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SURVEYING & TESTING
RISK MANAGEMENT | PROJECT MANAGEMENT

Lead Based Paint Inspection Report

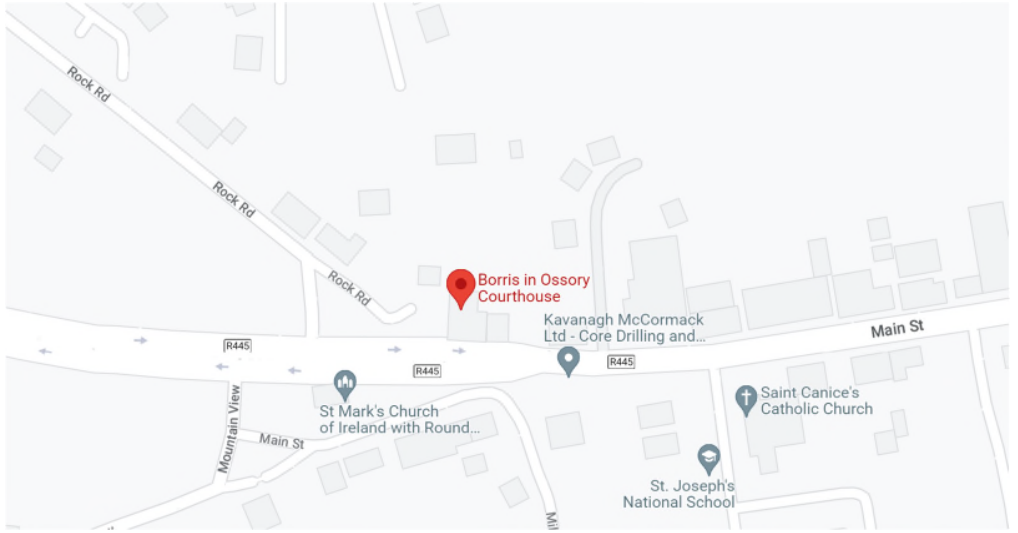
Site Address	Old Courthouse Borris-in-Ossory Co. Laois
Site Location	
Client	Name: Laois County Council Áras an Chontae JFL Avenue Portlaoise R32 EHP9 Contact: Ken Morley Instructing Party: Howley Hayes Architects, Patrick Tyrrell
Survey Dates	21/02/23
Issue Date	22/02/23
Surveyor(s)	John Kelleher, About Safety Ltd.

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1.0 Executive Summary

About Safety Ltd. was contracted to provide a lead-based paint survey of the Old Courthouse, Borris in Ossory, Co. Laois.

Summary of our findings.

Lead was used to make some kinds of paint up until the mid-1960s i.e. for windows, doors and other woodwork as well as for some metal items, like radiators. A few minor uses continued until the 1980's.

As a consequence, lead based paint was identified in the Courthouse to the original windows, doors, skirting boards and associated components throughout the building. Lead based paint was identified in the metal fire fronts in some rooms.

Due to the dilapidation of the building the paint has deteriorated and is flaking in many areas. The survey report gives a detailed representation of the various areas sampled and the associated results. It is recommended that all original painted components be treated as lead containing as it is difficult to distinguish between each and every component.

No lead based paint was identified in the walls, stairway surfaces and other similar painted surfaces tested.

The building was used as council offices and some local refurbishment was evident in the main building where new flush doors, door frames, skirting boards and architraves tested negative. The door and window components in the single storey extension also tested negative.

Lead containing materials constitute a particular risk within the meaning of the Safety Health and Welfare at Work (Construction) Regulations, 2013.

The information provided in this report may be used by the client or their agents to make decisions regarding lead-based paint strategies prior to refurbishment and or demolition.

With this in mind they must be specifically addressed in both the preliminary health and safety plan by the Project Supervisor for Design and in the Health and Safety Plan by the Project Supervisor for Construction.

The testing was to identify if lead paint is present in the building and if this lead content is in excess of 1.0 mg/cm² by XRF, which is the threshold value for identifying positive lead-based paint hazards using this method. The instrument used was a Niton XL2 700 XRF Analyser.

There are no safe levels for exposure to lead. Those surfaces that do not contain lead-based paint at or above the regulatory standard may still pose a hazard if disturbed. Therefore, for levels below 1.0 mg/cm² sanding, abrading etc., should be avoided and controlled, and suitable precautions implemented in the work areas affected. Therefore, what constitutes lead-based paint does not relieve contractors from performing lead-based exposure assessments on their employees and should not be interpreted as lead free.

Lead safe work practices should always be used where lead-based paint has been identified and if those surfaces are disturbed by the proposed works. It is the responsibility of the contractor appointed for the works to decide on the precautions to be taken for the removal and disposal of the lead-based paint components identified.

Confirmation on the landfilling and/or disposal of materials containing lead-based paint where identified should be sought from the local authority, and operator of the proposed landfill site, by the contractor responsible for the removal and/or disposal of lead-based paints.

2.0 Introduction

This lead-based paint inspection report presents data that describes the areas from which the paint samples were obtained in the building, as well as results for each sample analysed.

3.0 Site Description

<i>Scope of Works:</i>	Proposed refurbishment.
<i>Structural Details:</i>	2 storey building of stone construction. Built circa 1825 – 1830
<i>External Aspects:</i>	Stone facades with natural quarry slates on pitched roofs. Single storey extension to west wing.
<i>Internal Aspects:</i>	Concrete and timber floors. Lime plaster render to walls. Lat and plaster ceilings. Heating by electrical storage heaters and ranges.

4.0 Inspection Protocol and Sampling Procedures

XRF analysers are used to quantify the lead content in a tested surface area. Results are reported in milligrams (mg) per square centimeter (cm).

As part of this assessment, a visual survey of the property and structure was conducted and an X-Ray fluorescence (XRF) analyzer instrument was used to identify the presence of lead containing materials in representative samples throughout the building. Each sample was individually logged onto the XRF analyzer and later downloaded into a field data sheet. Sample locations were described on the field data sheet.

The XRF analyzer runs a self-diagnostic test weekly ensuring that it is calibrated correctly. The device is calibrated before and after field use ref: Niton Lead Paint Standard P/N500-934.

5.0 Legislation in Ireland

The National Authority for Occupational Safety and Health have in the **2011 Code of Practice for the Safety Health and Welfare at Work (Chemical Agents) Regulations, 2001** set an OELV for Lead and compounds is 0.15 mg/m³. The Authority recommends in the Code of Practice that exposure levels should be maintained well below the OELV and should always be as low as reasonably practicable. The Authority also set the action level of lead in air at 0.075mg/m³ and if this level is met or exceeded then health surveillance should be provided.

The Safety Health and Welfare at Work (Chemical Agents) Regulations, 2001 , deals specifically with lead and its compounds. Lead is one of the few workplace contaminants to be given a Binding Biological Limit Value and exposure to lead may result in mandatory health surveillance (ref: Schedule 2, Regulation 10).

The Safety, Health and Welfare at Work (General Application) Regulations, 2007, S.I No.299 of 2007. This legislation includes legal requirements concerning personal protective equipment and manual handling provisions as this would be a concern for some activities involving lead.

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The Safety, Health and Welfare at Work Act, 2005 details all legal responsibilities of the employer to an employee while they are at work, in order to safeguard their health and safety and to ensure that they come to no undue harm while at work. In particular, that the employee is not exposed to hazards such as lead while at work by ensuring that there is appropriate provision of Personal Protective Equipment (PPE) to reduce exposure, where workplace controls and the hierarchy, do not.

6.0 Method of Analysis and Reporting Practices

Area data sheets providing XRF results for all components tested can be found in Appendix A. Paint-chip sampling was not required for this project.

Determinations:

Lead-based paint is present on any surface that is tested and found to contain lead equal or in excess of 1.0 milligrams per square centimeter or equal to or in excess of 0.5% by weight. Less than 1.0mg/cm² is regarded as lead free by the method used and is recorded as <LOD (less than the limit of detection).

7.0 Disclaimers

This is About Safety Ltd. report of a visual inspection, and X-Ray Fluorescence (XRF) analysis of the readily accessible surfaces in the building. The results and material conditions noted within this report were accurate at the time of the inspection and in no way reflect the conditions on the site after the date of inspection.

8.0 Recommendations for Working with Lead-based Paints

It is a specific legislative requirement for employers to complete an assessment of the risk to the health of employees and others effected by working with lead.

Typical control measures to prevent/minimise lead exposure include:

- Wet methods;
- Air monitoring if lead exposure is likely to be significant;
- Medical surveillance for employees exposed to lead;
- Provision of suitable and sufficient information, instruction and training regarding use of lead and possible associated health effects;
- Providing and maintaining a high standard of cleanliness and hygiene;
- Personal protective equipment (PPE) / respiratory protective equipment (RPE).

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8.1 Types of work and workplaces with potential to result in significant exposure

Lead work where there is liable to be significant exposure to lead (unless the employer provides adequate controls).	Examples of industries and processes where such work could be carried out.
Lead dust, fumes and vapours. High-temperature lead work (above 500°C) e.g. lead smelting, melting, refining, casting and recovery processes, lead burning, welding and cutting.	Lead smelting and refining; casting of certain non-ferrous metals, e.g. gun metal battery grids, leaded steels manufacture, scrap metal and wire-patenting processes, burning of lead coated and painted plant and surfaces in demolition work; ship-building, breaking and repairing; chemical industry; radiator repair.
Work with lead compounds which give rise to lead dust in air e.g. any work activity involving a wide variety of lead compounds.	<ul style="list-style-type: none"> • Manufacture of lead-acid batteries, paints and colours, lead compounds, rubber products, fire assay, i.e. the use of lead oxides for the assay of precious metals by the process of cupellation; certain mixing and melting processes in the glass industry, certain colour preparations and glazing processes in the pottery industry. High-speed mixing and blending of plastics moulding powders containing lead stabilisers or colours. Work with low solubility lead compounds where poor working practices and standards of cleaning exist. • Battery breaking. • Manufacture of detonators (explosives industry).
Abrasion of lead giving rise to lead dust in air, e.g. dry discing, grinding, and cutting by power tools.	Miscellaneous industries, e.g. motor vehicle body manufacture and repair of leaded car bodies. • Firing small firearms on indoor ranges. • Blast removal and burning of old lead paint.
Spraying of lead paint and lead compounds and low solubility lead compounds.	Painting bridges, buildings etc. with lead paint.
Work with low solubility inorganic lead compounds.	Work which is poorly controlled. This might be because of poor ventilation, housekeeping, personal hygiene or lack of proper welfare, eating drinking or smoking facilities.
Paint stripping.	Furniture and joinery restoration, e.g. removal of old lead paint from antique furniture, doors, window in frames etc. by immersion in a bath of caustic soda or dichloromethane, and scrapping off the residual sludge. May be followed by pressure washing and sanding.

Craft work.	Sculpture of bas relief in lead sheet.
Lead alkyls. Production of concentrated lead alkyls.	Lead alkyl manufacture.
Inspection, cleaning and maintenance work inside tanks which have tanks which have contained leaded gasoline e.g. road, rail and sea tankers and fixed storage tanks.	Oil refineries, oil transport terminals and certain works where tank cars are inspected or repaired.

8.2 Work not liable to result in significant exposure to lead.

1 Work with galena (lead sulphide).	Mining and working of galena when its character or composition is not changed.
2 Low temperature melting of lead (below 500 °C). Such low temperatures control the fume but some care is still required in controlling any dust from the dross.	Plumbing; soldering
**3 Work with materials which contain less than 1% lead.	
4 Work with lead in emulsion or paste form where the moisture content is such and is maintained so that lead dust and fume cannot be given off throughout the duration of the work.	Brush painting with lead paint and using some stabilisers for plastics.
5 Handling of clean solid metallic lead e.g. ingots, pipes, sheets etc.	Miscellaneous metal industries, stock holding, general plumbing with lead sheet.
Lead alkyls: Any exposure to lead alkyl vapours from leaded gasoline where the lead content is limited by legislation.	Work with leaded gasoline including, for example the filling of petrol vehicles on garage forecourts (except for work inside tanks which have contained leaded gasoline.

Source: Tables taken from Control of Lead at Work (third edition) Control of Lead at Work Regulations 2002 Approved Code of Practice and guidance. HSE (UK)

***Section 9.2 S3 should be based on appropriate risk assessments being made by a competent person.*

Please note the above lists should not be considered to be exhaustive as the nature of exposure may vary in different work/environmental situations.

8.3 Repainting of old lead painted surfaces

To prepare surfaces in good condition (no flaking, abrasion or loss of adhesion from the underlying surface) for repainting, the surface should be lightly rubbed down wet with waterproof abrasive paper to provide the key for the new coats of paint. The debris from rubbing down should not be allowed to dry out and form dust. It should be removed with a damp rag and the rag, abrasive paper and all other debris placed in a sealed, plastic bag for disposal. Doing the job in this way will avoid the creation of lead containing dust and contamination.

The British Coatings Federation - Old Lead Painted Surfaces (*A Guide on repainting and removal for D-I-Y and professional painters and decorators*); provides guidance on the ways in which exposure can be reduced when removing and renovating old lead painted surfaces.

9.0 References:

- **Safety, Health and Welfare at Work Act 2005 (SI No. 10 of 2005)**
- **Chemical Agents Regulations, 2001**
- **“Guidelines to the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001”, Health and Safety Authority.**
- **“Short Guide to the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001”, Health and Safety Authority.**
- **“Risk Assessment of Chemical Hazards”, Health and Safety Authority.**
- **“Threshold Limit Values for Chemical Substances and Physical Agents”, American Conference of Governmental Industrial Hygienists (ACGIH).**
- **“EH40 Workplace Exposure Limits”, Health and Safety Executive, UK.**
- **The Environmental Protection Agency (EPA) - Office of Radiological Protection.**
- **Housing and Urban Development (HUD) Act - Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (2012 Edition)**




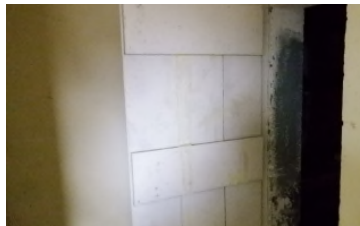
Appendix A - XRF Readings

Niton XL2 700 Serial #89738





Date of testing: 21/02/23

Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
1.	Old Courthouse	Front of building	Railings	Paint	Metal	Intact	<LOD	1.0	
2.	Old Courthouse	Front of building	Railings	Paint	Metal	Intact	<LOD	1.0	
3.	Old Courthouse	Side entrance door	Doors	Paint	Timber	Flaking	<LOD	1.0	
4.	Old Courthouse	Side entrance door	Doors	Paint	Timber	Flaking	<LOD	1.0	

<LOD=less than the limit of detection by method used. <1.0mg/cm² is regarded as lead free by the method used.
About Safety Limited, 24 Ocean Crest, Arklow, Co. Wicklow Tel: 0402 91186 | E-mail: john@aboutsafetv.ie

Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
5.	Old Courthouse	Side entrance lobby	Walls	Paint	Plaster	Flaking	<LOD	1.0	
6.	Old Courthouse	East Wing Room 0.13	Door	Paint	Timber	Flaking	<LOD	1.0	
7.	Old Courthouse	East Wing Room 0.13	Circular window	Paint	Timber	Intact	<LOD	1.0	
8.	Old Courthouse	East Wing Room 0.12	Door	Paint	Timber	Intact	<LOD	1.2	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
9.	Old Courthouse	East Wing Room 0.15	Stairway	Paint	Stone	Intact	<LOD	1.0	
10.	Old Courthouse	East Wing Room 0.15	Stairway spindles	Paint	Metal	Flaking	<LOD	1.0	
11.	Old Courthouse	East Wing Room 0.15	Stairway post	Paint	Timber	Intact	<LOD	1.0	
12.	Old Courthouse	East Wing Room 0.15	Walls	Paint	Plaster	Flaking	<LOD	1.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
13.	Old Courthouse	East Wing 1 st floor Room 1.05	Window architrave	Paint	Timber	Intact	1.2	1.0	
14.	Old Courthouse	East Wing 1 st floor Room 1.05	Window board	Paint	Timber	Flaking	<LOD	1.0	
15.	Old Courthouse	East Wing 1 st floor Room 1.05	Window frame	Paint	Timber	Intact	<LOD	1.0	
16.	Old Courthouse	East Wing 1 st floor Room 1.05	Upper window	Paint	Timber	Intact	<LOD	1.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
17.	Old Courthouse	East Wing 1 st floor Room 1.05	Door	Paint	Timber	Intact	1.62	1.9	
18.	Old Courthouse	East Wing 1 st floor Room 1.05	Door frame/ architrave	Paint	Timber	Intact	2.07	3.5	
19.	Old Courthouse	East Wing 1 st floor Room 1.05	Skirting board	Paint	Timber	Intact	4.71	2.1	
20.	Old Courthouse	East Wing Room 1.05	Wall	Paint	Plaster	Intact	<LOD	1.0	



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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
21.	Old Courthouse	East Wing Room 1.05	North window	Architrave	Timber	Intact	6.94	2.2	
22.	Old Courthouse	East Wing Room 1.05	North window	Window board	Timber	Intact	6.07	2.0	
23.	Old Courthouse	East Wing Room 1.05	North window	Top window board	Timber	Intact	3.96	1.7	
24.	Old Courthouse	East Wing Room 1.05	North window	Side panel	Timber	Intact	5.25	4.4	


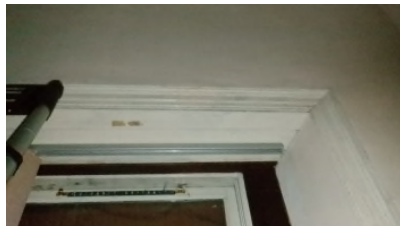
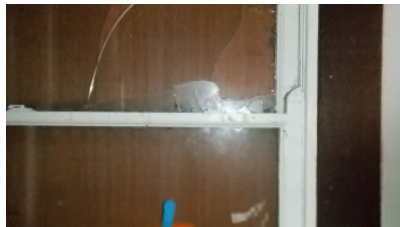

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
25.	Old Courthouse	East Wing Room 1.05	Window	Board	Timber	Flaking	3.91	2.2	
26.	Old Courthouse	East Wing Room 1.05	Fireplace	Fire surround	Metal	Intact	1.13	2.9	
27.	Old Courthouse	East Wing Room 1.08	Door	Door post	Timber	Flaking	1.02	2.9	
28.	Old Courthouse	East Wing Room 1.08	Fireplace	Fire surround	Metal	Intact	<LOD	1.0	





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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
29.	Old Courthouse	East Wing Room 1.08	Door	Paint	Timber	Intact	<LOD	1.0	
30.	Old Courthouse	East Wing Room 1.08	Window	Window frame	Timber	Intact	<LOD	1.0	
31.	Old Courthouse	East Wing Room 1.08	Skirting board	Paint	Timber	Intact	<LOD	1.0	
32.	Old Courthouse	East Wing Room 1.07	Skirting board	Paint	Timber	Intact	<LOD	1.0	

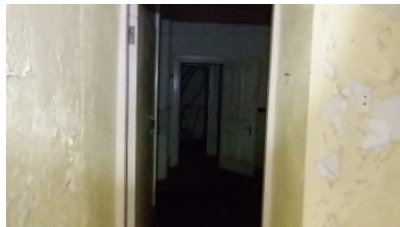
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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
33.	Old Courthouse	East Wing Room 1.09	Skirting board	Paint	Timber	Intact	<LOD	1.2	
34.	Old Courthouse	East Wing Room 1.09	Window	Window frame	Timber	Intact	<LOD	1.0	
35.	Old Courthouse	East Wing Room 1.09	Window	Window bars	Timber	Intact	<LOD	1.0	
36.	Old Courthouse	East Wing Room 1.09	Window	Window board	Timber	Intact	<LOD	1.0	




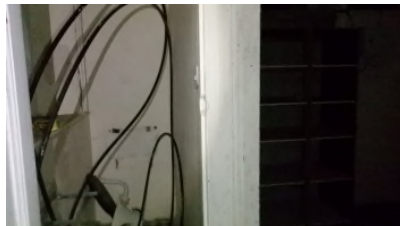
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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
37.	Old Courthouse	East Wing Room 1.09	Skirting at fireplace	Paint	Timber	Intact	<LOD	1.0	
38.	Old Courthouse	East Wing Room 1.09	Door to Room 1.01	Door panel	Timber	Intact	<LOD	1.2	
39.	Old Courthouse	East Wing Room 1.09	Door to Room 1.01	Architrave	Timber	Intact	<LOD	1.0	
40.	Old Courthouse	East Wing Room 1.01	Floor	Paint	Cement	Intact	<LOD	1.0	




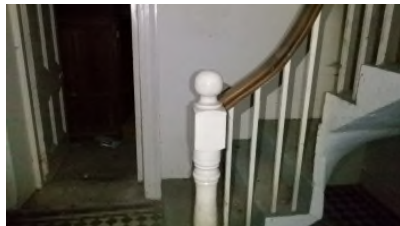
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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
41.	Old Courthouse	East Wing Room 1.01	Door to Room 1.01	Architrave	Timber	Intact	<LOD	1.0	
42.	Old Courthouse	East Wing Room 1.01	Door	Saddle	Timber	Intact	<LOD	1.0	
43.	Old Courthouse	East ground floor Door to room 0.13	Door	Frame	Timber	Intact	<LOD	1.0	
44.	Old Courthouse	East ground floor Room 0.13	Floor	Skirting board	Timber	Intact	<LOD	1.0	



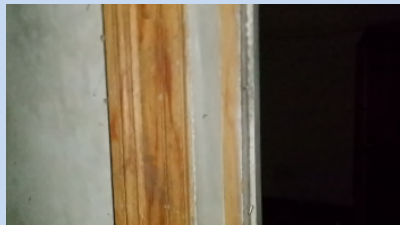
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45.	Old Courthouse	East wing Ground floor Room 0.13	Door	Door	Timber	Intact	<LOD	1.0	
46.	Old Courthouse	East wing Ground floor Room 0.13	Door	Architrave	Timber	Intact	<LOD	1.0	
47.	Old Courthouse	East wing Ground floor Room 0.13	Floor	Skirting board	Timber	Intact	<LOD	1.0	
48.	Old Courthouse	East wing Ground floor Room 0.01	Door	Door frame	Timber	Intact	<LOD	1.0	


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49.	Old Courthouse	East wing Ground floor Room 0.01	Door	Door	Timber	Intact	<LOD	1.0	
50.	Old Courthouse	East wing Ground floor Room 0.01	Window	Frame	Timber	Intact	<LOD	1.0	
51.	Old Courthouse	East wing Ground floor Room 0.01	Window	Window board	Timber	Intact	<LOD	1.8	
52.	Old Courthouse	East wing Ground floor Room 0.02	Stairway	Newel post	Timber	Intact	<LOD	1.0	


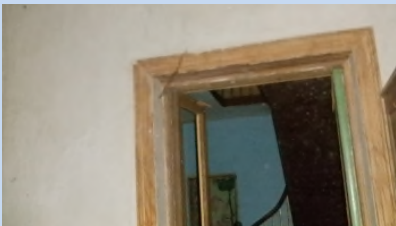
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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
53.	Old Courthouse	East wing Ground floor Room 0.02	Stairway	Spindle	Metal	Intact	<LOD	1.0	
54.	Old Courthouse	Courtroom Door from 0.02	Door	Architrave	Timber	Intact	<LOD	1.0	
55.	Old Courthouse	Courtroom Door from 0.02	Door	Door	Timber	Intact	1.34	3.6	
56.	Old Courthouse	Courtroom Door from 0.02	Door	Frame	Timber	Intact	6.39	1.4	

<LOD=less than the limit of detection by method used. <1.0mg/cm² is regarded as lead free by the method used.
About Safety Limited, 24 Ocean Crest, Arklow, Co. Wicklow Tel: 0402 91186 | E-mail: john@aboutsafetv.ie

Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
57.	Old Courthouse	Courtroom Door from 0.02	Door	Architrave	Timber	Intact	4.89	1.2	
58.	Old Courthouse	Courtroom Door from 0.02	Door	Architrave	Timber	Intact	3.81	1.6	
59.	Old Courthouse	Courtroom	Furnishings	Paneling	Timber	Intact	<LOD	1.0	
60.	Old Courthouse	Courtroom	Furnishings	Seating	Timber	Intact	<LOD	1.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
61.	Old Courthouse	Courtroom	Back windows	Window frames	Timber	Intact	3.18	3.6	
62.	Old Courthouse	Courtroom	Back windows	Window board	Timber	Intact	<LOD	1.0	
63.	Old Courthouse	Courtroom	Back windows	Window bars	Timber	Intact	4.06	3.8	
64.	Old Courthouse	Courtroom Door to East Wing Room 0.04	Door	Architrave	Timber	Intact	7.66	1.4	





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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
65.	Old Courthouse	Courtroom Door to East Wing Room 0.04	Door	Door	Timber	Intact	7.66	1.4	
66.	Old Courthouse	West Wing Room 0.04	Door on floor	Door	Timber	Intact	<LOD	1.0	
67.	Old Courthouse	West Wing Room 0.04	Main door	Door	Timber	Intact	4.67	2.3	
68.	Old Courthouse	West Wing Room 0.04	Main door	Door frame	Timber	Intact	3.22	2.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
69.	Old Courthouse	West Wing Room 0.05	Cistern	Paint	Metal	flaking	1.02	1.0	
70.	Old Courthouse	West Wing Room 0.05	Window	Window frame	Timber	Flaking	<LOD	1.0	
71.	Old Courthouse	West Wing Room 0.05	Wall	Paints	Plaster	Flaking	<LOD	1.0	
72.	Old Courthouse	West Wing Room 0.04	Stairway	Newel post	Timber	Intact	<LOD	1.0	

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About Safety Limited, 24 Ocean Crest, Arklow, Co. Wicklow Tel: 0402 91186 | E-mail: john@aboutsafetv.ie

Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
73.	Old Courthouse	West Wing Room 0.04	Wall	Paint	Plaster	Flaking	<LOD	1.0	
74.	Old Courthouse	West Wing Room 0.04	Under stairway	Paint	Plaster	Flaking	<LOD	1.0	
75.	Old Courthouse	West Wing 1 st floor Room 1.02	Blocked up window	Window board	Timber	Intact	1.89	3.9	
76.	Old Courthouse	West Wing 1 st floor Room 1.02	Blocked up window	Window frame	Timber	Intact	7.92	7.1	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
77.	Old Courthouse	West Wing 1 st floor Room 1.02	Stairway	Spindles	Metal	Flaking	<LOD	1.0	
78.	Old Courthouse	West Wing 1 st floor Room 1.02	East window	Window architrave	Timber	Intact	1.02	1.2	
79.	Old Courthouse	West Wing 1 st floor Room 1.02	East window	Window frame	Timber	Intact	2.34	4.8	
80.	Old Courthouse	West Wing 1 st floor Room 1.02	East window	Window bars	Timber	Intact	4.22	1.9	

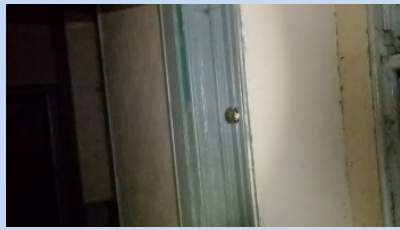

<LOD=less than the limit of detection by method used. <1.0mg/cm² is regarded as lead free by the method used.
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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
81.	Old Courthouse	West Wing 1 st floor Room 1.03	Door frame	Architrave	Timber	Flaking	1.24	2.9	
82.	Old Courthouse	West Wing 1 st floor Room 1.03	Door	Door	Timber	Flaking	1.22	1.9	
83.	Old Courthouse	West Wing 1 st floor Room 1.03	Floor	Skirting board	Timber	Flaking	1.25	2.2	
84.	Old Courthouse	West Wing 1 st floor Room 1.03	Door	Door	Timber	Flaking	1.18	2.5	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
85.	Old Courthouse	West Wing 1 st floor Room 1.03	Window	Low paneling	Timber	Intact	1.5	1.7	
86.	Old Courthouse	West Wing 1 st floor Room 1.03	Window	Window frame	Timber	Intact	11.42	9.0	
87.	Old Courthouse	West Wing 1 st floor Room 1.03	Fireplace	Fireplace	Metal	Flaking	1.06	1.9	
88.	Old Courthouse	West Wing 1 st floor Room 1.03	Floor	Skirting board	Timber	Intact	1.31	2.0	

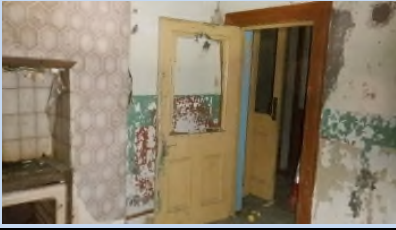
<LOD=less than the limit of detection by method used. <1.0mg/cm² is regarded as lead free by the method used.
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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
89.	Old Courthouse	West Wing 1 st floor Room 1.04	Door	Door frame	Timber	Intact	<LOD	1.0	
90.	Old Courthouse	West Wing 1 st floor Room 1.04	Door	Door	Timber	Intact	1.12	1.2	
91.	Old Courthouse	West Wing 1 st floor Room 1.04	Door	Door	Timber	Intact	1.38	2.8	
92.	Old Courthouse	West Wing 1 st floor Room 1.04	Window	Window board	Timber	Flaking	1.30	3.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
93.	Old Courthouse	West Wing 1 st floor Room 1.04	Window	Paneling	Timber	Flaking	1.09	2.7	
94.	Old Courthouse	West Wing 1 st floor Room 1.04	Window	Window architrave	Timber	Intact	1.04	2.5	
95.	Old Courthouse	West Wing 1 st floor Room 1.04	Window	Window frame	Timber	Intact	4.31	6.6	
96.	Old Courthouse	West Wing 1 st floor Room 1.04	Window	Window bars	Timber	Intact	4.39	7.6	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
97.	Old Courthouse	West Wing 1 st floor Room 1.04	Floor	Skirting board	Timber	Flaking	1.1	1.4	
98.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Door	Door	Timber	Flaking	1.71	1.7	
99.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Door	Architrave	Timber	Flaking	1.2	1.5	
100.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Wall	Paint	Plaster	Flaking	<LOD	1.0	





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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
101.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Window	Frame	Timber	Flaking	2.11	2.0	
102.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Window	Paneling under window	Timber	Intact	1.03	2.6	
103.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Window	Paneling over window	Timber	Intact	1.21	1.6	
104.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Window	Architrave	Timber	Intact	1.02	2.0	


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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
105.	Old Courthouse	West Wing Ground floor kitchen Room 0.06	Door to Room 0.07	Architrave	Timber	Flaking	1.84	4.1	
106.	Old Courthouse	West Wing Ground floor Room 0.07	Window	Window frame	Timber	Flaking	<LOD	1.0	
107.	Old Courthouse	West Wing Ground floor Room 0.07	Floor	Skirting board	Timber	Flaking	<LOD	1.0	
108.	Old Courthouse	West Wing Ground floor Room 0.07	Window	Window frame	Timber	Flaking	<LOD	1.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
109.	Old Courthouse	West Wing Ground floor Room 0.07	Walls	Paint	Plaster	Flaking	<LOD	1.0	
110.	Old Courthouse	West Wing Ground floor Room 0.08	Door	Frame	Timber	Flaking	<LOD	1.0	
111.	Old Courthouse	West Wing Ground floor Room 0.09	Floor	Old blue painted boards	Timber	Flaking	1.83	1.7	
112.	Old Courthouse	West Wing Ground floor Room 0.08	Back door	Door	Timber	intact	<LOD	1.0	

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Sample Ref No.	Building/ Area	Location or Functional Space	Sample point	Component	Substrate (timber/ metal/ other)	Condition	Results (mg/cm ²)	Depth index	Photo
113.	Old Courthouse	West Wing Ground floor Room 0.10	Bathroom	Door	Timber	intact	<LOD	1.0	

<LOD=less than the limit of detection by method used. <1.0mg/cm² is regarded as lead free by the method used.
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Appendix B - HOW TO INTERPRET XRF READINGS:

There are ten columns in the XRF table. The interpretation of each column is as follows:

Column 1	Number (#): This is simply the shot number that was taken during the inspection. On occasion, the number may not start at “1” if XRF shots from previous inspections are still in the XRF devise.
Column 2	Building Area: Location of the area on the site where the sample was taken.
Column 3	Location or Functional Space.
Column 4	Sampling point: This column identifies the room where XRF testing occurred.
Column 5	Component: This column identifies the surface that was tested. Some examples are doors, door trim, walls, ceiling, exterior siding etc.
Column 6	Substrate: This column defines what material the paint was applied to. Substrates are most commonly plaster or wood but could be other material such as metal.
Column 7	Conditon: This column identifies the condition of the paint on the surface being tested. The terms “intact” or “deteriorated” are used to describe the paint.
Column 8	Result: This column indicates whether or not the paint tested Positive or Negative for the presence of lead.
Column 9	– Depth Index: The XRF has the capability to detect lead in many layers of paint, not just surface layers. A depth index reading of less than 1.5 indicates that lead is near the surface of the material tested. A depth index reading between 1.6 and 4 indicates that lead was found at a moderate depth. A depth index reading of 4 or higher indicates that lead was found deeply buried in the material tested.
Column 10	Photo: Photograph of the sample point.

Appendix C – Training, Calibration & Maintenance Certificates

NitonUK

Certificate of Training

This is to certify that:

John Kelleher

Has successfully completed the full supervisor training course given by Niton UK. John Kelleher is now fully trained to the highest level in all aspects of the analyser including radiation safety, full operation and complete customisation of the analyser including user privileges and safety feature modifications.

Issued by:



Dan Harris
Service Manager



Date of Training:

11st January 2018

Certificate: TC0410-1



I hereby certify that

John Kelleher

attended a :

One Day Radiological Protection Training Course

in accordance with the radiation safety training requirements of S.I.125 of 2000
on the 9th of February 2018
and successfully completed the course examination

The following subjects were included in the course:

- Radiation Safety - Basic Concepts & Types of Radiation
- Health Effects of Ionising Radiation
- Principles of Protection from External Radiation
- X-Ray Safety – Hazards and Controls
- Safe Use of Portable XRF Unit
- Compliance with Legislation and EPA-ORP Licence Conditions
- Role of The Radiological Protection Officer
- Radiation Safety Procedures & Risk Assessment

Dr. Elaine Doorly

Dr. Elaine Doorly
Chartered Radiation Protection Professional
EPA-ORP Approved Radiation Protection Advisor

Radiation Safety Ireland.
E-Mail: radiationsafety@eircom.net, Web Site: www.radiationsafety.ie
Phone: 087-2644107.

NitonUK

Certificate of Training

This is to certify that:

Lauren Kelleher

Has successfully completed the full supervisor training course given by Niton UK. Lauren Kelleher is now fully trained to the highest level in all aspects of the analyser including radiation safety, full operation and complete customization of the analyser including user privileges and safety feature modifications.

Issued by:



Dawn Harris
Service Manager



Date of Training:

31st January 2018

Certificate: TC0410-2



I hereby certify that

Lauren Kelleher

attended a :

One Day Radiological Protection Training Course

in accordance with the radiation safety training requirements of S.I.125 of 2000
on the 9th of February 2018
and successfully completed the course examination

The following subjects were included in the course:

- Radiation Safety - Basic Concepts & Types of Radiation
- Health Effects of Ionising Radiation
- Principles of Protection from External Radiation
- X-Ray Safety – Hazards and Controls
- Safe Use of Portable XRF Unit
- Compliance with Legislation and EPA-ORP Licence Conditions
- Role of The Radiological Protection Officer
- Radiation Safety Procedures & Risk Assessment

Dr. Elaine Doorly

Dr. Elaine Doorly
Chartered Radiation Protection Professional
EPA-ORP Approved Radiation Protection Advisor

Radiation Safety Ireland.
E-Mail: radiationsafety@eircom.net, Web Site: www.radiationsafety.ie
Phone: 087-2644107.

APPENDIX D: Explanation of Parameters Used

Lead-based paint: Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm² as measured by XRF or laboratory analysis, or 0.5 percent by weight (5000 mg/g, 5000 ppm, or 5000 mg/kg) as measured by laboratory analysis. (Local definitions may vary.)

Lead-based paint hazard: A condition in which exposure to lead from lead contaminated dust, lead contaminated soil, or deteriorated lead-based paint would have an adverse effect on human health. Lead-based paint hazards include, for example, **paint-lead hazards**, **dust-lead hazards**, and **soil-lead hazards**.

Paint-lead hazard: Lead-based paint on a friction surface that is subject to abrasion and where a dust-lead hazard is present on the nearest horizontal surface underneath the friction surface (e.g., the window sill, or floor); damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component; a chewable lead-based painted surface on which there is evidence of teeth marks; or any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

APPENDIX E: Key Units of Measurement

Gram (g or gm): A unit of mass in the metric system. A nickel weighs about 1 gram, as does a 1 cube of water 1 centimeter on each side. A gram is equal to about 35/1000 (thirty-five thousandths of an ounce). Another way to think of this is that about 28.4 grams equal 1 ounce.

ug (microgram): A microgram is 1/1000th of a milligram. To put this into perspective, a penny weighs 2 grams. To get a microgram, you would need to divide the penny into 2 million pieces. A microgram is one of those two million pieces.

ug/dL (microgram per deciliter): used to measure the level of lead in children's and worker's blood to establish whether intervention is needed. A deciliter is a little less than a half a cup.

ug/ft² (micrograms per square feet): the unit used to express levels of lead in dust samples. All reports should report levels of lead in dust in ug/ft².

mg/cm² (milligrams per square centimeter): used to report levels of lead in paint thru XRF testing.

ppm (parts per million): Typically used to express the concentrations of lead in soil. Can also be used to express the amount of lead in a surface coating on a mass concentration basis. This measurement can also be shown as: ug/g, mg/kg or mg/l.

ppb (parts per billion): Typically used to express the amount of lead found in drinking water. This measurement is also sometimes expressed as: ug/L (micrograms per liter).

NitonUK

Certificate of Calibration

This is to certify that:

XL2 700

Serial Number: 89738

Has successfully completed the XL2 700 calibration and verification process to the manufacturer's specification.

Calibrated by:



Russell Masters
Service Supervisor



Date of calibration:

2nd March 2022

Recommended
Recalibration Date:

2nd March 2023

Certificate: CC7549