

**ADDENDUM #1 - LEAD SCREENING
#2223-12 REGENERATOR ERV INSTALLATION**

ChemScope INDUSTRIAL HYGIENE • ENVIRONMENTAL CHEMISTRY

15 Moulthrop Street, North Haven CT 06473-3686 • Phone (203) 865-5605 • www.chem-scope.com

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
CHS REGENERATOR REPLACEMENT PROJECT
CS# 207-776, 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 Daniel J. Bombero, Jr. We understand that there are plans to remove/replace existing regenerator units and ductwork at the subject school. It is our understanding that the renovation plans include the removal of the existing ductwork from rooms CS-38, CS-39, CS-41, CS-42, CS-43 Boys Room, CS-44 Girls Room, and CS-45 Mechanical Room, as well as removal of other mechanical and electrical components from CS-45 Mechanical Room. We understand that you would like ChemScope to conduct the required asbestos pre-renovation inspection 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.

This investigation and the information provided in this report depend partly on background information provided by the client. This report is intended for the use of the client. The scope of services performed may not be appropriate for other users and any use of this report by third parties is at their sole risk. This report is intended to be used in its entirety. No excerpts may be taken to be representative of this report.

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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/cm² or higher are lead-based paint.

XRF CALIBRATION CHECK: Standard Reference Material (SRM) paint film nearest to 1.0 mg/cm² 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/cm² and 1.3 mg/cm². 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.

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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/cm² 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/cm² of lead, subject to OSHA regulations only:

Component/Description	Location	Defective?
Black/dark gray metal condensate pump	CS-45	Yes
Light gray metal power panel	CS-45	No
Black metal beam	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.

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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 ($\mu\text{g}/\text{m}^3$) and the PEL is 50 $\mu\text{g}/\text{m}^3$. 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

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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



Lead Inspector/Risk Assessor

Site Name: Cheshire High School Date of Inspection: 11/8/22Site Address: 525 South Main Street, Cheshire, CT CS# 207-776Customer Name: - Dan Marseglia - Cheshire Public SchoolsCustomer Address: 29 Main Street, Cheshire CT 06410Work Area: Rooms CS-38, CS-39, CS-41, CS-42, CS-43 Boys Rm, CS-44 Girls Rm and CS-45 Page 1 of 2Site Description: Two-story building with a total area of about 229,061 SF constructed of steel and masonry. Year of Construction: 1951-1955Name of Individual Doing Testing: Ziyang Wang CT DPH Lic# 002275CO-57 Date Source Installed: 2/2021 Software version # MA Serial # 2902

Test #	Clock Time	NIST Calibration Standard	Results QM (mg/cm ²)
1	7:05	NIST SRM 2573 Red	1.0
2	7:05	NIST SRM 2573 Red	1.0
3	7:15	NIST SRM 2573 Red	0.9
19	8:09	NIST SRM 2573 Red	1.0
20	8:09	NIST SRM 2573 Red	1.0
21	8:09	NIST SRM 2573 Red	1.0
		NIST SRM 2573 Red	
		NIST SRM 2573 Red	
		NIST SRM 2573 Red	
4	7:16	Blank	0.0
5	7:16	"	0.0
6	7:16	NIST SRM 2570 White (Blank)	0.0
22	8:10	NIST SRM 2570 White (Blank)	0.0
23	8:10	Blank	0.0
24	8:10	"	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/cm² 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/cm² 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: Zi / 11/8/22 On Site 11/8/2022

Chem Scope

Lead XRF Pre-Renovation Screening

Cheshire High School

525 South Main Street, Cheshire CT

CS#207-776, 11/8/2022

CS-44

CS-41 Scope of Inspection

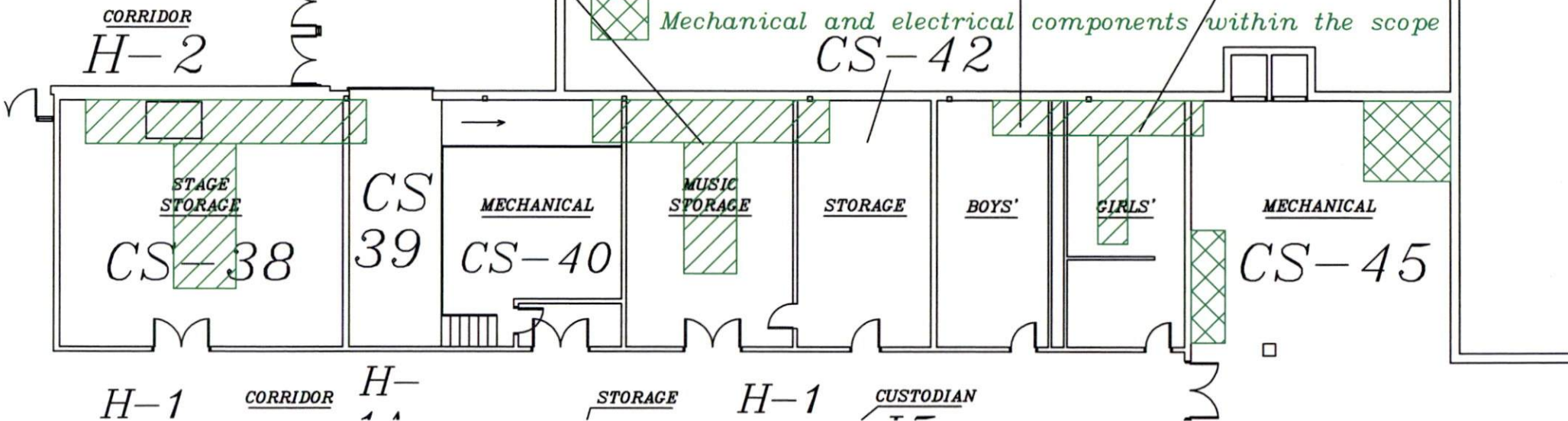
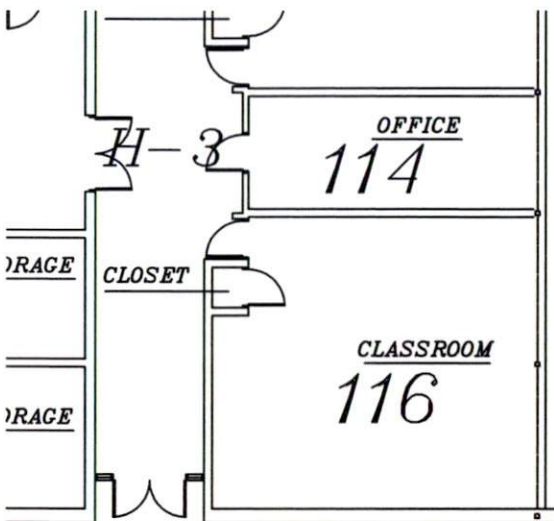


Ductwork and areas around within the scope



Mechanical and electrical components within the scope

CS-42



EVALUATING THE QUALITY OF XRF:

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

CS# 207-776
 Date:11/8/2022

Location	Original Reading	Retest Reading	Square of Original Reading	Square of Retest Reading
1. CS-45 - Condensate pump - Side C	0.3	0.2	0.09	0.04
2. CS-45 - Power panel - Side B	0.2	0.2	0.04	0.04
3. CS-45 - Wood panel base - Side B	0.0	0.0	0.00	0.00
4. CS-44 - 2x2 ceiling tile - Side C	0.0	0.0	0.00	0.00
5. CS-41 - Wall - Side B	0.0	0.0	0.00	0.00
6. CS-40 - Beam - Side A	0.0	0.1	0.00	0.01
Sum of ten squared averages ("C"):			0.13	0.09
	"C" times 0.0072 ("D"):		0.000936	0.00065
	"D" plus 0.032 ("E"):		0.032936	0.032648
	Square root of "E" ("F"):		0.18148	0.180687576
	"F" times 1.645 (Retest Tolerance Limit):		0.2985	0.2972
Average of the ten XRF Readings:			0.08	0.08
	Absolute difference of the two averages:		0.0000	