54.6 ± 4.4 | 2024-12-23 |
| 11477896 | SK3 | 2024-12-14 @ 8:00 am | 2024-12-17 @ 8:00 am | 45.5 ± 3.6 | 2024-12-23 |



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Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Testing December 17th – December 20th, 2024

Name of Schools:

1. Newport Mill MS
2. Rolling Terrace ES
3. Silver Spring International MS
4. Spring Mill Center

| | Date | Initials |
|----------------------------------|------------|----------|
| Radon Test Kits Deployed | 12/17/2024 | Bmy |
| Radon Test Kits Collected | 12/20/2024 | Bmy |
| Radon Test Kits Shipped to Lab* | 12/20/2024 | Bmy |
| Radon Test Kits Received by Lab* | 12/24/2024 | Bmy |

*All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835

March 24, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|-----------------------|-----------|------------|
| 11892463 | 138 | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | 0.8 ± 0.3 | 2025-03-24 |
| 11892468 | 138 | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | < 0.3 | 2025-03-24 |
| 11892469 | 138 | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | 0.6 ± 0.3 | 2025-03-24 |
| 11892464 | GYM | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | 1.3 ± 0.3 | 2025-03-24 |
| 11892465 | GYM | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | 1.4 ± 0.3 | 2025-03-24 |
| 11892466 | GYM | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | 1.5 ± 0.3 | 2025-03-24 |
| 11892467 | GYM | 2025-03-18 @ 1:00 pm | 2025-03-21 @ 12:00 pm | < 0.3 | 2025-03-24 |

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April 7, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**OFFICE
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|-----------------------|-----------------------|-------|------------|
| 11892482 | OB | 2025-03-17 @ 11:00 am | 2025-03-21 @ 11:00 am | < 0.3 | 2025-03-24 |

April 7, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**TRAVEL
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|-----------------------|-----------------------|-------|------------|
| 11892483 | TB | 2025-03-17 @ 11:00 am | 2025-03-21 @ 11:00 am | < 0.3 | 2025-03-24 |

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI TECHNOLOGIES, INC Job Number 20002919

NOMINAL Conditions: Radon Conc 7.0 pCi/L Rel. Hum 51.4 % Temp. 70.7 F

Date Start: 3/7/25 Date Stop: 3/10/25 Date Start: _____ Date Stop: _____

Time Start: 0832 Time Stop: 0832 Time Start: _____ Time Stop: _____

Device No.'s: (7) CHAR BAGS Device No.'s: _____

11886401 thru 11886406,

11886410

G3 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

March 19, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

QC
MAIN

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|----------------------|-----------|------------|
| 11886401 | SK1 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 7.8 ± 1.1 | 2025-03-19 |
| 11886405 | SK2 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 7.1 ± 1.1 | 2025-03-19 |
| 11886406 | SK3 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 7.7 ± 1.1 | 2025-03-19 |
| 11886403 | SK4 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 7.9 ± 1.2 | 2025-03-19 |
| 11886404 | SK5 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 7.6 ± 1.2 | 2025-03-19 |
| 11886410 | SK6 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 7.0 ± 1.1 | 2025-03-19 |
| 11886402 | SK7 | 2025-03-07 @ 9:00 am | 2025-03-10 @ 9:00 am | 8.6 ± 1.2 | 2025-03-19 |

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Radon Test Kit Chain of Custody

Project Name: MCPS Radon – Re-Testing March 18th – March 21st, 2025

Name of Schools:

1. Bannockburn ES
2. Rock View ES
3. Silver Spring International MS

| | Date | Initials |
|----------------------------------|-----------|----------|
| Radon Test Kits Deployed | 3/18/2025 | BMM |
| Radon Test Kits Collected | 3/21/2025 | BMM |
| Radon Test Kits Shipped to Lab* | 3/21/2025 | BMM |
| Radon Test Kits Received by Lab* | 3/25/2025 | BMM |

*All samples sent to Air Check, Inc., 2 Saber Way, Ward Hill, MA 01835



MCPS RADON TESTING – EXECUTIVE SUMMARY

| | |
|--------------------------|--|
| Site Name | Silver Spring International Middle School |
| Date of Test Report | 5/11/2022 |
| Round of Testing | Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility |
| # Rooms Tested | 58 |
| # Rooms \geq 4.0 pCi/L | 0 |
| Lowest Value | <0.3 pCi/L |
| Highest Value | 1.8 pCi/L |

Project Status:
Initial testing completed; No further action needed



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May 11, 2022

Brian T. Croyle, PG, CHMM
Environmental Specialist
Montgomery County Public Schools
Gaithersburg, MD 20879

Re: **Radon Testing Services**
KCI Job # 122108316

Location: Silver Spring International Middle School
313 Wayne Ave.
Silver Spring, MD 20910

Dear Mr. Croyle:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Silver Spring International Middle School, located at 313 Wayne Ave. Silver Spring, MD 21053 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Proficiency Program (NRPP) Radon Measurement Specialist (certification #111004 RT) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from <https://www.montgomeryschoolsmd.org> or www.epa.gov/radon.

KCI visited the site on March 14, 2022 and deployed sixty-seven (67) activated charcoal (AC) radon test kits. KCI deployed radon test kits in all frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI also included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on March 17, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

According to AARST, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*, ideal testing conditions would be when the building is fully occupied and the heating system is active. For this test, the facility's HVAC system was operating in heating mode; therefore, KCI concludes that this test was conducted during ideal testing conditions.

KCI recorded observations of the following conditions in each room during the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the low 20s and high temperatures ranged from the mid 70s to the high 50s Fahrenheit. Maximum sustained winds ranged from 0-32 miles per hour. Average humidity was around 61% with 0.1 inches of precipitation (rain) was recorded during testing period.

Results:

The sampling locations and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). Sampling locations and associated test kit identification numbers and relevant field observations are listed on Table 3 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|----------------------------|------------------|---------------|
| ≥4.0 pCi/L | None | N/A |
| <4.0 pCi/L | See Attachment B | |

| Quality Control Samples | |
|--------------------------------|--|
| Results of Blank Canisters: | The office blanks, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. |
| Adequate Laboratory Precision? | Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. |
| Spike Sample Analysis: | The Spike Sample analysis results indicate the laboratory is operating within statistical control limits. |

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 891-1769.

Sincerely,



Tyler P. McCleaf
Radon Measurement Provider
#111004 RT
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-3, Radon Test Summary Spreadsheets
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Check, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

OC- Quality Control

| Table 1- Radon Testing Results | | |
|--------------------------------------|-------------|--------|
| Silver Spring International MS | | |
| Test Period: 03/14/2022 - 03/17/2022 | | |
| | | |
| Kit Number | Room / Area | Result |
| 11132494 | 103 | 1.2 |
| 11132464 | 104 | < 0.3 |
| 11132427 | 105 | < 0.3 |
| 11130373 | 106 | 0.8 |
| 11133044 | 107 | 1.1 |
| 11132429 | 110 | < 0.3 |
| 11132430 | 111 | < 0.3 |
| 11132441 | 112 | 1.5 |
| 11132442 | 112 | 1.0 |
| 11132432 | 113 | < 0.3 |
| 11132436 | 113 | 0.7 |
| 11132451 | 114 | 0.9 |
| 11133046 | 116 | < 0.3 |
| 11132437 | 117 | 0.7 |
| 11132445 | 117 | < 0.3 |
| 11132439 | 118 | 0.8 |
| 11132459 | 119 | < 0.3 |
| 11132438 | 120 | 0.6 |
| 11132465 | 123 | < 0.3 |
| 11132466 | 123 | < 0.3 |
| 11132448 | 126 | < 0.3 |
| 11132468 | 127 | < 0.3 |
| 11132447 | 128 | < 0.3 |
| 11132446 | 129 | < 0.3 |
| 11132475 | 130 | 1.8 |
| 11132474 | 131 | 1.4 |
| 11132467 | 132 | 0.7 |
| 11132476 | 133 | 0.7 |
| 11132456 | 134 | 0.6 |
| 11132455 | 135 | 0.6 |
| 11132483 | 136 | 0.8 |
| 11132482 | 137 | 0.8 |
| 11132484 | 138 | < 0.3 |
| 11132492 | 139 | < 0.3 |
| 11132491 | 140 | < 0.3 |
| 11132495 | 244 | 0.6 |
| 11132497 | 245 | < 0.3 |
| 11132490 | 246 | < 0.3 |
| 11132498 | 246 | < 0.3 |
| 11132481 | 247 | < 0.3 |
| 11132496 | 247 | < 0.3 |
| 11132489 | 308 | < 0.3 |

| Table 1- Radon Testing Results | | |
|--------------------------------------|-----------------------------|--------|
| Silver Spring International MS | | |
| Test Period: 03/14/2022 - 03/17/2022 | | |
| | | |
| Kit Number | Room / Area | Result |
| 11133035 | 105A | < 0.3 |
| 11132433 | 105C | < 0.3 |
| 11133039 | 105D | 0.6 |
| 11133036 | 105E | < 0.3 |
| 11130374 | 105G | < 0.3 |
| 11133040 | 105H | < 0.3 |
| 11132428 | 106B | 0.7 |
| 11132434 | 106B | 0.7 |
| 11133037 | 106C | < 0.3 |
| 11132435 | 106E | < 0.3 |
| 11133038 | 106F | < 0.3 |
| 11130372 | 106G | < 0.3 |
| 11132443 | 114 OFFICE | 0.9 |
| 11132444 | 114B | 0.9 |
| 11132458 | 114C | 1.2 |
| 11132449 | 114F | 0.7 |
| 11132453 | 119A | 0.7 |
| 11132457 | 119A | < 0.3 |
| 11132452 | 119B | < 0.3 |
| 11132460 | 119B OFFICE | 0.6 |
| 11132487 | CAFETERIA | 1.1 |
| 11132493 | CAFETERIA | 1.3 |
| 11132488 | KITCHEN CAFETERIA | 1.5 |
| 11132431 | MAIN OFFICE CONFERENCE ROOM | < 0.3 |
| 11132450 | TV STUDIO 1141 | 1.1 |

| Table 2- Radon Testing Results | | | |
|--------------------------------------|---------|--------------|--------|
| Silver Spring International MS | | | |
| Test Period: 03/14/2022 - 03/17/2022 | | | |
| | | | |
| Kit Number | QC Type | Room / Area | Result |
| 11132428 | D | 106B | 0.7 |
| 11132441 | D | 112 | 1.5 |
| 11132432 | FB | 113 | < 0.3 |
| 11132445 | D | 117 | < 0.3 |
| 11132457 | D | 119A | < 0.3 |
| 11132465 | FB | 123 | < 0.3 |
| 11132473 | D | 132 | 0.7 |
| 11132498 | D | 246 | < 0.3 |
| 11132481 | FB | 247 | < 0.3 |
| 11138932 | OB | OFFICE BLANK | < 0.3 |
| 11138946 | TB | TRAVEL BLANK | < 0.3 |

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**SILVER SPRING INTO MS
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|-------------|-----------------------|-----------------------|-----------|------------|
| 11132494 | 103 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 9:00 am | 1.2 ± 0.4 | 2022-03-21 |
| 11132464 | 104 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 9:00 am | < 0.3 | 2022-03-21 |
| 11132427 | 105 | 2022-03-14 @ 8:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11133035 | 105A | 2022-03-14 @ 8:00 am | 2022-03-17 @ 9:00 am | < 0.3 | 2022-03-21 |
| 11132433 | 105C | 2022-03-14 @ 8:00 am | 2022-03-17 @ 9:00 am | < 0.3 | 2022-03-21 |
| 11133039 | 105D | 2022-03-14 @ 8:00 am | 2022-03-17 @ 10:00 am | 0.6 ± 0.3 | 2022-03-21 |
| 11133036 | 105E | 2022-03-14 @ 9:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11133040 | 105H | 2022-03-14 @ 8:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132428 | 106B | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11132434 | 106B | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11133037 | 106C | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132435 | 106E | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11133038 | 106F | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11133044 | 107 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 1.1 ± 0.3 | 2022-03-21 |
| 11132429 | 110 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132430 | 111 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132441 | 112 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 1.5 ± 0.4 | 2022-03-21 |
| 11132442 | 112 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 1.0 ± 0.3 | 2022-03-21 |
| 11132432 | 113 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132436 | 113 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11132451 | 114 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 11:00 am | 0.9 ± 0.3 | 2022-03-21 |
| 11132443 | 114 OFFICE | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.9 ± 0.3 | 2022-03-21 |
| 11132444 | 114B | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.9 ± 0.3 | 2022-03-21 |
| 11132458 | 114C | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 1.2 ± 0.3 | 2022-03-21 |
| 11132449 | 114F | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11133046 | 116 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132437 | 117 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11132445 | 117 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132439 | 118 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.8 ± 0.3 | 2022-03-21 |
| 11132459 | 119 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132453 | 119A | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11132457 | 119A | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132452 | 119B | 2022-03-14 @ 9:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132460 | 119B OFFICE | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.6 ± 0.3 | 2022-03-21 |
| 11132438 | 120 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.6 ± 0.3 | 2022-03-21 |
| 11132466 | 123 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132465 | 123 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |

Radon test result report for:**SILVER SPRING INTO MS
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|-----------------------------|-----------------------|-----------------------|-----------|------------|
| 11132448 | 126 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132468 | 127 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132447 | 128 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132446 | 129 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11132475 | 130 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 1.8 ± 0.4 | 2022-03-21 |
| 11132474 | 131 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 1.4 ± 0.3 | 2022-03-21 |
| 11132467 | 132 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11132476 | 133 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 0.7 ± 0.3 | 2022-03-21 |
| 11132456 | 134 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | 0.6 ± 0.3 | 2022-03-21 |
| 11132455 | 135 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 0.6 ± 0.3 | 2022-03-21 |
| 11132483 | 136 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | 0.8 ± 0.3 | 2022-03-21 |
| 11132482 | 137 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | 0.8 ± 0.3 | 2022-03-21 |
| 11132484 | 138 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132492 | 139 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132491 | 140 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132495 | 244 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | 0.6 ± 0.3 | 2022-03-21 |
| 11132497 | 245 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132490 | 246 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132498 | 246 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132481 | 247 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132496 | 247 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132489 | 308 | 2022-03-14 @ 10:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132493 | CAFETERIA | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 1.3 ± 0.3 | 2022-03-21 |
| 11132487 | CAFETERIA | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 1.1 ± 0.4 | 2022-03-21 |
| 11132488 | KITCHEN CAFETERIA | 2022-03-14 @ 10:00 am | 2022-03-17 @ 10:00 am | 1.5 ± 0.3 | 2022-03-21 |
| 11132431 | MAIN OFFICE CONFERENCE ROOM | 2022-03-14 @ 9:00 am | 2022-03-17 @ 11:00 am | < 0.3 | 2022-03-21 |
| 11132450 | TV STUDIO 1141 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 1.1 ± 0.3 | 2022-03-21 |

March 22, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**SILVER SPRING INTO MS
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|-----------------------|-----------|------------|
| 11130374 | 105G | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |
| 11130373 | 106 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | 0.8 ± 0.3 | 2022-03-21 |
| 11130372 | 106G | 2022-03-14 @ 9:00 am | 2022-03-17 @ 10:00 am | < 0.3 | 2022-03-21 |

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

March 22, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**SILVER SPRING INTERNATIONAL MS
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|-----------------------|-----------|------------|
| 11132473 | 132 | 2022-03-14 @ 9:00 am | 2022-03-17 @ 11:00 am | 0.6 ± 0.3 | 2022-03-21 |

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies, Inc. Job Number 204620

NOMINAL Conditions: Radon Conc 27.0 pCi/L Rel. Hum 50.1 % Temp. 70.0 F

Date Start: 3/18/22 Date Stop: 3/21/22 Date Start: _____ Date Stop: _____

Time Start: 0705 Time Stop: 0705 Time Start: _____ Time Stop: _____

Device No.'s: (5) Char Bags - Device No.'s: _____

11139367, 11139368, 11139371, _____

11139710, 11139717 _____

E3 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

March 30, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Lab Results. Measured values are satisfactory, i.e., within $\pm 25\%$ of the chamber's reference value (25.7 pCi/L).

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|----------------------|----------------|------------|
| 11139367 | SK1 | 2022-03-18 @ 7:00 am | 2022-03-21 @ 7:00 am | 25.9 \pm 2.1 | 2022-03-30 |
| 11139368 | SK2 | 2022-03-18 @ 7:00 am | 2022-03-21 @ 7:00 am | 23.9 \pm 2.0 | 2022-03-30 |
| 11139371 | SK3 | 2022-03-18 @ 7:00 am | 2022-03-21 @ 7:00 am | 25.7 \pm 2.1 | 2022-03-30 |
| 11139710 | SK4 | 2022-03-18 @ 7:00 am | 2022-03-21 @ 7:00 am | 26.4 \pm 2.1 | 2022-03-30 |
| 11139717 | SK5 | 2022-03-18 @ 7:00 am | 2022-03-21 @ 7:00 am | 24.6 \pm 2.0 | 2022-03-30 |

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS
Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon – March 2022 Schools

Name of Schools:

1. Silver Spring International MS
2. Sligo Creek ES
3. Takoma Park MS
4. Takoma Park ES
5. Highland ES
6. Rolling Terrace ES

| | Date | Initials |
|----------------------------------|------------|----------|
| Radon Test Kits Deployed | 03/14/2022 | BMM |
| Radon Test Kits Collected | 03/17/2022 | BMM |
| Radon Test Kits Shipped to Lab* | 03/17/2022 | BMM |
| Radon Test Kits Received by Lab* | 03/20/2022 | BMM |

*All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:
Silver Spring International Middle School
313 Wayne Avenue,
Silver Spring, MD 20910

| | |
|------------------------------|---|
| Date of Test Report: | 3/15/2019 |
| Round of Testing: | Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility |
| # of Rooms Tested: | 4 |
| # of Rooms ≥ 4.0 pCi/L: | 0 |
| Low Value: | <0.4 |
| High Value: | 1.8 |

Project Status
Retesting completed: No further action at this time.



March 15, 2019

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: Radon Testing Services

Location: Silver Spring International Middle School
313 Wayne Avenue
Silver Spring, MD 20910

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Silver Spring International Middle School, located at 313 Wayne Avenue, Silver Spring, MD 20910 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on February 26, 2019 and deployed seven (7) activated charcoal (AC) radon test kit. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on March 1, 2019 to retrieve the radon sampling test kit. A floor plan map of the building with the test location is included as Attachment A of this report.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007).

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}\text{F}$.

PSI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.



PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|---------------------|------------------|--------|
| ≥ 4.0 pCi/L | None | NA |
| ≤ 4.0 pCi/L | See Attachment B | |

Notes:

D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.



Respectfully Submitted,

INTERTEK-PSI

Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

Attachments: A – Floor Plan with Test Locations
 B – Table 1 – Radon Test Summary Spreadsheet
 C – Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

| Radon Testing Results | | |
|---|-------------|----------------|
| Silver Spring International Middle School | | |
| Testing period: 02/26/19 - 03/01/19 | | |
| Kit Number | Room / Area | Result (pCi/L) |
| 3923475 | Room 115 | 1.8 |
| 3923544 | Room 115 | 0.9 |
| 3923543 | Room 130 | 1.5 |
| 3923438 | Room 138 | <0.4 |

| Radon Testing Results | | |
|---|-------------|----------------|
| Silver Spring International Middle School | | |
| Testing period: 02/26/19 - 03/01/19 | | |
| Kit Number | QC Type | Result (pCi/L) |
| 3923542 | Field Blank | <0.4 |
| 3923541 | Field Blank | <0.4 |

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

NRPP 105011 AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

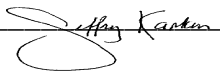
MCPS Radon Survey Silver Spring Int MS
313 Wayne Avenue
Silver Spring MD 20910

| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|-------------|--------------|
| 3220689 | 3923475 | 02/26/2019 | 6:40 am | 03/01/2019 | 6:30 am | Room 115 | 1.8 |
| 3220690 | 3923544 | 02/26/2019 | 6:42 am | 03/01/2019 | 6:32 am | Room 115 | 0.9 |
| 3220691 | 3923543 | 02/26/2019 | 6:45 am | 03/01/2019 | 6:34 am | Room 130 | 1.5 |
| 3220692 | 3923438 | 02/26/2019 | 6:50 am | 03/01/2019 | 6:36 am | Room 138 | < 0.4 |
| 3220693 | 3923542 | 02/26/2019 | 6:00 am | 03/01/2019 | 6:00 am | Field Blank | < 0.4 |
| 3220694 | 3923541 | 02/26/2019 | 6:00 am | 03/01/2019 | 6:00 am | Field Blank | < 0.4 |

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Distributed by: Intertek-PSI (VA)

Date Received: 03/04/2019 Date Logged: 03/04/2019 Date Analyzed: 03/05/2019 Date Reported: 03/05/2019

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is $\sim \pm 10\%$. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

Shawn Price, Director of Laboratory Operations, AccuStar Labs

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary:

Silver Spring International Middle School

313 Wayne Avenue,
Silver Spring, MD 20910

| | |
|------------------------------|---|
| Date of Test Report: | 02/21/2019 |
| Round of Testing: | Initial Follow-up Post Remediation 2 Year Testing 5 Year Testing HVAC Upgrade Window Replacement New Addition New Facility |
| # of Rooms Tested: | 62 |
| # of Rooms ≥ 4.0 pCi/L: | 0 |
| Low Value: | < 0.4 |
| High Value: | 2.1 |

Project Status

Initial testing complete: Missing or compromised samples need re-test.



February 21, 2019

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: Radon Testing Services

Location: Silver Spring International Middle School
313 Wayne Avenue
Silver Spring, MD 20910

Dear Mr. Cox:

Intertek-PSI (PSI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) for completion of a "short-term" 3-day radon test for Silver Spring International Middle School, located at 313 Wayne Avenue, Silver Spring, MD 20910 (subject site).

Scope of Services:

PSI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. PSI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS007) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

PSI visited the site on November 27, 2018 and deployed seventy-nine (79) activated charcoal (AC) radon test kits. PSI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. PSI returned to the site on November 30, 2018 to retrieve the radon sampling test kits. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, PSI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, PSI submitted ten (10) test kits to Bowser-Morner Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner Inc. prior to being returned to the laboratory for analysis.

PSI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis located at 929 Mount Zion Road, Lebanon, Pennsylvania (certification # ARL0007) and 2 Saber Way, Haverhill, Massachusetts (certification # ARL0017).



Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}\text{F}$.

PSI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

PSI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. PSI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|---------------------|------------------|--------|
| ≥ 4.0 pCi/L | None | N/A |
| ≤ 4.0 pCi/L | See Attachment B | |

Notes:

D -Duplicate Sample

The office blank and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C).

Laboratory results and exposure data for the spike samples are also included in Attachment C. Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (703) 698-9300.



Respectfully Submitted,

INTERTEK-PSI

Nand Kaushik, P.E.
Department Manager, Environmental Services
Nand.Kaushik@intertek.com

Attachments: A – Floor Plan with Test Locations
 B – Table 1 – Radon Test Summary Spreadsheet
 C – Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

| Radon Testing Results | | |
|---|---------------|----------------|
| Silver Spring International Middle School | | |
| Testing period: 11/27/18 - 11/30/18 | | |
| Kit Number | Room / Area | Result (pCi/L) |
| 3917937 | 103E | 1.0 |
| 3917940 | 104 | <0.4 |
| 3917834 | 105 | <0.4 |
| 3917991 | 105A | <0.4 |
| 3915571 | 105C | <0.4 |
| 3917833 | 105D | <0.4 |
| 3917932 | 105E | <0.4 |
| 3917840 | 105F | <0.4 |
| 3917831 | 105G | <0.4 |
| 3917932 | 105H | <0.4 |
| 3917835 | 106 | <0.4 |
| 3917938 | 106B | <0.4 |
| 3917837 | 106C | <0.4 |
| 3917836 | 106E | <0.4 |
| 3917923 | 106F | <0.4 |
| 3917928 | 106G | <0.4 |
| 3917910 | 107 | 0.4 |
| 3917908 | 107B | <0.4 |
| 3917905 | 110 | <0.4 |
| 3917907 | 111 | <0.4 |
| 3915654 | 112 | 0.9 |
| 3917904 | 113 | 0.8 |
| 3915651 | 114 | 1.2 |
| 3915653 | 114 | 1.4 |
| 3915451 | 114B | 1.3 |
| 3915454 | 114C | 2.1 |
| 3915455 | 114E | 1.2 |
| 3915660 | 114F | 1.3 |
| 3915673 | 115 (MISSING) | -- |
| 3915691 | 115 (MISSING) | -- |
| 3915652 | 116 | <0.4 |
| 3915659 | 117 | <0.4 |
| 3915655 | 118 | 0.7 |
| 3915657 | 119 | 0.7 |
| 3917902 | 119A | <0.4 |
| 3915656 | 119B | <0.4 |
| 3917901 | 119B Office | <0.4 |
| 3915658 | 120 | <0.4 |
| 3917903 | 120A | <0.4 |
| 3915460 | 122 | <0.4 |
| 3915452 | 123 | <0.4 |
| 3915456 | 126 | <0.4 |
| 3915458 | 127 | <0.4 |

| Radon Testing Results | | |
|---|---------------------|------------------|
| Silver Spring International Middle School | | |
| Testing period: 11/27/18 - 11/30/18 | | |
| Kit Number | Room / Area | Result (pCi/L) |
| 3915457 | 128 | <0.4 |
| 3915692 | 129 | <0.4 |
| 3915700 | 130 | Unable to Report |
| 3915693 | 131 | <0.4 |
| 3915694 | 132 | <0.4 |
| 3915699 | 133 | <0.4 |
| 3915695 | 134 | <0.4 |
| 3915698 | 135 | <0.4 |
| 3915696 | 136 | <0.4 |
| 3915697 | 137 | <0.4 |
| 3915677 | 138 (MISSING) | -- |
| 3915676 | 139 | <0.4 |
| 3915679 | 140 | <0.4 |
| 3915579 | 217 | <0.4 |
| 3915678 | 233 | 0.4 |
| 3915671 | 240 | <0.4 |
| 3915674 | 246 | <0.4 |
| 3915575 | 307 | 0.5 |
| 3915680 | Basement Break Room | 0.7 |
| 3915672 | Basement Rec Room | 0.7 |
| 3915578 | Gym | <0.4 |
| 3915574 | Gym | <0.4 |

| Radon Testing Results | | |
|---|-----------------------|------------------|
| Silver Spring International Middle School | | |
| Testing period:11/27/18 - 11/30/18 | | |
| Kit Number | QC Type | Result (pCi/L) |
| 3917939 | 103E (D) | 1.0 |
| 3917933 | 105A (D) | <0.4 |
| 3917934 | 106E (D) | <0.4 |
| 3917906 | 107B (D) | <0.4 |
| 3917909 | 112 (D) | 0.5 |
| 3915453 | 114B (D) | 1.0 |
| 3915459 | 127 (D) | <0.4 |
| 3915675 | Basement Rec Room (D) | 0.8 |
| 3915511 | Field Blank | <0.4 |
| 3917485 | Field Blank | Unable to Report |
| 3917486 | Field Blank | Unable to Report |
| 3917438 | Office Blank | <0.4 |
| 3917845 | Transit Blank | <0.4 |

Table Notes:

D – Duplicate

FB – Field Blank

OB – Office Blank

TB – Transit Blank

QC – Quality Control

ATTACHMENT C

Laboratory Analytical Results

NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910


| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|--|--------------|
| 2401337 | 3917832 | 11/27/2018 | 6:45 am | 11/30/2018 | 8:25 am | Silver Spring International MS Flr First Rm 105H | < 0.4 |
| 2401338 | 3917834 | 11/27/2018 | 6:36 am | 11/30/2018 | 6:13 am | Silver Spring International MS Flr First Rm 105 | < 0.4 |
| 2401339 | 3917991 | 11/27/2018 | 6:37 am | 11/30/2018 | 6:15 am | Silver Spring International MS Flr First Rm 105A | < 0.4 |
| 2401340 | 3917933 | 11/27/2018 | 6:37 am | 11/30/2018 | 6:15 am | Silver Spring International MS Flr First Rm 105A D | < 0.4 |
| 2401341 | 3917833 | 11/27/2018 | 6:38 am | 11/30/2018 | 6:16 am | Silver Spring International MS Flr First Rm 105D | < 0.4 |
| 2401342 | 3915571 | 11/27/2018 | 9:38 am | 11/30/2018 | 6:18 am | Silver Spring International MS Flr First Rm 105C | < 0.4 |
| 2401343 | 3917932 | 11/27/2018 | 6:39 am | 11/30/2018 | 6:20 am | Silver Spring International MS Flr First Rm 105E | < 0.4 |
| 2401344 | 3917840 | 11/27/2018 | 6:41 am | 11/30/2018 | 6:22 am | Silver Spring International MS Flr First Rm 105F | < 0.4 |
| 2401345 | 3917831 | 11/27/2018 | 6:43 am | 11/30/2018 | 6:24 am | Silver Spring International MS Flr First Rm 105G | < 0.4 |
| 2401346 | 3917940 | 11/27/2018 | 6:47 am | 11/30/2018 | 6:26 am | Silver Spring International MS Flr First Rm 104 | < 0.4 |
| 2401347 | 3917931 | 11/27/2018 | 6:55 am | 11/30/2018 | 6:27 am | Silver Spring International MS Flr First Rm 103 | < 0.4 |

Comment: AMENDED REPORT for 3917832 on 2/7/19 to include the date and time the test began and ended and area tested for 3917832. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 01/31/2019

Report Reviewed By: 

Report Approved By: 

Disclaimer:

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910


| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|--|--------------|
| 2401348 | 3917937 | 11/27/2018 | 7:00 am | 11/30/2018 | 6:28 am | Silver Spring International MS Flr First Rm 103E | 1.0 |
| 2401349 | 3917939 | 11/27/2018 | 7:00 am | 11/30/2018 | 6:28 am | Silver Spring International MS Flr First Rm 103E D | 1.0 |
| 2401350 | 3917835 | 11/27/2018 | 7:02 am | 11/30/2018 | 6:29 am | Silver Spring International MS Flr First Rm 106 | < 0.4 |
| 2401351 | 3917938 | 11/27/2018 | 7:04 am | 11/30/2018 | 6:29 am | Silver Spring International MS Flr First Rm 106B | < 0.4 |
| 2401352 | 3917837 | 11/27/2018 | 7:06 am | 11/30/2018 | 6:30 am | Silver Spring International MS Flr First Rm 106C | < 0.4 |
| 2401353 | 3917836 | 11/27/2018 | 7:09 am | 11/30/2018 | 6:31 am | Silver Spring International MS Flr First Rm 106E | < 0.4 |
| 2401354 | 3917934 | 11/27/2018 | 7:09 am | 11/30/2018 | 6:31 am | Silver Spring International MS Flr First Rm 106E D | < 0.4 |
| 2401355 | 3917923 | 11/27/2018 | 7:10 am | 11/30/2018 | 6:32 am | Silver Spring International MS Flr First Rm 106F | < 0.4 |
| 2401356 | 3917928 | 11/27/2018 | 7:12 am | 11/30/2018 | 6:33 am | Silver Spring International MS Flr First Rm 106G | < 0.4 |
| 2401357 | 3917910 | 11/27/2018 | 7:14 am | 11/30/2018 | 6:34 am | Silver Spring International MS Flr First Rm 107 | 0.4 |
| 2401358 | 3917908 | 11/27/2018 | 7:16 am | 11/30/2018 | 6:35 am | Silver Spring International MS Flr First Rm 107B | < 0.4 |

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Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 01/31/2019

Report Reviewed By: 

Report Approved By: 

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910


| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|--|--------------|
| 2401359 | 3917906 | 11/27/2018 | 7:16 am | 11/30/2018 | 6:35 am | Silver Spring International MS Flr First Rm 107B D | < 0.4 |
| 2401360 | 3917907 | 11/27/2018 | 7:19 am | 11/30/2018 | 6:38 am | Silver Spring International MS Flr First Rm 111 | < 0.4 |
| 2401361 | 3917905 | 11/27/2018 | 7:21 am | 11/30/2018 | 6:39 am | Silver Spring International MS Flr First Rm 110 | < 0.4 |
| 2401362 | 3915654 | 11/27/2018 | 7:22 am | 11/30/2018 | 6:40 am | Silver Spring International MS Flr First Rm 112 | 0.9 |
| 2401363 | 3917909 | 11/27/2018 | 7:24 am | 11/30/2018 | 6:40 am | Silver Spring International MS Flr First Rm 112 Du | 0.5 |
| 2401364 | 3917904 | 11/27/2018 | 7:24 am | 11/30/2018 | 6:41 am | Silver Spring International MS Flr First Rm 113 | 0.8 |
| 2401365 | 3915652 | 11/27/2018 | 7:26 am | 11/30/2018 | 6:42 am | Silver Spring International MS Flr First Rm 116 | < 0.4 |
| 2401366 | 3915659 | 11/27/2018 | 7:28 am | 11/30/2018 | 6:43 am | Silver Spring International MS Flr First Rm 117 | < 0.4 |
| 2401367 | 3915658 | 11/27/2018 | 7:30 am | 11/30/2018 | 6:44 am | Silver Spring International MS Flr First Rm 120 | < 0.4 |
| 2401368 | 3917903 | 11/27/2018 | 7:32 am | 11/30/2018 | 6:45 am | Silver Spring International MS Flr First Rm 120A | < 0.4 |
| 2401369 | 3915657 | 11/27/2018 | 7:34 am | 11/30/2018 | 6:46 am | Silver Spring International MS Flr First Rm 119 | 0.7 |

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Report Reviewed By: 

Report Approved By: 

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910

| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|----------|--|--------------|
| 2401370 | 3917902 | 11/27/2018 | 7:38 am | 11/30/2018 | 6:46 am | Silver Spring International MS Flr First Rm 119A | < 0.4 |
| 2401371 | 3915656 | 11/27/2018 | 7:41 am | 11/30/2018 | 6:47 am | Silver Spring International MS Flr First Rm 119B | < 0.4 |
| 2401372 | 3917901 | 11/27/2018 | 7:43 am | 11/30/2018 | 12:00 am | Silver Spring International MS Flr First Rm 119B O | < 0.4 |
| 2401373 | 3915655 | 11/27/2018 | 7:45 am | 11/30/2018 | 6:49 am | Silver Spring International MS Flr First Rm 118 | 0.7 |
| 2401374 | 3915653 | 11/27/2018 | 7:47 am | 11/30/2018 | 6:50 am | Silver Spring International MS Flr First Rm 114 | 1.4 |
| 2401375 | 3915651 | 11/27/2018 | 7:48 am | 11/30/2018 | 6:50 am | Silver Spring International MS Flr First Rm 114 | 1.2 |
| 2401376 | 3915451 | 11/27/2018 | 7:50 am | 11/30/2018 | 6:51 am | Silver Spring International MS Flr First Rm 114B | 1.3 |
| 2401377 | 3915453 | 11/27/2018 | 7:50 am | 11/30/2018 | 6:52 am | Silver Spring International MS Flr First Rm 114B D | 1.0 |
| 2401378 | 3915454 | 11/27/2018 | 7:52 am | 11/30/2018 | 6:53 am | Silver Spring International MS Flr First Rm 114C | 2.1 |
| 2401379 | 3915455 | 11/27/2018 | 7:54 am | 11/30/2018 | 6:54 am | Silver Spring International MS Flr First Rm 114E | 1.2 |
| 2401380 | 3915660 | 11/27/2018 | 7:56 am | 11/30/2018 | 6:55 am | Silver Spring International MS Flr First Rm 114F | 1.3 |

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Report Reviewed By: 

Report Approved By: 

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910

| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|--|--------------|
| 2401381 | 3915460 | 11/27/2018 | 7:58 am | 11/30/2018 | 6:56 am | Silver Spring International MS Flr First Rm 122 | < 0.4 |
| 2401382 | 3915452 | 11/27/2018 | 8:00 am | 11/30/2018 | 6:57 am | Silver Spring International MS Flr First Rm 123 | < 0.4 |
| 2401383 | 3915456 | 11/27/2018 | 8:05 am | 11/30/2018 | 6:58 am | Silver Spring International MS Flr First Rm 126 | < 0.4 |
| 2401384 | 3915458 | 11/27/2018 | 8:10 am | 11/30/2018 | 7:00 am | Silver Spring International MS Flr First Rm 127 | < 0.4 |
| 2401385 | 3915459 | 11/27/2018 | 8:10 am | 11/30/2018 | 7:01 am | Silver Spring International MS Flr First Rm 127 Du | < 0.4 |
| 2401386 | 3915457 | 11/27/2018 | 8:12 am | 11/30/2018 | 7:03 am | Silver Spring International MS Flr First Rm 128 | < 0.4 |
| 2401387 | 3915692 | 11/27/2018 | 8:14 am | 11/30/2018 | 7:04 am | Silver Spring International MS Flr First Rm 129 | < 0.4 |
| 2401388 | 3915700 | 11/27/2018 | 8:16 am | 11/30/2018 | 7:05 am | Silver Spring International MS Flr First Rm 130 | Invalid |
| 2401389 | 3915693 | 11/27/2018 | 8:18 am | 11/30/2018 | 7:07 am | Silver Spring International MS Flr First Rm 131 | < 0.4 |
| 2401390 | 3915694 | 11/27/2018 | 8:21 am | 11/30/2018 | 7:08 am | Silver Spring International MS Flr First Rm 132 | < 0.4 |
| 2401391 | 3915699 | 11/27/2018 | 8:23 am | 11/30/2018 | 7:09 am | Silver Spring International MS Flr First Rm 133 | < 0.4 |

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NELAC NY 11769
NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910


| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|--|--------------|
| 2401392 | 3915695 | 11/27/2018 | 8:25 am | 11/30/2018 | 7:10 am | Silver Spring International MS Flr First Rm 134 | < 0.4 |
| 2401393 | 3915698 | 11/27/2018 | 8:27 am | 11/30/2018 | 7:11 am | Silver Spring International MS Flr First Rm 135 | < 0.4 |
| 2401394 | 3915696 | 11/27/2018 | 8:28 am | 11/30/2018 | 7:12 am | Silver Spring International MS Flr First Rm 136 | < 0.4 |
| 2401395 | 3915697 | 11/27/2018 | 8:30 am | 11/30/2018 | 7:13 am | Silver Spring International MS Flr First Rm 137 | < 0.4 |
| 2401396 | 3915676 | 11/27/2018 | 8:36 am | 11/30/2018 | 7:15 am | Silver Spring International MS Flr First Rm 139 | < 0.4 |
| 2401397 | 3915679 | 11/27/2018 | 8:38 am | 11/30/2018 | 7:18 am | Silver Spring International MS Flr First Rm 140 | < 0.4 |
| 2401398 | 3915672 | 11/27/2018 | 8:40 am | 11/30/2018 | 7:20 am | Silver Spring International MS Flr Basement Rm B | 0.7 |
| 2401399 | 3915675 | 11/27/2018 | 8:42 am | 11/30/2018 | 7:20 am | Silver Spring International MS Flr Basement Rm B | 0.8 |
| 2401400 | 3915680 | 11/27/2018 | 8:48 am | 11/30/2018 | 7:21 am | Silver Spring International MS Flr Basement Rm B | 0.7 |
| 2401401 | 3915674 | 11/27/2018 | 9:00 am | 11/30/2018 | 7:44 am | Silver Spring International MS Flr Second Rm 246 | < 0.4 |
| 2401402 | 3915671 | 11/27/2018 | 9:05 am | 11/30/2018 | 7:46 am | Silver Spring International MS Flr Second Rm 240 | < 0.4 |

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Distributed by: Intertek-PSI (VA)

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NRPP 103216 AL
NRSB ARL0017

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

Property Tested: Project # 04481387-1


MCPS Radon Survey
Silver Spring International Middle School
313 Wayne Avenue
Silver Spring MD 20910


| Log Number | Device Number | Test Exposure Duration: | | | | Area Tested | Result pCi/L |
|------------|---------------|-------------------------|---------|------------|---------|--|--------------|
| 2401403 | 3915678 | 11/27/2018 | 9:10 am | 11/30/2018 | 7:48 am | Silver Spring International MS Flr Second Rm 233 | 0.4 |
| 2401404 | 3915579 | 11/27/2018 | 9:15 am | 11/30/2018 | 7:50 am | Silver Spring International MS Flr Second Rm 217 | < 0.4 |
| 2401405 | 3915575 | 11/27/2018 | 9:20 am | 11/30/2018 | 7:52 am | Silver Spring International MS Flr Third Rm 307 | 0.5 |
| 2401406 | 3915578 | 11/27/2018 | 9:50 am | 11/30/2018 | 8:00 am | Silver Spring International MS Flr First Rm Gym | < 0.4 |
| 2401407 | 3915574 | 11/27/2018 | 9:50 am | 11/30/2018 | 8:00 am | Silver Spring International MS Flr First Rm Gym | < 0.4 |
| 2401408 | 3917486 | 11/27/2018 | 6:36 am | 11/30/2018 | 8:00 am | Silver Spring International MS Field Blank | Invalid |
| 2401409 | 3915511 | 11/27/2018 | 6:36 am | 11/30/2018 | 8:00 am | Silver Spring International MS Field Blank | < 0.4 |
| 2401410 | 3917485 | 11/27/2018 | 6:36 am | 11/30/2018 | 8:00 am | Silver Spring International MS Field Blank | Invalid |
| 2401411 | 3917845 | 11/27/2018 | 6:36 am | 11/30/2018 | 8:00 am | Silver Spring International MS Transit Blank | < 0.4 |
| 2401412 | 3917438 | 11/27/2018 | 6:36 am | 11/30/2018 | 8:00 am | Silver Spring International MS Office Blank | < 0.4 |

Comment: AMENDED REPORT for 3917832 on 2/7/19 to include the date and time the test began and ended and area tested for 3917832. A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/03/2018 Date Logged: 12/03/2018 Date Analyzed: 12/04/2018 Date Reported: 01/31/2019

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

NRPP 105011 AL
NRSB ARL0007
Ohio RL41

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested:

Intertek-PSI (VA)
2930 Eskridge Road
Fairfax VA 22031

MCPS Radon Survey
4514 Taylorsville Road
Dayton OH 45424

| Log Number | Device Number | Test Exposure Duration: | | Area Tested | | Result pCi/L |
|------------|---------------|-------------------------|--------------------|-------------|--|--------------|
| 3204125 | 3926831 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 36.1 |
| 3204126 | 3926832 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 34.8 |
| 3204127 | 3926833 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 33.7 |
| 3204128 | 3926834 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 35.8 |
| 3204129 | 3926835 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 35.0 |
| 3204130 | 3926836 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 34.5 |
| 3204131 | 3926837 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 34.6 |
| 3204132 | 3926838 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 34.3 |
| 3204133 | 3926839 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 33.2 |
| 3204134 | 3926840 | 12/07/2018 9:47 am | 12/10/2018 9:47 am | Spike | | 34.0 |

Comment: A copy of this report was e-mailed to Intertek-PSI (VA)

Test Performed By: Unknown

Distributed by: Intertek-PSI (VA)

Date Received: 12/12/2018 Date Logged: 12/12/2018 Date Analyzed: 12/12/2018 Date Reported: 12/13/2018

Report Reviewed By: 

Report Approved By: 

Disclaimer:

The uncertainty of this radon measurement is $\sim \pm 10\%$. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

Shawn Price, Director of Laboratory Operations, AccuStar Labs

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Intertek - PSI

Job Number 187732

NOMINAL Conditions: Radon Conc 32.6 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/7/18 Date Stop: 12/10/18

Date Start: _____ Date Stop: _____

Time Start: 0947 Time Stop: 0947

Time Start: _____ Time Stop: _____

Device No.'s: (10) Char. Cans-

Device No.'s: _____

3926831 thru 3926840

G2 Left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

- | | |
|-------------------------|------------------------------------|
| 1. Ashburton ES | 9. Broad Acres ES |
| 2. Carderock Springs ES | 10. Greencastle ES |
| 3. Diamond ES | 11. Harmony Hills ES |
| 4. Fox Chapel ES | 12. Silver Spring International MS |
| 5. Baker MS | 13. Gaithersburg MS |
| 6. Damascus ES | 14. Garrett Park ES |
| 7. Clemente MS | 15. New Hampshire Estates ES |
| 8. Clopper Mill ES | 16. Georgian Forest ES |

| | Date | Initials |
|----------------------------------|--|----------|
| Radon Test Kits Deployed | 11/27/2018 | NL |
| Radon Test Kits Sampled | 11/30/2018 | NL |
| Radon Test Kits Shipped to Lab* | 11/30/2018 | NL |
| Radon Test Kits Received by Lab* | 12/01/2018; 12/02/2018; 12/03/2018 | NL |

*All samples sent to AccuStar Laboratories, 929 Mount Zion Road, Lebanon, PA 17046 and 2 Saber Way, Haverhill, MA 01835

MCPS RADON TESTING - EXECUTIVE SUMMARY

| | |
|--------------------------|---|
| Site Name | Silver Spring International Middle School |
| Date of Report | March 13, 2018 |
| Round of Testing | Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility |
| # of Rooms Tested | 12 |
| # Rooms ≥ 4.0 pCi/L | 0 |
| Lowest Value | 0.7 pCi/L |
| Highest Value | 3.5 pCi/L |

Project Status

Current Project Status at this time: Retesting completed; no further action at this time.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

March 13, 2018

Mr. Richard Cox, MS
Team Leader
Montgomery County Public Schools
Division of Maintenance
Gaithersburg, Maryland 20879

Re: Radon Testing Services

KCI Job #1214634188

Location: Silver Spring International Middle School

313 Wayne Ave.
Silver Spring, Maryland 20910

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Silver Spring International Middle School, located at 313 Wayne Ave. in Silver Spring, Maryland 20910 (subject site).

SCOPE OF SERVICES

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on February 13, 2018 and deployed fourteen (14) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance.

KCI sampled the following locations during this follow-up test:

1. Rooms not successfully tested,
2. Rooms with elevated November 2017 results (i.e. ≥ 3.5 pCi/L).

A floor plan map of the building with the test locations is included as Appendix A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on February 16, 2018 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Follow-up to post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

According to AARST, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*, ideal testing conditions would be when the building is fully occupied and the heating system is active. For this test, the facility's HVAC system was operating in heating mode; therefore, KCI concludes that this test was conducted during ideal testing conditions.

KCI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures ranged from the mid-20s to upper 40s and high temperatures ranged from the high-30s to the high-60s. Maximum sustained winds ranged from 10-18 miles per hour. Average humidity was around 73%. 0.30 Inches of precipitation was recorded during the testing period.

RESULTS

The sampling locations and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|----------------------------|------------------|------------------|
| ≥ 4.0 pCi/L | None | N/A |
| ≤ 4.0 pCi/L | See Attachment B | See Attachment B |

| Quality Control Samples | |
|--------------------------------|---|
| Results of Blank Canisters: | The field blank, office blanks, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. |
| Adequate Laboratory Precision? | Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. |
| Spike Sample Analysis: | The Spike sample analysis results indicate the laboratory is operating within statistical control limits. |

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at 410-316-7800.

Sincerely,



Radon Measurement Specialist
KCI Technologies, Inc.

Attachments:

B - Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

| Table 1 - Radon Testing Results | | |
|---|-------------------|--------|
| Silver Spring International Middle School | | |
| Test Period: 02/13/18-02/16/18 | | |
| | | |
| Kit Number | Room / Area | Result |
| 7984182 | 104 | 0.7 |
| 7984126 | 139 | 0.8 |
| 7984125 | 140 | 1.0 |
| 7984134 | 301 | 0.9 |
| 7984127 | 103E | 2.1 |
| 7984132 | 114D | 2.3 |
| 7984131 | 115K/KITCHEN OFF | 2.0 |
| 7984176 | 303A | 1.1 |
| 7984184 | * BSO1 (Tampered) | 1.8 |
| 7984130 | BSO2 | 3.5 |
| 7984129 | F103 | 1.8 |
| 7984185 | KITCHEN | 1.2 |

Table Note:

* Missing or Compromised Sample

| Table 2 - Radon Testing Results | | |
|---|----------|--------|
| Silver Spring International Middle School | | |
| Test Period: 02/13/18-02/16/18 | | |
| Kit Number | QC Type | Result |
| 7984167 | D (104) | 0.7 |
| 7984183 | FB (104) | < 0.3 |

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

**SILVER SPRING INTERNATIONAL MIDDLE
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|------------------|-----------------------|----------------------|-----------|------------|
| 7984127 | 103E | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 6:00 am | 2.1 ± 0.4 | 2018-02-20 |
| 7984182 | 104 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 6:00 am | 0.7 ± 0.4 | 2018-02-20 |
| 7984183 | 104 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 6:00 am | < 0.3 | 2018-02-20 |
| 7984167 | 104 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 6:00 am | 0.7 ± 0.3 | 2018-02-20 |
| 7984132 | 114D | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 2.3 ± 0.4 | 2018-02-20 |
| 7984131 | 115K/KITCHEN OFF | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 6:00 am | 2.0 ± 0.4 | 2018-02-20 |
| 7984126 | 139 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 0.8 ± 0.3 | 2018-02-20 |
| 7984125 | 140 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 1.0 ± 0.4 | 2018-02-20 |
| 7984134 | 301 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 0.9 ± 0.4 | 2018-02-20 |
| 7984176 | 303A | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 1.1 ± 0.4 | 2018-02-20 |
| 7984184 | BSO1 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 1.8 ± 0.4 | 2018-02-20 |
| 7984130 | BSO2 | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 6:00 am | 3.5 ± 0.5 | 2018-02-20 |
| 7984129 | F103 | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 6:00 am | 1.8 ± 0.4 | 2018-02-20 |
| 7984185 | KITCHEN | 2018-02-13 @ 12:00 pm | 2018-02-16 @ 7:00 am | 1.2 ± 0.4 | 2018-02-20 |



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase

Names of Schools:

- | | |
|---------------------------------------|--|
| 1. Westbrook Elementary School | 21. E. Silver Spring Elementary School |
| 2. Westland Middle School | 22. Silver Spring Int. Middle School |
| 3. Walt Whitman High School | 23. Clarksburg High School |
| 4. Cloverly Elementary School | 24. Rosa Parks Middle School |
| 5. Sligo Middle School | 25. Greenwood Elementary School |
| 6. Flora Singer Elementary School | 26. Montgomery Knolls Elem. School |
| 7. Albert Einstein High School | 27. Watkins Mill Elementary School |
| 8. Roscoe Nix Elementary School | 28. Gaithersburg Elementary School |
| 9. Mario Loiederman Middle School | 29. Viers Mill Elementary School |
| 10. Sargent Shriver Elementary School | 30. Rock View Elementary School |
| 11. Whetstone Elementary School | |
| 12. Brooke Grove Elementary School | |
| 13. Clearspring Elementary School | |
| 14. Beall Elementary School | |
| 15. Maryvale Elementary School | |
| 16. Lathrop E. Smith Center | |
| 17. Laytonsville Elementary School | |
| 18. Germantown Elementary School | |
| 19. Spring Mill Center | |
| 20. Northwood High School | |

| | Date | Initials |
|----------------------------------|---------|----------|
| Radon Test Kits Deployed | 2/13/18 | JM |
| Radon Test Kits Collected | 2/16/18 | JM |
| Radon Test Kits Shipped to Lab* | 2/16/18 | JM |
| Radon Test Kits Received by Lab* | 2/20/18 | JM |

*All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

OFFICE BLANKS

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|----------------------|-------|------------|
| 7979482 | 1 | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986991 | 10 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985684 | 11 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986987 | 12 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986993 | 13 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986990 | 14 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7979485 | 2 | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985686 | 3 | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986995 | 4 | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986989 | 5 | 2018-02-13 @ 1:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986998 | 6 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986986 | 7 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986985 | 8 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986997 | 9 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

February 27, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:
TRANSIT BLANKS

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|----------------------|-------|------------|
| 7984188 | 1 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7984044 | 10 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986582 | 11 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986999 | 12 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7987000 | 13 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7984196 | 14 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986996 | 2 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986994 | 3 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7986992 | 4 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985680 | 5 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985698 | 6 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985699 | 7 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985700 | 8 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |
| 7985872 | 9 | 2018-02-13 @ 2:00 pm | 2018-02-16 @ 2:00 pm | < 0.3 | 2018-02-20 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

February 28, 2018

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (20.9 pCi/L).

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|----------------|------------|
| 7984181 | 1 | 2018-02-16 @ 11:00 am | 2018-02-19 @ 11:00 am | 19.7 ± 0.8 | 2018-02-21 |
| 7986621 | 2 | 2018-02-16 @ 11:00 am | 2018-02-19 @ 11:00 am | 19.4 ± 0.8 | 2018-02-21 |
| 7985683 | 3 | 2018-02-16 @ 11:00 am | 2018-02-19 @ 11:00 am | 19.5 ± 0.8 | 2018-02-21 |
| 7984168 | 4 | 2018-02-16 @ 11:00 am | 2018-02-19 @ 11:00 am | 20.5 ± 0.8 | 2018-02-21 |
| 7986618 | 5 | 2018-02-16 @ 11:00 am | 2018-02-19 @ 11:00 am | 19.9 ± 0.8 | 2018-02-21 |
| 7984169 | 6 | 2018-02-16 @ 11:00 am | 2018-02-19 @ 11:00 am | 20.4 ± 0.8 | 2018-02-21 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 183530

NOMINAL Conditions: Radon Conc 20.9 pCi/L Rel. Hum 49.8 % Temp. 79.1 F

| | |
|--|------------------------------------|
| Date Start: <u>2/16/18</u> Date Stop: <u>2/19/18</u> | Date Start: _____ Date Stop: _____ |
| Time Start: <u>1052</u> Time Stop: <u>1052</u> | Time Start: _____ Time Stop: _____ |
| Device No.'s: <u>(6) Char. Bags-</u> | Device No.'s: _____ |
| <u>7984181, 7986621, 7985683</u> | _____ |
| <u>7984168, 7986618, 7984169</u> | _____ |
| <u>G3 Middle</u> | _____ |
| Date Start: _____ Date Stop: _____ | Date Start: _____ Date Stop: _____ |
| Time Start: _____ Time Stop: _____ | Time Start: _____ Time Stop: _____ |
| Device No.'s: _____ | Device No.'s: _____ |
| _____ | _____ |
| _____ | _____ |
| Date Start: _____ Date Stop: _____ | Date Start: _____ Date Stop: _____ |
| Time Start: _____ Time Stop: _____ | Time Start: _____ Time Stop: _____ |
| Device No.'s: _____ | Device No.'s: _____ |
| _____ | _____ |
| _____ | _____ |

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

MCPS RADON TESTING - EXECUTIVE SUMMARY

| | |
|--------------------------|---|
| Site Name | Silver Spring International Middle School |
| Date of Report | January 30, 2018 |
| Round of Testing | Initial Follow-up Post Remediation 2 year testing 5 year testing HVAC Upgrade Window Replacement New Addition New Facility |
| # of Rooms Tested | 53 |
| # Rooms ≥ 4.0 pCi/L | 0 |
| Lowest Value | < 0.3 pCi/L |
| Highest Value | 2 pCi/L |

Project Status

Current Project Status at this time: Results satisfactory to date; missed locations to be sampled.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

January 30, 2018

Mr. Richard Cox, MS
Team Leader
Montgomery County Public Schools
Division of Maintenance
Rockville, Maryland 20855

Re: Radon Testing Services

KCI Job #1214694182

Location: Silver Spring International Middle School

313 Wayne Ave.
Silver Spring , Maryland 20910

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to Montgomery County Public Schools pursuant to completing a “short-term” 3-day radon test for the Silver Spring International Middle School, located at 313 Wayne Ave. in Silver Spring , Maryland 20910 (subject site).

SCOPE OF SERVICES

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on November 27, 2017 and deployed sixty-eight (68) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Appendix A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to

Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner, Inc. prior to being returned to the laboratory for analysis.

KCI returned to the site on November 30, 2017 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Aircheck, Inc. for analysis by gamma-ray spectroscopy. Aircheck, Inc. is a NRSB certified analytical laboratory for radon analysis (certification #ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

EVALUATION OF TESTING CONDITIONS

These tests represent:

- Post-mitigation biennial testing.

These tests were conducted to:

- Confirm the success of the mitigation system(s).

According to AARST, *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*, ideal testing conditions would be when the building is fully occupied and the heating system is active. For this test, the facility's HVAC system was operating in heating mode; therefore, KCI concludes that this test was conducted during ideal testing conditions.

KCI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

KCI also compiled weather data for the testing period and conducted observations of relevant field conditions. During the test period, weather records indicate low temperatures were in the 30s and high temperatures ranged from the low-50s to mid-60s. Maximum sustained winds ranged from 8-15 miles per hour. Average humidity was around 65%. 0.02 Inches of precipitation was recorded during the testing period.

A magnitude 4.1 earthquake was reported on Thursday, November 30 near Dover, Delaware approximately 95 miles east of Gaithersburg, Maryland. The earthquake occurred during or just after the radon testing period for this facility. In general, enhanced radon emissions have been observed prior to earthquakes and this has been recorded all over the world, according to the research article entitled *Radon-222: A Potential Short-Term Earthquake Precursor*, published June 30, 2015 in the Journal of Earth Science and Climate

Change. The nearby earthquake, which occurred during or prior to the testing period, may have resulted in higher-than-normal radon test results for this facility.

RESULTS

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The quality control sample locations and analytical results are listed on Table 2 (Attachment B). Missing/compromised tests, missed rooms, and locked rooms are listed on Table 3 (Attachment B). The laboratory analytical results are included in Attachment C. Laboratory results and exposure data for the spike samples are also included in Attachment C.

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|----------------------------|------------------|------------------|
| ≥ 4.0 pCi/L | None | N/A |
| ≤ 4.0 pCi/L | See Attachment B | See Attachment B |

| Quality Control Samples | |
|--------------------------------|---|
| Results of Blank Canisters: | The field blanks, office blank, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. |
| Adequate Laboratory Precision? | Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. |
| Spike Sample Analysis: | The Spike sample analysis results indicate the laboratory is operating within statistical control limits. |

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at 410-316-7800.

Sincerely,



James Moulds, CHMM
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments:

B - Tables 1-3, Radon Test Summary Spreadsheets

C- Laboratory Analytical Results

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

| Radon Testing Results | | |
|---|-------------|--------|
| Silver Spring International Middle School | | |
| Test Period: 11/27/17-11/30/17 | | |
| Kit Number | Room / Area | Result |
| 7977427 | 105 | 0.8 |
| 7977459 | 106 | 0.9 |
| 7977411 | 107 | 0.7 |
| 7977425 | 110 | 1.0 |
| 7977403 | 111 | < 0.3 |
| 7977428 | 112 | 1.3 |
| 7977436 | 113 | 1.3 |
| 7977406 | 114 | 1.5 |
| 7977431 | 114 | 2.0 |
| 7977422 | 115 | 1.7 |
| 7977426 | 115 | 1.4 |
| 7977407 | 117 | 0.7 |
| 7977409 | 120 | 0.6 |
| 7977438 | 123 | 0.7 |
| 7977442 | 123 | 0.6 |
| 7977437 | 126 | < 0.3 |
| 7977443 | 127 | 0.7 |
| 7977435 | 128 | 0.7 |
| 7977440 | 129 | 0.6 |
| 7977439 | 130 | 1.6 |
| 7977185 | 131 | 1.9 |
| 7977183 | 132 | < 0.3 |
| 7977434 | 133 | 1.3 |
| 7977182 | 134 | 1.1 |
| 7977191 | 135 | < 0.3 |
| 7977441 | 136 | 1.1 |
| 7977190 | 137 | 1.5 |
| 7977432 | 138 | 0.9 |
| 7977181 | 139 | < 0.3 |
| 7977189 | 140 | < 0.3 |
| 7977199 | 242 | < 0.3 |
| 7977200 | 244 | 0.6 |
| 7977187 | 245 | 0.5 |
| 7977195 | 246 | 0.7 |
| 7977192 | 247 | 0.6 |
| 7977193 | 300 | 0.8 |
| 7977188 | 308 | 0.9 |
| 7977412 | 105A | < 0.3 |
| 7977421 | 105C | < 0.3 |
| 7977445 | 105D | < 0.3 |
| 7977447 | 105E | < 0.3 |
| 7977402 | 105F | < 0.3 |
| 7977415 | 105G | 0.8 |
| 7977416 | 105H | 0.6 |
| 7977418 | 106B | 0.6 |
| 7977413 | 106C | < 0.3 |

Table Note:

* Missing or Compromised Sample

| Radon Testing Results | | |
|---|-------------|--------|
| Silver Spring International Middle School | | |
| Test Period: 11/27/17-11/30/17 | | |
| | | |
| Kit Number | Room / Area | Result |
| 7977401 | 106E | 0.7 |
| 7977458 | 106F | 0.7 |
| 7977453 | 106G | < 0.3 |
| 7977446 | 107B | 0.7 |
| 7977404 | 114B | 1.4 |
| 7977414 | 114C | 1.9 |
| 7977433 | 114E | 1.2 |
| 7977184 | 114F | 1.3 |
| 7977186 | 304A | 0.6 |
| 7977194 | BS01 | 1.5 |

Table Note:

* Missing or Compromised Sample

| Radon Testing Results | | |
|---|-----------|--------|
| Silver Spring International Middle School | | |
| Test Period: 11/27/17-11/30/17 | | |
| Kit Number | QC Type | Result |
| 7977410 | D (105) | 0.5 |
| 7977424 | D (105A) | 0.5 |
| 7977420 | D (105F) | < 0.3 |
| 7977430 | D (106G) | < 0.3 |
| 7977423 | D (110) | 1.1 |
| 7977196 | D (130) | 1.7 |
| 7977198 | D (139) | < 0.3 |
| 7977408 | FB (105) | < 0.3 |
| 7977419 | FB (106G) | < 0.3 |
| 7977405 | FB (110) | < 0.3 |
| 7977417 | FB (114B) | < 0.3 |
| 7977278 | OB (OB) | < 0.3 |

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:**SILVER SPRING INTERNATIONAL MS
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|-----------------------|-----------|------------|
| 7977410 | 105 | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 12:00 pm | 0.5 ± 0.3 | 2017-12-04 |
| 7977427 | 105 | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.8 ± 0.3 | 2017-12-05 |
| 7977408 | 105 | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977412 | 105A | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977424 | 105A | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.5 ± 0.3 | 2017-12-04 |
| 7977421 | 105C | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977445 | 105D | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977447 | 105E | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977402 | 105F | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977420 | 105F | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977415 | 105G | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.8 ± 0.3 | 2017-12-05 |
| 7977416 | 105H | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 12:00 pm | 0.6 ± 0.3 | 2017-12-05 |
| 7977459 | 106 | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.9 ± 0.3 | 2017-12-04 |
| 7977418 | 106B | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.6 ± 0.3 | 2017-12-04 |
| 7977413 | 106C | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977401 | 106E | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-05 |
| 7977458 | 106F | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-04 |
| 7977453 | 106G | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977430 | 106G | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977419 | 106G | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977411 | 107 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-04 |
| 7977446 | 107B | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-04 |
| 7977423 | 110 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.1 ± 0.3 | 2017-12-04 |
| 7977425 | 110 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.0 ± 0.3 | 2017-12-05 |
| 7977405 | 110 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977403 | 111 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977428 | 112 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.3 ± 0.4 | 2017-12-05 |
| 7977436 | 113 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.3 ± 0.3 | 2017-12-04 |
| 7977431 | 114 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 2.0 ± 0.3 | 2017-12-04 |
| 7977406 | 114 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.5 ± 0.4 | 2017-12-05 |
| 7977404 | 114B | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.4 ± 0.4 | 2017-12-05 |
| 7977417 | 114B | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 12:00 pm | < 0.3 | 2017-12-05 |
| 7977414 | 114C | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.9 ± 0.4 | 2017-12-05 |
| 7977433 | 114E | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.2 ± 0.3 | 2017-12-04 |
| 7977184 | 114F | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.3 ± 0.3 | 2017-12-05 |
| 7977426 | 115 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.4 ± 0.3 | 2017-12-04 |
| 7977422 | 115 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 1.7 ± 0.4 | 2017-12-05 |

Radon test result report for:**SILVER SPRING INTERNATIONAL MS
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|-----------------------|-----------|------------|
| 7977407 | 117 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-04 |
| 7977409 | 120 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.6 ± 0.3 | 2017-12-04 |
| 7977442 | 123 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.6 ± 0.3 | 2017-12-04 |
| 7977438 | 123 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-05 |
| 7977437 | 126 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-05 |
| 7977443 | 127 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.4 | 2017-12-04 |
| 7977435 | 128 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.7 ± 0.3 | 2017-12-05 |
| 7977440 | 129 | 2017-11-27 @ 3:00 pm | 2017-11-30 @ 11:00 am | 0.6 ± 0.3 | 2017-12-04 |
| 7977439 | 130 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 12:00 pm | 1.6 ± 0.4 | 2017-12-04 |
| 7977185 | 131 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 11:00 am | 1.9 ± 0.3 | 2017-12-04 |
| 7977196 | 130 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 11:00 am | 1.7 ± 0.4 | 2017-12-05 |
| 7977183 | 132 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977434 | 133 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 11:00 am | 1.3 ± 0.3 | 2017-12-04 |
| 7977182 | 134 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 11:00 am | 1.1 ± 0.3 | 2017-12-04 |
| 7977191 | 135 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 11:00 am | < 0.3 | 2017-12-04 |
| 7977441 | 136 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 11:00 am | 1.1 ± 0.3 | 2017-12-04 |
| 7977190 | 137 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 11:00 am | 1.5 ± 0.4 | 2017-12-05 |
| 7977432 | 138 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 12:00 pm | 0.9 ± 0.3 | 2017-12-05 |
| 7977198 | 139 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 12:00 pm | < 0.3 | 2017-12-04 |
| 7977181 | 139 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 12:00 pm | < 0.3 | 2017-12-04 |
| 7977189 | 140 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 12:00 pm | < 0.3 | 2017-12-04 |
| 7977199 | 242 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 12:00 pm | < 0.3 | 2017-12-04 |
| 7977200 | 244 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 12:00 pm | 0.6 ± 0.3 | 2017-12-04 |
| 7977187 | 245 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 12:00 pm | 0.5 ± 0.3 | 2017-12-04 |
| 7977195 | 246 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 12:00 pm | 0.7 ± 0.3 | 2017-12-05 |
| 7977192 | 247 | 2017-11-27 @ 5:00 pm | 2017-11-30 @ 12:00 pm | 0.6 ± 0.3 | 2017-12-04 |
| 7977193 | 300 | 2017-11-27 @ 6:00 pm | 2017-11-30 @ 12:00 pm | 0.8 ± 0.3 | 2017-12-05 |
| 7977186 | 304A | 2017-11-27 @ 6:00 pm | 2017-11-30 @ 12:00 pm | 0.6 ± 0.3 | 2017-12-04 |
| 7977188 | 308 | 2017-11-27 @ 6:00 pm | 2017-11-30 @ 12:00 pm | 0.9 ± 0.3 | 2017-12-04 |
| 7977194 | BS01 | 2017-11-27 @ 6:00 pm | 2017-11-30 @ 12:00 pm | 1.5 ± 0.3 | 2017-12-04 |
| 7977278 | OB | 2017-11-27 @ 2:00 pm | 2017-11-30 @ 2:00 pm | < 0.3 | 2017-12-05 |



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase

Names of Schools:

- | | |
|--|---------------------------------------|
| 1. Montgomery Knolls Elementary School | 14. Flora Singer Elementary School |
| 2. New Hampshire Estates Elementary School | 15. Sligo Middle School |
| 3. Montgomery Blair High School | 16. Mario Loiederman Middle School |
| 4. Silver Creek Middle School | 17. Roscoe Nix Elementary School |
| 5. Sligo Creek Elementary School | 18. Sargent Shriver Elementary School |
| 6. East Silver Spring Elementary School | 19. |
| 7. Silver Spring International Middle School | 20. |
| 8. Woodlin Elementary School | 21. |
| 9. Northwood High School | 22. |
| 10. Spring Mill Center | 23. |
| 11. Westbrook Elementary School | 24. |
| 12. Westland Middle School | 25. |
| 13. Cloverly Elementary School | 26. |

| | Date | Initials |
|----------------------------------|----------|----------|
| Radon Test Kits Deployed | 11/27/17 | JM |
| Radon Test Kits Collected | 11/30/17 | JM |
| Radon Test Kits Shipped to Lab* | 11/30/17 | JM |
| Radon Test Kits Received by Lab* | 12/04/17 | JM |

*All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759

Radon test result report for:**TRANSIT 1****NONE**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|------------|----------------------|----------------------|-------|------------|
| 7978062 | TRANSIT 1 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975804 | TRANSIT 10 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7977990 | TRANSIT 11 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978201 | TRANSIT 12 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978203 | TRANSIT 13 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978206 | TRANSIT 14 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7978246 | TRANSIT 15 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7978239 | TRANSIT 16 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7978226 | TRANSIT 17 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7975078 | TRANSIT 18 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7975077 | TRANSIT 19 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7978074 | TRANSIT 2 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975076 | TRANSIT 20 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975684 | TRANSIT 21 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975683 | TRANSIT 22 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975601 | TRANSIT 23 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978011 | TRANSIT 24 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978012 | TRANSIT 25 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978094 | TRANSIT 26 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7975624 | TRANSIT 27 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7834562 | TRANSIT 28 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7977995 | TRANSIT 29 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7978098 | TRANSIT 3 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7977992 | TRANSIT 30 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978719 | TRANSIT 4 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-05 |
| 7978732 | TRANSIT 5 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7978731 | TRANSIT 6 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975806 | TRANSIT 7 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975815 | TRANSIT 8 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |
| 7975805 | TRANSIT 9 | 2017-11-27 @ 4:00 pm | 2017-11-30 @ 4:00 pm | < 0.3 | 2017-12-04 |

December 19, 2017

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

MCPS - Spike Sample Laboratory Results. Measured values are satisfactory, i.e. within $\pm 25\%$ of the chamber's reference value (27.7 pCi/L).

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|----------------|------------|
| 7975075 | S1 | 2017-12-01 @ 11:00 am | 2017-12-04 @ 11:00 am | 25.6 \pm 0.7 | 2017-12-07 |
| 7975064 | S2 | 2017-12-01 @ 11:00 am | 2017-12-04 @ 11:00 am | 27.4 \pm 0.8 | 2017-12-07 |
| 7975063 | S3 | 2017-12-01 @ 11:00 am | 2017-12-04 @ 11:00 am | 26.3 \pm 0.7 | 2017-12-07 |
| 7975065 | S4 | 2017-12-01 @ 11:00 am | 2017-12-04 @ 11:00 am | 23.0 \pm 0.7 | 2017-12-07 |
| 7975069 | S5 | 2017-12-01 @ 11:00 am | 2017-12-04 @ 11:00 am | 25.6 \pm 0.7 | 2017-12-07 |
| 7975070 | S6 | 2017-12-01 @ 11:00 am | 2017-12-04 @ 11:00 am | 23.0 \pm 0.7 | 2017-12-07 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 182393

NOMINAL Conditions: Radon Conc 27.7 pCi/L Rel. Hum 49.1 % Temp. 70.1 F

Date Start: 12/1/17 Date Stop: 12/4/17 Date Start: _____ Date Stop: _____

Time Start: 1049 Time Stop: 1049 Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags. Device No.'s: _____

7975075, 7975064, 7975063, _____

7975065, 7975069, 7975070 _____

F4 Right

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft



MCPS RADON TESTING

Executive Summary: Silver Spring International Middle School

| | |
|---------------------------|--|
| Date of Test Report: | 6/17/2016 |
| Round of Testing: | Initial Follow-up Post Remediation |
| | |
| # Rooms Tested: | 8 |
| # Rooms \geq 4.0 pCi/L: | 0 |
| | |
| Low Value: | < 0.3 |
| High Value: | 0.8 |

Project Status:

Post remediation testing completed; no further action at this time.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

June 17, 2016

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: **Radon Testing Services**
KCI Job # 12146341.40

Location: Silver Spring International Middle School
313 Wayne Avenue
Silver Spring, MD 20910

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Silver Spring International Middle School, located at 313 Wayne Avenue in Silver Spring, Maryland 20910 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on May 31, 2016 and deployed eleven (11) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on June 03, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a

NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}$ F.

KCI concludes that the test period does not represent normal conditions when the building is significantly occupied due to the average outdoor temperatures being $> 65^{\circ}$ F. Based on the evaluation of test conditions, this test may not reasonably characterize radon hazards.

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. KCI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|------------------------------------|------------------|---------------|
| ≥ 4.0 pCi/L | none | n/a |
| < 4.0 pCi/L | See Attachment B | |

Notes:

D- Duplicate sample

The field blank, lab transit blanks, and office blank had test results of less than the laboratory detection limit of 0.3 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 316-7800.

Sincerely,



James M. Moulds
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-Radon Test Summary Spreadsheet
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 17 testing.

| Radon Testing Results | | |
|------------------------------------|-------------|--------|
| Silver Spring International Middle | | |
| Test Period: 05/31/16-06/03/16 | | |
| | | |
| Kit Number | Room / Area | Result |
| 7756828 | 105 | < 0.3 |
| 7756834 | 105A | 0.8 |
| 7756815 | 105C | < 0.3 |
| 7756833 | 105D | < 0.3 |
| 7756831 | 105E | 0.6 |
| 7756817 | 105F | < 0.3 |
| 7756832 | 105G | 0.7 |
| 7756816 | 105H | 0.5 |

Table Note:

* Missing or Compromised Sample

| Radon Testing Results | | |
|------------------------------------|-----------|--------|
| Silver Spring International Middle | | |
| Test Period: 05/31/16-06/03/16 | | |
| Kit Number | QC Type | Result |
| 7756835 | D (105A) | < 0.3 |
| 7756812 | FB (105C) | < 0.3 |
| 7756819 | OB (0) | < 0.3 |

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

June 8, 2016 **** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

**SILVER SPRING INTERNATIONAL MIDDLE
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|-----------|------------|
| 7756819 | 0 | 2016-05-31 @ 9:00 am | 2016-06-03 @ 10:00 am | < 0.3 | 2016-06-07 |
| 7756828 | 105 | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | < 0.3 | 2016-06-07 |
| 7756834 | 105A | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | 0.8 ± 0.3 | 2016-06-07 |
| 7756835 | 105A | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | < 0.3 | 2016-06-07 |
| 7756812 | 105C | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | < 0.3 | 2016-06-07 |
| 7756815 | 105C | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | < 0.3 | 2016-06-07 |
| 7756833 | 105D | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | < 0.3 | 2016-06-07 |
| 7756831 | 105E | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | 0.6 ± 0.3 | 2016-06-07 |
| 7756817 | 105F | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | < 0.3 | 2016-06-07 |
| 7756832 | 105G | 2016-05-31 @ 10:00 am | 2016-06-03 @ 9:00 am | 0.7 ± 0.3 | 2016-06-07 |
| 7756816 | 105H | 2016-05-31 @ 9:00 am | 2016-06-03 @ 9:00 am | 0.5 ± 0.3 | 2016-06-07 |

May 25, 2016

**** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

TRANSIT BLANKS

Phase 17

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|-------|------------|
| 7756626 | TRANSIT | 2016-05-10 @ 11:00 am | 2016-05-16 @ 11:00 am | < 0.3 | 2016-05-17 |
| 7756803 | TRANSIT | 2016-05-16 @ 9:00 am | 2016-05-19 @ 9:00 am | < 0.3 | 2016-05-23 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

May 27, 2016 **** LABORATORY ANALYSIS
REPORT ****

Radon test result report for:

MCPS

Spike Sample Results

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|------------|------------|
| 7756802 | 1 | 2016-05-20 @ 10:00 am | 2016-05-23 @ 10:00 am | 22.0 ± 0.7 | 2016-05-25 |
| 7756804 | 2 | 2016-05-20 @ 10:00 am | 2016-05-23 @ 10:00 am | 23.7 ± 0.7 | 2016-05-25 |
| 7756805 | 3 | 2016-05-20 @ 10:00 am | 2016-05-23 @ 10:00 am | 22.9 ± 0.7 | 2016-05-25 |
| 7756809 | 4 | 2016-05-20 @ 10:00 am | 2016-05-23 @ 10:00 am | 24.3 ± 0.7 | 2016-05-25 |
| 7756810 | 5 | 2016-05-20 @ 10:00 am | 2016-05-23 @ 10:00 am | 25.1 ± 0.7 | 2016-05-25 |
| 7756811 | 6 | 2016-05-20 @ 10:00 am | 2016-05-23 @ 10:00 am | 22.4 ± 0.7 | 2016-05-25 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCI Technologies Inc. Job Number 175202

NOMINAL Conditions: Radon Conc 25.6 pCi/L Rel. Hum 48.2 % Temp. 79.0 F

Date Start: 5/20/16 Date Stop: 5/23/16 Date Start: _____ Date Stop: _____

Time Start: 1026 Time Stop: 1026 Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags Device No.'s: _____

7756802, 7756804, 7756805, _____

7756809 thru 7756811 _____

E3 Left

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS
Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 17

Name of Schools:

1. Sligo Creek ES
2. Silver Spring International MS

| | Date | Initials |
|----------------------------------|---------|----------|
| Radon Test Kits Deployed | 5/31/16 | JM |
| Radon Test Kits Collected | 6/3/16 | JM |
| Radon Test Kits Shipped to Lab* | 6/3/16 | JM |
| Radon Test Kits Received by Lab* | 6/7/16 | JM |

*All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759

[illegible]



MCPS RADON TESTING

Executive Summary: Silver Spring International Middle School

| | |
|---------------------------|--|
| Date of Test Report: | 4/11/2016 |
| Round of Testing: | Initial Follow-up Post Remediation |
| | |
| # Rooms Tested: | 5 |
| # Rooms ≥ 4.0 pCi/L: | 2 |
| | |
| Low Value: | < 0.4 |
| High Value: | 10.6 |

Rooms with results ≥ 4.0 pCi/L:
105C (10.6 pCi/L), 105D (4.7 pCi/L)

Project Status:

Retesting completed; use the average of the initial and re-test results in a room to determine if remediation is necessary.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

April 11, 2016

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: **Radon Testing Services**
KCI Job # 12146341.32

Location: Silver Spring International Middle School
313 Wayne Avenue
Silver Spring, MD 20910

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Silver Spring International Middle School, located at 313 Wayne Avenue in Silver Spring, Maryland 20910 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on March 14, 2016 and deployed six (6) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to TCS Industries Inc. as spike samples. The spiked tests were exposed to a known radon concentration by TCS prior to being returned to the laboratory for analysis.

KCI returned to the site on March 17, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is

a NRSB certified analytical laboratory for radon analysis (certification # ARL0007) located at 929 Mount Zion Road, Lebanon, Pennsylvania.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}\text{F}$.

KCI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. KCI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|-------------------------|------------------|---------------|
| $\geq 4.0\text{ pCi/L}$ | 105C | 10.6, 9.0 (D) |
| | 105D | 4.7 |
| $< 4.0\text{ pCi/L}$ | See Attachment B | |

Notes:

D- Duplicate sample

The office blanks and lab transit blanks had test results of less than the laboratory detection limit of 0.4 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 316-7800.

Sincerely,



James M. Moulds
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-Radon Test Summary Spreadsheet
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

*Office blanks were submitted at a rate of 1% for all samples deployed in Phase 12 testing. Office blanks were not submitted under each school individually.

| Radon Testing Results | | |
|--------------------------------|-------------|--------|
| Silver Spring International MS | | |
| Test Period: 03/14/16-03/17/16 | | |
| | | |
| Kit Number | Room / Area | Result |
| 3028804 | 103 E | 2.3 |
| 3029007 | 105 C | 10.6 |
| 3029004 | 105 D | 4.7 |
| 3029006 | 106 E | <0.4 |
| 3028758 | BS02 | 2.2 |

Table Note:

* Missing or Compromised Sample

| Radon Testing Results | | |
|--------------------------------|-----------|--------|
| Silver Spring International MS | | |
| Test Period: 03/14/16-03/17/16 | | |
| Kit Number | QC Type | Result |
| 3028760 | D (105 C) | 9.0 |

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

NRPP 10511AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Silver Spring Inter. MS
313 Wayne Avenue
Silver Spring MD 20910

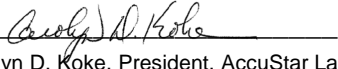
| Log Number | Device Number | Test Exposure Duration: | | Area Tested | Result (pCi/L) |
|------------|---------------|-------------------------|---------------------|------------------------|----------------|
| 3017499 | 3029007 | 03/14/2016 10:24 am | 03/17/2016 10:19 am | Unit 105 C First Floor | 10.6 |
| 3017500 | 3028760 | 03/14/2016 10:24 am | 03/17/2016 10:19 am | Unit 105 C First Floor | 9.0 |
| 3017501 | 3029004 | 03/14/2016 10:27 am | 03/17/2016 7:05 am | Unit 105 D First Floor | 4.7 |
| 3017502 | 3029006 | 03/14/2016 10:32 am | 03/17/2016 7:03 am | Unit 106 E First Floor | <0.4 |
| 3017503 | 3028804 | 03/14/2016 10:36 am | 03/17/2016 7:08 am | Unit 103 E First Floor | 2.3 |
| 3017504 | 3028758 | 03/14/2016 10:56 am | 03/17/2016 6:58 am | Unit B502 First Floor | 2.2 |

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: 

Report Approved By: 

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

Send Written Report To:

| | |
|----------------------------|-----------------------|
| Name | KCI Technologies, Inc |
| Address | 936 Ridgebrook Road |
| Address | |
| City / Town | Sparks |
| State/Province Postal Code | MD 21152 |
| Report Country | Baltimore County |
| Email Address | tehsin@kci.com |

Site Tested:

| | |
|----------------------------|--------------------------|
| Site Name | Silver Spring Inter. MS. |
| Address | 313 Wayne Ave. |
| Address | |
| City / Town | Silver Spring |
| State/Province Postal Code | MD 20910 |
| Test Country | Montgomery County |
| Project Number | 12146341 |

Contact Information:

| | |
|--------------|-----------------------|
| Contact | Tehsin Aurangabadwala |
| Telephone | 410-891-1726 |
| Technician | |
| Cert. Number | |
| Signature | |

| Lab Use Only | Device Number | Building Number | Unit Number | Floor | Name of Room | Temp | Start Date mm/dd/yyyy | Start Time hh:mm am / pm | Stop Date mm/dd/yyyy | Stop Time hh:mm am / pm | Lab Use Only |
|--------------|---------------|-----------------|-------------|-------|--------------|------|--------------------------|-----------------------------|-------------------------|----------------------------|--------------|
| | 9007 | | 105C | 1 | | 69 | 3/14/16 | 10:24 | 3/17/16 | 10:19 | |
| | 8760 | | 105C | 1 | | | 3/14/16 | 10:24 | | 10:19 | |
| | 9004 | | 105D | 1 | | | 3/14/16 | 10:27 | | 07:05 | |
| | 9006 | | 106E | 1 | | | | 10:32 | | 07:03 | |
| | 8804 | | 103E | 1 | | | | 10:36 | | 07:08 | |
| | 8758 | | B502 | 1 | | | | 10:56 | | 06:58 | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

NRPP 10511AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS Radon Phase 12 Office Blank

| Log Number | Device Number | Test Exposure Duration: | Area Tested | Result (pCi/L) |
|------------|---------------|---------------------------------------|-----------------------------|----------------|
| 3017546 | 3029151 | 03/14/2016 9:30 am 03/17/2016 9:30 am | Unit # 0 Office First Floor | <0.4 |

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: Grace Heubling

Report Approved By: Carolyn D. Koke

Disclaimer:

Carolyn D. Koke, President, AccuStar Labs

The uncertainty of this radon measurement is $\pm 10\%$. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

Radon Device Type Open Face Canister

Send Written Report To:

| | | |
|----------------|-----------------------|----------|
| Name | KCI Technologies, Inc | |
| Address | 936 Ridgebrook Road | |
| Address | | |
| City / Town | Sparks | |
| State/Province | Postal Code | MD 21152 |
| Report Country | Baltimore County | |
| Email Address | tehsin@kci.com | |

Site Tested:

| | | | |
|----------------|-------------------|-------|--|
| Site Name | KCI OFFICE | | |
| Address | 936 RIDGEBROOK RD | | |
| Address | | | |
| City / Town | SPARKS | | |
| State/Province | MD | 21152 | |
| Test Country | Montgomery County | | |
| Project Number | 12146341 | | |

Contact Information:

| | |
|--------------|-----------------------|
| Contact | Tehsin Aurangabadwala |
| Telephone | 410-891-1726 |
| Technician | |
| Cert. Number | |
| Signature | |

[illegible]

NRPP 10511AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS Radon Phase 12 Office Blank

| Log Number | Device Number | Test Exposure Duration: | Area Tested | Result (pCi/L) |
|------------|---------------|---------------------------------------|-----------------------------|----------------|
| 3017545 | 3029152 | 03/15/2016 9:30 am 03/18/2016 9:30 am | Unit # 0 Office First Floor | <0.4 |

Comment: A copy of this report was emailed to tehsin@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 03/21/2016 Date Logged: 03/21/2016 Date Analyzed: 03/21/2016 Date Reported: 03/22/2016

Report Reviewed By: Grace Heubling

Report Approved By: Carolyn D. Koke

Disclaimer:

Carolyn D. Koke, President, AccuStar Labs

The uncertainty of this radon measurement is $\sim \pm 10\%$. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

Radon Device Type Open Face Canister

Send Written Report To:

| | |
|----------------------------|-----------------------|
| Name | KCI Technologies, Inc |
| Address | 936 Ridgebrook Road |
| Address | |
| City / Town | Sparks |
| State/Province Postal Code | MD 21152 |
| Report Country | Baltimore County |
| Email Address | tehsin@kci.com |

Site Tested:

| | | |
|----------------|--------------------|-------|
| Site Name | KCI OFFICE | |
| Address | 936 RIDGE BROOK RD | |
| Address | | |
| City / Town | SPARKS | |
| State/Province | MD | 21152 |
| Test Country | Montgomery County | |
| Project Number | 12146341 | |

Contact Information:

| | |
|--------------|-----------------------|
| Contact | Tehsin Aurangabadwala |
| Telephone | 410-891-1726 |
| Technician | |
| Cert. Number | |
| Signature | |

[illegible]

NRPP 10511AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS
Transit Blanks

| Log Number | Device Number | Test Exposure Duration: | | Area Tested | Result (pCi/L) |
|------------|---------------|-------------------------|--------------------|-------------|----------------|
| 3010588 | 3028953 | 01/19/2016 1:00 pm | 01/22/2016 9:30 am | 1 | < 0.4 |
| 3010589 | 3028955 | 01/19/2016 1:00 pm | 01/22/2016 9:30 am | 2 | < 0.4 |
| 3010590 | 3028954 | 01/19/2016 1:00 pm | 01/22/2016 9:30 am | 3 | < 0.4 |
| 3010591 | 3028997 | 01/19/2016 1:00 pm | 01/22/2016 9:30 am | 4 | < 0.4 |

Comment: AMENDED REPORT for 3028953-8955, 3028997 on 2/22/16 to add all missing information from the blank datasheet. A copy of this report was emailed to james.moulds@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 01/27/2016 Date Logged: 01/27/2016 Date Analyzed: 01/28/2016 Date Reported: 01/28/2016

Report Reviewed By: Christie Bates

Report Approved By: Carolyn D. Koke

Disclaimer:

Carolyn D. Koke, President, AccuStar Labs

The uncertainty of this radon measurement is +/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

Return canisters for analysis to:
AccuStar Labs
929 Mt. Zion Rd., Lebanon, PA 17046
800-523-4964

AccuStar Labs - Lebanon, PA
INFORMATION FORM - Large Buildings -
Projects - Apartments

Instructions on back of form
Read instructions carefully
Discrepancies will invalidate tests

Test Site Info

Name of Building/Project or Owner: Transit
Site Address: Transit
City: _____ State: _____ Zip: _____ County: _____

Projects Contact Name: Don Coale Phone: _____ Email: _____

Do not use this form in
New Jersey or Florida
Call for correct forms.

Multi-Page Report Y-N

| LAB USE ONLY | | | |
|------------------|--|-------|-----------------|
| Detector Serial# | ROOM NAME & NUMBER - LOCATION OF DETECTOR IN ROOM (indicate duplicates and blanks) | Floor | Wgt. Gain pCi/L |
| 3028953 | Transit | 1 | 204 |
| 8955 | Transit | 1 | 204 |
| 8954 | Transit | 1 | 204 |
| 8997 | Transit | 1 | 204 |

| Start Time Include AM/PM | Stop Time Include AM/PM | Start Date | Stop Date |
|--------------------------|-------------------------|------------|-----------|
| 9:30am | 9:30am | 1/19/16 | 1/22/16 |
| | | 1/19/16 | |
| | | 1/19/16 | |
| | | 1/19/16 | |

1/27/2016

KCI Technologies, Inc.

3010588 3028953 ACPC275B EXP12/31/2018

Both Placed by and Retrieved by signatures are required

Canisters placed by _____ # _____

Canisters retrieved by _____ # _____

Owner waives confidentiality by signing here _____ Date 1/22/16

Attention: James Mouldale

Company Name: KCI Tech
Address: 936 Ridgebrook
City: Sparks State: MD Zip: 21152
Phone: 410-599-3826
EMAIL Results to: James.Mouldale@kci.com

Send Results To:

Company Name:

Address:

City:

Phone:

EMAIL Results to:

Were general operating conditions maintained?
Yes - No explain if NO

Were closed building conditions maintained?
Yes - No explain if NO

Normal Temp. Yes - No

Normal Humidity Yes - No

Windy Y-N Rainy Y-N

Make sure information is complete and correct.
If a recalculation is requested there is a \$10.00 recalc fee PER Canister.

Mailing: PO Box 990 Jonestown, PA 17038
Shipping: 929 Mt Zion Road, Lebanon, PA 17046
800-523-4964 fax 717-274-5662

NEHA 10511AL NRSB ARL 0007

Revision 5
4/2015

TCS INDUSTRIES, INC.

(717) 657-7032

RADON GAS DETECTION

www.radondetek.com

4326 Crestview Road, Harrisburg, PA 17112

James Mouldsdaie
KCI
936 Ridgebrook Rd.
Sparks, MD 21152

April 04, 2016

Dear Mr. Mouldsdaie:

The spike exposure data were:

Start 04/04/16 @ 1110 hrs EDT
End 04/06/16 @ 1113 hrs EDT

AC 3029218, 3029219, 3029220, 3029217, 3029214, 3029217, and 3029166

Average radon concentration was 10.6 pCi/L +/- 5%

Avg. Temp. was 71F
Avg. RH was 51%
Elevation was 490 feet above sea level

Sincerely,



Carl H. Distenfeld, CHP

TCS Radon Chamber NRSB CHM 0002

NRPP 10511AL
NRSB ARL0007

EPA Method #402-R-92-004
Charcoal Canister
NRPP Device Code 6048
NRSB Device Code 10317

Laboratory Report for:

Property Tested:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS
Radon Spike Sample Laboratory Results

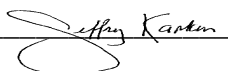
| Log Number | Device Number | Test Exposure Duration: | | Area Tested | Result (pCi/L) |
|------------|---------------|-------------------------|---------------------|---------------|----------------|
| 3020102 | 3029166 | 04/04/2016 11:10 am | 04/06/2016 11:13 am | Not Indicated | 11.9 |
| 3020103 | 3029214 | 04/04/2016 11:10 am | 04/06/2016 11:13 am | Not Indicated | 11.5 |
| 3020104 | 3029217 | 04/04/2016 11:10 am | 04/06/2016 11:13 am | Not Indicated | 10.7 |
| 3020105 | 3029218 | 04/04/2016 11:10 am | 04/06/2016 11:13 am | Not Indicated | 11.3 |
| 3020106 | 3029219 | 04/04/2016 11:10 am | 04/06/2016 11:13 am | Not Indicated | 11.0 |
| 3020107 | 3029220 | 04/04/2016 11:10 am | 04/06/2016 11:13 am | Not Indicated | 10.5 |

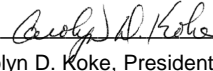
Comment: A copy of this report was emailed to james.mouldsdale@kci.com.

Distributed by: KCI Technologies, Inc.

Date Received: 04/07/2016 Date Logged: 04/07/2016 Date Analyzed: 04/07/2016 Date Reported: 04/08/2016

Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

Report Reviewed By: 

Report Approved By: 
Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is $\pm 10\%$. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.



MCPS RADON TESTING

Executive Summary: Silver Spring International Middle School

| | |
|---------------------------|--|
| Date of Test Report: | 2/29/2016 |
| Round of Testing: | Initial Follow-up Post Remediation |
| | |
| # Rooms Tested: | 55 |
| # Rooms ≥ 4.0 pCi/L: | 2 |
| | |
| Low Value: | < 0.3 |
| High Value: | 9.0 |

Rooms with results ≥ 4.0 pCi/L:
Room 105C (9.0 pCi/L), Room 105 D (4.1 pCi/L)

Project Status:

Initial testing completed; re-test needed for results ≥ 4.0 pCi/L.
Initial testing completed; missing or compromised samples need re-test.



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 RIDGEBROOK ROAD • SPARKS, MD 21152 • 410-316-7800 • (FAX) 410-316-7935

February 29, 2016

Mr. Richard Cox
Indoor Air Quality Team Leader
Montgomery County Public Schools
850 Hungerford Drive
Rockville, MD 20850

Re: **Radon Testing Services**
KCI Job # 12146341.26

Location: Silver Spring International Middle School
313 Wayne Avenue
Silver Spring, MD 20910

Dear Mr. Cox:

KCI Technologies, Inc. (KCI) is pleased to submit the following report to the Montgomery County Public Schools (MCPS) pursuant to completing a “short-term” 3 day radon test for the Silver Spring International Middle School, located at 313 Wayne Avenue in Silver Spring, Maryland 20910 (subject site).

Scope of Services:

KCI conducted radon testing at the subject site to evaluate indoor radon levels relative to the USEPA's recommended action level of 4.0 picocuries per Liter (pCi/L) - the level at which EPA recommends that schools take action to reduce the level. KCI conducted the radon testing in accordance with American Association of Radon Scientists and Technologists (AARST) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings*. A National Radon Safety Board (NRSB) Radon Measurement Specialist (certification #14SS056) supervised the testing. Additional information on radon management and the health effects of radon exposure is available from www.montgomerycountymd.gov/dep/air/radon or www.epa.gov/radon.

KCI visited the site on February 1, 2016 and deployed sixty-seven (67) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

As a quality control measure, KCI included duplicate samples, field blanks, lab transit blanks, and office blanks in accordance with AARST recommendations. In addition, KCI submitted six (6) test kits to Bowser-Morner, Inc. as spike samples. The spiked tests were exposed to a known radon concentration by Bowser-Morner prior to being returned to the laboratory for analysis.

KCI returned to the site on February 4, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc.

is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936 Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

The operating condition that represents the greatest amount of significantly occupied time for this building is; heating active, with outdoor temperature averages $\leq 65^{\circ}\text{F}$.

KCI concludes that the test period reasonably represents normal conditions when the building is significantly occupied. Clear characterization of the radon hazard is most likely to be observed under this normal operating condition. Based on the evaluation of test conditions, this test should reasonably characterize radon hazards.

KCI also conducted observations of field conditions which could affect the results of the test and compiled weather data for the testing period. KCI recorded observations of the following conditions in each room at the time of deployment and collection of the radon test kits:

- Indoor temperature,
- HVAC Operation,
- Dehumidifier operation,
- Humidifier operation,
- Ceiling fan operation, and
- Open windows or doors.

Results:

The results of the radon test analysis indicated the following:

| Radon Concentration | Room | Result |
|------------------------------------|------------------|---------------|
| ≥ 4.0 pCi/L | 105C | 9.0 |
| | 105D | 4.1 |
| < 4.0 pCi/L | See Attachment B | |

Notes:

D- Duplicate sample

The field blanks, office blank, and lab transit blanks had test results of less than the laboratory detection limit of 0.3 pCi/L. Review of the duplicate sample analysis indicates that adequate laboratory measurement precision was achieved. The Spike sample analysis results indicate the laboratory is operating within statistical control limits.

The sampling locations, field observations, and analytical results are listed on Table 1 (Attachment B). The laboratory analytical results are also attached (Attachment C). Laboratory results and exposure data for the spike samples are also included in Attachment C.

Our professional services have been performed in accordance with customary principles and practices in the field of industrial hygiene and engineering. If you have any questions or comments regarding this report, please feel free to contact me at (410) 316-7800.

Sincerely,



James M. Moulds
Radon Measurement Specialist
KCI Technologies, Inc.

Attachments: A- Floor Plan with Test Locations
 B- Table 1-Radon Test Summary Spreadsheet
 C- Laboratory Analytical Results

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank

PM- Project Manager

QC- Quality Control

| Radon Testing Results | | |
|------------------------------------|-------------------|--------|
| Silver Spring International Middle | | |
| Test Period: 02/01/16-02/04/16 | | |
| Kit Number | Room / Area | Result |
| 7730215 | 104 | 1.3 |
| 7730201 | 105 | 2.4 |
| 7730216 | 106 | 1.0 |
| 7730224 | 107 | 1.8 |
| 7730227 | 110 | 1.3 |
| 7730226 | 111 | < 0.3 |
| 7730236 | 112 | 1.5 |
| 7730237 | 113 | 1.7 |
| 7730238 | 114 | 2.2 |
| 7730239 | 114 | 2.7 |
| 7730230 | 115 | 1.3 |
| 7730234 | 117 | 0.9 |
| 7730235 | 120 | 0.7 |
| 7730244 | 123 | 0.6 |
| 7730246 | 126 | 0.8 |
| 7730247 | 128 | 0.7 |
| 7730248 | 129 | 0.6 |
| 7730249 | 130 | 2.3 |
| 7730251 | 131 | 1.9 |
| 7730252 | 132 | 0.6 |
| 7730253 | 133 | 2.1 |
| 7730254 | 134 | 1.4 |
| 7730255 | 135 | 1.1 |
| 7730256 | 136 | 1.0 |
| 7730257 | 137 | 1.7 |
| 7730258 | 138 | 0.8 |
| 7730259 | 139 | 0.9 |
| 7730261 | 140 | 1.3 |
| 7730264 | 244 | 0.6 |
| 7730263 | 246 | 0.9 |
| 7730262 | 247 | 0.9 |
| 7730265 | 301 | 1.5 |
| 7730266 | 303 | 1.0 |
| 7730214 | 103E | 3.3 |
| 7730204 | 105A | 1.4 |
| 7730206 | 105C | 9.0 |
| 7730207 | 105D | 4.1 |
| 7730208 | 105E | 1.5 |
| 7730209 | 105F | < 0.3 |
| 7730211 | 105G | 1.0 |
| 7730212 | 105H | 1.7 |
| 7730217 | 106B | 0.7 |
| 7730218 | 106C | 0.6 |
| 7730223 | * 106E (Tampered) | 0.8 |
| 7730219 | 106F | < 0.3 |
| 7730220 | 106G | 1.0 |

Table Note:

* Missing or Compromised Sample

| Radon Testing Results | | |
|------------------------------------|-------------|--------|
| Silver Spring International Middle | | |
| Test Period: 02/01/16-02/04/16 | | |
| | | |
| Kit Number | Room / Area | Result |
| 7730225 | 107B | 1.4 |
| 7730240 | 114B | 2.6 |
| 7730241 | 114C | 2.6 |
| 7730242 | 114D | 1.9 |
| 7730243 | 114F | 1.9 |
| 7730231 | 115K | 1.4 |
| 7730260 | 139B | 0.7 |
| 7730233 | BSO1 | 1.8 |
| 7730232 | BSO2 | 3.3 |
| 7730213 | F103 | 2.4 |

Table Note:

* Missing or Compromised Sample

| Radon Testing Results | | |
|------------------------------------|-----------|--------|
| Silver Spring International Middle | | |
| Test Period: 02/01/16-02/04/16 | | |
| Kit Number | QC Type | Result |
| 7730202 | D (105) | 2.2 |
| 7730205 | D (105A) | 1.8 |
| 7730210 | D (105F) | 1.1 |
| 7730221 | D (106G) | < 0.3 |
| 7730228 | D (110) | 1.3 |
| 7730245 | D (123) | 0.6 |
| 7730250 | D (130) | 2.5 |
| 7730203 | FB (105) | < 0.3 |
| 7730222 | FB (106G) | < 0.3 |
| 7730229 | FB (110) | < 0.3 |
| 7729854 | OB (0) | < 0.3 |

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

Radon test result report for:

**SILVER SPRING INTERNATIONAL MIDDLE
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|-----------|------------|
| 7729854 | 0 | 2016-02-01 @ 11:00 am | 2016-02-04 @ 11:00 am | < 0.3 | 2016-02-09 |
| 7730214 | 103E | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 3.3 ± 0.5 | 2016-02-09 |
| 7730215 | 104 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.3 ± 0.4 | 2016-02-08 |
| 7730202 | 105 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 2.2 ± 0.4 | 2016-02-08 |
| 7730201 | 105 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 2.4 ± 0.5 | 2016-02-09 |
| 7730203 | 105 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | < 0.3 | 2016-02-09 |
| 7730204 | 105A | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.4 ± 0.4 | 2016-02-08 |
| 7730205 | 105A | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.8 ± 0.4 | 2016-02-09 |
| 7730206 | 105C | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 9.0 ± 0.8 | 2016-02-08 |
| 7730207 | 105D | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 4.1 ± 0.5 | 2016-02-08 |
| 7730208 | 105E | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.5 ± 0.4 | 2016-02-09 |
| 7730209 | 105F | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | < 0.3 | 2016-02-09 |
| 7730210 | 105F | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.1 ± 0.4 | 2016-02-09 |
| 7730211 | 105G | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.0 ± 0.3 | 2016-02-08 |
| 7730212 | 105H | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.7 ± 0.4 | 2016-02-09 |
| 7730216 | 106 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.0 ± 0.3 | 2016-02-08 |
| 7730217 | 106B | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 0.7 ± 0.4 | 2016-02-09 |
| 7730218 | 106C | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 0.6 ± 0.3 | 2016-02-08 |
| 7730223 | 106E | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 0.8 ± 0.4 | 2016-02-09 |
| 7730219 | 106F | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | < 0.3 | 2016-02-09 |
| 7730222 | 106G | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | < 0.3 | 2016-02-08 |
| 7730220 | 106G | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.0 ± 0.4 | 2016-02-09 |
| 7730221 | 106G | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | < 0.3 | 2016-02-09 |
| 7730224 | 107 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | 1.8 ± 0.4 | 2016-02-09 |
| 7730225 | 107B | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | 1.4 ± 0.4 | 2016-02-09 |
| 7730227 | 110 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | 1.3 ± 0.3 | 2016-02-08 |
| 7730228 | 110 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | 1.3 ± 0.3 | 2016-02-08 |
| 7730229 | 110 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | < 0.3 | 2016-02-08 |
| 7730226 | 111 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 10:00 am | < 0.3 | 2016-02-08 |
| 7730236 | 112 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.5 ± 0.4 | 2016-02-09 |
| 7730237 | 113 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.7 ± 0.4 | 2016-02-09 |
| 7730238 | 114 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.2 ± 0.4 | 2016-02-08 |
| 7730239 | 114 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.7 ± 0.4 | 2016-02-08 |
| 7730240 | 114B | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.6 ± 0.4 | 2016-02-08 |
| 7730241 | 114C | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.6 ± 0.5 | 2016-02-09 |
| 7730242 | 114D | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.9 ± 0.4 | 2016-02-08 |
| 7730243 | 114F | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.9 ± 0.4 | 2016-02-08 |

Radon test result report for:

**SILVER SPRING INTERNATIONAL MIDDLE
MAIN**

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|-----------------------|-----------------------|-----------|------------|
| 7730230 | 115 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.3 ± 0.4 | 2016-02-08 |
| 7730231 | 115K | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.4 ± 0.4 | 2016-02-08 |
| 7730234 | 117 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.9 ± 0.3 | 2016-02-08 |
| 7730235 | 120 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.7 ± 0.3 | 2016-02-08 |
| 7730244 | 123 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.6 ± 0.3 | 2016-02-08 |
| 7730245 | 123 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.6 ± 0.3 | 2016-02-08 |
| 7730246 | 126 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.8 ± 0.3 | 2016-02-08 |
| 7730247 | 128 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.7 ± 0.4 | 2016-02-09 |
| 7730248 | 129 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.6 ± 0.3 | 2016-02-09 |
| 7730249 | 130 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.3 ± 0.4 | 2016-02-08 |
| 7730250 | 130 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.5 ± 0.4 | 2016-02-08 |
| 7730251 | 131 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.9 ± 0.4 | 2016-02-08 |
| 7730252 | 132 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.6 ± 0.3 | 2016-02-09 |
| 7730253 | 133 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 2.1 ± 0.4 | 2016-02-08 |
| 7730254 | 134 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.4 ± 0.3 | 2016-02-08 |
| 7730255 | 135 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.1 ± 0.3 | 2016-02-08 |
| 7730256 | 136 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.0 ± 0.3 | 2016-02-08 |
| 7730257 | 137 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.7 ± 0.4 | 2016-02-09 |
| 7730258 | 138 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.8 ± 0.3 | 2016-02-08 |
| 7730259 | 139 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.9 ± 0.3 | 2016-02-08 |
| 7730260 | 139B | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.7 ± 0.3 | 2016-02-08 |
| 7730261 | 140 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.3 ± 0.4 | 2016-02-08 |
| 7730264 | 244 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.6 ± 0.3 | 2016-02-08 |
| 7730263 | 246 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.9 ± 0.3 | 2016-02-08 |
| 7730262 | 247 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 0.9 ± 0.3 | 2016-02-08 |
| 7730265 | 301 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.5 ± 0.4 | 2016-02-08 |
| 7730266 | 303 | 2016-02-01 @ 1:00 pm | 2016-02-04 @ 10:00 am | 1.0 ± 0.3 | 2016-02-08 |
| 7730233 | BSO1 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 1.8 ± 0.4 | 2016-02-09 |
| 7730232 | BSO2 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 3.3 ± 0.5 | 2016-02-09 |
| 7730213 | F103 | 2016-02-01 @ 12:00 pm | 2016-02-04 @ 9:00 am | 2.4 ± 0.4 | 2016-02-08 |

Radon test result report for:
TRANSIT- PHASE 7, 8, 9
NONE

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|-----------------------|-------|------------|
| 7734937 | 1 | 2016-02-19 @ 3:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734946 | 10 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734955 | 11 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734956 | 12 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734959 | 13 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734930 | 14 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734953 | 15 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734954 | 16 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734940 | 17 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734949 | 18 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734948 | 19 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734939 | 2 | 2016-02-19 @ 3:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734942 | 20 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734929 | 21 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734933 | 22 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734934 | 23 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734936 | 24 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734943 | 25 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734944 | 26 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734935 | 27 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734928 | 28 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734952 | 29 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734947 | 3 | 2016-02-19 @ 3:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734931 | 30 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734932 | 31 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7718520 | 32 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7718523 | 33 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7718522 | 34 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7718521 | 35 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734945 | 4 | 2016-02-19 @ 3:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734960 | 5 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734958 | 6 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734951 | 7 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734957 | 8 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |
| 7734938 | 9 | 2016-02-19 @ 4:00 pm | 2016-02-22 @ 11:00 am | < 0.3 | 2016-02-23 |

February
15,
2016

**** LABORATORY ANALYSIS
REPORT ****

Spike Sample Laboratory Results

Radon test result report for:
MCPS

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|----------------------|-----------|------------|
| 7718273 | 101A | 2016-01-30 @ 9:00 am | 2016-02-01 @ 9:00 am | 6.5 ± 0.6 | 2016-02-04 |
| 7718281 | 102B | 2016-01-30 @ 9:00 am | 2016-02-01 @ 9:00 am | 6.4 ± 0.6 | 2016-02-04 |
| 7718282 | 103C | 2016-01-30 @ 9:00 am | 2016-02-01 @ 9:00 am | 6.3 ± 0.6 | 2016-02-04 |
| 7718288 | 104D | 2016-01-30 @ 9:00 am | 2016-02-01 @ 9:00 am | 6.7 ± 0.6 | 2016-02-04 |
| 7718289 | 105E | 2016-01-30 @ 9:00 am | 2016-02-01 @ 9:00 am | 6.6 ± 0.6 | 2016-02-04 |
| 7718291 | 106F | 2016-01-30 @ 9:00 am | 2016-02-01 @ 9:00 am | 6.5 ± 0.6 | 2016-02-04 |

Air Chek, Inc. 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

Note: Spike samples are test canisters that are deliberately exposed to a controlled high level of radon in a laboratory. They provide a quality control measure in the testing process and do NOT reflect radon levels in the building being tested.

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

NOMINAL Conditions: Radon Conc 5.9 pCi/L Rel. Hum 45.9 % Temp. 79.0 F

Date Start: 11/30/16 Date Stop: 2/1/16

Date Start: _____ Date Stop: _____

Time Start: 0926 Time Stop: 0926

Time Start: _____ Time Stop: _____

Device No.'s: (6) Char. Bags -

Device No.'s: _____

7718281, 7718282, 7718291,

7718288, 7718289, 7718273

3 Left

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Date Start: _____ Date Stop: _____

Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____

Time Start: _____ Time Stop: _____

Device No.'s: _____

Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft



Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 7 (2-1-2016)

Name of School/Facility:

- | | | |
|----------------------------|-----------------------------|----------------------------|
| 1. Wyngate E.S. | 10. Bethesda Depot | 18. Stone Mill E.S. |
| 2. Seven Locks E.S. | 11. Bethesda Trans Depot | 19. Strawberry Knoll E.S. |
| 3. Takoma Park M.S. | 12. Sligo M.S. | 20. Shady Grove M.S. |
| 4. Somerset E.S. | 13. Stonegate E.S. | 21. Washington Grove E.S. |
| 5. Silver Spring Int. M.S. | 14. Randolph Transportation | 22. Sherwood E.S. |
| 6. Sligo Creek E.S. | 15. Earl B. Wood M.S. | 23. Woodfield E.S. |
| 7. Tilden M.S. | 16. Sargent Shriver E.S. | 24. Taylor Learning Center |
| 8. Tilden Center | 17. Thomas Wooten H.S. | 25. Kingsley Wilderness |
| 9. Bethesda Annex | | |

| | Date | Initials |
|----------------------------------|--------|----------|
| Radon Test Kits Deployed | 2/1/16 | JM |
| Radon Test Kits Collected | 2/4/16 | JM |
| Radon Test Kits Shipped to Lab* | 2/4/16 | JM |
| Radon Test Kits Received by Lab* | 2/8/16 | JM |

*All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759



ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

Corporate Office: 936 Ridgebrook road • Sparks , Maryland 21152 • 410-316-7800 • (Fax) 410-316-7935

Radon Test Kit Chain of Custody

Project Name: MCPS Radon Phase 7 (2-2-2016)

Name of School/Facility:

- | | |
|--------------------------------|--------------------------------|
| 1. Concord Center | 8. Food & Nutritional Services |
| 2. Lynnbrook Center | 9. Fairland Center |
| 3. Carver (CESC) | 10. Redland M.S. (retest) |
| 4. Spring Mill (area 1 Office) | 11. Clarksburg Trans Depot |
| 5. Wheaton H.S | 12. Clarksburg Main Depot |
| 6. Montrose Center | 13. Clarksburg E.S. |
| 7. West Farm Trans Depot | |

| | Date | Initials |
|----------------------------------|--------|----------|
| Radon Test Kits Deployed | 2/2/16 | JM |
| Radon Test Kits Collected | 2/5/16 | JM |
| Radon Test Kits Shipped to Lab* | 2/5/16 | JM |
| Radon Test Kits Received by Lab* | 2/9/16 | JM |

*All samples sent to Air Check, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759