

School / Facility Radon Testing Report Form

School Year: 24-25

| Facility: | Ronald I | Ronald McNair Elementary School | | | |
|---------------------|----------|---|--|--|--|
| A dalama and | 13881 H | lopkins Rd. | | | |
| Address: | German | Germantown, MD 20874 | | | |
| | | Scheduled Re-Testing - 🗌 2-year or 🛛 5-year schedule | | | |
| Reason for T | octing | Clearance Testing (Post-Mitigation) | | | |
| Reason for resting. | | Building Envelope or HVAC Upgrades | | | |
| | | New Construction – Addition or Facility | | | |
| | | Active Mitigation (2-year regular schedule) | | | |
| Current Rador | Status: | No Active Mitigation (5-year regular schedule) | | | |
| | | Not Previously Tested (New Facility) | | | |
| Round of Testing: | | Initial Testing -or- D Follow-up Testing | | | |
| Testing Status: | | No Further Testing Needed -or- D Follow-Up Testing Required | | | |

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

| Mitigation - | Facility Radon Status: | | | |
|------------------------------|--|-----------------------|------|--|
| 🛛 Not Required | No Change in Status | | | |
| □ Required (≥4.0-pCi/L) | Active Mitigation (2-year regular schedule) | | | |
| Rooms: | □ No Active Mitigation (5-year regular schedule) | | | |
| Number of Rooms Tested | 48 | Lowest Value (pCi/L) | <0.3 | |
| Number of Rooms (≥4.0-pCi/L) | 0 | Highest Value (pCi/L) | 0.6 | |

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

| | $oxtimes$ Passive $oxtimes$ Charcoal Absorption (CAD) \Box Alpha Track (ATD) \Box Other | | | | |
|---|---|-----------------|------------------------|--|--|
| Dotoctor/Dovico | □ Continuous □ Electret ion Chamber (EIC) □ Electronic Integration (EID) | | | | |
| | Other–Specify here: | | | | |
| / I ⁻ - | | | | | |
| Detector/Device | | | | | |
| Name: | Air Chek – Radon T | est Kits | | | |
| Manufacturer: | Radon Labs | | | | |
| Person(s) Deploying or Retrieving Test Devices and certification number | | est Devices and | Organization/Company | | |
| Shannon King | | | KCI Technologies, Inc. | | |
| | | | | | |
| | | | | | |
| If noncertified individuals, the qualified measurement professional providing oversight - | | | | | |
| Tyler McCleaf, CSP Cert. # 111004-RMP | | | KCI Technologies, Inc. | | |

Testing

| Short-Term | Length of | Date of Deployment and 3/3/ | | /3/2025 | | | | |
|--|---|-----------------------------|-----------------------|---------|---------|--|--|--|
| Long-Term | Test (days): | 5 | Retrieval (mm/dd/yy): | 3 | /6/2025 | | | |
| Does the test pe | Does the test period include weekends, school breaks or holidays? | | | | | | | |
| If " Yes " please explo | ain/detail in the s | pace below: | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| was hvac opera | was HVAC operating under occupied conditions? | | | | | | | |
| If " No " please explain/detail in the space below: | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



Testing (continued)

| | Detectors Deployed | | | | |
|-----------------------------|--------------------|-----------|----------------|-----------|-------|
| | Ground-Contact | | Upper-Level(s) | | Tabal |
| Round of Testing | Initial | Follow-Up | Initial | Follow-Up | Iotal |
| Test Locations ¹ | 46 | 0 | 2 | 0 | 48 |
| Duplicates ² | 5 | 0 | 1 | 0 | 6 |
| Field Blanks ³ | 2 | 0 | 1 | 0 | 3 |
| Grand Total | | | 57 | | |

1 – include all detectors deployed (duplicates, field blanks); 1 detector per occupied (or intended to be occupied) ground-contact space \leq 2,000-square feet; large spaces \geq 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 <u>per floor</u> (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.

| | QA/QC | Total | |
|-------------------------------|-------------------|-------|-------|
| Round of Testing | Initial Follow-Up | | Total |
| Spikes ¹ | Not applicable | | 10 |
| Trip Blanks ² | 1 | 0 | 1 |
| Office Blanks ^{3, 4} | 1 0 | | 1 |
| | | | 12 |

1 - 3% of EIC detectors; and 3% from <u>each LOT</u> of CAD and ATD detectors; a <u>maximum of 6-spiked</u> <u>measurements</u> per month for both EIC detectors and <u>each LOT</u> 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, <u>analyzed prior to deployment</u>, 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 ± 25% of the chamber's reference value? | 🛛 Yes | No |
|--|---------|-----------|
| Quality Control measurements comply with QA/QC requirements in the submitted testing organization's/company's QA plan? | 🛛 Yes | No |
| Round of Testing | Initial | Follow-Up |
| All Field, Trip and Office Blanks are ≤ (less than or equal to) | 🛛 Yes | 🛛 Yes |
| to the Method Detection Limit? | 🗆 No | 🛛 No |
| For all Duplicate Samples ¹ , the higher value is $\leq 2x$ the lower value? | 🛛 Yes | 🗆 Yes |
| For all Duplicate samples, the figher value is 2 2x the lower value? | 🗌 No | 🛛 No |
| For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are | 🛛 Yes | 🗌 Yes |
| less than the Warning Level ³ ? | 🗆 No | 🛛 No |
| For all Duplicate Samples ¹ , Relative Percent Difference(s) (RPD) ² are | 🛛 Yes | 🗌 Yes |
| less than the Control Level ³ ? | 🗆 No | 🛛 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 |





| | Ground-Contact | | Upper-Level(s) | | Total | |
|--|----------------|-----------|----------------|-----------|-------|--|
| Round of Testing | Initial | Follow-Up | Initial | Follow-Up | Total | |
| Number of test locations: | 46 | 0 | 2 | 0 | 48 | |
| Number of locations ≥8.0-pCi/L: | 0 | 0 | 0 | 0 | 0 | |
| Number of locations ≥4.0 and ≤8-pCi/L: | 0 | 0 | 0 | 0 | 0 | |
| Number of locations ≥2.7 and <4-pCi/L: | 0 | 0 | 0 | 0 | 0 | |
| Number of locations ≥2.0 and <2.7-pCi/L: | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | |
| Number of missing required test locations ³ : | 0 | 0 | 0 | 0 | 0 | |
| Number of failed duplicate control locations: | 0 | 0 | 0 | 0 | 0 | |
| Percentage of missing test locations for the facility ^{4,5} : | 0 | 0 | 0 | 0 | 0 | |

Summary of Test Results¹ and Determination of Valid Measurements²

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 ≤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 \geq 4.0-pCi/L and the total number of test locations are \geq 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 | 🛛 Yes | 🗆 Yes |
| contact with the ground, and, if applicable, 10% of upper floor rooms? | 🗆 No | 🛛 No |
| Were valid measurements obtained in all occupied and intended to be occupied | 🛛 Yes | 🗌 Yes |
| rooms in contact with the ground, and, if applicable, 10% of upper floor rooms? | | 🛛 No |
| If Yes to both above – then Testing Status – 'No Further Testing Needed' mark 'NA' below and complete Conclusions section | | |
| If No to either above, were all results obtained under 4.0-pCi/L and | 🗆 Yes | 🗆 Yes |
| were sufficient valid measurements obtained? ^{1,2} | 🗆 No | 🗆 No |
| If No, then - 'Follow-up Testing Required' continue below. | 🛛 NA | 🛛 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 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 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 \geq 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 | Follow same procedures as Initial | Not | Follow Initial Testing |
| Measurements | Testing | Applicable | procedures |
| Results ≥ 4.0-pCi/L | Deploy two Short-term follow-up | ≥4.0 | Mitigation Required |
| | tests and required blanks and | ≥2.0 and <4.0 | Consider Mitigation |
| Failed QC checks | duplicates; Average the results of the | <2.0 | Mitigation Not |
| | two tests | <2.0 | 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 | | | | | | |
|--------------------------------|-------------------------------|--------|--|--|--|--|
| Ror | ald McNair Elementary Sch | nool | | | | |
| Te | est Period: 3/3/2025 - 3/6/20 | 25 | | | | |
| | | | | | | |
| Kit Number | Room / Area | Result | | | | |
| 11892750 | 101 | < 0.3 | | | | |
| 11892751 | 103 | < 0.3 | | | | |
| 11892792 | 104 | < 0.3 | | | | |
| 11892752 | 105 | < 0.3 | | | | |
| 11892793 | 106 | < 0.3 | | | | |
| 11892794 | 106 | < 0.3 | | | | |
| 11892753 | 107 | < 0.3 | | | | |
| 11892755 | 107 | < 0.3 | | | | |
| 11892795 | 108 | < 0.3 | | | | |
| 11892754 | 109 | 0.6 | | | | |
| 11892796 | 110 | < 0.3 | | | | |
| 11892756 | 112 | 0.6 | | | | |
| 11892757 | 117 | < 0.3 | | | | |
| 11892762 | 119 | < 0.3 | | | | |
| 11892765 | 121 | < 0.3 | | | | |
| 11892766 | 121 | < 0.3 | | | | |
| 11892791 | 123 | < 0.3 | | | | |
| 11892790 | 130 | 0.6 | | | | |
| 11892789 | 132 | < 0.3 | | | | |
| 11892788 | 134 | < 0.3 | | | | |
| 11892787 | 139 | < 0.3 | | | | |
| 11892784 | 140 | < 0.3 | | | | |
| 11892786 | 140 | < 0.3 | | | | |
| 11892783 | 142 | < 0.3 | | | | |
| 11892785 | 142 | < 0.3 | | | | |
| 11892782 | 144 | < 0.3 | | | | |
| 11892781 | 146 | < 0.3 | | | | |
| 11892773 | 148 | < 0.3 | | | | |
| 11892770 | 151 | 0.6 | | | | |
| 11892776 | 153 | < 0.3 | | | | |
| 11892777 | 155 | < 0.3 | | | | |
| 11892778 | 156 | < 0.3 | | | | |
| 11892779 | 157 | < 0.3 | | | | |
| 11892780 | 158 | < 0.3 | | | | |
| 11892771 | 160 | < 0.3 | | | | |
| 11892769 | 161 | < 0.3 | | | | |
| 11892768 | 162 | < 0.3 | | | | |
| 11892767 | 163 | < 0.3 | | | | |

| Та | Table 1- Radon Testing Results | | | | | |
|----------|----------------------------------|-------|--|--|--|--|
| Ror | Ronald McNair Elementary School | | | | | |
| Te | Test Period: 3/3/2025 - 3/6/2025 | | | | | |
| | | | | | | |
| 11892758 | 171 | < 0.3 | | | | |
| 11892763 | 172 | < 0.3 | | | | |
| 11892764 | 172 | < 0.3 | | | | |
| 11892759 | 173 | < 0.3 | | | | |
| 11892760 | 175 | < 0.3 | | | | |
| 11892761 | 177 | < 0.3 | | | | |
| 11892797 | 208 | < 0.3 | | | | |
| 11892798 | 208 | < 0.3 | | | | |
| 11892799 | 219 | < 0.3 | | | | |
| 11892800 | 219 | < 0.3 | | | | |
| 11892747 | 100A | 0.6 | | | | |
| 11892748 | 100B | < 0.3 | | | | |
| 11892749 | 100G | 0.5 | | | | |
| 11892746 | 102B | < 0.3 | | | | |
| 11892774 | 148A | 0.5 | | | | |
| 11892775 | 148A | < 0.3 | | | | |
| 11892772 | 161A | < 0.3 | | | | |
| 11892745 | HEALTH | 0.6 | | | | |
| 11892744 | MAIN OFFICE | < 0.3 | | | | |

| | Table 2 - Summary Testing Results ≥2.0 pCi/L | | | | | | |
|-------------|--|-------------|-----------------|------------------|------------|-------------|--------|
| | Ronald McNair Elementary School | | | | | | |
| | | Те | est Period: 3/3 | 3/2025 - 3/6/202 | 5 | | |
| ≥2.0 and < | 2.7 pCi/L | ≥2.7 and < | 4.0 pCi/L | ≥4.0 and · | <8.0 pCi/l | ≥8.0 µ | oCi/L |
| Room / Area | Result | Room / Area | Result | Room / Area | Result | Room / Area | Result |
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
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| Table 3 - QC Radon Testing Results | | | | | | |
|------------------------------------|----------------------------------|--------------|--------|--|--|--|
| Ro | Ronald McNair Elementary School | | | | | |
| T | Test Period: 3/3/2025 - 3/6/2025 | | | | | |
| | | | | | | |
| Kit Number | QC Type | Room / Area | Result | | | |
| 11892794 | D | 106 | < 0.3 | | | |
| 11892753 | D | 107 | < 0.3 | | | |
| 11892766 | FB | 121 | < 0.3 | | | |
| 11892786 | FB | 140 | < 0.3 | | | |
| 11892785 | D | 142 | < 0.3 | | | |
| 11892764 | D | 172 | < 0.3 | | | |
| 11892798 | D | 208 | < 0.3 | | | |
| 11892799 | FB | 219 | < 0.3 | | | |
| 11892775 | D | 148A | < 0.3 | | | |
| 11886966 | OB | OFFICE BLANK | < 0.3 | | | |
| 11886999 | TB | TRAVEL BLANK | < 0.3 | | | |

Table 3a - Duplicate Worksheet / Data Validation Ronald McNair Elementary School

Test Period: 3/3/2025 - 3/6/2025

| Sample ID Dupli | | | | licate Conc | entrations (p | Ci/L) and C | C Checks | | | |
|--------------------------|----------|-------------|--------|-------------|-------------------------|-----------------|-------------------------|---------|--------------------------------------|---------------|
| Kit Nu | umbers | Room / Area | Higher | Lower | Check #1 (Pass/Fail) | 2x the Lower | Check #2 (Pass/Fail) | Average | Relative Percent Difference (RPD) | Check #3 |
| 11892794 | 11892793 | 106 | 0.3 | 0.3 | \checkmark | 0.6 | PASS | 0.3 | <1-pCi/L | \checkmark |
| 11892753 | 11892755 | 107 | 0.3 | 0.3 | \checkmark | 0.6 | PASS | 0.3 | <1-pCi/L | ~ |
| 11892785 | 11892783 | 142 | 0.3 | 0.3 | ~ | 0.6 | PASS | 0.3 | <1-pCi/L | > |
| 11892764 | 11892763 | 172 | 0.3 | 0.3 | \checkmark | 0.6 | PASS | 0.3 | <1-pCi/L | \checkmark |
| 11892798 | 11892797 | 208 | 0.3 | 0.3 | \checkmark | 0.6 | PASS | 0.3 | <1-pCi/L | \checkmark |
| 11892775 | 11892774 | 148A | 0.5 | 0.3 | \checkmark | 0.6 | PASS | 0.4 | <1-pCi/L | ~ |
| NOTES: | NOTES: | | | | | | Average | (pCi/L) | Warning Level | Control Level |
| QC Check #1 - Data Entry | | | | | | | < 2 | .0 | 1-pCi/L | NA |

Between 2.0 and 3.9

≥ 4.0

67% RPD

36% RPD

50% RPD

28% RPD

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

| | Toot Daried: 2/2/25 2 | |
|------------|--------------------------|--------|
| | Test Period: 3/3/25 - 3/ | /0/20 |
| Kit Numbor | Poom/Aroa | Passon |
| | NUA | |
| N/A | IN/A | N/A |
| | | |
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Attachment 2: Laboratory Reports Radon test result report for:

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|-----------------------|-----------------------|---------------|------------|
| 11892747 | 100A | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.6 ± 0.3 | 2025-03-10 |
| 11892748 | 100B | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892749 | 100G | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.5 ± 0.3 | 2025-03-10 |
| 11892750 | 101 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892746 | 102B | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892751 | 103 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892792 | 104 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892752 | 105 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892794 | 106 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892793 | 106 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892755 | 107 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892753 | 107 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892795 | 108 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892754 | 109 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.6 ± 0.3 | 2025-03-10 |
| 11892796 | 110 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892756 | 112 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.6 ± 0.3 | 2025-03-10 |
| 11892757 | 117 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892762 | 119 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892766 | 121 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892765 | 121 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892791 | 123 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892790 | 130 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | 0.6 ± 0.3 | 2025-03-10 |
| 11892789 | 132 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892788 | 134 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892787 | 139 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892786 | 140 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892784 | 140 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892783 | 142 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892785 | 142 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892782 | 144 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892781 | 146 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892773 | 148 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892775 | 148A | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892774 | 148A | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.5 ± 0.3 | 2025-03-10 |
| 11892770 | 151 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.6 ± 0.3 | 2025-03-10 |
| 11892776 | 153 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892777 | 155 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |

March 10, 2025

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|-------------|-----------------------|-----------------------|---------------|------------|
| 11892778 | 156 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892779 | 157 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892780 | 158 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892771 | 160 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892769 | 161 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892772 | 161A | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892768 | 162 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892767 | 163 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892758 | 171 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892764 | 172 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892763 | 172 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892759 | 173 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892760 | 175 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892761 | 177 | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892797 | 208 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892798 | 208 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892800 | 219 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892799 | 219 | 2025-03-03 @ 12:00 pm | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| 11892745 | HEALTH | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | 0.6 ± 0.3 | 2025-03-10 |
| 11892744 | MAIN OFFICE | 2025-03-03 @ 11:00 am | 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for: OFFICE MAIN

| lu Stalleu | Lilueu | pCI/L | Analyzed |
|-----------------------|-------------------------|---|---|
| 2025-03-03 @ 11:00 at | m 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| | 2025-03-03 @ 11:00 a | 2025-03-03 @ 11:00 am 2025-03-06 @ 11:00 am | 2025-03-03 @ 11:00 am 2025-03-06 @ 11:00 am < 0.3 |

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for: TRAVEL MAIN

| | PC1/L | Analyzeu |
|-------------------------|-------------------------|-------------------------------|
| m 2025-03-06 @ 11:00 am | < 0.3 | 2025-03-10 |
| | m 2025-03-06 @ 11:00 am | m 2025-03-06 @ 11:00 am < 0.3 |

| EM OSORE IN DOWSER-IN | IUNITER RADUN CHAMBER |
|--|--|
| CLIENT KCI TECHNOLOGIES | Job Number 2000 1560 |
| NOMINAL Conditions: Radon Conc 50.6 | pCi/L Rel. Hum <u>50.6</u> % Temp. <u>70.8</u> |
| Date Start: 12/14/24 Date Stop: 13/17/24 | 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 | |
| By 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: |
| | |
| | |
| | |

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

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

**** 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 |

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

| CLIENT KCI TECHNOLOGIC | 5. INC Job Number 2000 2919 |
|-------------------------------------|------------------------------------|
| NOMINAL Conditions: Radon Conc 7.0 | pCi/L Rel. Hum 51.4 % Temp. 79.7 F |
| Date Start: 3/1/23 Date Stop: 3/10/ | Date Start: Date Stop: |
| Time Start: 0833 Time Stop: 0833 | 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 μR/h Elevation = 820 ft

**** 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 |



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 – Testing March 3rd – March 6th, 2025

Name of Schools:

- 1. Col. Zadok Magruder HS
- 2. S. Christa McAuliffe ES
- 3. Ronald McNair ES
- 4. Montgomery Village MS
- 5. Neelsville MS

| | Date | Initials |
|----------------------------------|----------|----------|
| Radon Test Kits Deployed | 3/3/2025 | M |
| Radon Test Kits Collected | 3/6/2025 | an |
| Radon Test Kits Shipped to Lab* | 3/6/2025 | QAA |
| Radon Test Kits Received by Lab* | 3/8/2025 | |

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



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

| Site Name | Ronald McNair |
|--------------------------|--------------------|
| | Elementary School |
| Date of Test Report | 1/25/2023 |
| Round of Testing | Initial |
| | Follow-up |
| | Post Remediation |
| | 2 Year Testing |
| | 5 Year Testing |
| | HVAC Upgrade |
| | Window Replacement |
| | New Addition |
| | New Facility |
| # Rooms Tested | 41 |
| # Rooms \geq 4.0 pCi/L | 0 |
| Lowest Value | <0.3 pCi/L |
| Highest Value | 1.0 pCi/L |

MCPS RADON TESTING – EXECUTIVE SUMMARY

Project Status:

1. 5-Year Re-Testing Completed.



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

January 25, 2023

Mr. Brian Croyle Environmental Specialist Montgomery County Public Schools Gaithersburg, MD 20879

| Re: | Radon Testing Services | | |
|-----------|---------------------------------|--|--|
| | KCI Job # 122210551 | | |
| Location: | Ronald McNair Elementary School | | |
| | 13881 Hopkins Road | | |
| | Germantown, MD 20874 | | |

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 Ronald McNair Elementary School located at 13881 Hopkins Rd. Germantown, MD 20874 (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 December 19, 2022 and deployed forty-seven (47) 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 December 22, 2022 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Accustar Labs - MA for analysis by gamma-ray spectroscopy.

Accustar Labs - MA is a NRSB certified analytical laboratory for radon analysis (certification #ARL0017) located at 2 Saber Way, Ward Hill, MA 01835.

Evaluation of Testing Conditions:

These tests represent:

• Follow up to initial testing.

These tests were conducted to:

• Evaluate radon concentration levels at the facility.

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 temperatures ranged from 23°F to 55°F. Maximum sustained winds ranged from 0-18 miles per hour. Average humidity was around 75% with 0.0 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 piC/L | None | N/A | |
| <4.0 piC/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 McCleaf

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

Attachments:

A- Floor Plan with Test LocationsB- Table 1-3, Radon Test Summary SpreadsheetsC- Laboratory Analytical Results

KCI TECHNOLOGIES, INC.

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 | | | | | |
|------------------|-----------------------------------|--------|--|--|--|--|
| Ronald McNair ES | | | | | | |
| Tes | t Period: 12/19/2022 - 12/22/2022 | 2 | | | | |
| | , , ,,, | | | | | |
| Kit Number | Room / Area | Result | | | | |
| 11287023 | 1 | < 0.3 | | | | |
| 11287046 | 1 | 0.8 | | | | |
| 11287057 | 1 | < 0.3 | | | | |
| 11287053 | 2 | < 0.3 | | | | |
| 11287062 | 3 | < 0.3 | | | | |
| 11287063 | 4 | < 0.3 | | | | |
| 11287058 | 5 | < 0.3 | | | | |
| 11287072 | 5 | < 0.3 | | | | |
| 11287073 | 6 | < 0.3 | | | | |
| 11287051 | 7 | < 0.3 | | | | |
| 11287015 | 8 | 0.7 | | | | |
| 11287052 | 9 | < 0.3 | | | | |
| 11287016 | 15 | < 0.3 | | | | |
| 11287078 | 17 | < 0.3 | | | | |
| 11287066 | 22 | < 0.3 | | | | |
| 11287024 | ART ROOM | < 0.3 | | | | |
| 11287081 | ASSISTANT PRINCIPAL | 0.6 | | | | |
| 11287031 | CAFETERIA | < 0.3 | | | | |
| 11287032 | CAFETERIA | < 0.3 | | | | |
| 11287047 | COMMUNICATION CTR | < 0.3 | | | | |
| 11287008 | CONFERENCE | < 0.3 | | | | |
| 11287048 | CONTROL ROOM | < 0.3 | | | | |
| 11287056 | DUAL PURPOSE | < 0.3 | | | | |
| 11287074 | EXAM | < 0.3 | | | | |
| 11287055 | GENERAL MUSIC | 1.0 | | | | |
| 11287061 | GYM | < 0.3 | | | | |
| 11287064 | GYM | < 0.3 | | | | |
| 11287065 | GYM OFFICE | < 0.3 | | | | |
| 11287069 | HEALTH | 0.5 | | | | |
| 11287077 | HEALTH | < 0.3 | | | | |
| 11287079 | HEALTH | 0.8 | | | | |
| 11287038 | К1 | < 0.3 | | | | |
| 11287039 | К2 | < 0.3 | | | | |
| 11287033 | КЗ | < 0.3 | | | | |
| 11287040 | 7040 К4 | | | | | |
| 11287054 | 11287054 MATERIAL PREP MC | | | | | |
| 11287017 | MEDIA CENTER | < 0.3 | | | | |
| 11287049 | MEDIA STORAGE | < 0.3 | | | | |
| 11287041 | MUSIC ROOM | 0.8 | | | | |
| 11287080 | OFFICE | 0.7 | | | | |
| 11287086 | PRINCIPAL | < 0.3 | | | | |
| 11287025 | READING RESOURCE 1 | < 0.3 | | | | |

| Table 1- Radon Testing Results | | | | | |
|-----------------------------------|-----------------------------------|---|--|--|--|
| | Ronald McNair ES | | | | |
| Tes | t Period: 12/19/2022 - 12/22/2022 | 2 | | | |
| | | | | | |
| Kit Number | Kit Number Room / Area Result | | | | |
| 11287034 READING RESOURCE 1 < 0.3 | | | | | |
| 11287042 SCHOOL COUNSELOR < 0.3 | | | | | |
| 11287071 STAFF LOUNGE < 0.3 | | | | | |
| 11287050 STAFF ROOM < 0.3 | | | | | |
| 11287082 WORK ROOM < 0.3 | | | | | |

| Table 2- Radon Testing Results | | | | | | |
|-----------------------------------|--------------------------------|---------------------|--------|--|--|--|
| | Ronald McNair ES | | | | | |
| | Test Period: | 12/19/22 - 12/22/22 | | | | |
| | | | | | | |
| Kit Number | QC Type | Room / Area | Result | | | |
| 11287023 D 1 | | | | | | |
| 11287057 FB 1 | | | | | | |
| 11287072 D 5 < 0.3 | | | | | | |
| 11287069 D Health 0.5 | | | | | | |
| 11287077 FB Health < 0.3 | | | | | | |
| 11287025 D Reading Resource 1 < 0 | | | | | | |
| 11288518 | 11288518 OB OFFICE BLANK < 0.3 | | | | | |
| 11287685 | 11287685 TB TRAVEL BLANK < 0.3 | | | | | |

| Summary of Missed Locations | | | | |
|----------------------------------|-----------|--------|--|--|
| Ronald McNair ES | | | | |
| Test Period: 12/19/22 - 12/22/22 | | | | |
| | | | | |
| Kit Number | Room/Area | Result | | |
| | N/A | | | |
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| Summary of Missing, Compromised and >/= 4 piC/L Tests | | | | | |
|---|----------------------------------|--------|--|--|--|
| Ronald McNair ES | | | | | |
| | Test Period: 12/19/22 - 12/22/22 | | | | |
| | | | | | |
| Kit Number | Room/Area | Result | | | |
| | N/A | | | | |
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Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

December 28, 2022

Radon test result report for:

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------------------|----------------------|-----------------------|---------------|------------|
| 11287023 | 1 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287057 | 1 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287046 | 1 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | 0.8 ± 0.5 | 2022-12-28 |
| 11287016 | 15 | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287078 | 17 | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287053 | 2 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287066 | 22 | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287062 | 3 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287063 | 4 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287072 | 5 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287058 | 5 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287073 | 6 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287051 | 7 | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287015 | 8 | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 1:00 pm | 0.7 ± 0.5 | 2022-12-28 |
| 11287052 | 9 | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287024 | ART ROOM | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287081 | ASSISTANT PRINCIPAL | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 12:00 pm | 0.6 ± 0.5 | 2022-12-28 |
| 11287031 | CAFETERIA | 2022-12-19 @ 3:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287032 | CAFETERIA | 2022-12-19 @ 3:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287047 | COMMUNICATION CTR | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287008 | CONFERENCE | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287048 | CONTROL ROOM | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287056 | DUAL PURPOSE | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287074 | EXAM | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287055 | GENERAL MUSIC | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 12:00 pm | 1.0 ± 0.5 | 2022-12-28 |
| 11287064 | GYM | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287061 | GYM | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287065 | GYM OFFICE | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287069 | HEALTH | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 12:00 pm | 0.5 ± 0.5 | 2022-12-28 |
| 11287079 | HEALTH | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 12:00 pm | 0.8 ± 0.5 | 2022-12-28 |
| 11287077 | HEALTH | 2022-12-19 @ 5:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287038 | K1 | 2022-12-19 @ 3:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287039 | K2 | 2022-12-19 @ 3:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287033 | К3 | 2022-12-19 @ 3:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287040 | K4 | 2022-12-19 @ 3:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287054 | MATERIAL PREP MC | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 12:00 pm | < 0.3 | 2022-12-28 |
| 11287017 | MEDIA CENTER | 2022-12-19 @ 4:00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
December 28, 2022

Radon test result report for:

| Kit # | Room Id | Started | | Ended | pCi/L | Analyzed |
|----------|---------------------------|----------------|--------|-----------------------|-----------------|------------|
| 11287049 | MEDIA STORAGE | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 12:00 pm | n < 0.3 | 2022-12-28 |
| 11287041 | MUSIC ROOM | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 12:00 pm | n 0.8 ± 0.5 | 2022-12-28 |
| 11287080 | OFFICE | 2022-12-19 @ 5 | :00 pm | 2022-12-22 @ 12:00 pm | n 0.7 ± 0.5 | 2022-12-28 |
| 11287086 | PRINCIPAL | 2022-12-19 @ 5 | :00 pm | 2022-12-22 @ 12:00 pm | n < 0.3 | 2022-12-28 |
| 11287025 | READING RESOURCE 1 | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287034 | READING RESOURCE 1 | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287042 | SCHOOL COUNSELOR | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287071 | STAFF LOUNGE | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287050 | STAFF ROOM | 2022-12-19 @ 4 | :00 pm | 2022-12-22 @ 1:00 pm | < 0.3 | 2022-12-28 |
| 11287082 | WORK ROOM | 2022-12-19 @ 5 | :00 pm | 2022-12-22 @ 12:00 pm | n < 0.3 | 2022-12-28 |

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

| CLIENT KCI TECHNOLOGIES | Job Number 208343 |
|--|---|
| NOMINAL Conditions: Radon Conc 34.7 | _pCi/L Rel. Hum <u>49.4</u> % Temp. <u>69.6</u> F |
| Date Start: 12/24/22 Date Stop: 12/27/2 | Date Start: Date Stop: |
| Time Start: <u>O810</u> Time Stop: <u>O810</u> | Time Start: Time Stop: |
| Device No.'s: (5) CHAR BAGS - | Device No.'s: |
| 11285109 11285110, 11285101 | ÷ |
| THRU 11285103 | |
| Byceff | |
| 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: |
| | |
| | |
| | |

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

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

~

December 29, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for: OFFICE MAIN

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|----------|---------|----------------------|----------------------|----------------|------------|
| 11285110 | SK1 | 2022-12-24 @ 8:00 am | 2022-12-27 @ 8:00 am | 31.7 ± 2.5 | 2022-12-29 |
| 11285101 | SK2 | 2022-12-24 @ 8:00 am | 2022-12-27 @ 8:00 am | 30.1 ± 2.4 | 2022-12-29 |
| 11285103 | SK3 | 2022-12-24 @ 8:00 am | 2022-12-27 @ 8:00 am | 34.0 ± 2.7 | 2022-12-29 |
| 11285102 | SK4 | 2022-12-24 @ 8:00 am | 2022-12-27 @ 8:00 am | 30.9 ± 2.5 | 2022-12-29 |
| 11285109 | SK5 | 2022-12-24 @ 8:00 am | 2022-12-27 @ 8:00 am | 32.0 ± 2.6 | 2022-12-29 |

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 – Week 3 December Schools

Name of Schools:

- 1. Clopper Mill ES
- 2. Cold Spring ES
- 3. Fox Chapel ES
- 4. Gaithersburg HS
- 5. Longview School
- 6. North Lake Center
- 7. Ronald McNair ES
- 8. Rosemont ES
- 9. S. Christa McAuliffe ES
- 10.Spark M. Matsunaga ES
- 11.William B. Gibbs, JR. ES

| | Date | Initials |
|----------------------------------|------------|----------|
| Radon Test Kits Deployed | 12/19/2022 | BMM |
| Radon Test Kits Collected | 12/22/2022 | BMM |
| Radon Test Kits Shipped to Lab* | 12/22/2022 | BMU |
| Radon Test Kits Received by Lab* | 12/28/2022 | BMM |

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



MONTGOMERY COUNTY PUBLIC SCHOOLS RADON TESTING

Executive Summary: Ronald A. McNair Elementary School 13881 Hopkins Road, Germantown, MD 20874

| Date of Test Report: | 2/5/2019 |
|-------------------------|--------------------|
| 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: | 43 |
| # of Rooms ≥ 4.0 pCi/L: | 0 |
| Low Value: | < 0.4 |
| High Value: | 1.3 |

Project Status Initial testing complete: No further action at this time



February 5, 2019

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

Re: Radon Testing Services

Location: Ronald A. McNair Elementary School 13881 Hopkins Road, Germantown, MD 20874

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 Ronald A. McNair Elementary School, located at 13881 Hopkins Road, Germantown, MD 20874 (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 December 4, 2018 and deployed fifty-six (56) 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 December 7, 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°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

Non-Ame Jewlih

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 | | | | | |
|------------------------------------|-----------------------------------|----------------|--|--|--|
| Robert A. McNair Elementary School | | | | | |
| | Testing Period: 12/4/18 - 12/7/18 | | | | |
| Kit Number | Room / Area | Result (pCi/L) | | | |
| 3888405 | APR | <0.4 | | | |
| 3888425 | APR | 0.4 | | | |
| 3918559 | Art | <0.4 | | | |
| 3918552 | Assistant Principal | <0.4 | | | |
| 3918580 | BSM | <0.4 | | | |
| 3918554 | Conference Room | <0.4 | | | |
| 3198329 | Copier Room | <0.4 | | | |
| 3918577 | Counselor | <0.4 | | | |
| 3918319 | CR21 | <0.4 | | | |
| 3918318 | CR32 | <0.4 | | | |
| 3918545 | CR1 | <0.4 | | | |
| 3918330 | CR11 | <0.4 | | | |
| 3918546 | CR2 | <0.4 | | | |
| 3918547 | CR3 | <0.4 | | | |
| 3918548 | CR4 | <0.4 | | | |
| 3918572 | CR5 | <0.4 | | | |
| 3918573 | CR6 | <0.4 | | | |
| 3918574 | CR7 | <0.4 | | | |
| 3918575 | CR8 | <0.4 | | | |
| 3918576 | CR9 | 0.4 | | | |
| 3918558 | DPR | <0.4 | | | |
| 3918568 | GOF | <0.4 | | | |
| 3918550 | Gym | <0.4 | | | |
| 3888334 | Gym | 0.5 | | | |
| 3918549 | Gym Office | <0.4 | | | |
| 3918551 | Health | <0.4 | | | |
| 3918570 | Health Exam room | <0.4 | | | |
| 3918578 | Human Resource | <0.4 | | | |
| 3918541 | IMC | <0.4 | | | |
| 3918542 | IMC | <0.4 | | | |
| 3918543 | IMC Office | <0.4 | | | |
| 3918561 | Instrumental Music | 0.5 | | | |
| 3918566 | K1 | <0.4 | | | |
| 3918564 | K2 | <0.4 | | | |
| 3918563 | К3 | <0.4 | | | |
| 3918562 | К4 | <0.4 | | | |
| 3918327 | Kitchen | <0.4 | | | |
| 3918544 | Media Storage | <0.4 | | | |
| 3918557 | Music | <0.4 | | | |
| 3918553 | Principal | <0.4 | | | |
| 3918560 | Reading | <0.4 | | | |
| 3918550 | Staff Lounge | <0.4 | | | |
| 3918567 | Stage | 1.3 | | | |

| Radon Testing Results | | | | | | |
|------------------------------------|---------------------------------------|------|--|--|--|--|
| Robert A. McNair Elementary School | | | | | | |
| Testing Period: 12/4/18 - 12/7/18 | | | | | | |
| Kit Number | Kit Number Room / Area Result (pCi/L) | | | | | |
| 3918325 | TV Control Room | <0.4 | | | | |
| 3918307 | TV Studio | <0.4 | | | | |
| 3918555 | 3918555 Workroom <0.4 | | | | | |

| Radon Testing Results | | | | | | |
|------------------------------------|-----------------------------------|------|--|--|--|--|
| Robert A. McNair Elementary School | | | | | | |
| Те | esting Period: 12/4/18 - 12/7 | /18 | | | | |
| Kit Number | Kit Number QC Type Result (pCi/L) | | | | | |
| 3918569 | GOF (D) | <0.4 | | | | |
| 3918579 | Human Resource | <0.4 | | | | |
| 3918565 | K2 (D) | <0.4 | | | | |
| 3917328 | Kitchen (D) | <0.4 | | | | |
| 3918571 | Staff Lounge (D) | <0.4 | | | | |
| 3918556 | Workroom (D) | <0.4 | | | | |
| 3927602 | Field Blank | <0.4 | | | | |
| 3927723 | Field Blank | <0.4 | | | | |
| 3917881 | Office Blank | <0.4 | | | | |
| 3927722 | 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



Laboratory Report for:

Property Tested: Project # 04481387-1

| Intertek-PSI (VA) | MCPS Radon Survey |
|--------------------|------------------------------------|
| 2930 Eskridge Road | Ronald A. McNair Elementary School |
| Fairfax VA 22031 | Darnestown MD 20874 |

| Log Number | Device Number | | Test Expos | sure Duratio | n: | Area Te | sted | Result pCi/L |
|---------------|------------------|------------|------------|--------------|---------|-------------|-------------------------|-----------------|
| 3202603 | 3918327 | 12/04/2018 | 8:28 am | 12/07/2018 | 7:45 am | Floor First | Room Kitchen | < 0.4 |
| 3202604 | 3918328 | 12/04/2018 | 8:28 am | 12/07/2018 | 7:45 am | Floor First | Room Kitchen Duplicate | < 0.4 |
| 3202605 | 3918329 | 12/04/2018 | 8:32 am | 12/07/2018 | 7:46 am | Floor First | Room Copier Room | < 0.4 |
| 3202606 | 3918561 | 12/04/2018 | 7:00 am | 12/07/2018 | 7:00 am | Floor First | Room Instrumental Music | 0.5 |
| 3202607 | 3918562 | 12/04/2018 | 7:02 am | 12/07/2018 | 7:01 am | Floor First | Room K4 | < 0.4 |
| 3202608 | 3918563 | 12/04/2018 | 7:04 am | 12/07/2018 | 7:02 am | Floor First | Room K3 | < 0.4 |
| 3202609 | 3918564 | 12/04/2018 | 7:06 am | 12/07/2018 | 7:04 am | Floor First | Room K2 | < 0.4 |
| 3202610 | 3918565 | 12/04/2018 | 7:06 am | 12/07/2018 | 7:04 am | Floor First | Room K2 Duplicate | < 0.4 |
| 3202611 | 3918566 | 12/04/2018 | 7:10 am | 12/07/2018 | 7:05 am | Floor First | Room K1 | < 0.4 |
| 3202612 | 3918567 | 12/04/2018 | 7:12 am | 12/07/2018 | 7:06 am | Floor First | Room Stage | 1.3 |
| 3202613 | 3918568 | 12/04/2018 | 7:14 am | 12/07/2018 | 7:08 am | Floor First | Room GOF | < 0.4 |

Comment: AMENDED REPORT for 3918550 on 1-8-19 to reflect Staff Lounge.

Test Performed By: Rinzo Renthlei Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged: Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

Report Reviewed By: _

Cantin

12/08/2018

Report Approved By:

Shawn Price, Director of Laboratory Operations, 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.

Disclaimer:



Laboratory Report for:

Property Tested: Project # 04481387-1

| Intertek-PSI (VA) | MCPS Radon Survey |
|--------------------|------------------------------------|
| 2930 Eskridge Road | Ronald A. McNair Elementary School |
| Fairfax VA 22031 | Darnestown MD 20874 |

| Log Number | Device Number | | Test Expos | sure Duratio | n: | Area Te | sted | Result pCi/L |
|---------------|------------------|------------|------------|--------------|---------|-------------|---------------------------|-----------------|
| 3202614 | 3918569 | 12/04/2018 | 7:14 am | 12/07/2018 | 7:08 am | Floor First | Room GOF Duplicate | < 0.4 |
| 3202615 | 3918570 | 12/04/2018 | 7:18 am | 12/07/2018 | 7:09 am | Floor First | Room Health Exam Room | < 0.4 |
| 3202616 | 3918551 | 12/04/2018 | 7:20 am | 12/07/2018 | 7:10 am | Floor First | Room Health | < 0.4 |
| 3202617 | 3918552 | 12/04/2018 | 7:22 am | 12/07/2018 | 7:11 am | Floor First | Room Assisstant Principal | < 0.4 |
| 3202618 | 3918553 | 12/04/2018 | 7:24 am | 12/07/2018 | 7:12 am | Floor First | Room Principal | < 0.4 |
| 3202619 | 3918554 | 12/04/2018 | 7:26 am | 12/07/2018 | 7:13 am | Floor First | Room Conference Room | < 0.4 |
| 3202620 | 3918555 | 12/04/2018 | 7:28 am | 12/07/2018 | 7:15 am | Floor First | Room Workroom | < 0.4 |
| 3202621 | 3918556 | 12/04/2018 | 7:28 am | 12/07/2018 | 7:15 am | Floor First | Room Workroom Duplicate | < 0.4 |
| 3202622 | 3918557 | 12/04/2018 | 7:32 am | 12/07/2018 | 7:16 am | Floor First | Room Music | < 0.4 |
| 3202623 | 3918558 | 12/04/2018 | 7:34 am | 12/07/2018 | 7:17 am | Floor First | Room Dual Purpose | < 0.4 |
| 3202624 | 3918559 | 12/04/2018 | 7:36 am | 12/07/2018 | 7:18 am | Floor First | Room Art | < 0.4 |

Comment: AMENDED REPORT for 3918550 on 1-8-19 to reflect Staff Lounge.

Test Performed By: Rinzo Renthlei Distributed by: Intertek-PSI (VA) Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Analyz

Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

Disclaimer:

Report Reviewed By: _ Cantin

Report Approved By:

Shawn Price, Director of Laboratory Operations, 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.



Laboratory Report for:

Property Tested: Project # 04481387-1

| Intertek-PSI (VA) | MCPS Radon Survey |
|--------------------|------------------------------------|
| 2930 Eskridge Road | Ronald A. McNair Elementary School |
| Fairfax VA 22031 | Darnestown MD 20874 |

| Log Number | Device Number | | Test Expos | sure Duratio | n: | Area Te | sted | Result pCi/L |
|---------------|------------------|------------|------------|--------------|---------|-------------|--------------------|-----------------|
| 3202625 | 3918560 | 12/04/2018 | 7:38 am | 12/07/2018 | 7:19 am | Floor First | Room Reading | < 0.4 |
| 3202626 | 3918541 | 12/04/2018 | 7:40 am | 12/07/2018 | 7:20 am | Floor First | Room IMC | < 0.4 |
| 3202627 | 3918542 | 12/04/2018 | 7:42 am | 12/07/2018 | 7:21 am | Floor First | Room IMC | < 0.4 |
| 3202628 | 3918543 | 12/04/2018 | 7:44 am | 12/07/2018 | 7:22 am | Floor First | Room IMC Office | < 0.4 |
| 3202629 | 3918544 | 12/04/2018 | 7:46 am | 12/07/2018 | 7:23 am | Floor First | Room Media Storage | < 0.4 |
| 3202630 | 3918545 | 12/04/2018 | 7:48 am | 12/07/2018 | 7:24 am | Floor First | Room CR1 | < 0.4 |
| 3202631 | 3918546 | 12/04/2018 | 7:50 am | 12/07/2018 | 7:25 am | Floor First | Room CR2 | < 0.4 |
| 3202632 | 3918547 | 12/04/2018 | 7:52 am | 12/07/2018 | 7:26 am | Floor First | Room CR3 | < 0.4 |
| 3202633 | 3918548 | 12/04/2018 | 7:54 am | 12/07/2018 | 7:27 am | Floor First | Room CR4 | < 0.4 |
| 3202634 | 3918549 | 12/04/2018 | 7:56 am | 12/07/2018 | 7:28 am | Floor First | Room Gym Office | < 0.4 |
| 3202635 | 3918550 | 12/04/2018 | 7:58 am | 12/07/2018 | 7:29 am | Floor First | Room Staff Lounge | < 0.4 |

Comment: AMENDED REPORT for 3918550 on 1-8-19 to reflect Staff Lounge.

Test Performed By: Rinzo Renthlei Distributed by: Intertek-PSI (VA) Date Received: 12/08/2018 Date Logged: 12/08/2018 Date Ana

Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

Disclaimer:

Report Reviewed By: _ Cantin

Report Approved By:

Shawn Price, Director of Laboratory Operations, 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.



Laboratory Report for:

Property Tested: Project # 04481387-1

| Intertek-PSI (VA) | MCPS Radon Survey |
|--------------------|------------------------------------|
| 2930 Eskridge Road | Ronald A. McNair Elementary School |
| Fairfax VA 22031 | Darnestown MD 20874 |

| Log Number | Device Number | | Test Expos | sure Duratio | n: | Area Te | sted | Result pCi/L |
|---------------|------------------|------------|------------|--------------|---------|-------------|-------------------------------|-----------------|
| 3202636 | 3918571 | 12/04/2018 | 8:02 am | 12/07/2018 | 7:32 am | Floor First | Room Staff Lounge Duplicate | < 0.4 |
| 3202637 | 3918572 | 12/04/2018 | 8:06 am | 12/07/2018 | 7:33 am | Floor First | Room CR5 | < 0.4 |
| 3202638 | 3918573 | 12/04/2018 | 8:08 am | 12/07/2018 | 7:34 am | Floor First | Room CR6 | < 0.4 |
| 3202639 | 3918574 | 12/04/2018 | 8:10 am | 12/07/2018 | 7:35 am | Floor First | Room CR7 | < 0.4 |
| 3202640 | 3918575 | 12/04/2018 | 8:12 am | 12/07/2018 | 7:36 am | Floor First | Room CR8 | < 0.4 |
| 3202641 | 3918576 | 12/04/2018 | 8:14 am | 12/07/2018 | 7:37 am | Floor First | Room CR9 | 0.4 |
| 3202642 | 3918577 | 12/04/2018 | 8:16 am | 12/07/2018 | 7:38 am | Floor First | Room Councelor | < 0.4 |
| 3202643 | 3918578 | 12/04/2018 | 8:18 am | 12/07/2018 | 7:40 am | Floor First | Room Human Resource | < 0.4 |
| 3202644 | 3918579 | 12/04/2018 | 8:18 am | 12/07/2018 | 7:40 am | Floor First | Room Human Resource Duplicate | < 0.4 |
| 3202645 | 3918580 | 12/04/2018 | 8:22 am | 12/07/2018 | 7:41 am | Floor First | Room BSM | < 0.4 |
| 3202646 | 3918307 | 12/04/2018 | 8:24 am | 12/07/2018 | 7:42 am | Floor First | Room TV Studio | < 0.4 |

Comment: AMENDED REPORT for 3918550 on 1-8-19 to reflect Staff Lounge.

Test Performed By: Rinzo Renthlei Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged:

12/08/2018

Date Analyzed: 12/08/2018 Date Reported: 12/17/2018

Report Reviewed By: _

Cantin

Report Approved By:

Shawn Price, Director of Laboratory Operations, 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.

Disclaimer:



Laboratory Report for:

Property Tested: Project # 04481387-1

| Intertek-PSI (VA) | MCPS Radon Survey |
|--------------------|------------------------------------|
| 2930 Eskridge Road | Ronald A. McNair Elementary School |
| Fairfax VA 22031 | Darnestown MD 20874 |

| Log Number | Device Number | | Test Expos | sure Duratio | n: | Area Tested | pCi/L |
|---------------|------------------|------------|------------|--------------|---------|----------------------------------|-------|
| 3202647 | 3918325 | 12/04/2018 | 8:26 am | 12/07/2018 | 7:43 am | Floor First Room TV Control room | < 0.4 |
| 3202648 | 3918330 | 12/04/2018 | 8:38 am | 12/07/2018 | 7:49 am | Floor Second Room CR11 | < 0.4 |
| 3202649 | 3918318 | 12/04/2018 | 8:40 am | 12/07/2018 | 7:50 am | Floor Second Room CR 32 | < 0.4 |
| 3202650 | 3918319 | 12/04/2018 | 8:42 am | 12/07/2018 | 7:51 am | Floor Second Room CR 21 | < 0.4 |
| 3202651 | 3917881 | 12/04/2018 | 6:00 am | 12/07/2018 | 6:00 pm | Floor NA Room Office Blank | < 0.4 |
| 3202652 | 3927722 | 12/04/2018 | 6:00 am | 12/07/2018 | 6:00 pm | Floor NA Room Transit Blank | < 0.4 |
| 3202653 | 3927602 | 12/04/2018 | 7:00 am | 12/07/2018 | 8:00 am | Floor NA Room Field Blank | < 0.4 |
| 3202654 | 3927723 | 12/04/2018 | 7:00 am | 12/07/2018 | 8:00 am | Floor NA Room Field Blank | < 0.4 |

Comment: AMENDED REPORT for 3918550 on 1-8-19 to reflect Staff Lounge.

Test Performed By: Rinzo Renthlei Distributed by: Intertek-PSI (VA) Date Received: 12/08/2018 12/08/2018 Date Analyzed: 12/08/2018 Date Reported: 12/17/2018 Date Logged:

Report Reviewed By: _

Report Approved By: Shawn Price, Director of Laboratory Operations, 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.

Cantin

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.

Disclaimer:



NELAC NY 11769 NRPP 103216 AL NRSB ARL0017

| Laboratory Report for: | Property Tested: Project # 04481387-1 |
|------------------------|---------------------------------------|
| Intertek-PSI (VA) | MCPS Radon Survey |
| 2930 Eskridge Road | Ronald A. McNair Elementary School |
| Fairfax VA 22031 | MD 20874 |
| | |
| | |

| Log Number | Device Number | | Test Expos | sure Duration: | | Area Tested | Result pCi/L |
|---------------|------------------|------------|------------|----------------|-------|----------------------|-----------------|
| 2405269 | 3888405 | 12/04/2018 | 8:34 am | 12/07/2018 7: | 47 am | Floor First Room APR | < 0.4 |
| 2405270 | 3888425 | 12/04/2018 | 8:36 am | 12/07/2018 7: | 48 am | Floor First Room APR | 0.4 |

Comment: A copy of this report was emailed to Intertek-PSI (VA).

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged:

Date Analyzed: 12/10/2018 Date Reported: 01/02/2019

Disclaimer:

Report Reviewed By: ______

Report Approved By: ___ Shawn Price, Director of Laboratory Operations, 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.



NELAC NY 11769

NRPP 103216 AL

NRSB ARL0017

Radon in Air

EPA Method #402-R-92-004 Liquid Scintillation NRPP Device Code 8088 NRSB Device Code 12193

Laboratory Report for:

Property Tested: Project # 04481387-1

Intertek-PSI (VA) 2930 Eskridge Road Fairfax VA 22031 MCPS Radon Survey Ronald A. McNair Elementary School MD 20874

| Log Number | Device Number | | Test Expos | sure Duration: | | Area Tested | Result pCi/L |
|---------------|------------------|------------|------------|----------------|-------|----------------------|-----------------|
| 2405268 | 3888334 | 12/04/2018 | 8:00 am | 12/07/2018 7:3 | 30 am | Floor First Room Gym | 0.5 |

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

Distributed by: Intertek-PSI (VA)

Date Received: 12/08/2018 Date Logged:

d: 12/10/2018

Date Analyzed: 12/10/2018 Date Reported: 01/04/2019

Disclaimer:

Report Reviewed By: _____

Report Approved By: Shawn Price, Director of Laboratory Operations, 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.



Radon in Air

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

NRPP 105011 AL NRSB ARL0007 Ohio RL41

Laboratory Report for:

Property Tested:

| Intertek-PSI (VA) | MCPS Radon Survey | | |
|--------------------|------------------------|--|--|
| 2930 Eskridge Road | 4514 Taylorsville Road | | |
| Fairfax VA 22031 | Dayton OH 45424 | | |

| Log Number | Device Number | | Test Expos | sure Duratio | n: | 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: Unknow | n | | | | |
|---|---|---|--|--|-----------------------|
| 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 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | \sim | |
| Report Review | ed By: | the Kartin | Report Approved By: | XX2 | |
| Disclaimer: | \subset | \sum | Shawn Price, Dire | ctor of Laboratory Oper | ations, AccuStar Labs |
| The uncertainty of this radon measure concentrations, sample collection tech | ment is ~+/- 10 %. Fa niques and operation o | ctors contributing to of the dwelling. Interfe | uncertainty include statistical variations, d erence with test conditions may influence | aily and seasonal variat the test results. | ions in radon |
| This report may only be transforred to | a third party in its optir | oty Applytical regulte | relate to the samples AS RECEIVED B | | Posulte shown on |

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

| CLIENT Intertal - PS | I | Job Number 187732 | |
|--|----------------|-------------------|---|
| NOMINAL Conditions: Radon Conc 33.6 | pCi/L Rel. Hum | 49.1 % Temp. 20.1 | F |
| Date Start: 12/7/18 Date Stop: 12/10/18 | P Date Start: | Date Stop: | |
| Time Start: <u>0947</u> Time Stop: <u>0947</u> | _ Time Start: | Time Stop: | |
| Device No.'s: (10) Char. Cans- | Device No.'s:_ | | |
| 3926831 thro 3926840 | | | |
| | | 6 | |
| G2 Laft | | | |
| Date Start: Date Stop: | Date Start: | Date Stop: | |
| Time Start: Time Stop: | Time Start: | Time Stop: | |
| Device No.'s: | Device No.'s:_ | 24 | |
| | | | |
| | | | |
| 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 μR/h Elevation = 820 ft



Chain of Custody

Project Name: MCPS Radon Survey 2018

Name of Schools:

- 1. Grosvenor Center (Luxmanor ES)
- 2. Montrose Center
- 3. Gibbs ES
- 4. Westbrook ES
- 5. Hadley Farms (Resnik ES)
- 6. Kingsview MS
- 7. Longview School
- 8. Lynnbrook Center
- 9. Magruder HS
- 10. McAuliffe ES
- 11. McNair ES

- 12. Mill Creek Towne ES
- 13. Martin Luther King MS
- 14. Montgomery Village MS
- 15. Great Seneca Creek ES
- 16. Quince Orchard HS
- 17. Redland MS
- 18. North Bethesda MS
- 19. Spark Matsunaga ES
- 20. Whetstone ES
- 21. Wood Acres ES

| | Date | Initials |
|----------------------------------|-------------|----------|
| Radon Test Kits Deployed | 12/04/2018 | NL |
| Radon Test Kits Sampled | 12/07/2018 | ML |
| Radon Test Kits Shipped to Lab* | 12/07/2018 | NL |
| Padon Tost Kits Paceived by Lah* | 12/08/2018; | 111 |
| | 12/09/2018 | NL |

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



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

MCPS RADON TESTING

Executive Summary: Ronald McNair Elementary School

| Date of Test Report: | 3/4/2016 (Rev 1) |
|---------------------------|------------------|
| Round of Testing: | Initial |
| | Follow-up |
| | Post Remediation |
| | |
| # Rooms Tested: | 44 |
| # Rooms \geq 4.0 pCi/L: | 0 |
| | |
| Low Value: | < 0.3 |
| High Value: | 1.4 |

Project Status: Initial testing completed; no further action at this time.



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

March 4, 2016 (Rev 1)

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

| Re: | Radon Testing Services | | |
|-----------|---------------------------------|--|--|
| | KCI Job # 12146341.20 | | |
| Location: | Ronald McNair Elementary School | | |
| | 13881 Hopkins Road | | |
| | Germantown, MD 20874 | | |

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 Ronald McNair Elementary School, located at 13881 Hopkins Road in Germantown, Maryland 20874 (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 December 21, 2015 and deployed fifty-eight (58) 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 December 24, 2015 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 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 piC/L | None | n/a | |
| <4.0 piC/L | See Attachment B | | |
| Notes: | | | |

D- Duplicate sample

All 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.

Mr. Richard Cox March 4, 2016 Page 4

Sincerely,

James Makler

James M. Moulsdale 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 | | | | |
|---------------------------------|--------------|----------|--|--|
| Ronald A Mchair ES | | | | |
| 1 est Period: 12/21/15-12/24/15 | | | | |
| Kit Number Room / Area Pocult | | | | |
| 7710610 | | 0.6 | | |
| 7710646 | | <u> </u> | | |
| 7710607 | | < 0.3 | | |
| 7710609 | | < 0.3 | | |
| 7710621 | | 0.5 | | |
| 7710566 | | <u> </u> | | |
| 7710611 | | < 0.3 | | |
| 7710651 | | 0.0 | | |
| 7710536 | | 1 3 | | |
| 7710624 | CLASS 3 | < 0.3 | | |
| 7710623 | | 0.0 | | |
| 7710628 | | < 0.3 | | |
| 7710629 | CLASS 6 | 0.0 | | |
| 7710632 | CLASS 7 | 0.0 | | |
| 7710657 | CLASS 8 | 0.0 | | |
| 7710633 | CLASS 9 | 0.0 | | |
| 7710661 | | < 0.3 | | |
| 7710642 | | < 0.3 | | |
| 7710640 | GUIDANCE | 0.0 | | |
| 7710604 | GUIDANCE 2 | < 0.7 | | |
| 7710625 | GYM | 1 1 | | |
| 7710626 | GYM | 1.1 | | |
| 7710644 | HEALTH | 0.7 | | |
| 7710643 | INSTRUMENT | 1 4 | | |
| 7710662 | K1 | < 0.3 | | |
| 7710659 | K2 | < 0.3 | | |
| 7710613 | K3 | 0.7 | | |
| 7710602 | K4 | < 0.3 | | |
| 7710647 | MAIL | < 0.3 | | |
| 7710616 | MEDIA | 0.8 | | |
| 7710601 | MEDIA | 0.8 | | |
| 7710612 | MEDIA OFFICE | 0.7 | | |
| 7710618 | MUSIC | < 0.3 | | |
| 7710645 | OFFICE | 0.9 | | |
| 7710636 | P1 | < 0.3 | | |
| 7710635 | P2 | < 0.3 | | |
| 7710637 | P3 | < 0.3 | | |
| 7710634 | P4 | < 0.3 | | |
| 7710631 | P5 | < 0.3 | | |
| 7710639 | P6 | < 0.3 | | |
| 7710649 | PRINCIPAL | < 0.3 | | |
| 7710620 | READ1 | 0.6 | | |
| 7710603 | READ2 | < 0.3 | | |
| 7710606 | SERVICE | 0.8 | | |
| 7710627 | STAFF | 0.7 | | |
| 7710610 | STAGE | < 0.3 | | |

| Radon Testing Results | | | | |
|--------------------------------|--|--|--|--|
| Ronald A Mcnair ES | | | | |
| Test Period: 12/21/15-12/24/15 | | | | |
| | | | | |
| Room / Area | Result | | | |
| TV STUDIO | < 0.3 | | | |
| | Radon Testing Results Ronald A Mcnair ES est Period: 12/21/15-12/24/15 Room / Area TV STUDIO | | | |

| Radon Testing Results | | | | |
|-----------------------|--------------------------------|--------|--|--|
| Ronald A Mcnair ES | | | | |
| | Test Period: 12/21/15-12/24/15 | | | |
| Kit Number | QC Type | Result | | |
| 7710622 | D (CLASS 1) | 0.9 | | |
| 7710660 | D (CLASS 13) | < 0.3 | | |
| 7710665 | D (CLASS 9) | 0.8 | | |
| 7710638 | D (K1) | < 0.3 | | |
| 7710608 | D (P6) | < 0.3 | | |
| 7710615 | D (TV STUDIO) | < 0.3 | | |
| 7710614 | FB (CLASS 22) | < 0.3 | | |
| 7710630 | FB (CLASS 6) | < 0.3 | | |
| 7710641 | FB (K3) | < 0.3 | | |
| 7710617 | FB (MEDIA) | < 0.3 | | |
| 7710406 | OB (0) | < 0.3 | | |

ATTACHMENT C

Laboratory Analytical Results

January LABORATORY ANALYSIS 12, REPORT **

Radon test result report for: RONALD A MCNAIR ES MAIN

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|-------------------|----------------------|-----------------------|---------------|------------|
| 7710406 | 0 | 2015-12-21 @ 6:00 pm | 2015-12-24 @ 1:00 pm | < 0.3 | 2015-12-28 |
| 7710619 | ART | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | 0.6 ± 0.3 | 2015-12-28 |
| 7710646 | ASST PRINCIPAL | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710607 | CAFETRIA | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710609 | CAFETRIA | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710621 | CLASS 1 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.6 ± 0.3 | 2015-12-28 |
| 7710622 | CLASS 1 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.9 ± 0.3 | 2015-12-28 |
| 7710566 | CLASS 13 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710660 | CLASS 13 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710611 | CLASS 17 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-28 |
| 7710651 | CLASS 2 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.8 ± 0.3 | 2015-12-28 |
| 7710614 | CLASS 22 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-28 |
| 7710536 | CLASS 22 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | 1.3 ± 0.4 | 2015-12-28 |
| 7710624 | CLASS 3 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-28 |
| 7710623 | CLASS 4 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.8 ± 0.3 | 2015-12-28 |
| 7710628 | CLASS 5 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710629 | CLASS 6 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.6 ± 0.4 | 2015-12-29 |
| 7710630 | CLASS 6 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710632 | CLASS 7 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.6 ± 0.3 | 2015-12-28 |
| 7710657 | CLASS 8 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.6 ± 0.3 | 2015-12-28 |
| 7710633 | CLASS 9 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.7 ± 0.3 | 2015-12-28 |
| 7710665 | CLASS 9 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.8 ± 0.3 | 2015-12-28 |
| 7710661 | CONFERENCE | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710642 | DUAL | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710640 | GUIDANCE | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.7 ± 0.3 | 2015-12-29 |
| 7710604 | GUIDANCE 2 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710625 | GYM | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 1.1 ± 0.3 | 2015-12-28 |
| 7710626 | GYM | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 1.0 ± 0.3 | 2015-12-28 |
| 7710644 | HEALTH | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | 0.7 ± 0.4 | 2015-12-29 |
| 7710643 | INSTRUMENT | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | 1.4 ± 0.5 | 2015-12-29 |
| 7710662 | K1 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710638 | K1 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710659 | K2 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710613 | K3 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | 0.7 ± 0.4 | 2015-12-29 |
| 7710641 | K3 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710602 | K4 | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710647 | MAIL | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |

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January LABORATORY ANALYSIS 12, REPORT **

Radon test result report for: RONALD A MCNAIR ES MAIN

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|--------------|----------------------|-----------------------|---------------|------------|
| 7710616 | MEDIA | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | 0.8 ± 0.3 | 2015-12-28 |
| 7710601 | MEDIA | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | 0.8 ± 0.3 | 2015-12-28 |
| 7710617 | MEDIA | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-28 |
| 7710612 | MEDIA OFFICE | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | 0.7 ± 0.3 | 2015-12-28 |
| 7710618 | MUSIC | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710645 | OFFICE | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | 0.9 ± 0.4 | 2015-12-29 |
| 7710636 | P1 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-29 |
| 7710635 | P2 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-29 |
| 7710637 | P3 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-29 |
| 7710634 | P4 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-29 |
| 7710631 | P5 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-28 |
| 7710639 | P6 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-29 |
| 7710608 | P6 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 12:00 pm | < 0.3 | 2015-12-29 |
| 7710649 | PRINCIPAL | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710620 | READ 1 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.6 ± 0.4 | 2015-12-29 |
| 7710603 | READ 2 | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710606 | SERVICE | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.8 ± 0.4 | 2015-12-29 |
| 7710627 | STAFF | 2015-12-21 @ 3:00 pm | 2015-12-24 @ 11:00 am | 0.7 ± 0.4 | 2015-12-29 |
| 7710610 | STAGE | 2015-12-21 @ 4:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-29 |
| 7710605 | TV STUDIO | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-28 |
| 7710615 | TV STUDIO | 2015-12-21 @ 2:00 pm | 2015-12-24 @ 11:00 am | < 0.3 | 2015-12-28 |

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December LABORATORY ANALYSIS 29, REPORT **

Radon test result report for: TRANSIT DEC 14 2015 NONE

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|------------------|-----------------------|-----------------------|-------|------------|
| 7704395 | TRANSIT 1 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706508 | TRANSIT 10 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706510 | TRANSIT 11 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706511 | TRANSIT 12 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706505 | TRANSIT 13 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704371 | TRANSIT 14 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706506 | TRANSIT 15 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704381 | TRANSIT 16 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704399 | TRANSIT 17 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704390 | TRANSIT 18 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704396 | TRANSIT 2 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704364 | TRANSIT 3 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704370 | TRANSIT 4 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7704368 | TRANSIT 5 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706524 | TRANSIT 6 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706526 | TRANSIT 7 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706518 | TRANSIT 8 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |
| 7706516 | TRANSIT 9 | 2015-12-13 @ 10:00 am | 2015-12-15 @ 10:00 am | < 0.3 | 2015-12-16 |

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| Decembe | LABORATORY ANALYSIS |
|---------|---------------------|
| 23, | DEDODT ** |
| 2015 | KEPUKI ** |

Radon test result report for: MCPS

| Kit # | Room Id | Started | Ended | pCi/L | Analyzed |
|---------|---------|----------------------|----------------------|-------|------------|
| 7706380 | 101 | 2015-12-18 @ 9:00 am | 2015-12-21 @ 9:00 am | 25.2 | 2015-12-23 |
| 7706381 | 102 | 2015-12-18 @ 9:00 am | 2015-12-21 @ 9:00 am | 26.5 | 2015-12-23 |
| 7706208 | 103 | 2015-12-18 @ 9:00 am | 2015-12-21 @ 9:00 am | 27.7 | 2015-12-23 |
| 7705132 | 104 | 2015-12-18 @ 9:00 am | 2015-12-21 @ 9:00 am | 28.6 | 2015-12-23 |
| 7706366 | 105 | 2015-12-18 @ 9:00 am | 2015-12-21 @ 9:00 am | 26.5 | 2015-12-23 |
| 7706211 | 106 | 2015-12-18 @ 9:00 am | 2015-12-21 @ 9:00 am | 26.1 | 2015-12-23 |

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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 173224 |
|--|--|
| NOMINAL Conditions: Radon Conc 26.9 | pCi/L Rel. Hum <u>49.6</u> % Temp. <u>69.9</u> F |
| Date Start: $12/18/15$ Date Stop: $12/21/15$ | Date Start: Date Stop: |
| Time Start: <u>0929</u> Time Stop: <u>0929</u> | Time Start: Time Stop: |
| Device No.'s: 7705132,7706208, | Device No.'s: |
| 7706211,7706366, | |
| 7706380, 7706381 | |
| F3 Loft | |
| 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: |
| 5 6 | |
| 1 | |
| | - |

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



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

Chain of Custody

Project Name: MCPS Radon Phase II

School Names:

- 1. Bannonckburn ES
- 2. Walt Whitman HS
- 3. Walter Johnson HS
- 4. North Chevy Chase ES
- 5. Piney Branch ES
- 6. Forest Knolls ES
- 7. Newport Mill MS
- 8. Broad Acres ES
- 9. Briggs Chaney MS
- 10. Blair G. Ewing Center

- 11. Sherwood HS
- 12. Hadley Farms
- 13. S. Christa McAuliffe ES
- 14. Ronald A. McNair ES
- 15. MLK MS
- 16. Ashburton ES
- 17. Bradley Hills ES
- 18. Flora M. Singer ES
- 19. Woodlin ES
- 20. Montgomery Knolls ES

- 21. Fairland ES
- 22. Cannon Road ES
- 23. Richard Montgomery HS
- 24. Brooke Grove ES
- 25. Belmont ES
- 26. Emory Grove
- 27. Clarksburg HS
- 28. Clarksburg ES
- 29. John T. Baker MS

DateInitialsRadon Test Kits Deployed12/21/2015Radon Test Kits Collected12/24/2015Radon Test Kits Shipped to Lab*12/24/2015Radon Test Kits Received by Lab*12/28/2015

*All samples sent to Air Check, Inc., 1936 Butler Bridge Road, Mills River, NC 28758