



March 12, 2014

Mr. Samuel Archambault
Civil Engineer
Custer National Forest
1310 Main Street
Billings, Montana 59105

Delivered via email sarchambault@fs.fed.us

**SUBJECT: Report of Limited Pre-Renovation Lead-Based Paint Inspection Services and Toxic Characteristics Leaching Procedure (TCLP) Sample Collection Services
2014 Interior Renovation Project
Rock Creek Work Center, Beartooth Ranger District
Red Lodge, Montana
Tetra Tech Project No. 114-551407.100**

Dear Mr. Archambault:

Tetra Tech has completed limited pre-renovation lead-based paint (LBP) inspection and TCLP waste characterization sampling services at the above referenced facility. These testing and sample collection services were conducted at your request in order to identify building components coated with LBP prior to future renovation activities. Select building substrates were identified as being coated with LBP. Please see the enclosed report for further information regarding the LBP identified during this inspection.

We appreciate the opportunity to work with you on this project, and we look forward to continuing to provide industrial hygiene services to you on future projects. If you have any questions or comments, please feel free to contact me in our Billings, Montana office at (406) 248-9161.

Sincerely,

Tetra Tech

A handwritten signature in blue ink that reads 'Jared Shaw'.

Jared Shaw
Project Scientist

JS/ba

I:\T-Z\US Forest Service\114-551407 - Rock Creek Log Cabin LBP\150-Deliverable Reports\USFS Rock Creek Work Center LBP & TCLP Insp Rpt.docx

Enclosure



TETRA TECH

Report of

**Limited Pre-Renovation Lead-Based Paint Inspection
and TCLP Sample Collection Services**

**Rock Creek Work Center
Beartooth Ranger District**

Red Lodge, Montana

April 2014

complex world

CLEAR SOLUTIONS™

Report of Limited Pre-Renovation Lead-Based Paint Inspection and TCLP Sample Collection Services

*Rock Creek Work Center
Beartooth Ranger District
Red Lodge, Montana*

Prepared for:

*Mr. Samuel Archambault
Civil Engineer
Custer National Forest
1310 Main Street
Billings, Montana 59105*

Prepared by:

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Tetra Tech Project No. 114-551407.100



Jared Shaw
Project Scientist
Lead-Based Paint Inspector # MT-R-15503-3
Expires September 17, 2016



Roger W. Herman, Jr.
Asbestos, Lead & IH Services Manager
Lead-Based Paint Inspector # MT-R-4020-3
Expires October 2, 2016

March 12, 2014

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REPORT OF LIMITED PRE-RENOVAITON LEAD-BASED PAINT INSPECTION AND TCLP SAMPLE COLLECTION ROCK CREEK WORK CENTER

1.0 INTRODUCTION

Tetra Tech conducted limited pre-renovation lead-based paint (LBP) inspection and Toxic Characteristics Leaching Procedure (TCLP) Sample Collection of the Rock Creek Work Center located in Red Lodge, Montana. This work was conducted under the agreement to perform services between the United States Forest Service (USFS), Custer National Forest and Tetra Tech. The objective of the inspection was to identify LBP in the building scheduled for future renovation. Inspection and TCLP sample collection services were conducted by Mr. Daniel Lawrence on February 27, 2014.

1.1 Scope of Work

The scope of this inspection included:

- 1) Conducting a pre-renovation inspection of ACBM and LBP in the building. The inspection included:
 - Conducting a U.S. Environmental Protection Agency (EPA) and Department of Housing and Urban Development (HUD) level surface-by-surface inspection to determine the presence of LBP. Tetra Tech generally followed the HUD LBP inspection guidelines. The LBP inspection included documenting types of painted interior building components and substrate material.
 - Collection of a representative sample of wastes materials anticipated to be generated during the completion of the project, in order to determine hazardous versus non-hazardous waste characterization via Toxic Characteristic Leaching Procedure (TCLP) analysis (EPA SW846-(1311) TCLP/ EPA SW846-(740) "Standard Method to Test for Low Concentrations of Lead in Soils, Sludges and Sediments by AAS".
- 2) Preparing a report documenting the sampling procedures and presenting results of the inspection and TCLP waste characterization laboratory results.

1.2 Lead Overview

Prior to understanding that it posed a health risk, lead was added to paint for preservative purposes, making the paint more weather resistant, resistant to the growth of mold and mildew, and helped prevent corrosion of metal surfaces. According to the EPA, LBP is defined as surface coatings with a lead concentration greater than or equal to 1.0-milligrams per square centimeter (mg/cm²) or 0.5 percent by weight (Title X and 40 CFR Part 745). Federal OSHA does not define the amount of lead the paint must contain to be considered LBP. However, any detectable amount may trigger OSHA regulations (although these regulations apply only to occupational exposure). Deteriorated LBP can cause elevated lead in dust levels and exposure risks to building occupants.

2.0 PROCEDURES

The scope of work for this investigation included limited inspection and assessment of the building, and the collection of a representative sample of wastes materials anticipated to be generated during the completion of the project, in order to determine hazardous versus non-hazardous waste characterization. Lead inspection services were conducted in accordance with the HUD LBP inspection guidelines (HUD, 1995, revised 1997 and 2000). Waste characterization was conducted via the methods outlined in EPA SW846-1311 - TCLP/ EPA SW846-(740) "Standard Method to Test for Low Concentrations of Lead in Soils, Sludges and Sediments by AAS".

2.1 LBP Inspection

The LBP inspection included documenting types of painted building components and substrate materials. Tested building components included exterior siding and trim, interior and exterior window components, and interior walls. Substrate materials included, wood, metal, and drywall. The painted building components tested were cataloged based on location, specific component type, and substrate material.

The EPA and HUD define a lead inspection as a surface-by-surface investigation to determine the presence of LBP. Tetra Tech followed the HUD LBP inspection guidelines (HUD, 1995, revised 1997 and 2000). The EPA and HUD define LBP as any surface coating that contains 1.0 milligram per square centimeter or 0.5% by weight. The Occupational Safety and Health Administration (OSHA) defines LBP as any detectable concentration of lead.

Tetra Tech used field X-Ray Fluorescence (XRF) methodology to determine the presence or absence of LBP. XRF is identified as the recommended method to determine lead in paint (HUD, 1995, revised 1997 and 2000). For these inspections, Tetra Tech personnel utilized the Niton XLP, Spectrum Analyzer XRF, which automatically calculates measurable amounts of lead in paint by correcting for substrate conditions. The *XRF Performance Characteristic Sheet* for the XRF used by Tetra Tech specifies the ranges where XRF results are positive, negative, or inconclusive. The *Performance Characteristic Sheet* for this instrument is presented in Appendix A.

2.2 TCLP Sample Collection

Tetra Tech collected a composite sample of building substrates anticipated to constitute the anticipated waste stream associated with the renovation project. Representative amounts of buildings substrates were collected (via limited destructive testing) and submitted under proper chain of custody protocol to International Asbestos Testing Laboratories (IATL) of West Mont, New Jersey for analysis via EPA SW846-1311 - TCLP/ EPA SW846-740, for the determination of lead content. A Copy of the chain of custody and laboratory analytical report is included in Appendix B. The detected lead concentration was then compared to Resource Conservation and Recovery Act (RCRA) standards for lead in solid waste, in order to determine disposal requirements.

3.0 LEAD-BASED PAINT INSPECTION FINDINGS

3.1 LBP Inspection Results

XRF testing conducted during this inspection indicated that LBP as defined OSHA and EPA Standards is present on select interior and exterior components. Interior components included white painted wallboard system walls and ceilings of the bathroom and kitchen, and the associated green painted trim. Exterior components included white and green painted components associated with the window units of the building. LBP as defined by the EPA is summarized in Table 1 below. Components with LBP (as defined by the EPA) are highlighted on Figure 1 provided in Attachment C. A complete listing of XRF readings collected during this inspection is provided in Appendix D.

Table 1 Summary of Lead-Based Paint Rock Creek Work Center Beartooth Ranger District Red Lodge, Montana		
Location	Building Component and General Location	Highest Lead Concentration mg/cm ²
Interior	White painted wallboard system associated with interior walls of the Bathroom and Kitchen	7.3
Interior	White painted wallboard ceiling system associated with the Bathroom and Kitchen	7.1
Interior	White and green painted trim associated with Kitchen walls	1.8
Exterior	White painted wood components associated with exterior window units	7.9
mg/cm ² = milligrams per centimeter squared.		

The paint condition of the components which tested positive for LBP was generally fair on exterior components and intact on interior components at the time of our inspection.

3.2 TCLP Sample Collection Results

Building substrates included in the composite sample included painted surfaces anticipated to be disturbed during the renovation process. Based on the analysis, the anticipated waste stream associated with this project has a lead concentration of 0.20 milligrams per liter by TCLP analysis; and should be considered non-hazardous waste (containing less than 5 milligrams per liter lead). Accordingly, the waste stream can be disposed of at a local landfill as non-hazardous waste. The waste characterization results for this project are summarized below in Table 2.

Table 2 Summary of TCLP Sample Analysis Rock Creek Work Center Beartooth Ranger District Red Lodge, Montana			
Sample ID	Date Sampled	Contents	Results (milligrams per liter)
RC-22714-TCLP-1	February 27, 2014	Anticipated project waste stream	0.20

4.0 RECOMMENDATIONS

The LBP containing materials identified in Table 1 above, associated with the limited inspection completed by Tetra Tech on February 27, 2014 are recommended to be removed prior to disturbance activities. Tetra Tech recommends that prior to any renovation activities (where the identified LBP will be disturbed), that the LBP covered materials be stabilized or removed. The proper removal of LBP will protect workers from lead exposure, ensure that non-affected portions of the buildings are not contaminated, and reduce or eliminate the lead hazard in the building. It should be noted that while painted surfaces that tested less than 1 milligram per square centimeter are not considered an LBP by EPA regulations, OSHA does not recognize a threshold limit for lead in paint. Therefore safe work practices must be utilized when any amount of detectable lead is present. Tetra Tech recommends that renovation or removal involving painted surfaces with any amount of detectable lead be conducted by personnel who have received a minimum of 8-hours of Lead in the Construction Training (commonly referred to as "Lead Awareness Training").

Contractors should submit a detailed plan addressing worker training, worker exposure monitoring, and personal protective equipment (PPE) to the Owner or Owner's representative that will be utilized during the work. Engineering and administrative controls to limit the generation of lead dust during construction and action criteria for work stoppage, PPE upgrades, and work method alternatives should be addressed in the plan. Contractors should be informed of cleanup and clearance criteria for all renovation/ demolition activities that disturb surfaces with LBP coatings.

The waste materials associated with this project are considered non-hazardous for lead content, and can be disposed of as general construction debris.

5.0 LIMITATIONS

This pre-renovation LBP inspection report was prepared based on information obtained during site visits, and interpretation of analytical results. The conclusions of this report are professional opinions based solely upon visual site observations, previous inspections made by Tetra Tech, and interpretations of analyses and testing as described in our report.

This report has been prepared to provide information concerning the LBP which may be present in association with the structure at this site. It includes only those materials that were visible and accessible, and were reported to be anticipated to be disturbed during the renovation process at the time of our inspection.

This inspection and report is intended to identify and assess LBP. The results of the inspection are limited to those areas included as part of the inspection and may not be interpreted to include materials in other areas not included in the inspection.

Our opinions are intended exclusively for use by the USFS. The scope of services performed by Tetra Tech may not be appropriate to satisfy the needs of other users, and any use or re-use of this document, or the findings presented herein is at the sole risk of the user.

The opinions presented herein apply to the site conditions existing at the time of our investigation. Therefore, our opinions and recommendations may not apply to future conditions that may exist at the site which we have not had the opportunity to evaluate.

6.0 REFERENCES

Code of Federal Regulations (CFR), Title 40, Part 745, Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child Occupied Facilities; Final Rule, August 29, 1996, revised January 5, 2001.

Code of Federal Regulations (CFR), Title 24 Part 35 and Title 40, Part 745, Lead; Requirements for Disclosure of Know Lead-Based Paint and/or Lead-Based Paint Hazards in Housing; Final Rule, March 6, 1996.

Housing and Community Development Act, Residential Lead-Based Paint Hazard Reduction Act, Title X, 1992.

Housing and Urban Development (HUD), *Guidelines for the Control of Lead-Based Paint Hazards in Housing*, June 1995, revised 1997 and 2000.



APPENDIX A

XRF PERFORMANCE CHARACTERISTIC SHEET

Performance Characteristic Sheet

EFFECTIVE DATE: September 24, 2004

EDITION NO.: 1

MANUFACTURER AND MODEL:

Make: *Niton LLC*Tested Model: *XLP 300*Source: ^{109}Cd

Note: This PCS is also applicable to the equivalent model variations indicated below, for the Lead-in-Paint K+L variable reading time mode, in the XLI and XLP series:

XLI 300A, XLI 301A, XLI 302A and XLI 303A.

XLP 300A, XLP 301A, XLP 302A and XLP 303A.

XLI 700A, XLI 701A, XLI 702A and XLI 703A.

XLP 700A, XLP 701A, XLP 702A, and XLP 703A.

Note: The XLI and XLP versions refer to the shape of the handle part of the instrument. The differences in the model numbers reflect other modes available, in addition to Lead-in-Paint modes. The manufacturer states that specifications for these instruments are identical for the source, detector, and detector electronics relative to the Lead-in-Paint mode.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Lead-in-Paint K+L variable reading time mode.

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive)

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION:

For XRF results using Lead-in-Paint K+L variable reading time mode, substrate correction is not needed for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

INCONCLUSIVE RANGE OR THRESHOLD:

K+L MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm ²)
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted in August 2004 on 133 testing combinations. The instruments that were used to perform the testing had new sources; one instrument's was installed in November 2003 with 40 mCi initial strength, and the other's was installed June 2004 with 40 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Substrate correction is not needed for brick, concrete, drywall, metal, plaster or wood when using Lead-in-Paint K+L variable reading time mode, the normal operating mode for these instruments. If substrate correction is desired, refer to Chapter 7 of the HUD Guidelines for guidance on correcting XRF results for substrate bias.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use the K+L variable time mode readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

For the Lead-in-Paint K+L variable reading time mode, the instrument continues to read until it is moved away from the testing surface, terminated by the user, or the instrument software indicates the reading is complete. The following table provides testing time information for this testing mode. The times have been adjusted for source decay, normalized to the initial source strengths as noted above. Source strength and type of substrate will affect actual testing times. At the time of testing, the instruments had source strengths of 26.6 and 36.6 mCi.

Testing Times Using K+L Reading Mode (Seconds)						
Substrate	All Data			Median for laboratory-measured lead levels (mg/cm ²)		
	25 th Percentile	Median	75 th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	11	19	11	15	11
Metal	4	12	18	9	12	14
Brick Concrete Plaster	8	16	22	15	18	16

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than or equal to the threshold, and negative if they are less than the threshold.

DOCUMENTATION:

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.



APPENDIX B

LABORATORY ANALYTICAL REPORT



9000 Commerce Parkway, Suite B
 Mount Laurel, NJ 08054
 Toll Free 877-428-4285
 Local: 856-231-9449
 Fax: 856-231-9818

CERTIFICATE OF ANALYSIS

Client:	Tetra Tech	Report Date:	3/10/2014
	618 South 25th Street	Report Number:	326915
	Billings MT 59101	Project:	USFS Rock Creek Cabin
		Project No.:	

LEAD TCLP SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client No.</u>	<u>Location / Description</u>	<u>Total Lead (mg / kg)</u>	<u>TCLP Lead (mg / L)</u>
5245576	RC-22714-TCLP-1	Building Material Composite 2/27/14	12000	0.20

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

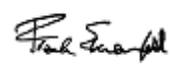
NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
 EPA SW846-(7420) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

* Samples containing 100 ppm total lead or more require TCLP analysis (Ref. 1311 Sec 1.2). TCLP threshold value is 5.0 mg / L.

Date Received: 3/3/2014
Date Analyzed: 3/10/2014
Analyst: C. Shaffer

Approved By: 
 Frank E. Ehrenfeld, III
 Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Tetra Tech
618 South 25th Street
Billings MT 59101

Report Date: 3/10/2014
Report Number: 326915
Project: USFS Rock Creek Cabin
Project No.:

LEAD TCLP SAMPLE ANALYSIS SUMMARY

<u>Lab No.</u>	<u>Client No.</u>	<u>Location / Description</u>	<u>Total Lead (mg / kg)</u>	<u>TCLP Lead (mg / L)</u>
5245576	RC-22714-TCLP-1	Building Material Composite 2/27/14	12000	0.20

NATIONAL LEAD LABORATORY ACCREDITATION PROGRAM (NLLAP)

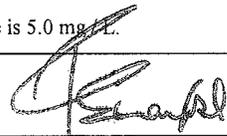
NYSDOH-ELAP 11021

Analysis Method: EPA SW846-(1311) TCLP "Toxicity Characteristic Leaching Procedure"
EPA SW846-(7000B) "Standard Method To Test For Low Concentrations Of Lead In Soils, Sludges And Sediments By AAS"

Comments: IATL assumes that all of the sampling methods and data upon which these results are based, have been accurately supplied by the client. Method Detection Limit (MDL) per EPA Method 40 CFR Part 136 Appendix B. Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies. LSD=0.2 ppm MDL=3.2 mg/kg RL=10 mg/kg (based upon 1000 mg sampled). Mg/kg=ppm Sample results are not corrected for contamination by field or analytical blanks.

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Date Received: 3/3/2014
Date Analyzed: 3/10/2014
Analyst: C. Shaffer

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

Chain of Custody

– Environmental Lead –

EMAILED
PC 3.10.14

Contact Information

Client Company: <u>Tetra Tech</u>	Project Number: _____
Office Address: <u>618 South 25th Street</u>	Project Name: <u>USFS Rock Creek Cabin</u>
City, State, Zip: <u>Billings, Montana 59101</u>	Primary Contact: <u>Jared Shaw</u>
Fax Number: <u>406.248.9282</u>	Office Phone: <u>406.248.9161</u>
Email Address: <u>jared.shaw@tetratech.com</u>	Cell Phone: <u>406.248.9161</u>

iATL is accredited by the National Lead Laboratory Accreditation Program (NLLAP) to perform analytical testing of environmental samples for lead (Pb). The accreditation is through AIHA-LAP, LLC and several other nationally recognized state programs.

Matrix/Method:

- Paint by AAS: ASTM D3335-85a, 2009
- Wipe/Dust by AAS: SW 846: 3050B: 700B, 2010
- Air by AAS: NIOSH 7082, 1994
- Soil by AAS: EPA SW 846 (Soil)
- Water by AAS-GF: ASTM D3559-03D, USEPA 40CFR 141.11B, 2010
- Other Metals (Cd, Zn, Cr) by AAS
- Toxicity Characteristic Leaching Procedure (TCLP) by AAS: USEPA 1311
- Other _____

Special Instructions:

Turnaround Time

Preliminary Results Requested Date: _____ Verbal Email Fax
Specific date / time
 10 Day 5 Day 3 Day 2 Day 1 Day* 12 Hour** 6 Hour** RUSH**

* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***

Chain of Custody

Relinquished (Name/Organization): <u>Don Lawrence TF</u>	Date: <u>2/25/14</u>	Time: <u>1000-hrs</u>	RECEIVED
Received (Name / iATL): _____	Date: _____	Time: _____	
Sample Login (Name / iATL): <u>h</u>	Date: <u>3/3/14</u>	Time: _____	
Analysis(Name(s) / iATL): <u>3/3/14</u>	Date: _____	Time: _____	
QA/QC Review (Name / iATL): <u>@ms 3/7/14</u>	Date: _____	Time: <u>MAR 3 2014</u>	
Archived / Released: _____ QA/QC InterLAB Use: _____	Date: _____	Time: _____	

DAILY QUALITY CONTROL DATA

LEAD SAMPLE ANALYSIS

(DATE: 03 / 10 / 14)

Standard	Total Lead (mg)	Percent Recovery **
Reagent Blank	0.000	< LOQ
Blank Spike	0.500	103
Lab Control Std	1.960	97
Matrix Spike - LBP *	0.25	97
Matrix Spike - Wipe *	0.24	98
Matrix Spike - Soil *	0.325	98
Matrix spike - Air *		
2.5 ppm Standard	0.25	104
10.0 ppm Standard	1.0	104
40.0 ppm Standard	4.0	98

AIHA-LAP, LLC No. 100188

NYSDOH-ELAP No. 11021

Analysis Method: ASTM D3335-85A
NIOSH 7082
EPA SW846 3050B 7000B

Comments: IATL assumes that all sampling complies with accepted methods.
All client supplied sampling data is assumed to be correct when calculating results.
Detection limit based upon 0.2 mg/L reporting limit and sample size.
* NIST Traceable.
** 80-120% acceptable limits.

Analyzed By: R. Chad Shaffer
R. Chad Shaffer

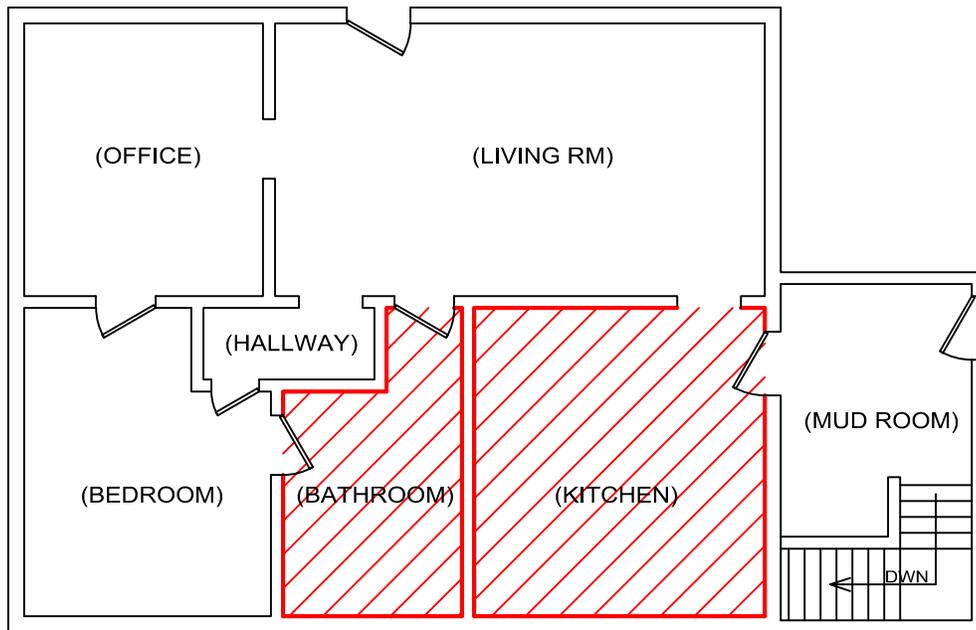
Date: 3/10/14

Approved By: Frank E. Ehrenfeld, III
Laboratory Director



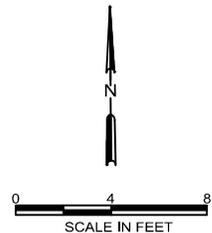
APPENDIX C

FIGURE



Legend

- Walls with Lead Based Paint
- / Ceiling with Lead Based Paint



LEAD BASED PAINT SURVEY
 Rock Creek Work Center
 United States Forest Service
 Red Lodge, Montana

DATE: 03/04/2013	DRAWN BY: DLL
REVIEWED: JS	APPROX. SCALE: 1" = 8'
PROJ. NO. 114-551407	FIGURE NO. 1



APPENDIX D

SUMMARY OF XRF RESULTS

EXPLANATION OF XRF TEST HEADINGS

The Niton XLp 300 XRF is capable of detecting lead concentrations of less than 1.0 mg/cm² through multiple layers of paint. The Niton Corporation indicates accuracy of the Niton XLp 300 XRF to be plus or minus 0.15 mg/cm² for surface lead; plus or minus 0.2 mg/cm² for buried lead; and plus or minus 0.3 mg/cm² for deeply buried lead, for all substrates at a 95% confidence level. The Niton XLp 300 displays readings and ancillary information useful for classification purposes. An algorithm indicated by the HUD/EPA-issued *XRF Performance Characteristic Sheet* for classifying results is first applied to 20-second L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results and then paint chip samples are to be collected if necessary. The *Performance Characteristic Sheet* for the Niton XLp 300 XRF is located in Appendix C.

The **Reading No.** Heading refers to the XRF numbering assignment for the reading being collected.

The **Site** refers to the general area tested.

The **Structure** describes the item or surface being tested within the site such as certain headers.

The **Feature** further describes the item or surface being tested, headers, header pipes, or floors etc...

The **Substrate** heading tells what the painted structure or feature tested is made of.

The **PbL Avg (mg/cm²)** is the XRF measurement of the concentration (milligrams) of lead per square centimeter (cm²) of a painted surface. According to the HUD Guidelines, the level of lead in paint or other coating which materially endangers the health of children by producing a substantial and serious danger of lead poisoning is a measurement of 1.0 mg/cm² or greater as measured by X-Ray Florescence (XRF).

No.	Component	Substrate	Side	Condition	Color	Site	Insp	Room	Results	PB	Pb+/-	Units	Time
1	calibrate check					RCC	DL		Positive	1	0.8	mg / cm ^2	2/27/2014 13:38
2	calibrate check					RCC	DL		Positive	1.3	1	mg / cm ^2	2/27/2014 13:38
3	calibrate check					RCC	DL		Positive	1.2	1	mg / cm ^2	2/27/2014 13:38
4	floor	WOOD	LOWER	INTACT	stain	RCC	DL		Negative	0	0.14	mg / cm ^2	2/27/2014 13:40
5	floor	WOOD	LOWER	INTACT	stain	RCC	DL		Negative	0	0.13	mg / cm ^2	2/27/2014 13:40
6	floor	WOOD	LOWER	INTACT	stain	RCC	DL		Negative	0	0.04	mg / cm ^2	2/27/2014 13:41
7	WALL	DRYWALL	A	INTACT	WHITE	RCC	DL		Negative	0	0.08	mg / cm ^2	2/27/2014 13:43
8	WALL	DRYWALL	B	INTACT	WHITE	RCC	DL		Negative	0.01	0.05	mg / cm ^2	2/27/2014 13:46
9	WALL	DRYWALL	B	INTACT	WHITE	RCC	DL		Negative	0	0.39	mg / cm ^2	2/27/2014 13:47
10	WALL	DRYWALL	C	INTACT	WHITE	RCC	DL		Negative	0	0.08	mg / cm ^2	2/27/2014 13:50
11	WALL	DRYWALL	C	INTACT	WHITE	RCC	DL		Negative	0	0.05	mg / cm ^2	2/27/2014 13:53
12	WALL	DRYWALL	D	INTACT	WHITE	RCC	DL		Negative	0	0.51	mg / cm ^2	2/27/2014 13:54
13	BASEBOARD	WOOD	A	INTACT	stain	RCC	DL		Negative	0	0.04	mg / cm ^2	2/27/2014 13:56
14	BASEBOARD	WOOD	C	INTACT	stain	RCC	DL		Positive	0	0.06	mg / cm ^2	2/27/2014 13:57
15	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.02	0.08	mg / cm ^2	2/27/2014 13:59
16	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.01	0.7	mg / cm ^2	2/27/2014 13:59
17	TRIM	WOOD	A	INTACT	stain	RCC	DL		Positive	0	0.04	mg / cm ^2	2/27/2014 14:00
18	DOOR	WOOD	A	INTACT	stain	RCC	DL		Negative	0	0.11	mg / cm ^2	2/27/2014 14:02
19	DOOR	WOOD	C	INTACT	stain	RCC	DL		Negative	0	0.03	mg / cm ^2	2/27/2014 14:04
20	WINDOW	WOOD	B	INTACT	stain	RCC	DL		Negative	0.02	0.11	mg / cm ^2	2/27/2014 14:05
21	WINDOW	WOOD	B	INTACT	stain	RCC	DL		Positive	0	0.4	mg / cm ^2	2/27/2014 14:06
22	WINDOW	WOOD	B	INTACT	stain	RCC	DL		Negative	0	0.09	mg / cm ^2	2/27/2014 14:06
23	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Negative	0	0.02	mg / cm ^2	2/27/2014 14:09
24	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Negative	0	0.02	mg / cm ^2	2/27/2014 14:09
25	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Negative	0	0.02	mg / cm ^2	2/27/2014 14:10
26	WALL	DRYWALL	B	INTACT	WHITE	RCC	DL		Positive	1.4	0.2	mg / cm ^2	2/27/2014 14:12
27	WALL	DRYWALL	C	INTACT	WHITE	RCC	DL		Positive	1.5	0.3	mg / cm ^2	2/27/2014 14:13
28	WALL	DRYWALL	D	INTACT	WHITE	RCC	DL		Positive	2.4	0.3	mg / cm ^2	2/27/2014 14:14
29	BASEBOARD	WOOD	A	INTACT	stain	RCC	DL		Negative	0.14	0.05	mg / cm ^2	2/27/2014 14:16
30	TRIM	WOOD	B	INTACT	stain	RCC	DL		Negative	0.18	0.04	mg / cm ^2	2/27/2014 14:18
31	TRIM	WOOD	B	INTACT	stain	RCC	DL		Positive	0.01	0.1	mg / cm ^2	2/27/2014 14:18
32	DOOR	WOOD	C	INTACT	stain	RCC	DL		Negative	0.16	0.04	mg / cm ^2	2/27/2014 14:20

No.	Component	Substrate	Side	Condition	Color	Site	Insp	Room	Results	PB	Pb+/-	Units	Time
33	WINDOW	WOOD	A	INTACT	stain	RCC	DL		Positive	0	0.06	mg / cm ^2	2/27/2014 14:23
34	WINDOW	WOOD	A	INTACT	stain	RCC	DL		Negative	0	0.06	mg / cm ^2	2/27/2014 14:24
35	WINDOW	WOOD	A	INTACT	WHITE	RCC	DL		Positive	7.9	7.3	mg / cm ^2	2/27/2014 14:24
36	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Negative	0.05	0.03	mg / cm ^2	2/27/2014 14:28
37	FLOOR	WOOD	LOWER	INTACT	stain	RCC	DL		Negative	0	0.02	mg / cm ^2	2/27/2014 14:30
38	BASEBOARD	WOOD	C	INTACT	stain	RCC	DL		Negative	0.15	0.04	mg / cm ^2	2/27/2014 14:31
39	WALL	DRYWALL	B	INTACT	WHITE	RCC	DL		Positive	2.8	0.1	mg / cm ^2	2/27/2014 14:34
40	WALL	DRYWALL	B	INTACT	GREEN	RCC	DL		Positive	1.4	0.2	mg / cm ^2	2/27/2014 14:38
41	TRIM	WOOD	A	INTACT	stain	RCC	DL		Positive	0	0.04	mg / cm ^2	2/27/2014 14:40
42	DOOR	WOOD	A	INTACT	TAN	RCC	DL		Negative	0.02	0.05	mg / cm ^2	2/27/2014 14:40
43	TRIM	WOOD	UPPER	INTACT	GREEN	RCC	DL		Negative	1.8	0.1	mg / cm ^2	2/27/2014 14:45
44	CEILING	WOOD	UPPER	INTACT	WHITE	RCC	DL		Negative	0.03	0.04	mg / cm ^2	2/27/2014 14:46
45	CEILING	WOOD	UPPER	INTACT	WHITE	RCC	DL		Negative	0.08	0.3	mg / cm ^2	2/27/2014 14:46
46	CEILING	WOOD	UPPER	INTACT	WHITE	RCC	DL		Positive	1.5	0.3	mg / cm ^2	2/27/2014 14:47
47	FLOOR	WOOD	LOWER	INTACT	stain	RCC	DL		Positive	0	0.05	mg / cm ^2	2/27/2014 14:52
48	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.11	0.14	mg / cm ^2	2/27/2014 14:53
49	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.12	0.07	mg / cm ^2	2/27/2014 14:53
50	WALL	DRYWALL	C	INTACT	WHITE	RCC	DL		Negative	0.07	0.05	mg / cm ^2	2/27/2014 14:55
51	WALL	DRYWALL	C	INTACT	TAN	RCC	DL		Negative	0.07	0.08	mg / cm ^2	2/27/2014 14:55
52	WALL	DRYWALL	C	INTACT	TAN	RCC	DL		Negative	0.07	0.04	mg / cm ^2	2/27/2014 14:56
53	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.03	0.05	mg / cm ^2	2/27/2014 14:59
54	DOOR	WOOD	A	INTACT	stain	RCC	DL		Negative	0.04	0.08	mg / cm ^2	2/27/2014 15:00
55	DOOR	WOOD	A	INTACT	TAN	RCC	DL		Negative	0.05	0.33	mg / cm ^2	2/27/2014 15:00
56	DOOR	WOOD	A	INTACT	TAN	RCC	DL		Negative	0.05	0.14	mg / cm ^2	2/27/2014 15:00
57	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Negative	0.03	0.02	mg / cm ^2	2/27/2014 15:02
58	BASEBOARD	WOOD	D	INTACT	stain	RCC	DL		Positive	0	0.5	mg / cm ^2	2/27/2014 15:05
59	WALL	DRYWALL	B	INTACT	WHITE	RCC	DL		Positive	5.5	5.1	mg / cm ^2	2/27/2014 15:06
60	TRIM	WOOD	D	INTACT	WHITE	RCC	DL		Positive	1.6	0.4	mg / cm ^2	2/27/2014 15:08
61	DOOR	WOOD	D	INTACT	WHITE	RCC	DL		Negative	0.02	0.06	mg / cm ^2	2/27/2014 15:08
62	WINDOW	WOOD	C	INTACT	WHITE	RCC	DL		Negative	0.15	0.03	mg / cm ^2	2/27/2014 15:12
63	WINDOW	WOOD	C	INTACT	WHITE	RCC	DL		Positive	1.4	0.2	mg / cm ^2	2/27/2014 15:13
64	WINDOW	WOOD	C	INTACT	WHITE	RCC	DL		Positive	1.5	1.3	mg / cm ^2	2/27/2014 15:14

No.	Component	Substrate	Side	Condition	Color	Site	Insp	Room	Results	PB	Pb+/-	Units	Time
65	TRIM	WOOD	UPPER	INTACT	GREEN	RCC	DL		Negative	0.02	0.05	mg / cm ^2	2/27/2014 15:16
66	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Positive	3.6	3.2	mg / cm ^2	2/27/2014 15:17
67	BASEBOARD	WOOD	B	INTACT	stain	RCC	DL		Positive	0	0.3	mg / cm ^2	2/27/2014 15:20
68	WALL	DRYWALL	C	INTACT	WHITE	RCC	DL		Positive	1.6	1.4	mg / cm ^2	2/27/2014 15:21
69	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.16	0.31	mg / cm ^2	2/27/2014 15:23
70	TRIM	WOOD	A	INTACT	stain	RCC	DL		Negative	0.13	0.05	mg / cm ^2	2/27/2014 15:23
71	TRIM	WOOD	B	INTACT	stain	RCC	DL		Negative	0.08	0.09	mg / cm ^2	2/27/2014 15:24
72	WINDOW	WOOD	B	INTACT	stain	RCC	DL		Negative	0.13	0.07	mg / cm ^2	2/27/2014 15:26
73	WINDOW	WOOD	B	INTACT	stain	RCC	DL		Negative	0.1	0.09	mg / cm ^2	2/27/2014 15:27
74	WINDOW	WOOD	B	INTACT	stain	RCC	DL		Positive	5.8	5.1	mg / cm ^2	2/27/2014 15:28
75	TRIM	WOOD	UPPER	INTACT	GREEN	RCC	DL		Positive	2.1	1.9	mg / cm ^2	2/27/2014 15:29
76	CEILING	DRYWALL	UPPER	INTACT	WHITE	RCC	DL		Positive	7.1	6.9	mg / cm ^2	2/27/2014 15:40
77	TRIM	WOOD	D	INTACT	GREEN	RCC	DL		Positive	4.5	4	mg / cm ^2	2/27/2014 15:42
78	TRIM	WOOD	A	INTACT	WHITE	RCC	DL		Positive	4	3.6	mg / cm ^2	2/27/2014 15:42
79	WALL	DRYWALL	A	INTACT	WHITE	RCC	DL		Positive	7.3	7	mg / cm ^2	2/27/2014 15:42
80	FLOOR	WOOD	LOWER	INTACT	grey	RCC	DL		Positive	0.01	0.2	mg / cm ^2	2/27/2014 15:43
81	FLOOR	WOOD	LOWER	INTACT	grey	RCC	DL		Positive	0	0.2	mg / cm ^2	2/27/2014 15:47
82	FLOOR	WOOD	LOWER	INTACT	grey	RCC	DL		Positive	0.01	0.2	mg / cm ^2	2/27/2014 15:47
83	FLOOR	WOOD	LOWER	INTACT	grey	RCC	DL		Positive	0	0.9	mg / cm ^2	2/27/2014 15:47
84	calibrate check					RCC	DL		Positive	1	0.8	mg / cm ^2	2/27/2014 13:38
85	calibrate check					RCC	DL		Positive	1.3	1	mg / cm ^2	2/27/2014 13:38
86	calibrate check					RCC	DL		Positive	1.2	1	mg / cm ^2	2/27/2014 13:38