Contents

1. Purpose/Scope

This document describes a field procedure for usage of the NITON X-Ray Fluorescence (XRF) XL300 detector (blue colored cover) to conduct non-destructive testing of potential lead-based paint surfaces. It is based on methodology described in the Department of Housing and Urban Development (HUD) *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* 1990 (revised 1995) and the manufacturer's recommendations.

The goal of this SOP is to provide a uniform methodology to determine the presence of lead in surface coatings and the concentration of lead detected. Using this method will ensure repeatability between various sampling personnel, substrates and surface configurations.

2.0 Responsibilities

2.1 This program is implemented through the SHSD Industrial Hygiene Group. The IH Group Leader may assign the duties to a *Program Administrator*.

2.2 Members of the SHSD Industrial Hygiene Group, the Radiation Control Division Facility Support Group, and Plant Engineering can qualify to perform tasks in this program based on their approval by their line management. Personnel who have

demonstrated competency in performing tasks, in accordance with the Policy Section of this procedure, will be qualified to serve as a *Qualified Sampler*.

2.3 Data Quality Control procedures: The *Qualified Sampler* is responsible for the integrity of the data until properly transferred to the IH Group laboratory using the SHSD established procedures. To have the data included in the SHSD IH group databases, approval of the data by the IH Group Leader or designee is required. Approval will be contingent on documentation that appropriate sampling procedures were followed including calibration checks before, during and after the work, submittal of an appropriate data form and any other requested documentation to the IH group.

2.4 Hazard Analysis of the Sampling Task: It is the responsibility of the *Qualified Sampler* and his/her supervisor to ensure that training is current and the appropriate personal protective equipment is worn. In addition, the person performing this procedure and his/her supervisor are responsible to ensure that all required training and qualification for hazards that may be present in areas where this procedure will be used (such as respiratory protection or radiation contamination) have been met. The *Qualified Sampler* and his/her line supervisor are responsible to comply with all work planning and work permit system requirements.

2.5 Emergency Procedures: It is the responsibility of the *Qualified Sampler* to know and understand the emergency procedures in case of an accident or loss of the equipment.

2.6 Log In/Out: The *Qualified Sampler* will complete the sign in/out log in the IH equipment room prior to and after each daily use. The log is a hard bound notebook separate from the Check In/Out data system for equipment borrowing. The instrument is to be returned to the IH equipment room at the end of each days use.

3.0 Definitions

3.1 ***Program Administrator:*** A person designated by the IH Group Leader or SHSD management to administer this procedure and the associated program of XRF data management.

3.2 ***Qualified Sampler:*** A person who has demonstrated competency, in accordance with Section 7, to perform this field procedure and is approved to independently use the Niton XL-300 and interpret results.

3.3 ***Lead-Based Paint:*** Any paint, varnish, shellac, or other coating that contains lead equal to or in excess of 1.0 mg/cm^2 as measured by an x-ray fluorescence analyzer or laboratory analysis or 0.5% by weight by laboratory analysis.

3.4 ***XRF Performance Characteristic Sheet:*** Manufacturer's technical data sheet providing information on the instrument use characteristics including: positive, negative and inconclusive ranges of the detector and substrate corrections if any are necessary.

4.0 Prerequisites

4.1 **Meter Use Tracking:** A sign in/out log is required for distribution of the instrument and will be completed prior to and upon return of the instrument. Required information includes the Qualified Sampler's (user's) name, location(s) the instrument will be used, and a phone or pager number allowing contact of the user while the instrument is in their possession.

4.2 **Qualification:** The user must be qualified as per requirements in Section 7.

5.0 Precautions

5.1 **Hazard Assessment:** Work conducted under this SOP is considered Worker Planned Work. A professional IH conducts a review of the conditions of work and sets the parameters of the task for the Qualified Sampler. The hazard assessment is conducted for all work done under this SOP to consider the inherent hazardous conditions, evaluate the degree of hazard to individuals and put in place appropriate protective measures based on the hierarchy of controls.

5.2 **Work Planning:** All requirements of work permits and work planning system reviews must be met in performing this procedure.

5.3 When used in an area where the instrument can become contaminated (such as from surface dust levels of heavy metals, radiological materials, etc), the surfaces of the meter will be protected with a clear plastic cover. Calibration of the unit will be performed with the plastic cover in place. The cover is to be removed and replaced whenever the Sampler feels it may have become contaminated. The covers are to be handled as contaminated waste.

5.4 **Waste Disposal/Pollution Prevention:** Prior to project initiation, all waste generation anticipated will be evaluated to determine if product substitution, process changes or other recommended alternative actions can be utilized to eliminate/minimize waste generation and/or environmental degradation.

5.5 **Personal Protective Equipment:** Appropriate personal protective equipment to protect the person collecting the sample must be used when implementing this procedure. Each area entered for testing must be evaluated for required personal protective equipment. Other PPE, as well as environmental protection materials, must be available in the event bulk sampling of paint films becomes necessary. Personal Protective Equipment that may be needed is:

- Appropriate respirator and filter cartridges for bulk sampling lead based coatings.
- Gloves (latex, Nitrile, or PVC disposable or reusable style).
- Protective clothing for protection from lead dust (Tyvek®, Kleenguard® or equivalent.
- Gloves and protective clothing for protection from radiation of dust/paint chips when dealing with radiation contaminated surfaces.

5.6 **Radiation Contamination:**

5.6.1 It is possible that some surfaces to be tested may have radiation contamination. In these cases, personal protective equipment and administrative controls must be implemented for the radiation contaminant hazard of the surface as well as the instrument. In addition, bulk samples must be analyzed for radiation hazard before they can be submitted to the IH Group for analysis whether they are collected to verify XRF readings, determine results of inconclusive readings, or because the material is not testable based on size, shape, etc. At no time will the IH Group accept a bulk sample with radiation contamination above permissible limits for the general public.

5.6.2 The meter contains a regulated radiation source and must be transported only within the original manufacturer supplied instrument case. The *Qualified Sampler* must maintain possession with the meter at all times or store the meter in a limited access controlled area (such as a locked vehicle or locked room or locked cabinet).

6.0 Procedure

6.1 Equipment

6.1.1 NITON XL300 XRF and spare battery in original case.
6.1.2 Barcode reader and laminated barcode sheet.
6.1.3 National Institute of Standards and Technology (NIST) Standard Reference Materials (SRM) standards for verifying calibration.

6.2 Documentation

- Factory calibration sheet.
- Valid instrument wipe test report.
- XRF Data Reporting Sheets.
- Bulk Paint Sampling Form and Chain of custody form.

6.3 Bulk Sampling Equipment (if removal of paint from surface is needed)

- Heat Gun Not to exceed 1100 degrees Fahrenheit.
- Paint Scraper.
- Utility Knife.
- Masking Tape and Ruler.
- Re-sealable plastic containers with labels and marker.

6.4 Turning On:

6.4.1 Prepare the XRF Data Sheet completing the information in Section 1.
6.4.2 Review the calibration and wipe test certificates to ensure they are current.
6.4.3 Move the on/off switch pass setup to the on position.
6.4.4 The instrument software uses the source date as input to calculate accurate readings. When the instrument is ready, check the date and time to ensure accurate readings. If necessary, reset to current time, date and action level before proceeding. From the main menu, select setup/specs then set time/date. Move through the time/date information with the clear/enter key

changing information with the arrow up & down keys. When completed return to the main menu with the clear/enter key.

6.4.5 Setting the Action level (1.0 mg/cm^2): 1.0 mg/cm^2 should be used and is the default value. If another value is necessary, select Test Mode, Paint Mode then Setup Paint Protocol. Move through the choices with the Clear/Enter key and change items with the up and down arrow keys. Return to the Main menu.

6.4.6 Setting meter for reading paint samples: Select "Standard Paint Spectra mode: Test Mode, Paint mode and then K&L Readings + Spectra Mode. The instrument will then return to the Main Menu screen.

6.5 **Calibration:**

6.5.1 **Internal calibration:** Select *Calibrate* and *Test*, then the meter will perform an internal calibration and after 1-2 minutes the instrument will display "Ready to Test".

6.5.2 **Calibration verification with reference LBP standards:** This check is to be done in the IH lab prior to removal to the field, at the beginning and end of each new test area, after no more than 2 hours of use (in one area) and at the end of usage when returned to the IH lab. Calibration checks should be done every time the instrument is turned on and prior to turning it off, including work breaks.

- Select a location for testing the calibration standard which allows the unit to remain flat and ensures that the user and any other room occupant is not in direct line with the direction of irradiation as shown on the front of the unit.
- Place the test standard sheet on a smooth surface with the colored side up.
- If the instrument is to be used with a plastic cover ensure the cover is in place prior to calibration.
- Using the ORANGE/RED 1.08 +/- 0.09 test standard, move the shutter release lock forward and press the shutter release in and hold. Place the NITON flush on the surface with the window completely on the painted surface. The unit will lower onto the surface and the plunger will move up above the top of the unit. Let go of the shutter release, however, continue to hold the NITON to the test surface without lifting or moving the instrument.
- While measuring, the unit will indicate the sample number and the word "null" until it has completed the test. It will also indicate the K & L test

readings during the test. When completed, it will indicate the test result is either positive or negative, the lead concentration and the error range.

- Record the test number, reading and error range in the data sheet calibration section.
- The reading should be 0.9-1.2 mg/cm^2 and indicate surface lead (a depth index at the upper right of the screen with readings: <= 1.5 very near surface; 1.5-4.0 moderately deep; >4.0 deeply buried lead).
- Repeat the test two more times.
- Report the individual and the average readings on the data sheet. If the readings are high, check the surface under the test standard for lead concentration and repeat.
- There are three reading views. First shows positive/negative and lead content. Second shows the same plus the spectra and the third shows all of this information plus the individual L & K shell readings and the depth index. You can toggle through the views using the clear/enter key, however, this is not necessary.

6.6 **Taking Readings:** Select a location for testing which allows the unit to remain flat and ensures that the user and any other room occupant is not in direct line with the direction of irradiation as shown on the front of the unit.

6.6.1 **Place the NITON flush on the surface with the window completely on the painted surface**, squeeze the shutter release and hold as the NITON is lowered to the test surface. As unit is lowered the plunger will move up above the top of the unit. Do not move the instrument during the test period.

6.6.2 When the test is complete the unit will beep and the reading will switch from “null” to positive”, “inconclusive”, or “negative”. Remove the NITON from the test surface and let go of the shutter release to close the shutter. The plunger should automatically return to the down position. Ensure that the plunger moves down completely allowing the shutter release safety slide to move under the shutter release. If you terminate a test before a “positive” or “negative” determination is attained by the instrument, it will display a “null” test result and it should be recorded but ignored. Record the reading on the XRF Data Sheet.

6.6.3 Take at least three tests on each homogeneous surface, preferably at low, mid-height, and high locations. Record each reading on the sample form.
Meter result readings (also see Attachment 9.4):

POSITIVE: the meter has measured LBP levels in excess of 1.0 mg/cm^2, report the surface as "Lead containing"
INCONCLUSIVE: the lead concentration is too close to the decision point for the meter to be able to indicate positive or negative. Repeat the test at a new location near the inconclusive location.
NEGATIVE: the meter has measured LBP levels below 1.0 mg/cm^2 report the surface as non-lead based paint.

6.7 **Post Check of Calibration:** When sampling is completed, measure the calibration standards three times. Record each reading on the sample form.

6.8 **Power off:** After post-checking calibration: turn the instrument off by sliding power switch to "off", lock the window, store in the original case and return the meter and documentation to the IH lab.

6.9 **Recordkeeping:**

6.9.1 The user may maintain a copy of the Niton software at a remote location and the data downloaded for the sample numbers created by the user. However, no data is to be deleted prior to returning the instrument to the IH lab. Only the IH Group Leader, Program Administrator or the lab technician shall delete data and then only after verification that the data has been retrieved and saved.

6.9.2 All paper work will be checked by the lab technician or designated Industrial Hygienist upon return of the instrument. In addition, he/she will perform a physical check of the instrument, case and accessories.

7.0 Implementation and Training

Qualification Criteria: For all BNL personnel, the qualification criteria to perform this procedure are:

7.1 RadWorker 1 (HP-RWT002) or RCT Qualified
7.2 Training - Lead In The Workplace awareness training TQ-LEAD 1
7.3 Review of the Lead Subject Area
7.4 Manufacturers training provided by either a qualified manufacturer's representative or a BNL employee who has received the Manufacturer's training.

7.5 Specific knowledge of this procedure. Demonstrated competency in performing this test to the satisfaction via:

7.5.1 Visual observation of proper detector usage technique.

7.5.2 Ability to answer questions on the sampling procedures, custody of the instrument and emergency procedures during sampling and transportation.

7.5.3 Knowledge of the appropriate personal protective equipment for the hazards of this particular type of sampling.

7.5.4 Knowledge of the appropriate personal dosimetry required for documentation of exposures.

7.5.5 Demonstration of proper use of, and interpretation of results for, the Niton XL-300 Lead Analyzer using ***Attachment 9.5.*** Personnel shall be re-qualified at a frequency not to exceed three years, provided there is no break in the work assignment that utilizes this procedure. If significant and substantive changes to the procedure are made, *Qualified Sampler*s will be notified of the changes.

8.0 References

8.1 NITON Corporation, "300 Series & 700 Series User's Guide, version 5.2", 1998.

8.2 U.S. Department of Housing and Urban Development, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Ch. 7, Lead-Based Paint Inspection", 1997.

8.3 U.S. Environmental Protection Agency, "Method 6200 and Field Portable X-ray Fluorescence", 1998.

8.4 National Institute for Occupational Safety and Health (NIOSH), "Method 7702, Lead by Field Portable XRF", Jan. 1998.

8.5 BNL SBMS Lead Subject Area.

9.0 Attachments

9.1 **Theory of Sampling**

9.2 **Photograph of Meter**

9.3 **Short Operating Instructions**

9.4 **Niton LBP X-ray Fluorescence Meter Form**

9.5 **NITON XL-300 X-Ray Fluorescence Meter – Qualified Sampler JPM**

BROOKHAVEN NATIONAL LABORATORY Safety & Health Services Division INDUSTRIAL HYGIENE GROUP Standard Operating Procedure: Field Procedure	NUMBER **IH103900**
	REVISION **FINAL Rev3**
SUBJECT: INSTRUMENT OPERATION: **Detection of Lead in Coatings by the** **NITON XL300 X-Ray Fluorescence Meter**	DATE **04/25/08**
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10.0 Documentation

Document Development and Revision Control Tracking		
PREPARED BY: *(Signature and date on file)* J. Peters, CIH Date 02/07/01	REVIEWED BY: *(Signature and date on file)* R. Selvey, CIH Date 02/26/01	APPROVED BY: *(Signature and date on file)* R. Selvey, IH Group Leader; Date 02/27/01
ESH Coordinator/ Date: *None*	Work Coordinator/ Date: *none*	SHSD Manager / Date *none*
QA Representative / Date: *None*	Training Coordinator / Date: *none*	Filing Code: **IH52**
Facility Support Rep. / Date: *None*	Environ. Compliance Rep. / Date: *none*	Effective Date: **02/28/01**
ISM Review - Hazard Categorization ☐ High ☒ Moderate ☐ Low/Skill of the craft	Validation: ☐ Formal Walkthrough ☒ Desk Top Review ☐ SME Review Name / Date: 12/02/05	Implementation: Training Completed: Tracked in BTMS Procedure posted on Web: 04/25/08 Hard Copy files updated: 04/25/08 Document Control: no changes

Revision Log
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: Added "Leak Test Date:" to sample form, revised SOP number from IH-FP-161 to new system IH10390 SME Reviewer/Date: R. Selvey 03/09/01(Signature on file)
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: Updated format to Section 7 *Implementation and Training;* some text changed throughout the document to reflect minor changes in administrative; corrected the format of cells for electronic data entry to Attachment 9.4; added Attachment 9.5 for qualification of samplers. SOP number changed to reflect the new system. SME Reviewer/Date: R. Selvey 10/07/04 (Signature on file)
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☐ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: Changes made after training class. Revised 6.4 to clarify "check of calibration" versus internal calibration. Revised 6.4.5 to indicate the default mode of the meter. Deleted references to Barcode reader in section 6. Insert passage on post calibration in the proper order of the procedure in Section 6. Insert meanings of meter readings in Section 6. Revised Section 7 for more clarity and conformance to new uniform training policy. SME Reviewer/Date: R. Selvey 12/02/05 (signature on file)

BROOKHAVEN NATIONAL LABORATORY Safety & Health Services Division **INDUSTRIAL HYGIENE GROUP** Standard Operating Procedure: Field Procedure	NUMBER **IH103900** REVISION **FINAL Rev3**
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Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls
Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above
Section/page and Description of change: Changes made after review prior to training class. Revised 2.64 to clarify use of hard bound log book. Revised 5.1 to indicate hazard assessment under worker planned work. Revised 5.3 to include use of protective plastic cover. Made minor clarifications in Section 6. Revised meanings of meter readings in Section 6.6.3 . Revised Section 9 to include Attachment 9.5. Removed PCS inconclusive statement from Theory of Operation. Removed reference to barcode reader from Attachment 9.3 SME Reviewer/Date: J. Peters 4/21/08 (signature on file)

Attachment 9.1
Theory of Operation

Each unit has specific criteria, which require different practices depending on its Performance Characteristic Sheet (PCS). The NITON XL-300 PCS indicates no corrections required for common substrates such as brick, concrete, drywall, metal, plaster and wood.

Test results are determined for site, specific testing combinations. A testing combination is a unique combination of the room equivalent, building component type and substrate. Building components that are adjacent and not likely to have different paint histories, may be considered a single testing combination (e.g., window casings, stops, jambs and aprons; or door jambs, stops, transoms, casings and other door frame parts are single testing combinations).

XRF testing is required for at least one location per testing combination, except for interior and exterior walls, where four readings should be taken, one on each wall. Classify each wall based on its individual XRF reading.

The selection of the test location for a specific testing combination should be representative of the paint over the areas, which are most likely to be coated with old paint or other lead-based coatings. Do not select locations where paint has worn away or been scraped off. Area over pipes, electrical surfaces, nails and other possible interferences should be avoided.

If no acceptable location for XRF testing exists for a given testing combination, a paint chip sample should be collected. The sample should include all paint layers with no substrate and should be taken as unobtrusively as possible.

XRF results are classified as positive, negative or inconclusive. A positive result indicates lead concentrations at or above the action level (1.0 mg/cm^2). A negative result indicates the lead concentration is below the inconclusive range.

The instrument can test curved surfaces (down to about a ½ inch radius) even though the window is not flat on the surface. For surfaces, which cannot be tested, a bulk sample shall be collected for laboratory analysis.

BROOKHAVEN NATIONAL LABORATORY Safety & Health Services Division INDUSTRIAL HYGIENE GROUP Standard Operating Procedure: Field Procedure	NUMBER **IH103900**
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Attachment 9.2
Photograph of Meter

Serial Port

On-Off Switch

Battery

(Top)
LCD Display

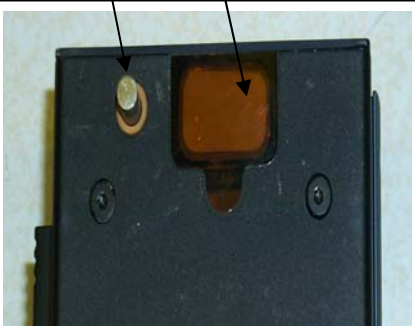
Enter / Scroll Keys

Trigger

(Bottom)

Shutter Release

X-Ray Window



Attachment 9.3

Short Operating Instructions

	Step	User Action	Display
1	**Turning On**	Move the on/off switch pass setup to the ***ON*** position	*"Niton XL system start..."* flashes for 2 seconds, then "*Calibrate & test* *Select Mode ->* *Setup/specs. ->* *Download/Erase Data ->"* *Mode: Std. Paint* *Date Time"*
2	**Pre-Calibration**	Select "Calibrate and Test" by pressing **[clear/enter]**	*"Start Paint Mode"* flashes for 2 seconds, then a scan appears for 1 minute. *"Starting: Please Wait nn% Complete"* After 1-2 minutes the instrument will display *"- - > Ready to Test <- - ".*
		Measure the "standard sheet". Move the shutter release lock forward and press the shutter release in and hold.	*"Reading #nnn"*. When completed, it will indicate the test result is either positive or negative, the lead concentration and the error range
3	**Taking Readings**	Place the NITON flush on the surface, squeeze and release the shutter release and continue to hold the NITON to the test surface.	*"Reading #nnn"*. When the test is complete the unit will beep and the reading will switch from null to either positive or negative
4	**Post-Calibration**	Repeat step 2 above.	
5	**Turning Off**	Move the on/off switch pass setup to the ***OFF*** position & lock the shutter release.	Display goes blank

BROOKHAVEN NATIONAL LABORATORY
SAFETY & HEALTH SERVICES DIVISION

DIRECT READING INSTRUMENT
NITON LBP X-Ray Fluorescence Meter (XRF)

DATE:	SURVEYOR(S):	Sheet ____ of ____

I. AREA INFORMATION

DEPT:	BLDG:	ROOM:
Work Control Project #:		
Supervisor:		

II. EMPLOYEE INFORMATION

This section is not typically applicable. Use comment section for recording employee exposure information if available.

III. SURVEY INSTRUMENT INFORMATION

INSTRUMENT: **NITON XRF**	MODEL**: XL-300 (Blue Colored Case)**	SERIAL#: **U2070NR1051** BNL#: **115661**
FACTORY CALIBRATION DATE:	SOURCE: Cd 109 10 mCi	DATE SOURCE INSTALLED: LEAK TEST DUE:

IV. SAMPLING INFORMATION & RESULTS

Pre-sampling Calibration Data Date:_____		**Post-sampling Calibration Data Date:_____**	
Sample #	LBP Result	Sample #	LBP Result

Calibration Data Within Appropriate Range (0.9 – 1.2 mg/cm^2) ? _____YES ____NO
If NO, do <u>not</u> use meter and return to IH lab.

Sample #	Room Equivalent	Component	Substrate	Color	Quantity (SF)	Condition	LBP Result (mg/cm^2 +/-)	Positive/ Negative

Continued on reverse side ? ____Yes / ____No

Substrate = Brick, Block, Concrete, Drywall, Metal, Plaster, Wood
mg/cm^2 = milligrams per square centimeter
Condition = poor, fair, intact
SF = square feet

Comments:

Return completed form with instrument to: IH Lab

BROOKHAVEN NATIONAL LABORATORY SAFETY & HEALTH SERVICES DIVISION	**DIRECT READING INSTRUMENT** **NITON LBP X-Ray Fluorescence Meter (XRF)**
DATE:	SURVEYOR(S):

Sample #	Room Equivalent	Component	Substrate	Color	Quantity (SF)	Condition	LBP Result (mg/cm^2 +/-)	Positive/ Negative

Remember to verify calibration on closeout (see front page)

Sample Location Drawing (optional)

BROOKHAVEN NATIONAL LABORATORY

IH103900 Attachment 9.5

HP-IHP-103900

Environmental, Safety, Health & Quality Directorate
SHSD Industrial Hygiene

Detection of Lead in Coatings by the NITON XL300 X-Ray Fluorescence Meter- Qualified Sampler

Job Performance Measure (JPM) Completion Certificate

Candidate's Name	Life Number:

Knowledge of the Principles of the Hazard and the Method

Criteria	Qualifying Standard	Unsatis-factory	Recov-ered	Satisf-.actory
Hazard Analysis	Understands the need to perform a hazard analysis of the sampling area and potential exposure to the sampler.			
Personal Protective Equipment	Understands the need to be aware of the potential lead contamination to sampler and knows how to determine the need for PPE.			
Sampling Protocol	Understands the exposure monitoring logic necessary to appropriately select sampling locations to accurately measure worker, public and environmental exposure potential.			
Analysis of data	Understands the need to perform analysis on the sampling data to assess potential exposure to the sampler, worker, public and environment, and to recommend corrective actions as necessary, and employee notification.			

Practical Skill Evaluation: Demonstration of Field Methodology

Criteria	Qualifying Performance Standard	Unsatis-factory	Recov-ered	Satisf-.actory
Sampling Equipment	Knows where equipment needed for the procedure is located and how to properly sign it out.			
Preparation of the meter	Understands the importance of checking the calibration of the meter prior to and at the end of use.			
Placement of Meter	Demonstrates the proper placement of the meter on surfaces for testing.			
Sampling Repetition	Understands the importance of multiple readings at each location and multiple similar locations to obtain confidence in the readings.			
Record forms	Shows how to correctly and completely fill all forms associated with this SOP.			
Data Analysis	Shows how to correctly have the data analyzed and compared to occupational exposure limits and surface limits.			
Employee Notification	Knows how to timely and properly notify workers and management of over exposure or contaminated surfaces.			

Employee: I accept the responsibility for performing this task as demonstrated within this JPM and the corresponding SOP.

Candidate Signature:	Date:

Evaluator: I certify the candidate has satisfactorily performed each of the above listed steps and is capable of performing the task unsupervised.

Evaluator Signature:	Date: