ADDENDUM #1 LEAD SCREENING
(#2223-10 HVAC IMPROVEMENTS)

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

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Richard Clavet
Cheshire Public Schools
29 Main Street
Cheshire CT 06410

11/9/2022

LEAD XRF PRE-RENOVATION SCREENING
CHESHIRE HIGH SCHOOL – 525 SOUTH MAIN STREET, CHESHIRE CT
HVAC IMPROVEMENT PROJECT
CS# 206-595, 11/8/2022, PAGE 1 OF 6

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Attachments:

- XRF data sheets (2 pages)
- Site Reference/Scope of Work Drawings (1 page)
- XRF quality evaluation sheet (1 page)

Report Distribution:

Richard Clavet rclavet@cheshire.k12.ct.us

Cc: Victor Sandoval – Cheshire Public Schools (via email vsandoval@cheshire.k12.ct.us)
Daniel J. Bombero, Jr dbombero@cheshirect.org

File Location:

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INTRODUCTION

EXECUTIVE SUMMARY:

Lead Based Paint (as defined by CT DPH and EPA regulations) was not detected within the scope of this inspection. The possible traces of lead are below the XRF detection limits and therefore to compliance with OSHA regulations in CFR 29.1926.62 before any renovation or similar disturbance, the contractor must conduct an assessment including personal air sampling test results. See recommendations.

SITE DESCRIPTION:

The Cheshire High School is a two-story building with a total area of about 229,061 sq ft constructed of steel and masonry. There are two stories of classrooms and offices, the lower level of which includes custodial work areas, recreational areas, the boiler room, shop areas, gymnasium, and the auditorium. The original building was constructed in 1951-1955 totaling about 59,516 sq ft. In 1956, 1961, 1971 their additions put on totaling about 170,000 sq ft. In 1975 a portable building totaling 800 sq ft was added.

PURPOSE AND SCOPE OF INSPECTION:

Lead XRF Pre-Renovation Screening as directed by Rich Clavet. We understand that there are plans to remove existing heating ventilators at the subject school. It is our understanding that the renovation plans include the removal of the existing ventilator units, existing metal louvers, associated piping, portion of existing ceilings and flooring. We understand that this work is to take place in the follow classrooms, 43, 45, 47, 49, 51, 53, 55, 88, 90, 92 and 93. We understand that you would like ChemScope to conduct the required Lead XRF Pre-Renovation Screening as the building was constructed before 1978 prior to the start of any work.

No other materials or areas were within the scope of this inspection.

QUALIFICATIONS:

The Inspection was conducted by:

Ziyang Wang, CT DPH Certified DPH Lead Inspector/Risk Assessor #002275,
Radiation Safety Training, RMD 1/29/15.

Chem Scope's DPH lead license # is CC000164.

INTRODUCTION (CONT)

METHOD OF TESTING: Spectrum Analyzer XRF (x-ray fluorescence). Instruments used: Viken PB200i, Serial # 2902. The unit source (Cobalt 57) for unit 2902 was installed February 2021. The XRF detects paint in all layers down to the painted substrate. In other words, if lead paint is painted over with new paint, the lead paint is still detected by this procedure. When paint is covered with metal or plastic trim such as siding or by carpet, the lead paint is usually not detectable. This instrument is registered with the State of Connecticut Dept. of Energy and Environmental Protection and is Generally Licensed under the NRC. This is one of the two methods which are approved under the CT Dept. of Public Health (DPH) regulations. This is a non-destructive test.

TEST PARAMETERS FOR XRF TESTING USING THIS INSTRUMENT: XRF readings of 1.0 mg/cm^2 or higher are lead-based paint.

XRF CALIBRATION CHECK: Standard Reference Material (SRM) paint film nearest to 1.0 mg/cm^2 within the National Institute of Standards and Technology (NIST) SRM is used to calibrate the XRF. Calibration Readings are taken at the beginning and end of a job and every four (4) hours during the job with three (3) readings per set. The expiration date of the standard used is 7/1/20.

QUALITY CONTROL PROCEDURES: The XRF is used in accordance with Manufacturer's Performance Characteristics Sheet and instructions. See test data attached for details. Ten (or if <10, then the total number of tests conducted) testing combinations for re-testing from each unit are selected and checked in either 15 second or 60 second readings.

STATEMENT ON ACCURACY: The XRF Calibration checks were acceptable with each of the three (3) readings before, during (if applicable) and after the testing between 0.7 mg/cm^2 and 1.3 mg/cm^2. See attached XRF data sheets for documentation of proper calibration check sequence.

REPORT CONVENTIONS: Rooms are sometimes given arbitrary numbers to avoid ambiguity. Please refer to the enclosed schematic drawings of the site. Samples are referenced by the side of the building they are facing, as indicated on the drawings. Side A is the street side (front), Side B is the left side, Side C is the rear and Side D is the right side.

INSPECTION REPORT SYNOPSIS

LOCATION NAME AND ADDRESS: Cheshire High School
525 South Main Street, Cheshire CT

INSPECTION DATE(S): 11/8/2022

XRF Testing Results: *The following surface(s) and/or component(s) contained a toxic level of Lead based paint (at or above 1.0 mg/cm^2 as defined in CT DPH regulations 19a-111-1 through 11 and HUD guidelines as measured on site by an X-ray fluorescence analyzer):*

No Lead Based Paint Detected

The following surfaces contained less than 1.0 mg/cm^2 of lead, subject to OSHA regulations only:

Component/Description	Location	Defective?
Multi-color 9x9 and 12x12 floor tile	Throughout the scope	No
White wooden ventilator case	Room 93	No
Red metal ventilator case	Room 47	No
Green metal windowsill	Throughout the scope	No

Dust, Water and Soil Sampling Results: Not included as part of this work.

NOTES:

Defective Surface as defined by CT DPH regulations 19a-111-1 through 11 which means peeling, flaking, chalking, scaling or chipping paint; or, paint over crumbling, cracking or falling plaster, or plaster with holes in it; paint over a defective or deteriorating substrate; paint that is damaged in any manner such that a child can get paint from the damaged area.

OSHA 1926.62 Definition: Lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds. OSHA regulates any detectable amount of lead.

EPA/HUD Definition: Lead-based paint means paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

CT DPH Definition: A toxic level of lead is "when present in a dried paint on or in a residential dwelling contains equal to or greater than 0.50 percent lead by dry weight, or equal to or greater than 1.0 milligrams lead per square centimeter"

Not all painted surfaces were tested. Consequently, if a surface was not tested assume it contains Lead until proven otherwise. See attached data sheets for a list of surfaces tested.

RECOMMENDATIONS

The OSHA lead-in-construction standard (29 CFR 1926.62) was intended to apply to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending upon on the method of removal and other workplace conditions. Since these conditions can vary greatly, the lead-in-construction standard was written to require exposure monitoring to ensure that employee exposures do not exceed the action level, by doing an assessment.

OSHA 1926.62 (worker protection): Work that disturbs surfaces or components that contain lead must be done according to OSHA regulation 1926.62. Each employer who has an operation covered by 1926.62 shall initially determine if any employee may be exposed to lead at or above the Action Level (AL) and must make sure that employees are not exposed above the Permissible Exposure Limit (PEL). Currently, the AL is set at 30 micrograms of lead per cubic meter of air (µg/m3) and the PEL is 50 µg/m3. At a minimum the following is required of employers whose employees are handling lead or are in the area where lead is being disturbed.

1. Train employees in the dangers of lead and to lead safe work practices including proper hygiene practices
2. Maintain Records

RECOMMENDATIONS (CONT)

As a basis of initial determination OSHA requires the employer to monitor employee exposures and to base initial determinations on the employee exposure monitoring results and:

- Any information, observations, or calculations which would indicate employee exposure to lead
- Any previous measurements of airborne lead
- Any employee complains of symptoms which may be attributable to exposure to lead.

Until the employer performs an employee exposure assessment the employer shall provide employees with interim protection including but not limited to appropriate respiratory protection, appropriate personal protective equipment; clean change areas; hand washing facilities, and training.

Where the employer has previously monitored for lead exposures, and the data were obtained within the past 12 months during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer's current operations, the employer may rely on such earlier monitoring.

Monitoring for the initial determination may be limited to a representative sample of the exposed employees who the employer reasonably believes are exposed to the greatest airborne concentrations of lead in the workplace.

Where the employer has objective data, demonstrating that a particular product or material containing lead or a specific process, operation or activity involving lead cannot result in employee exposure to lead at or above the (AL) during processing, use, or handling, the employer may rely upon such data instead of implementing initial monitoring.

ChemScope, Inc. could help with exposure monitoring as needed.

Sincerely,

Ziyang Wang

Ziyang Wang

Lead Inspector/Risk Assessor

ChemScope Inc. **LEAD INSPECTION DATA FORM FOR XRF- COVER PAGE** XRF Data Form L1-1 (10/10/14)

Site Name: Cheshire High School Date of Inspection: 11/8/22

Site Address: 525 South Main Street, Cheshire, CT CS# 206-595

Customer Name: - Dan Marseglia - Cheshire Public Schools

Customer Address: 29 Main Street , Cheshire CT 06410

Work Area: Classrooms 43, 45, 47, 49, 51, 53, 55, 88, 90, 92, and 93 Page 1 of 2

Site Description: Two-story building with a total of about 229,061SF constructed of steel and masonry Year of Construction: 1951-1955

Name of Individual Doing Testing: Ziyang Wang CT DPH Lic# 002275.

CO-57 Date Source Installed: 2/2021 Software version # N/A Serial # 2902

Test #		Clock Time	NIST Calibration Standard	Results QM (mg/CM2)
1		8:20 am	NIST SRM 2573 Red	1.0
2		8:20 am	NIST SRM 2573 Red	0.9
3		8:20 am	NIST SRM 2573 Red	1.1
32		11:05 am	NIST SRM 2573 Red	1.0
33		11:05 am	NIST SRM 2573 Red	1.0
34		11:05 am	NIST SRM 2573 Red	1.0
			NIST SRM 2573 Red	
			NIST SRM 2573 Red	
			NIST SRM 2573 Red	
4		8:21 am	Blank	0.0
5		8:21 am	Blank	0.0
6		8:21 am	NIST SRM 2570 White (Blank)	0.0
35		11:06 am	NIST SRM 2570 White (Blank)	0.0
36		11:06 am	Blank	0.0
37		11:06 am	Blank	0.0

Note: each entry represents a single test on the surface indicated.

- Acceptance limits for calibration are 0.7-1.3.
- 1.0 mg/cm^2 or higher = lead based paint (LBP)
- **All values run under Quick Mode (QM), unless noted otherwise under comments above.**
- **Calibration std SRM 2573 has 1.0 mg/cm^2 of lead, expiration of std is 7/1/20.**
- **DEF under comments means the surface has defective lead based paint**

INSPECTOR SIGNATURE/Date/REVIEWED BY/Date: 11/8/22 11/9/22

ChemScope Inc. **LEAD INSPECTION DATA FORM FOR XRF** XRF Data Form L1-1 (10/10/14)

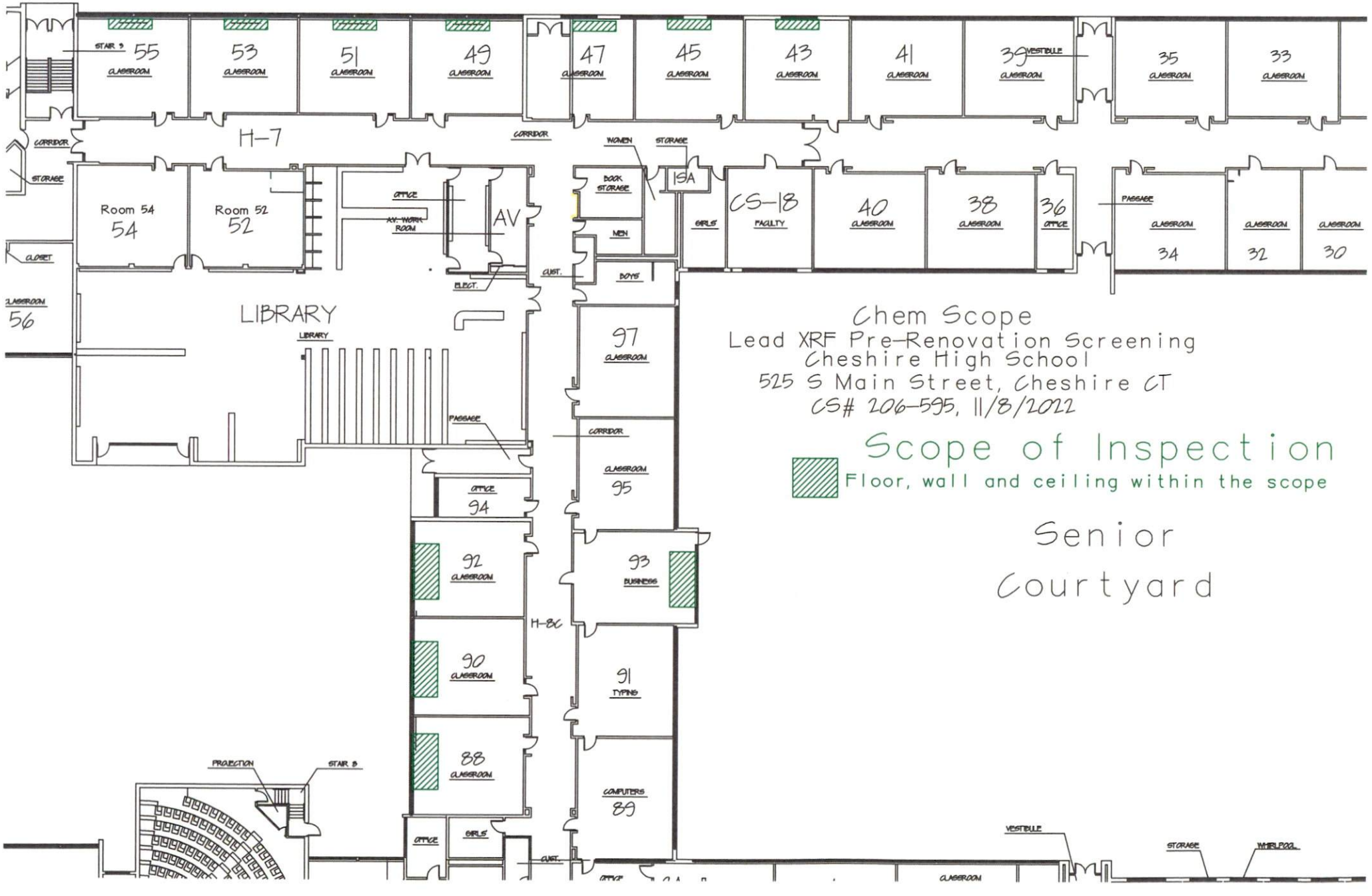
Site Name: **Cheshire High School** Date of Inspection: 11/8/22

Site Address: **525 South Main Street, Cheshire, CT** CS# 206-595

Work Area: **Classrooms 43, 45, 47, 49, 51, 53, 55, 88, 90, 92, and 93** Page 2 of 2

Test # / Side		Int/Ext	Room #	Component	Defective (Y/N)	Color	Substrate	Results QM (mg/CM2)	LBP (Y/N)	
7	B	Int	Room 76	Floor	N	Tan	9x9 tile	0.3	N	
8	"		"	"	"	"	"	0.1		QC
9	"		"	Radiator case		White	Metal	0.0		
10	"		"	"		"	"	0.0		QC
11	"		"	Ventilator case		Lt green	Plywood	0.0		
12	"		"	"		"	"	0.0		QC
13	"		"	Ceiling		White	1x1 CT	0.0		
14	"		"	"		"	"	0.0		QC
15	A		"	Wall		"	CB	0.0		
16	"		"	"		"	"	0.0		QC
17	C		"	CT grid		Black	Metal	0.0		
18	"		"	"		"	"	0.0		QC
19	"		"	Beam		"	"	0.0		
20	B		"	~~Ventilator case~~ JW 11/8/22		~~White~~ JW 11/8/22	"	0.0		QC
21	"		Rm 93	Ventilator case		White	Wood	0.1		
22	"		"	"		"	"	0.1		QC
23	"		"	Beam		"	Metal	0.0		
24	"		"	"		"	"	0.0		QC
25	"		"	Ceiling		"	"	0.0		
26	"		"	"		"	"	0.0		QC
27	D		Rm 43	Floor		Dk gray	9x9 tile	0.0		
28	"		"	Wall		White	CB	0.0		
29	"		Rm 47	Floor		Lt White	12x12 tile	0.3		
30	"		"	Ventilator case		Red	Metal	0.1		
31	D	↓	Rm 49	Window sill	↓	Dk Green	"	0.1	↓	

Signature: _____ Date: 11/8/22


Chem Scope
Lead XRF Pre-Renovation Screening
Cheshire High School
525 S Main Street, Cheshire CT
CS# 206-595, 11/8/2022
Scope of Inspection
Floor, wall and ceiling within the scope
Senior
Courtyard
55 CLASSROOM
53 CLASSROOM
51 CLASSROOM
49 CLASSROOM
47 CLASSROOM
45 CLASSROOM
43 CLASSROOM
41 CLASSROOM
39 CLASSROOM
35 CLASSROOM
33 CLASSROOM
H-7
CORRIDOR
STAIR 3
STORAGE
Room 54
54
Room 52
52
OFFICE
AV-WORK ROOM
AV
ELECT.
CLOSET
CLASSROOM
56
LIBRARY
LIBRARY
PASSAGE
OFFICE
94
92 CLASSROOM
90 CLASSROOM
88 CLASSROOM
H-8C
PROJECTION
STAIR 3
OFFICE
GIRLS
CUST.
WOMEN
STORAGE
BOOK STORAGE
MEN
BOYS
CUST.
97 CLASSROOM
CORRIDOR
CLASSROOM 95
93 BUSINESS
91 TYPING
COMPUTERS 89
ISA
GIRLS
CS-18 FACULTY
40 CLASSROOM
38 CLASSROOM
36 OFFICE
PASSAGE
CLASSROOM 34
CLASSROOM 32
CLASSROOM 30
VESTIBULE
STORAGE
WHIRLPOOL
CLASSROOM

EVALUATING THE QUALITY OF XRF:

Site Name: Cheshire High School
Site Address: 525 South Main Street, Cheshire CT

CS# 206-595
Date:11/8/2022

Location	Original Reading	Retest Reading	Square of Original Reading	Square of Retest Reading
1. Room 90 - Floor - Side B	0.3	0.1	0.09	0.01
2. Room 90 - Radiator case - Side B	0.0	0.0	0.00	0.00
3. Room 90 - Ventilator case - Side B	0.0	0.0	0.00	0.00
4. Room 90 - Ceiling - Side B	0.0	0.0	0.00	0.00
5. Room 90 - Wall - Side A	0.0	0.0	0.00	0.00
6. Room 90 - Ceiling tile grid - Side C	0.0	0.0	0.00	0.00
7. Room 90 - Beam - Side B	0.0	0.0	0.00	0.00
8. Room 93 - Ventilator case - Side B	0.0	0.0	0.00	0.00
9. Room 93 - Beam - Side B	0.1	0.1	0.01	0.01
10. Room 93 - Ceiling - Side B	0.0	0.0	0.00	0.00
Sum of ten squared averages ("C"):			0.10	0.02
		"C" times 0.0072 ("D"):	0.00072	0.00014
		"D" plus 0.032 ("E"):	0.03272	0.032144
		Square root of "E" ("F"):	0.18089	0.179287479
		"F" times 1.645 (Retest Tolerance Limit):	**0.2976**	0.2949
Average of the ten XRF Readings:			0.04	0.02
		Absolute difference of the two averages:	**0.0222**	