SciAps **Technology Brief:** The Advantages of Non-Isotope XRF for Lead Paint Analysis

Thinking About Replacing Your Isotope XRF?

Here's What to Know Before You Buy

For decades, radioactive isotope sources have been a standard technology for handheld lead paint XRF analysis. Today, X-ray tube technology provides another path: HUD-recognized performance with the operational advantages of a non-isotope instrument.

When evaluating your next lead paint analyzer, don't just compare specifications. Look at the technology behind the measurement, the analyzer's HUD Performance Characteristic Sheet (PCS), and what ownership looks like over the life of the instrument. **For example:**

Feature	SciAps X-550 Pb	Isotope-Based Lead Paint XRF
Radiation Source	X-ray tube (electrically generated X-rays)	Radioactive isotope (typically Cd-109 or Co-57, depending on model)
HUD PCS	Accepted PCS at 1.0, 0.7, and 0.5 mg/cm^2	Varies by model; users should verify the published PCS for each analyzer.
Inconclusive Results and False Positives/ False Negatives	No inconclusive tests reported for the accepted action levels and no false positives or false negatives reported on the published PCS	Varies by analyzer model and PCS
Typical Test Time	Automatic Quick Mode typically completes tests in 2–6 seconds	Test times vary by analyzer model and isotope activity
Performance Over Time	X-ray output remains consistent throughout normal tube life	Radioactive isotopes decay continuously, which increases analysis times and will eventually require source replacement.
Isotope Disposal	None	End-of-life source disposal required
Licensing & Regulatory Burden	Eliminates radioactive source licensing, tracking, and associated ownership requirements	Subject to regulations governing possession, storage, transport, and tracking of radioactive materials.
Transportation	Transported as an X-ray device	Transportation may require additional regulatory compliance

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Same job. Different technology.

The X-550 Pb delivers HUD-recognized performance without the radioactive source. The SciAps X-550 Pb is the first non-isotope handheld XRF to earn accepted HUD PCS documents at 1.0, 0.7, and 0.5 mg/cm² action levels.

The SciAps X-550 Pb combines X-ray tube technology, fast analysis and HUD-recognized PCS performance—without the ongoing considerations of an isotope source.

Five Questions to Ask Before You Buy

1. Does the analyzer have a HUD-recognized PCS?
2. What action levels are covered?
3. What are the inconclusive results and test times?
4. Does the analyzer use a radioactive source?
5. What will ownership require 18 months from now?

Key Takeaways for Buyers

You don't have to compromise between safety and performance.

Lower total cost of ownership

Because the X-550 Pb uses an X-ray tube rather than a radioactive isotope, owners avoid expenses associated with:

- Radioactive source replacement
- Source disposal
- Many regulatory requirements tied to radioactive material ownership
- Security and inventory requirements for sealed sources

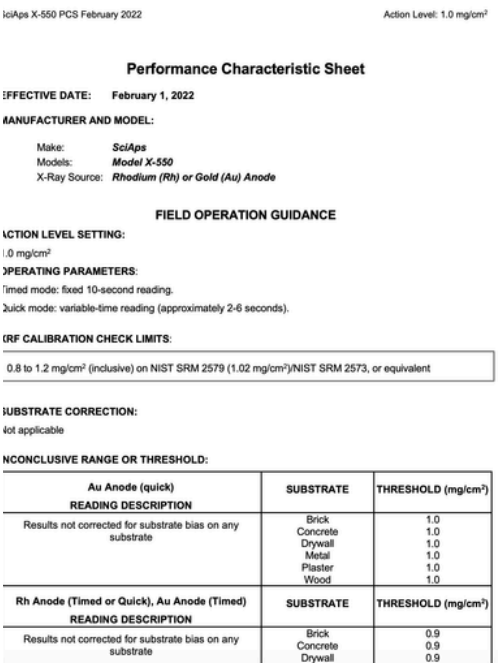
These savings can significantly reduce lifetime operating costs.

Fast today. Fast years from now.

One advantage that's easy to overlook is consistency.

Radioactive isotopes naturally lose strength over time. As activity decreases, measurement times can increase, and the source ultimately requires replacement.

An X-ray tube generates radiation electronically whenever the trigger is pulled, helping the X-550 Pb maintain its published performance throughout the tube's service life.



SciAps X-550 PCS February 2022 — Action Level: 1.0 mg/cm²

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2022

MANUFACTURER AND MODEL:

Make: *SciAps*
Models: *Model X-550*
X-Ray Source: *Rhodium (Rh) or Gold (Au) Anode*

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING:
1.0 mg/cm²

OPERATING PARAMETERS:
Timed mode: fixed 10-second reading.
Quick mode: variable-time reading (approximately 2-6 seconds).

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) on NIST SRM 2579 (1.02 mg/cm²)/NIST SRM 2573, or equivalent

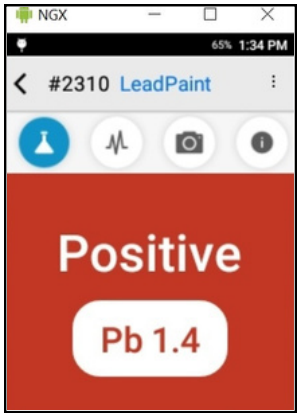
SUBSTRATE CORRECTION:
Not applicable

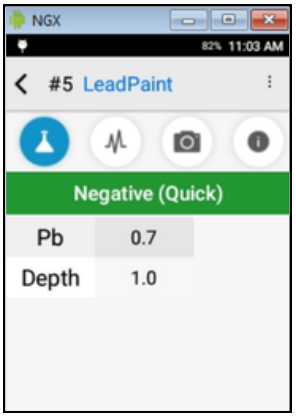
INCONCLUSIVE RANGE OR THRESHOLD:

Au Anode (quick) READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	1.0 1.0 1.0 1.0 1.0 1.0
Rh Anode (Timed or Quick), Au Anode (Timed) READING DESCRIPTION	**SUBSTRATE**	**THRESHOLD (mg/cm²)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall	0.9 0.9 0.9

Download SciAps X-550 Pb HUD PCS

Performance shouldn't come with *radioactive material.*





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