

RADON SCREENING SURVEY – FOLLOW-UP WYNGATE ELEMENTARY SCHOOL

9300 Wadsworth Drive, Bethesda, Maryland 20817

EXECUTIVE SUMMARY

Date of Test Report:	4/15/16 Follow-Up
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	<0.4
High Value:	<0.4
Confirmed Rooms \geq 4.0 pCi/L US EPA Action Level	0

Summary of Sampling Events \geq 4.0 pCi/L

Room	Result (pCi/L) 3/2/16 Initial	Result (pCi/L) 4/15/16 Follow-Up	Average Result (pCi/L)
9	--- Missing	<0.4	<0.4



MCPS RADON TESTING

Executive Summary: Wyngate Elementary School

Date of Test Report:	4/15/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	1
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.4
High Value:	< 0.4

Project Status:

Retesting completed; no further action at this time.



April 15, 2016

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

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

Location: Wyngate Elementary School
9300 Wadsworth Drive
Bethesda, MD 20817

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 Wyngate Elementary School, located at 9300 Wadsworth Drive in Bethesda, Maryland 20817 (subject site).

Scope of Services:

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

KCI visited the site on March 14, 2016 and deployed three (3) activated charcoal (AC) radon test kits. KCI deployed radon test kits in frequently-occupied ground contact rooms, and other areas, (if applicable) in accordance with AARST guidance. A floor plan map of the building with the test locations is included as Attachment A of this report.

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

KCI returned to the site on March 17, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to AccuStar Labs for analysis by gamma-ray spectroscopy. Accustar Labs is a NRSB certified analytical laboratory for radon analysis (certification # ARL0007) located at 929 Mount

Zion Road, Lebanon, Pennsylvania.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,



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

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

ATTACHMENT A

Floor Plan With Test Locations

ATTACHMENT B

Radon Test Summary Spreadsheet

Table Notes:

AC- Activated Charcoal

ACI- Air Chek, Inc.

D- Duplicate

FB- Field Blank

KCI- KCI Technologies, Inc.

OB- Office Blank*

PM- Project Manager

QC- Quality Control

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

Radon Testing Results		
Wyngate ES		
Test Period: 03/14/16-03/17/16		
Kit Number	Room / Area	Result
3029046	9	<0.4

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Wyngate ES		
Test Period: 03/14/16-03/17/16		
Kit Number	QC Type	Result
3029044	D (9)	<0.4
3029045	FB (9)	<0.4

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

Wyngate ES
9300 Wadsworth Drive
Bethesda MD 20817

Log Number	Device Number	Test Exposure Duration:	Area Tested	Result (pCi/L)
3017496	3029044	03/14/2016 12:51 pm 03/17/2016 8:45 am	Unit 9 Second Floor	<0.4
3017497	3029045	03/14/2016 12:51 pm 03/17/2016 8:44 am	Unit 9 Second Floor	<0.4
3017498	3029046	03/14/2016 12:51 pm 03/17/2016 8:44 am	Unit 9 Second Floor	<0.4

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By: Grace Heubling

Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

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



AccuStar Labs
 11 Awt Street
 Medway MA 02053
 888-480-8812
 www.accustarlabs.com

Radon Device Type Open Face Canister

Send Written Report To:

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

Site Tested:

Site Name: Wyngate ES
 Address: 9300 Wadsworth Dr.
 Address: Bethesda
 City / Town: Bethesda
 State/Province Postal Code: MD 20817
 Test Country: Montgomery County
 Project Number: 12146341

Contact Information:

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

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room	Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	9044		9	2		78	3/14/16	12:51	3/17/16	08:45	
	9045		9	2				12:51		08:44	
	9046		9	2				12:51		08:44	

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS Radon Phase 12 Office Blank

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

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By: Grace Heubling

Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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Radon Device Type Open Face Canister

Send Written Report To:

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

Site Tested:

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

Contact Information:

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

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room	Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3029151		0	1	OFFICE	70°	3/14/16	9:30AM	3/17/16	9:30AM	

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested: Project # 12146341

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS Radon Phase 12 Office Blank

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

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By: Grace Heubling

Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

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Radon Device Type Open Face Canister

Send Written Report To:

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

Site Tested:

Site Name: KCI OFFICE
 Address: 936 RIDGE BROOK RD.
 Address: [Blank]
 City / Town: SPARKS
 State/Province Postal Code: MD 21152
 Test Country: Montgomery County
 Project Number: 12146341

Contact Information:

Contact: Tehsin Aurangabadwala
 Telephone: 410-891-1726
 Technician: [Blank]
 Cert. Number: [Blank]
 Signature: [Blank]

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room	Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3029152		0	1	OFFICE	40°	3/15/16	9:30 AM	3/18/16	9:30 AM	

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS
Transit Blanks

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

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

Distributed by: KCI Technologies, Inc.

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

Report Reviewed By: Christie Bates

Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

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

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

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

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

Test Site Info

Name of Building/Project or Owner: Transit
 Site Address: Transit
 City: _____ State: _____ Zip: _____ County: _____
 Projects Contact Name: Don Coale Phone: _____ Email: _____

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

Multi-Page Report Y-N

LAB USE ONLY	
Wgt. Gain	pCi/L
	LOF
	LOF
	LOF
	LOF

Detector Serial#	ROOM NAME & NUMBER - LOCATION OF DETECTOR IN ROOM (indicate duplicates and blanks)	Floor	Start Date	Start Time Include AM/PM	Stop Date	Stop Time Include AM/PM
3028953	Transit	1	1/19/16	approx: 00pm 1/23/16		9:30am
8955	Transit	1	1/19/16			
8954	Transit	1	1/19/16			
8997	Transit	1	1/19/16			

1/27/2016

KCI Technologies, Inc.

3010588 3028953 ACPC275B EXP12/31/2018

Structure Type: (circle one or more) Basement - Crawlspace - Slab on Grade - Other
Test Purpose: (Circle all that apply) Initial Screening - Follow Up Test - Post Mitigation - Real Estate - Other
Building Type: (Circle One) Residential - Non Residential
 Private Day Care - Private School
 Day Care in Public School - Public School

Both Placed by and Retrieved by signatures are required
 Canisters placed by _____ # _____
 Canisters retrieved by _____ # _____

Send Results To: _____
 Company Name: KCI Tech
 Address: 936 Ridgebrook
 City: Sparks State: MD Zip: 21152
 Phone: 410-599-3826
 EMAIL Results to: James.Mouldale@kci.com
 Owner waives confidentiality by signing here _____ Date 1/27/16
 Attention: James Mouldale

Were general operating conditions maintained?	Yes - No	explain if NO
Were closed building conditions maintained?	Yes - No	explain if NO
Normal Temp.	Yes - No	
Normal Humidity	Yes - No	
Windy Y-N	Rainy Y-N	

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

Mailing: PO Box 990 Jonestown, PA 17038
 Shipping: 929 Mt Zion Road, Lebanon, PA 17046
 800-523-4964 fax 717-274-5662
 NEHA 10511AL NRSB ARL 0007

TCS INDUSTRIES, INC.

(717) 657-7032

RADON GAS DETECTION

www.radondetek.com

4326 Crestview Road, Harrisburg, PA 17112

James Mouldale
KCI
936 Ridgebrook Rd.
Sparks, MD 21152

April 04, 2016

Dear Mr. Mouldale:

The spike exposure data were:

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

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

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

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

Sincerely,



Carl H. Distenfeld, CHP

TCS Radon Chamber NRSB CHM 0002

NRPP 10511AL
NRSB ARL0007

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

Laboratory Report for:

Property Tested:

KCI Technologies
936 Ridgebrook Rd
Sparks MD 21152

MCPS
Radon Spike Sample Laboratory Results


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

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

Distributed by: KCI Technologies, Inc.

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

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

Report Reviewed By: 

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

Disclaimer:

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Send Written Report To:

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

Site Tested:

Site Name: MCRS
 Address: 850 Hagerford Dr
 Address:
 City / Town: Rockville
 State/Province Postal Code: MD 20850
 Test Country: Montgomery County
 Project Number: 12146341

Contact Information:

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

Lab Use Only	Device Number	Building Number	Unit Number	Floor	Name of Room	Temp	Start Date mm/dd/yyyy	Start Time hh:mm am / pm	Stop Date mm/dd/yyyy	Stop Time hh:mm am / pm	Lab Use Only
	3029166	1		1	1		4/4/16	11:10am	4/6/16	11:15am	
	3029214	1		1	2						
	3029217	1		1	3						
	3029218	1		1	4						
	3029219	1		1	5						
	3029220	1		1	6						



MCPS RADON TESTING

Executive Summary: Wyngate Elementary School

Date of Test Report:	3/2/2016
Round of Testing:	Initial Follow-up Post Remediation
# Rooms Tested:	48
# Rooms \geq 4.0 pCi/L:	0
Low Value:	< 0.3
High Value:	1.5

Project Status:

Initial testing completed; missing or compromised samples need re-test.



March 2, 2016

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

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

Location: Wyngate Elementary School
9300 Wadsworth Drive
Bethesda, MD 20817

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 Wyngate Elementary School, located at 9300 Wadsworth Drive in Bethesda, Maryland 20817 (subject site).

Scope of Services:

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

KCI visited the site on February 1, 2016 and deployed 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 February 4, 2016 to retrieve the radon sampling test kits. KCI shipped all radon tests via overnight delivery to Airchek, Inc. for analysis by gamma-ray spectroscopy. Airchek, Inc. is a NRSB certified analytical laboratory for radon analysis (certification # ARL1402) located at 1936

Butler Bridge Road, Mills River, North Carolina.

Evaluation of Testing Conditions:

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

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

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

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

Results:

The results of the radon test analysis indicated the following:

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

Notes:
D- Duplicate sample

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

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

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

Sincerely,



James M. Mouldale
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		
Wyngate Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	Room / Area	Result
7730139	1	0.6
7730140	2	< 0.3
7730141	3	0.9
7730143	4	0.7
7730144	5	0.6
7730145	6	< 0.3
7730157	7	0.7
7730156	8	0.7
7730153	10	< 0.3
7730154	11	0.6
7730152	12	< 0.3
7730151	14	0.7
7730150	16	0.6
7730146	18	0.6
7730147	20	< 0.3
7730148	22	0.6
7730149	23	0.6
7730101	28	< 0.3
7730118	29	< 0.3
7730113	30	0.7
7730116	31	< 0.3
7730112	32	0.7
7730115	34	< 0.3
7730110	35	0.6
7730121	38	0.5
7730125	101	0.7
7730126	101	0.8
7730127	105	0.9
7730130	108	0.8
7730129	109	1.0
7730131	115	1.1
7730132	118	0.9
7730134	119	0.9
7730133	120	1.0
7730135	121	1.0
7730136	124	1.4
7730137	126	1.3
7730138	130	1.5
7730104	28A	0.6
7730107	28B	0.5
7730108	28C	0.7
7730109	28D	< 0.3
7730114	30A	0.7
7730117	31A	< 0.3
7730155	* 9 (Missing)	-
7730122	GYM	0.7

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Wyngate Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	Room / Area	Result
7730123	GYM	< 0.3
7730124	GYM A	< 0.3
7730120	TVA	0.8
7730119	TVB	0.6

Table Note:

* Missing or Compromised Sample

Radon Testing Results		
Wyngate Elementary School		
Test Period: 02/01/16-02/04/16		
Kit Number	QC Type	Result
7730128	D (105)	0.6
7730102	D (28)	0.6
7730105	D (28A)	0.9
7730142	D (3)	0.9
7730111	D (35)	< 0.3
7730103	FB (28)	< 0.3
7730106	FB (28A)	< 0.3
7729850	OB (0)	< 0.3

Table Note:

* Missing or Compromised Sample

ATTACHMENT C

Laboratory Analytical Results

February 23, 2016
LABORATORY ANALYSIS REPORT **

Radon test result report for:
**WYNGATE ELEMENTARY SCHOOL
MAIN**

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7729850	0	2016-02-01 @ 3:00 pm	2016-02-04 @ 11:00 am	< 0.3	2016-02-09
7730139	1	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730153	10	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730125	101	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730126	101	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.8 ± 0.3	2016-02-08
7730127	105	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.9 ± 0.3	2016-02-08
7730128	105	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730130	108	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.8 ± 0.3	2016-02-08
7730129	109	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	1.0 ± 0.4	2016-02-08
7730154	11	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730131	115	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	1.1 ± 0.4	2016-02-08
7730132	118	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.9 ± 0.3	2016-02-08
7730134	119	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.9 ± 0.3	2016-02-08
7730152	12	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730133	120	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	1.0 ± 0.3	2016-02-08
7730135	121	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	1.0 ± 0.4	2016-02-08
7730136	124	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	1.4 ± 0.4	2016-02-08
7730137	126	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	1.3 ± 0.4	2016-02-08
7730138	130	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	1.5 ± 0.4	2016-02-08
7730151	14	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730150	16	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730146	18	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730140	2	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730147	20	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730148	22	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730149	23	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730101	28	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730102	28	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730103	28	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730104	28A	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730105	28A	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.9 ± 0.3	2016-02-08
7730106	28A	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730107	28B	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.5 ± 0.3	2016-02-08
7730108	28C	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730109	28D	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730118	29	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730141	3	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.9 ± 0.3	2016-02-08

February 23, 2016 **LABORATORY ANALYSIS REPORT** **

Radon test result report for:
WYNGATE ELEMENTARY SCHOOL
MAIN

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7730142	3	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.9 ± 0.3	2016-02-08
7730113	30	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730114	30A	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730116	31	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730117	31A	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730112	32	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730115	34	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730110	35	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730111	35	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730121	38	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.5 ± 0.3	2016-02-08
7730143	4	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730144	5	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08
7730145	6	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730157	7	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730156	8	2016-02-01 @ 10:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730155	9	@	@		
7730122	GYM	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.7 ± 0.3	2016-02-08
7730123	GYM	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730124	GYM A	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	< 0.3	2016-02-08
7730120	TVA	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.8 ± 0.3	2016-02-08
7730119	TVB	2016-02-01 @ 9:00 am	2016-02-04 @ 7:00 am	0.6 ± 0.3	2016-02-08

February 23, 2016
LABORATORY ANALYSIS REPORT

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

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

February
15,
2016

****LABORATORY ANALYSIS
REPORT****

Spike Sample Laboratory Results

Radon test result report for:
MCPS

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

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

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

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT KCF Technologies Inc. Job Number 173704

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

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

Time Start: 0926 Time Stop: 0926 Time Start: _____ Time Stop: _____

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

7718281, 7718282, 7718291, _____

7718288, 7718289, 7718273 _____

ε3 Left

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

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

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

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

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

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

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



Radon Test Kit Chain of Custody

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

Name of School/Facility:

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

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

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



Radon Test Kit Chain of Custody

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

Name of School/Facility:

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

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

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