Michigan Department of Community Health
Healthy Homes Section

Environmental Investigations for Children with Elevated Blood Lead Levels Protocol

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Tab 1

Introduction

February 2004

This EBL Environmental Investigation protocol was developed as a standard of care for all local health departments in Michigan to apply during investigations of children with elevated blood lead levels in their jurisdictions. This standard of care will impart a quality service to the public and ensure a comprehensive investigation designed to identify the possible causes of the child's lead poisoning and recommend a range of interventions to protect the child from further exposure and harm.

Lead paint hazards that have poisoned a child are implicitly considered an imminent danger according to Michigan Compiled Law 333.2251 of the Public Health Code Act 368 of 1978. An imminent danger constitutes a condition that could cause death or serious physical harm immediately or before the imminence of the danger can be eliminated through enforcement. Upon this determination, local public health departments should inform parents/guardians of lead poisoned children of the imminent danger. The department should issue an order that incorporates the investigation findings and requires immediate action necessary to correct or remove the danger. The order may specify action to be taken or prohibit the presence of persons in locations where the danger exists, except persons who correct or remove the imminent danger.

I PRINCIPLES OF THE EBL ENVIRONMENTAL INVESTIGATION

An EBL Environmental Investigation is a complete Risk Assessment per Michigan lead laws as a base service with the addition of the following elements:

- The purpose of the investigation is to identify all possible causes of the lead poisoning in order to protect the child from further exposure and harm
- The scope of the investigation focuses on all sources of lead in the child's environment, including household items (i.e., ceramics, cultural/medicinal remedies, furniture), and other dwellings the child frequents
- The environmental sampling plan for dust and soil must take into account the child's frequenting areas of the property
- Local health departments may order lead hazard control to be performed based on local ordinances, using the hazard control options that are recommended by the EBL environmental investigator.

EBL environmental investigators should have good interviewing techniques as well as proficiency in risk assessment and environmental sampling techniques.

If a local health department is investigating a lead poisoning case, a Lead Hazard Screen, Lead Inspection, or Risk Assessment is NOT an acceptable substitute for an EBL Environmental Investigation and should not be conducted.

II WHAT INITIATES AN EBL ENVIRONMENTAL INVESTIGATION?

Typically, a venous (confirmatory) blood lead level of a child initiates an Environmental Investigation. Local health departments have varying policies regarding the minimum lead level that triggers this service. Depending upon staffing resources within the department, some agencies will conduct Environmental Investigations on lead levels as low as 10 ug/dL. This is the lowest level at which Medicaid will reimburse the local agency for the investigation. This level is also designated the level of concern by the Centers for Disease Control and Prevention (CDC). Other policies call for 2 consecutive lead levels between 15 to 19 ug/dL at least three months apart, or a single lead level at 20 ug/dL or above. The investigator should research the local department's policy to determine what lead level triggers EBL Environmental Investigations in their jurisdiction.

III TIME FRAMES FOR EBL ENVIRONMENTAL INVESTIGATIONS

The March 2002 CDC guidelines indicate that blood lead levels between 20-44 ug/dL or 2 blood tests at least 3 months apart in the 15-19 ug/dL range should receive an investigation of the child's environment within 5 business days of the referral; children with levels between 45 and 69 ug/dL should have an Environmental Investigation within 48 hours; and levels at or above 70 ug/dL should trigger an Environmental Investigation within 24 hours of the referral.

IV TRAINING AND CERTIFICATION REQUIREMENTS

All local health department employees and contracted individuals performing Environmental Investigations for lead poisoned children must be Risk Assessor-certified with the Lead Hazard Remediation Program. In order to become a Risk Assessor, an individual must train and become certified as a Lead Inspector also. Training is offered by private firms accredited by the Lead Hazard Remediation Program.

There are no prerequisites for training; however, to be certified there are education and experience requirements for the Risk Assessor certification. If the employee is a nurse or sanitarian with current registration, this is all that is needed to obtain certification. If not, the employee must have one of the following: a bachelor degree and one year of experience in the lead, asbestos, environmental remediation work or construction field; an associate degree and two years of experience in an above field; or a high school diploma and three years of experience in an above field.

An employee has six months from the date of training to submit a certification application to the Lead Hazard Remediation Program AND pass a state examination. During this time period, the employee has up to three opportunities to pass the state exam. All fees are waived for local health department staff as a courtesy, except for examination fees which were $125 in 2004. All certified Risk Assessors are required to take a refresher course every three years and pass the

state exam to remain in certified status. Contact the Lead Hazard Remediation Program at 517.335.9390 or toll-free 866.691.5323 for an application or visit the website at www.michigan.gov/leadsafe.

V X-RAY FLUORESCENCE (XRF) LEAD ANALYZER

An XRF analyzer is not required to conduct an EBL Environmental Investigation according to Michigan law or corresponding standard methodologies. Local health departments should not omit this service to the public or the Medicaid population because it does not possess one or have access to one. Complete EBL Environmental Investigations can be performed using dust wipes, several paint chip samples as necessary, and soil samples.

XRF analyzers are estimated to cost $25,000 and require radioactive source replacements serviced by the manufacturer at $3,000 every two years. XRF analyzers are required to be registered with the Michigan Department of Environmental Quality, Drinking Water and Radiological Protection. Regulations regarding XRFs must be adhered to. Manufacturer's training is recommended for users; public health nurses and environmental sanitarians can take this training without any prerequisites. XRF regulations, recommendations and forms are included in Appendix A.

VI REFERRALS

The Environmental Investigation always begins with a referral. Referring parties are usually one of the following:

- Medical providers (Family Practice physician, pediatrician, or hospital department)
- Social services organization caseworkers
- Michigan Department of Community Health, Childhood Lead Poisoning Prevention Program
- Local health department community clinic, or other local health organization
- Family of lead poisoned child
- Medical laboratories

Programs within the local health department receiving the referral may be one or more of the following areas:

- Environmental Health
- Community Nursing
- Epidemiology
- Toxicology

There should be sufficient lines of communication within the department to ensure that the person receiving the referral from the public forwards the call or information to the program that is responsible for performing the Environmental Investigation.

VII INTERNAL AGENCY COMMUNICATIONS

In order to ensure the best coordination of care for the lead poisoned child, internal communications should happen regularly between the Environmental Health and Public Health Nursing Divisions. Some local agencies accomplish this through case management conferences. The nursing staff responsible for lead services should be informed of the case, if the referral had not been initiated from their office. The investigator should inform the lead nurse of any background and child data collected, in addition to the findings of the Environmental Investigation. The nurse should be notified in advance of a scheduled home visit. Some local health departments combine the environmental investigation and nursing services together during one home visit for efficiency and minimal disturbance to the family.

VIII WHEN A CHILD IS HOSPITALIZED FOR LEAD POISONING

When a child is hospitalized for treatment of lead poisoning, the EBL Environmental Investigation should be initiated and processed on an emergency basis. Parents/guardians and rental property owners (if applicable) should be contacted personally rather than by mail. All actions should be expedited for immediate abatement of lead hazards, so the child can return to a lead hazard-free environment. If this is not possible, alternate lead-safe housing should be sought for the child. Communication with the medical staff treating the child is essential to ensure that the child is released to a lead-safe environment.

IX GUIDANCE FOR MEDICAID REIMBURSEMENT

This section provides guidance on Medicaid reimbursement issues. Although this section guidance is intended to refer to the most current Medicaid bulletins regarding lead services, it is prudent to check Medicaid's website for accuracy and other bulletins that may have been released since the issuance of this guidance. Medicaid bulletins, forms and guidance can be found electronically at http://michigan.gov/mdch and by entering the Medicaid Policy link.

What are the basic client parameters for Medicaid reimbursement for EBL Environmental Investigations?

Medicaid will reimburse the local health department for environmental investigation services provided for any Medicaid-eligible/enrolled child up to 21 years of age, who has a venous blood lead level of 10 ug/dL or greater. Capillary blood lead tests are not acceptable confirmatory tests for Medicaid reimbursement at this time.

Medicaid will reimburse local health departments up to a certain dollar amount for an initial Environmental Investigation, and a follow-up Environmental Investigation. If it is the investigator's professional judgement that the initial Environmental Investigation findings do not substantiate the child's lead level, the investigator can identify and perform a second assessment at another property (e.g., day care home, facility). This second site Environmental Investigation will also be reimbursed by Medicaid as an initial visit, in addition to a follow-up Environmental Investigation, if one is performed.

Medical Services Administration (MSA) Bulletin 01-01 provides the reimbursement rates for lead poisoning services (Appendix A) as of April 2001. For the most current reimbursement rates, go to the MDCH website at http://michigan.gov/mdch and click on the following links: Medicaid Policy, Providers, Information for Medicaid Providers, Medicaid Fee Screens, and the Practitioner and Medical Clinic database. While in the database look up the fee codes for lead services—T1029 and T1029 with the TS modifier. Note that these codes may change in the future.

Will a same-day combined Nursing and Environmental Investigation home visit be reimbursed by Medicaid?

If the Environmental Health and Nursing staff perform a combined home visit and provide their services, the health department can bill Medicaid for an Environmental Investigation and a Nursing Assessment/Investigation. Medicaid will reimburse for both services taking place on the same date, if the local agency is a qualified provider of both services.

How do I know if my health department is eligible to bill Medicaid for reimbursement of Environmental Investigation services and receive payment?

In order to receive Medicaid reimbursement for EBL Environmental Investigations, the local health department must be a recognized provider of blood lead follow-up services with Medicaid. MSA Bulletin 02-10, effective September 1, 2002, details this process. This protocol provides a sample Medicaid billing form (including billing codes) that can used by EBL investigators and internal billing staff. The Bulletin and sample form are included in Appendix A.

Who must perform the Environmental Investigation in order for Medicaid to reimburse for the service?

Any local agency billing Medicaid for Environmental Investigations must use a state-certified lead Risk Assessor to perform the service; follow this protocol; and use the associated forms to perform any initial or follow-up Environmental Investigation, as stated in MSA Bulletin 02-10.

What is the purpose of the initial Environmental Investigation home visit?

As addressed in MSA Bulletin 02-10, the initial Environmental Investigation is to include the testing of appropriate potential sources of paint, house dust, soil, water and other household

items such as pottery and home remedies. Education must be provided to the family regarding known and potential sources of lead poisoning, reduction of future exposures, and suggestions for specialized cleaning techniques. The investigator must prepare and provide a risk assessment report per Michigan's Lead Abatement Act, which includes lead hazard control recommendations. There should be discussions with the family regarding referrals to other agencies that can provide assistance with the recommendations in the report. Medicaid reimburses the local agency for the service; however, does not reimburse for the cost of testing the samples. The paint, dust and soil samples should be submitted to the MDCH Lead Laboratory for analysis. The MDCH Lead Lab does not require the local agency to pay for the testing; however, if a private laboratory is used, the local agency will be charged for sampling analysis by the private lab. If water testing is needed, the local agency or client is responsible for paying for the analysis through the MDEQ Water Laboratory. Medicaid does not reimburse for water analysis.

What is the purpose of the follow-up Environmental Investigation home visit?

The follow-up Environmental Investigation is conducted to determine if the lead hazard control recommendations in the report were performed satisfactorily. The interventions are verified by a visual inspection and dust wipe clearance testing performed by a State-certified risk assessor. The dust samples should be submitted to the MDCH Lead Lab for analysis at no cost to the local health agency.

X NON-MEDICAID PAYMENT FOR LEAD SERVICES

If the local health department provides Environmental Investigation services to the Medicaid population and receives reimbursement from Medicaid, the agency must offer the same service to the general public and charge a fee. The philosophy is that the lead service should be available to any household. Some local agencies have developed a sliding scale of fees for families depending upon their income, or they request a donation for the service if the family cannot afford the whole fee. If a non-Medicaid household cannot pay for the Environmental Investigation, the department should still provide the service. The department must, however, inform the household of the whole fee or value of the service that they will be receiving even though they will not be collecting the full amount. The investigator should research their department's written policy on this issue.

XI CONFIDENTIALITY AND FREEDOM OF INFORMATION ACT REQUESTS

Michigan's Lead Abatement Act as amended addresses issues of confidentiality. Section 5473a paragraph 5 states:

> The following information required to be submitted to the department by certified individuals and persons under this part and rules promulgated under this part is exempt

from disclosure as a public record under the freedom of information act, 1976 PA 442, MCL 15.231 to 15.246:

- The name, street address, and telephone number of the owner, agent, or tenant of a residential dwelling where lead-based paint investigations have been conducted.
- Information that could be used to identify 1 or more children with elevated blood lead levels that have been reported to the department.
- Information contained in an EBL investigation report that could be used to identify 1 or more children with elevated blood lead levels.

The above information can and should be shared between the Environmental Health and Public Health Nursing staff, and the child's medical home to ensure the best quality of care for the child. If a Freedom of Information Act request from a lawyer or private citizen is received, the excerpt cited above from the law applies, regardless of who is sharing the information with the requesting party.

Information about the EBL Environmental Investigation should be provided to the rental property owner and other related agencies for appropriate follow up by each party. Medical and personal information about the child must be removed. The Reporting Responsibilities and Hazard Control Resources section of this protocol address the issue of confidentiality and how to handle it in more detail.

Local health agencies are encouraged to further discuss confidentiality issues and the relevance of HIPAA (Health Insurance Portability and Accountability Act) laws with their legal counsel.

XII CLOSING A CASE

A lead poisoning case is considered complete and can be closed when all of the following criteria have been met:

- Home visits for education are completed;
- Environmental investigations are completed;
- Recommendations for abatement and/or reduction of lead hazards have been completed; and
- Two blood lead levels 3 to 4 months apart showed the child's blood lead level was at most 15 ug/dL or optimally below 10 ug/dL.

A case can be administratively closed due to any one criteria related to the child or the housing unit as follows:

<u>Administrative closure related to the child</u>

- Child is 6 years or more, unless in special education and has 'mouthing' habits

- Unable to locate the child after no less than 3 varied attempts including any of the following:

  letter
  telephone call
  home visit
  a check with WIC records for location of the child
  a check with FIA records for location of the child
  a check with Protective Services for location of the child
  a check with the physician's office for the location of the child
  a check with the Post Office for a forwarding address
- Parental refusal
- Moved out of jurisdiction (notify new jurisdiction or MDCH/CLPPP of the status of the child)

Administrative closure related to the house

- Rental property owner or owner refusal to abate with no local ordinance to assure compliance (not a Section 8 unit nor a FIA-financed unit)
- Housing is considered dangerous (i.e., guns, drugs, suspicious activities)

XIII INVESTIGATOR REGISTRATION

The MDCH Lead Hazard Remediation Program would like to ensure that EBL Environmental Investigators receive all updates to this protocol and related announcements regarding investigations. Protocol sections, forms and related documents can be downloaded from the MDCH website at www.michigan.gov/leadsafe. In order to receive notifications automatically, please contact the Program at 517.335.9390 or toll-free 1.866.691.5323 and provide your name, agency, mailing address, phone/fax number, and email address.

XIV CONSULTATIONS AVAILABLE

The following members of the workgroup responsible for developing the content of this protocol can be contacted for consultations on performing local EBL Environmental Investigations:

- Michele Borgialli, Michigan Department of Community Health, Lead Hazard Remediation Program - 517.335.9390
- Stan Gorzinski, Field Neurosciences Institute, St. Mary's Hospital, Saginaw - 989.497.3085
- Jamice Landrum, Saginaw County Department of Public Health, Environmental Health Division - 989.758.3690
- Chris Nelson, Ingham County Health Department, Disease Control Office - 517.887.4308

- Pamela Pugh, Saginaw County Department of Public Health, Environmental Health Division - 989.758.3758
- Burt Russell, Professional Service Industries, Incorporated - 517.394.5700
- Tim Wanner, Calhoun County Health Department, Health Protection Division - 269.969.6477

XV DEDICATION

The work of this protocol is dedicated in memory of Mr. Morris R. James, environmental sanitarian of the Oakland County Health Division. Mr. James was a member of the EBL Environmental Investigation Workgroup during the first year of protocol development.

Mr. James had been an EBL environmental investigator since 1994 within the County. He was a very thorough investigator when it came to finding the lead sources that had poisoned children. One of his most challenging cases involved the discovery of an Arabic spice previously unknown as a lead source to investigators. Lozeena is a bright orange powder used to color rice and meat dishes. No other lead hazards had been identified in the home of the two lead poisoned children that had triggered the case. Subsequently, 9 of 18 extended family members also had elevated blood lead levels as a result of the contaminated Lozeena. Customs officials had been notified about the possibility of travelers bringing Lozeena into the U.S. from Iraq. A community-wide effort had also been coordinated with the dissemination of Arabic-translated education materials to the public and health alerts to local physicians. Lead screening was also offered to the Arabic community.

The Centers for Disease Control and Prevention took an interest in this case and published an article in their Morbidity and Mortality Weekly Report dated December 11, 1998, volume 47(48); pages 1041-1043.

Morris James was one of Michigan's local health department lead experts and made great contributions toward eliminating childhood lead poisoning in the State. He was also the field coordinator for the Lead-Safe Home Program in Oakland County, identifying lead hazards and overseeing the abatement of hazards in 86 homes. Mr. James passed away unexpectedly on December 23, 2003. He will be remembered in honor by lead poisoning advocates in Michigan and abroad for many years to come.

XVI CONTRIBUTORS

Many thanks to the members of the EBL Environmental Investigation Workgroup who have dedicated three and a half years of meetings, teamwork and quality content to make this protocol a reality. The members who served on this committee are: Michele Borgialli, Michigan Department of Community Health, Lead Hazard Remediation Program; Stan Gorzinski, Field Neurosciences Institute, St. Mary's Hospital, Saginaw; David Haywood, Calhoun County Health

Department, Health Protection Division; Carol Hinkle, Michigan Department of Community Health, Childhood Lead Poisoning Prevention Program; Jamice Landrum, Saginaw County Department of Public Health, Environmental Health Division; Chris Nelson, Ingham County Health Department, Disease Control Office; Pamela Pugh, Saginaw County Department of Public Health, Environmental Health Division; Burt Russell, Professional Service Industries, Incorporated; and Tim Wanner, Calhoun County Health Department, Health Protection Division.

Tab 2

Pre-Visit Preparation

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I OPENING A CASE

Environmental Investigation Summary for Children with Elevated Blood Lead Levels

The investigator should start the case file by filling out the Environmental Investigation Summary for Children with Elevated Blood Lead Levels form (DCH-1085). The form provides child information, property information, and case progress in an at-a-glance format. The form is included in Appendix B. Ensure that any data recorded is accurate and obtained from credible agencies; questionable data should be verified.

- Confirmatory blood lead levels should be verified with the in-house lead program or the Michigan Department of Community Health. A lead result from a capillary drawn blood sample is not a confirmed blood lead level. Environmental Investigations should only be conducted on units where children have venous blood lead levels at or above 10ug/dL. If a child with a capillary lead level at or above 10 ug/dL is referred, the investigator should indicate that a venous lead test be performed prior to a home assessment being scheduled. Local health departments have varying policies regarding the lead levels that trigger Environmental Investigation services.

- The investigator should gather information concerning the dwelling where the child currently lives from the nursing division, area housing authority or referring agency. Previous case files or STELLAR case files should be reviewed to see if the dwelling address has contributed to any lead poisonings in the past.

- Dwelling information should be obtained from the city or county assessor's office prior to the home visit.

- Housing code compliance information may be obtained to determine the relative quality of rental properties. This information can be obtained from the city or township, if available.

- The investigator should assign a case number. Various methods of assigning case identifiers can be used; however, the program staff should be consistent in using one method. The case number can be derived by taking the first three letters from the last name, the first two letters of the first name, and the date of birth of the child (e.g. John Smith DOB 01/18/92 would have a case number SMIJO011892), or some other method that would ensure individual case numbers.

- It may be useful to identify existing social or cultural issues specific to the household prior to initial contact.

STELLAR

The STELLAR (Systematic Tracking of Elevated Lead Levels And Remediation) surveillance system was written to support state and local government agencies in documenting and tracking their service activities involving lead poisoned children. If the Environmental Investigator has access to the STELLAR program, it may be utilized to track a lead case. The number generated for each child in the STELLAR system may be used in place of a case number. If an agency does not have access to the STELLAR tracking system they can contact the Michigan Department of Community Health, Childhood Lead Poisoning Prevention Program (517.335.8885) to obtain the program software.

Coordination with Community Nursing

The in-house nursing staff responsible for lead services should be informed of the case, if the referral had not come from their office. The lead nurse should be informed of any background and child data collected by the investigator. The nurse should also be notified of a scheduled home visit. Some local health departments coordinate the environmental and nursing participating together for home visits.

II CONTACTING THE FAMILY

EBL Environmental Investigation Activity Log and Check Off List

An activity log should be posted in the case file to document actions, conversations, and other information pertinent to the case. In addition, a check off list for the case should accompany the log for a quick look at progress made and the next steps to accomplish. Blank log sheets and the check off list are included in Appendix B.

Verify Dwelling Owner and Contact Household

The investigator should make initial contact with the household, if not coordinating a joint visit with the nursing staff. Call the household, introduce yourself, and explain the purpose of the contact. This should include inviting the household to a free environmental assessment for lead. Schedule an appointment with the parent for the home visit. Document any conversations in the case file.

In lieu of a telephone call, the investigator can send a letter to the occupant with a copy to the owner (if different) requesting an appointment date and time. If the occupant cannot be reached by telephone or in person to schedule an environmental investigation, a letter scheduling an appointment should be sent to the occupant with a copy to the rental property owner. The letter

should have the date and time posted for the home visit, but should give the occupant an opportunity to reschedule, if necessary. The letters should be sent certified mail.

Recently Vacated Rental Units

The investigator should send a certified letter to the rental property owner and a copy to the relocated occupant (if mail is forwarded) that notifies the owner that the property previously housed a recently identified lead poisoned child. Convey the property is likely to present a potential lead hazard to future occupants. If the Department permits, request to schedule a lead hazard screen or risk assessment with the owner. At a minimum, notify the owner of the results via certified mail.

Refusal to Permit Access

When a tenant refuses to allow the investigator to enter the property, a letter should be sent to the property owner with a copy to the tenant indicating that an environmental investigation is being attempted by the health department, but refused by the tenant. The letter should again request permission to enter the property to perform the assessment for the well being of the child.

If the property owner and tenant refuse to permit access to the property, there are several options available that have been administered by local health department lead programs. In addition, review the Closing A Case section of the Introduction to the protocol.

- Contact the Family Independence Agency or Child Protective Services communicating that the lead poisoned child is at further health risk of continued lead exposure. The parents/caretakers are refusing to allow mitigation of the risk, and are endangering the child. Depending upon the case, the child may be removed from the home by officials.

- Contact the child's school administration to discuss the issue, and request assistance in mediation with the family to endorse access to the home.

- Contact a case manager or social worker already working with the family on other issues.

- If the rental property owner is refusing access, contact the local housing code enforcement program to determine if assistance can be provided.

- A request could be coordinated with the department's health officer and legal services to obtain authorization for an administrative warrant under the eminent health hazard clause of the public health code. A district attorney should coordinate the warrant procedures with their respective state attorney.

- Document the refusal and attempts made by the lead staff to obtain entry, and administratively close the case.

Inability to Contact the Family

In the event the investigator cannot successfully contact the family to arrange a visit, the Closing A Case section of the Introduction to this protocol should be review and followed.

III PREPARING FIELD MATERIALS

Environmental Investigation Forms

The following forms are required for the environmental investigation and must be brought on the visit. Master copies are located in the identified appendices.

- Consent to Enter Property and Take Samples - Appendix C
- Environmental Lead Sampling Request (DCH-0558) - Appendix D
- Request for Water Analysis (EQP-2300) - Appendix C
- Any forms required by the local health department, such as Medicaid reimbursement

- Sections of the EBL Environmental Investigation Report that require field information - Appendix E
  - Environmental Investigation Summary for Children with Elevated Blood Lead Levels (DCH-1085) - EBL Report Section D
  - Environmental Investigation Questionnaire for Children with Elevated Blood Lead Levels (DCH-1086) - EBL Report Section D
  - Property Maps - EBL Report Section C-1
  - Property Condition Checklist - EBL Report Section E
  - Visual Inspection Sheets (Lead Dangers Found and How to Fix Them) - EBL Report Section A
  - Property Description and Current Occupancy - EBL Report Section C-4
  - XRF Testing of Painted Surfaces (XRF only) - EBL Report Section I
  - Pre-Renovation Scope of Work - EBL Report Section J
  - Rental Management and Maintenance Data forms (5+ unit rental buildings only) - EBL Report Section K

Prior to the field visit, these forms should be prepared with known information. This will result in a more efficient and effective assessment, and will reduce the amount of time necessary at the property.

Sampling Materials

The following materials and sampling protocols should be reviewed and prepared prior to the field visit. At a minimum, a tray of 25 centrifuge tubes, a box of 100 dust wipes, and a box of latex gloves should be available. The sampling methods, forms and materials used are further referenced in the On Site Activities section of this protocol.

Paint Sampling	50 ml centrifuge tubes from the MDCH/Lead Laboratory, sampling protocol, razor blade, scraper, tape
Dust Sampling	Gloves, dust wipes and 50 ml centrifuge tubes from the MDCH/Lead Laboratory, sampling protocol, tape measure or template
Soil Sampling	50 ml centrifuge tubes from the MDCH/Lead Laboratory, sampling protocol, spoon or coring device
Water Sampling (Optional)	Bottles from the MDEQ/Drinking Water Laboratory, sampling protocol
XRF Analyzer (Optional)	Radiation safety documentation, user's manual, NIST Standard calibration materials

Educational Materials

Educational materials should be taken on the environmental visit. The four essential pieces that should be provided to households as part of this protocol are the following:

- A Guide to Cleaning Up Lead Paint Chips and Dust
- How to Make a Home Lead-Safe
- Coping with Your Child's Diagnosis of Lead Poisoning
- Is Your Child Safe from Lead Poisoning? (English and Spanish)

These materials can be ordered from the Michigan Department of Community Health; samples are also included in Appendix C. Education materials order forms for MDCH/Childhood Lead Poisoning Prevention Program, MDCH/Lead Hazard Remediation Program, and the National Lead Information Center are included in Appendix B.

Blood Lead Level Knowledge

A common question asked by concerned parents is, "What does my child's lead level mean?" The environmental investigator should be well versed in describing what lead levels mean. The investigator should answer this question; however, it should be strongly recommended that the parent contact the public health nurse or the child's medical home for a detailed explanation that is unique to their child.

There is an information sheet in Appendix B which lists clinical and health department follow-up recommendations based on blood lead levels and other reference data currently recommended by the Centers for Disease Control and Prevention.

Tab 3

On-Site Activities

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When met by the client, consider obtaining written consent to enter and take samples on the property. This form could also be mailed in advance of the home visit. A sample form is included in Appendix C.

If the occupant forbids access to the home, the investigator should make attempts to explain the necessity for the visit and express concern for the child's welfare. If the occupant refuses a second time, leave the premises and detail the situation in the case file. A certified letter should be sent to the occupant expressing concern for the child and the benefits of having a home visit performed. The letter can be open ended inviting the occupant to reconsider and call the office for another home visit appointment. The rental property owner, if any, should be carbon copied on the letter. If there is no response to the letter, it is suggested that the local department contact an authoritative agency that can assist, such as housing code compliance or child protective services.

I INTERVIEW HOUSEHOLD

Visit Overview

If at any time during the visit personal safety becomes an issue, the investigator should leave immediately. If a child abuse situation is encountered, the investigator should consult the local department's legal council for policy and guidance.

The investigator should bring an official departmental identification card to the home and show it to the client. Show respect for the residents and the home being entered. Discuss with the client that the purpose of the visit is to find the causes of the child's lead poisoning. Provide an introduction to lead poisoning, and why it is believed that the exposure to the child may be in the home. Discuss what the visit will entail. The investigator should explain that he will need access to all of the rooms within the home in which the child spends time. Ask if there are any restrictions to entering any rooms within the home. Ask if there are pets in the house or yard that may be dangerous or threatening. In addition, the investigator should explain that he will need to walk around the whole exterior of the dwelling. Give the client a range of time that it is estimated the investigation will take. If a nurse is performing a co-visit, coordinate the interviews to reduce duplication. Explain to the client that some of the questions asked during the visit may sound out-of-place or irrelevant, but they are important in helping to find the lead sources poisoning the child. Be attentive to answering the client's questions about lead poisoning and sources. Give the client a time frame for their receiving the findings of the investigation. If operating an XRF lead analyzer, discuss the safety measures that will need to be followed during the visit (i.e., no occupants behind walls being tested; children must stay behind the XRF if they are curious and want to watch).

Complete and Verify Information on Environmental Investigation Summary for Children with Elevated Blood Lead Levels form (DCH-1085)

Time Saver: Complete the summary form information when scheduling the home visit with the client during the initial telephone call. The form is located in Appendix B.

Review Medical/Clinical Information

Discuss blood test results and compare them to past levels, if available. Explain that having any lead level means that the child is currently being exposed to lead somehow. It is important to encourage that the child have follow-up lead testing, and that the client contact the child's doctor or clinic to find out when that should be. Follow-up testing can tell the investigator if they need to come back to the home to look for lead sources that may have been missed at the first visit. For reference, a schedule for diagnostic testing and health department actions for lead levels is included in Appendix A.

Administer Environmental Investigation Questionnaire (DCH-1086)

Explain the questions to be asked are good predictors in finding the possible sources of lead poisoning. Explain also that all of the questions are asked of every household with a lead poisoned child; they are not being asked questions in a discriminatory manner. The investigator may dispel some of their worries by indicating that he is not there to look at their housekeeping skills. The investigator is there because he is concerned about the child and is eager to find and stop the lead exposure. Be sensitive to the client when asking questions; the most truthful answers are likely to be received. Before starting, explain why the questions are being asked, and talk about the risk factors before asking each set of questions. Use the questionnaire also as a teaching opportunity for exposure prevention as the questions are asked.

Time Saver: An option for the investigator would be to provide the client with the questionnaire to complete on their own. After the visual assessment and sampling, the investigator could follow up with the client in answering any questions they may have and filling in any incomplete sections of the questionnaire.

II ENVIRONMENTAL EVALUATION OF POTENTIAL SOURCES

The following are key elements of a Risk Assessment activity as required by Michigan's lead laws (The Lead Abatement Act as amended). They are to 1) determine lead-based paint hazards by sampling house dust, deteriorated paint, and soil, and 2) provide recommendations to remediate those hazards. The Environmental Investigation takes the Risk Assessment one step further in evaluating additional lead exposure to household items and activities that are encountered in the child's living environment (i.e., pottery, hobbies). In Michigan's lead laws, there are specific work practice standards that must be followed when performing a Risk

Assessment of the property. These work practice standards are documented in the following references: The US Department of Housing and Urban Development Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing; the US Environmental Protection Agency Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil; and the US Environmental Protection Agency Residential Sampling for Lead: Protocols for Dust and Soil Sampling. These work practice standards are also presented in the Risk Assessment course taken by the investigator in order to be certified by the Michigan Department of Community Health as a Risk Assessor.

Visual Inspection and Field Notes

Record observations on site. The Property Condition checklist should be used for this purpose located in Appendix C. In addition a full visual inspection is required as part of the EBL environmental investigation. The "Lead Dangers Found and How to Fix Them" table should be used for the visual inspection. The sheets are grouped by components for a room. Each room and the exterior needs to be assessed. These tables are located in Appendix C. Keep organized notes throughout the investigation. Review written notes and edit as necessary upon returning to the office. Window, door and other housing component identification sheets are included in Appendix C as reference for the investigator.

Site and Floor Plan

The site plan contains the residential dwelling, yard and outbuildings. The floor plans entail individual rooms within the dwelling. Sketch rough drawings in the field. Review and edit as necessary upon returning to the office. Blank floor plan sheets in dot matrix format are provided in Appendix C. Alternatively, computer aided design programs can be purchased to create floor plans as well.

Photographs

Photographs are highly recommended, as they have proven to be useful to investigators. Photos can enhance visual memory so that additional home visits do not have to be scheduled, and to reduce questionable data. If the lead poisoning case goes through litigation and the health department becomes involved, photos can be beneficial in establishing the quality service provided by the investigator and the documented lead hazards that were discovered.

It is recommended that up-close and detailed photos of typical hazards be taken rather than larger areas with no detail. To organize photographs effectively, try taking exterior shots of sides A, B, C, and D in this order as the first photo frames; then, follow this methodology throughout on the interior spaces. If photographs are taken, first receive verbal or written permission from the occupants. A sample consent form is included in Appendix C. Include photos in the EBL Environmental Investigation report and the case files.

Paint

Take paint chip samples or XRF readings of areas with potential lead hazards or deteriorated paint. This would include friction and impact surfaces; areas accessible to the child; areas that have evidence of bite marks or having been chewed by a child; and areas of potential exposure due to known conditions (i.e., renovations). Paint testing combination guidance for this activity is included in Appendix C. An XRF lead analyzer is not needed to obtain lead levels in paint samples of deteriorated areas; laboratory analysis of paint chips is equally valid. According to Michigan law, the definition of lead paint is any paint or other surface coatings that contain lead equal to or in excess of 1.0 milligrams per square centimeter or more than 0.5% by weight. In addition, composite (samples from multiple areas) paint chip samples are <u>not</u> acceptable in an EBL Environmental Investigation.

Dust

Dust sampling is a large part of the investigation, as it is the best indicator of current lead hazards and exposure in a child's environment. A dust sampling guide (Form DCH-0602) is included in Appendix C for use in the investigation. According to Michigan law, the determination levels for dust lead hazards are 250 micrograms of lead per square foot (ug/ft^2) for window sills; 400 ug/ft^2 for window troughs; and 40 ug/ft^2 for floors. In addition, composite (samples from multiple areas) dust samples are <u>not</u> acceptable in an EBL Environmental Investigation.

Soil

Soil sampling can also be critical to the investigation, depending upon the child's play behaviors and the potential for household members to track yard dirt into the home. A soil sampling guide (Form DCH-LHRP01) is included in Appendix C for use in the investigation. Test bare soil in play areas as well as dripline and foundation areas. According to Michigan law, the definitions of a soil lead hazard are 400 parts per million (ppm) for child play areas with bare soil, and 1200 ppm for bare soil in other areas of the yard. Certain weather conditions may not permit representative sampling of bare soil. Composite (samples from multiple areas) soil samples <u>are</u> acceptable in an EBL Environmental Investigation.

Water

In Michigan, water is typically not found to be a significant source of lead exposure in lead poisoning cases. If there is reason to believe that the tap water may be a significant source, test the water. As of 2003, the cost was $16 per water sample. Forms required by the Water Lab and collection instructions are included in Appendix C. The first-draw test code is CPB, and the sample collection instructions are for Unit #36CC. The collection bottle size is 1 Liter. The samples may be mailed or delivered by courier to the lab in Lansing. Additional information can be obtained from the Michigan Department of Environmental Quality's Drinking Water Laboratory at (517) 335-8184. The US Environmental Protection Agency has set a lead in drinking water standard at 15 parts per billion (ppb).

Medicaid will not reimburse the local health department for the cost of water analyses. This is an expense that the local health department will need to incur, or it can be paid for by the client or rental property owner.

Field Waste and Proper Disposal

During a routine EBL Environmental Investigation, waste materials are generated such as used gloves, lead test kit units, dust wipe wrappers, etc., that need to be disposed of properly. Be sure to bring a waste container such as a plastic bag to collect waste items. All waste items generated on site should be removed from the household and not be disposed of on the property. Waste should be disposed of in regular municipal collection containers. All waste should be discarded in a sealed container to prevent accidental leakage or spills. Upon returning from the investigation and properly disposing of waste, wash hands thoroughly.

XRF Lead Analyzer Data Download and Verification

An XRF lead analyzer is an optional tool in conducting an EBL Environmental Investigation. If the investigator is operating an XRF with software, ensure that data is downloaded onto a compatible computer upon returning to the office. Verify the readings prior to erasing the data from the XRF analyzer.

If the investigator is not using XRF software but is recording component data in the field, verify data as it is collected.

If using a spreadsheet to track XRF data, the investigator should input the data at this time while the memory of the field experience is recent.

III EXPLORATION OF ALTERNATIVE SOURCES

Now that the investigator has looked at paint, dust and soil as potential exposures to the child, the exploration of alternative sources of exposure to lead should be assessed. Alternative sources are listed as questions on pages two and three of the Household Questionnaire (Form DCH-1086). These include ceramics, solder, mini blinds, toys, hobbies, etc. A comprehensive list of potential lead sources is included in Appendix C as a reference resource.

Use of chemical spot tests (e.g., Lead Check and Know Lead) may be useful in detecting the presence of lead in suspect items. They also serve as a visual teaching tool for the client; the tester units turn red or black if lead is present in high enough concentrations. Be aware that this testing method is not endorsed by the US Environmental Protection Agency, and is not promoted as an acceptable methodology in Michigan's Lead Abatement Act (Act No. 644, Public Acts of 2002). It is a qualitative test indicating the presence or absence of lead with some reliability. The test kits are not quantitative, meaning that they cannot measure the exact amount of lead in a suspected item. In addition, the kits cannot determine if an item tested is a lead hazard to a child.

Chemical spot tests can be used for household items. If lead is found, the investigator should make recommendations that the item in question not be used in a manner that exposes the child. Spot tests cannot be used to determine if lead hazards exist in paint, dust, or soil; nor can they be used to make hazard control recommendations for paint, dust, or soil.

IV EXIT INTERVIEW - SUMMARY OF VISIT

Lead Sources Found During Visit and Explanation of Potential Sources

Discuss with the client the initial findings, if using an XRF lead analyzer and/or a chemical spot test. Discuss the visual inspection and where you suspect the lead hazards are located and why.

Education

Provide initial recommendations for making the home environment lead-safe for the child. Discuss specialized wet cleaning techniques for lead dust removal and dust control. Explain that even the most meticulous housekeepers can still spread lead dust if they are not following the technique. Provide written materials explaining the special cleaning method. A simple guide is included in Appendix C for the client's use. Use of a HEPA (high efficiency particulate air) vacuum should be strongly encouraged. Regular vacuum use should be discouraged due to the likelihood of spreading lead dust into the air. Many local health departments have HEPA vacuums that have been provided by the state health department. If a county does not have one, chances are that an adjacent county health department will.

Discuss exposure prevention based on suspected household items found. Make recommendations that the tenant, rental property owner or homeowner can easily do themselves, and that are inexpensive and effective. How to Make a Home Lead-Safe (Appendix C) provides an explanation of items that are likely to be discovered as possible exposure sources. It also provides suggestions for exposure reduction. This sheet can be used by the investigator to prompt discussion about recommendations, and should also be given directly to the client.

Leave lead poisoning prevention materials at the home in an appropriate language.

Discussing Follow-up with the Household

The following should be discussed with the client: time line for laboratory analysis of samples, EBL report and recommendations for lead hazard reduction, and followup visits.

If needed, schedule a secondary site visit with the client using the completed questionnaire as a guide. Sometimes a visit to a secondary site is needed if the primary residence does not contain lead hazards or sufficient lead hazards to have poisoned the child. In addition, another visit to the primary residence or a secondary site might be necessary if the child's blood lead level does not decrease after lead hazard control measures have been taken. Secondary sites could include a

relative's home, the child's day care, or at any other location the child spends time.

The investigator should encourage the client to follow the medical provider's advice regarding future blood lead testing of the child for monitoring purposes. For reference, a schedule for diagnostic testing and health department actions for lead levels is included in Appendix A.

Time Saver: Bring your calendar to the home visit in order to schedule a follow-up visit to discuss the results of the investigation, or to assess whether the lead hazard control recommendations provided in your report to the occupant or rental property owner have been performed.

Tab 4

Sample Identification and Submission

February 2004

The following information is to assist the investigator in submitting paint, dust and soil samples collected during the Environmental Investigation to the Michigan Department of Community Health's Trace Metals/Lead Laboratory. The local health department is not charged by the Lead Lab for the sample analyses. If the investigator sends samples to a private laboratory for analysis, the local department is responsible for the expenses, which will not be reimbursed by the Department of Community Health.

I PROPER LABELING

Mark the submission form as dust, paint or soil. Do not combine more than one matrix per form. For example, if the form is marked dust, only include dust samples on that form.

II DOUBLE IDENTIFIERS

Sample tubes should have a double identifier. Double identifiers are at least two separate sets of confirmatory identification specific to one sample that will appear on both the sample tube and the lab form. The sample tube label must include the sample ID number and one other identifier that is recorded on the lab form. An example of a double identifier label is the following: **{#1, Sill}**, where **#1** is the sample ID number and **Sill** is the surface tested. Both appear on the lab form. This method of labeling samples is preferred by the Lead Lab. Sample IDs must be less than six digits and may be alphanumeric.

III ENVIRONMENTAL LEAD SAMPLING REQUEST — LAB FORM DCH-0558

This form is required for all environmental lead samples submitted to the Michigan Department of Community Health's Trace Metals/Lead Laboratory for analysis. Original forms can be obtained by contacting the Laboratory; two formats of the form are included in Appendix D. The Lab also supplies dust wipes, gloves, and centrifuge tubes for shipping.

Keep the bottom copy of the sampling request form in the case file. The more current version of the form is capable of being scanned by the Lead Lab. The October 2001 version will eventually be phased out in the future. The Lead Lab will accept photocopied sampling request forms.

IV MAILING SAMPLES

Samples may be submitted by regular postal service, UPS, FedEx, or by courier to:

Michigan Department of Community Health, Trace Metals/Lead Laboratory, Room 155
3350 North Martin Luther King Jr. Blvd., (P.O. Box 30035)
Lansing, Michigan 48909
Phone: 517.335.8244 Fax: 517.335.9776

Tab 5

Reporting Responsibilities and Hazard Control Resources

February 2004

I REPORTING TO THE CLIENT

The investigator is responsible per Michigan's Lead Laws to prepare a report for the parent or legal guardian of the lead poisoned child after the assessment of the property is completed. The report should be submitted to this individual within 30 calendar days from the date of the assessment. The report could be sent certified mail to document receipt; however, it is strongly advised to hand deliver to the client and discuss the report in person to increase their comprehension of the document and reiterate key messages.

Refer to Tab 11 for report model and instructions

EBL Environmental Assessment Report - Lead Hazards Identified

A master EBL Environmental Assessment Report is included in Appendix E. This master report incorporates all of the elements that are required by Michigan's lead laws. EBL investigators and health departments should adopt this model in whole to reduce professional liability in potential law suits and the risk of being cited by enforcement staff of the Michigan Department of Community Health, Lead Hazard Remediation Program. Behind the master report is a completed sample report for reference purposes.

The master report has been formatted so that most of the document requires fill-in responses by the investigator — only the report cover and the cover letter (the first three pages of the document) require a computer to prepare. **The report is lengthy, but it must be provided to the client in whole by law.** The most pertinent sections for the client are the cover letter, Section A, and Section B.

Keep the master report copy in the binder and use as needed for copying forms for individual reports. The protocol binder also contains a CD with the master report and other various forms. The following is guidance to completing the EBL Environmental Assessment Report by section for the client:

Report Cover and Cover Letter: Using WordPerfect or Microsoft Word, complete the data required in double-underlined parentheses or brackets. **Do not include the name of the parent/legal guardian or child in the cover letter for confidentiality purposes**; however, label the mailing envelope with the adult's name. The investigator's signature is required by Michigan's Lead Laws in the closing of the cover letter. The cover letter is written at a 10th grade reading level.

Section A: This section includes master pages in table format to perform the visual inspection of the housing unit. Seven master pages are provided which pertain to interior and exterior spaces. The investigator will need multiple copies of most of the pages in the field. Use

as many pages as necessary for each room or space and completely evaluate each component before proceeding to the next room or space.

The Danger Present? and Steps to Fix the Danger if Present columns should be left blank until field sample results are available. The remaining columns should be completed in the field as part of the visual inspection. The Steps to Fix the Danger if Present column correlates to the What to Do to Limit the Dangers table following the Lead Dangers Found and How to Fix Them table. These do not need to be altered; but can be enhanced by the investigator. The investigator's responsibility per law is to provide recommendations ranging from temporary to permanent solutions to fix the lead hazards found, not the single best option.

Section B: No information is required to be added by the investigator. Ensure that this section is included in the final EBL report to the client. This section should have been provided as an educational piece to the household during the site assessment as well.

Section C: Bring several copies of the blank property map (Section C-1) in the field. There are two styles to choose from. Sketch the yard, outbuildings, and stories or floors of the dwelling. Be sure to orient the house by A, B, C, D and indicate North at the top of the diagram. Mark window and door locations as well. Note any significant findings gathered from the information collected. Use these diagrams to show the sampling locations for dust, paint, and soil.

Include Section C-2 in the EBL report to the client. No information is required to be added by the investigator.

Take photographs of significant deteriorated areas identified during the visual inspection that may be contributing to the child's lead exposure. Include photographs, digital or processed, in Section C-3.

Complete the Section C-4 table with general property and occupancy information.

Section D: The Environmental Assessment Summary (Form DCH-1085) and the Environmental Assessment Questionnaire (Form DCH-1086) should have been completed through telephone conversation and in person during the home visit with the client. Include these completed forms in the final EBL report to the client.

Section E: Complete Section E as part of the visual inspection.

Section F: Include chain-of-custody sampling forms and the laboratory results sheets for paint, dust, soil and any other lead testing performed, including lead swab tests, in this section. Use these results to determine if lead hazards (paint, dust and soil sampling results that exceed regulatory levels) are present. Return to the Lead Dangers Found and How to Fix Them table within Section A and complete the Danger Present? column with clear

symbols (e.g., yes or no, + or -).

Section G: Complete the Ongoing Monitoring Schedule (Section G-1) by specifying when the re-evaluation of the property should be performed. This can be determined by referencing the U.S. Department of Housing and Urban Development *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapter 6 — Ongoing Monitoring, Table 6.1 — Standard Re-evaluation Schedules*. If specific guidance cannot be found, use professional conservative judgement in making the determination for Section G-1.

Sections G-2, G-3, and G-4 do not require information to be added by the investigator. Ensure that these sections are included in the final EBL report to the client.

Section H: Mark the appropriate box on the Section H header page. Include copies of any prior lead testing, hazard evaluations or reports that correspond with this particular address. If documents are being provided in this section, ensure that no confidential information is disclosed.

Section I: If an XRF device was used during the EBL investigation, include Section I in the report to the client. Check the appropriate subsection box and complete the XRF information table on the header page.

If the assessor performs XRF testing of paint in poor condition and/or impact/friction surfaces only, complete Section I-1. If XRF testing was conducted on intact paint only based upon renovation/remodeling activities, complete Section I-2. Section I-2 can also be used if XRF testing was conducted on housewares, toys, tubs, or other household items. If a full lead inspection was conducted, complete Section I-3. Use subsection header pages as needed, and include XRF data.

Section J: Complete the Section J header page if the occupant or owner is aware of any ongoing or future renovation or demolition activities scheduled for the property. A continuation sheet is available if needed.

Section K: Complete forms K-1 and K-2 if the unit being investigated is within a rental property dwelling consisting of 5 or more units. The building manager or owner should be contacted in order to collect the information required on these forms.

This section should be included in the EBL report to the client even though it is only pertinent to the rental property owner or management company. It is required by Michigan law to be appended to the report.

EBL Environmental Assessment Report - No Lead Hazard Identified

If no lead hazards were found during the investigation, the following components of the EBL Environmental Assessment Report should be submitted to the client:

- Report Cover and Cover letter - make modifications to the letter as appropriate
- Sections A, C, D, E, F, G-1, G-2, and H
- If an XRF analyzer was used for the assessment, Section I, as applicable

II REPORTING TO THE RENTAL PROPERTY OWNER

The assessor also has a legal responsibility per Michigan's lead laws to submit a version of the EBL Environmental Assessment Report without confidential information to the rental property owner. This report should also be submitted within the same 30 day time period, and be sent certified mail to document receipt.

If the assessment has been completed and the client has moved or refused further services, the rental property owner should still be provided the EBL Environmental Assessment Report.

Refer to Tab 11.

Use the same cover letter of the master report. The rental property owner is cc'ed on the report master. **Do not include the occupant's name or any child information to maintain confidentiality. In addition, Section D should be omitted from this report.** All other sections should be supplied to the rental property owner, as they were to the client.

If your county does issue lead hazard abatement orders to rental property owners, use your agency's letter and include the cover letter and all sections (except Section D) of the client's report. By state law, the rental property owner must use state-certified abatement contractors to perform any lead activities that are listed within the 'abatement' definition in Michigan's Lead Abatement Act.

If no lead hazards were found during the investigation, the following components of the EBL Environmental Assessment Report should be submitted to the rental property owner:

- Cover letter - do not include report cover
- Sections A, C, E, F, G-1, G-2, and H
- If an XRF analyzer was used for the assessment, Section I, as applicable

III SECONDARY SITES AND REPORTING

If the investigator has assessed any secondary sites for a lead poisoning case, reporting should be handled in this manner. The client should be provided a full EBL Environmental Assessment report for the second property; the owner of the second property should also receive that same

report with the confidential information (Section D) removed. The assessor is not obligated to provide the report to any tenants residing at the second property; however, if it is requested, the property owner's version can be provided, or the tenants can make a Freedom of Information Act request to the local health department for a copy of the report.

IV REPORTING INTERNALLY AND TO OTHER AGENCIES

Nursing or Environmental Health Division

The assessor should provide the full EBL Environmental Assessment report to the Nursing or Environmental Health Division of the health department, depending upon which staffer performed the assessment. This should be done so that both Divisions are aware of the findings and progress of the investigation. In the event that a Freedom of Information Act request is made for a case file, all confidential information about the child or family must be redacted before it is released according to Michigan's Lead Abatement Act.

Child's Medical Home

A copy of the EBL report cover letter should be sent to the child's medical home to inform the medical management staff that the local health department is providing services to the family identifying the potential sources of the poisoning and recommending ways to fix the lead hazards found. Because the child's name is not on the cover letter, there should be some reference of the name in the correspondence so that the physician or clinic can match the letter with their patient files.

Tenant-Based Rental Assistance Programs and HUD CFR Part 35 Regulation Compliance

The health department should contact the Childhood Lead Poisoning Prevention Program (517.335.8885) at the Michigan Department of Community Health to determine if the lead poisoned child's address is a participating unit within the Section 8 Program. If the unit is not a Section 8 unit, contact MSHDA's Community Development Division office at 517.373.1974 to learn if the address is a participating unit within the HOME Investment Partnership Program, HOPWA Program or the Shelter Plus Care Program. In addition, many local jurisdictions have their own public housing authorities, which should also be researched to determine participation in these programs. All of the above housing programs are subject to HUD CFR Part 35 regulations.

HUD CFR Part 35 is a federal law that requires certain actions be taken by the rental property owner <u>and</u> the administering housing agency when a lead poisoned child is identified as living in a participating unit. In order for action, the child's venous blood lead level must be at least 20 ug/dL with a single test or two consecutive tests between 15-19 ug/dL within a 3-month time period. Within 15 days of being notified, the administering agency must conduct a risk assessment of the property and require that the owner use interim controls or abatement to treat

the identified lead hazards. The health department EBL Environmental Assessment report (a full risk assessment per Michigan law) can be used in lieu of a private risk assessment. Within 30 days of receiving the risk assessment report, the property owner must complete the lead hazard treatments using a State-certified lead abatement company. If the family moves out before the hazard treatments are made, the property owner is still responsible for treating that unit for lead hazards. The hazard reduction is complete after abatement clearance has been achieved. To make inquiries regarding compliance of HUD CFR Part 35 regulations, contact HUD's Michigan office at 313.226.4343 x8038.

Housing Code Enforcement

This is a resource that can be used if code enforcement is the desired outcome. Each case should be evaluated carefully to determine the potential effectiveness of the outcome. It should be utilized primarily for rental properties. In addition, code compliance should only be considered when there are items that if addressed, will consequently fix the lead hazards identified through the EBL assessment. For example, some of the conditions may be a leaking roof, faulty plumbing, bare wood substrate on the exterior because of paint failure, and inoperable windows.

If code enforcement is initiated, a thorough assessment will be conducted by the housing code official, and the rental property owner will be mandated to fix anything that the housing code official has noted. This is likely to be far more than just lead hazards.

The EBL investigator can contact code enforcement in a consultation capacity to determine if other enforcement actions are pending against the rental property owner. Either the tenant or the assessor can initiate an assessment of the property with the housing code official for code violations.

Michigan Occupational Safety and Health Administration (MIOSHA)

If one of the child's potential exposures to lead is a result of a take-home exposure from a caretaker or other adult, an educational intervention could be considered with the employer and the employee to eliminate the source of lead coming into the home. The employee can call MIOSHA for information regarding personal protective equipment, altering work practices to avoid lead exposures, and copies of lead standards in the workplace. The Consultation Education and Training Division can be contacted at 517.322.1809 or by mail at MIOSHA, CET Division, P.O. Box 30643, Lansing, Michigan 48909-8143.

Michigan Department of Community Health, Lead Hazard Remediation Program

To be in compliance with Michigan lead laws, the investigator should submit MDCH Form 0694, Report of Lead-Based Paint Identification Activities, to the Lead Hazard Remediation Program by the 15th of the month following the prior month's EBL environmental investigations. The form can be mailed or faxed. A master copy is included in Appendix E.

STELLAR - Systematic Tracking of Elevated Lead Levels and Remediation

If the department has an active STELLAR database, ensure that information regarding the case is provided for the electronic case file.

- Within the address record, under the Investigation tab, have available the date of the assessment, if a paint hazard was identified, and if a non-paint hazard was identified. Under the Events button, browse the RMxxx codes to determine what is applicable (e.g., What remediation recommendations were made?, Was the home referred for abatement?, To what agency?, Were hazards identified at a secondary site?).

- Within the Child's record, browse under the Events button at the PBxxx codes for pertinent descriptors about the child's poisoning.

V LEAD HAZARD CONTROL RESOURCES - LOCAL AND STATEWIDE

There are several housing-based programs that can serve as potential resources for the abatement of lead hazards. Some of these programs may be offered as grants, others may require match dollars from the home owner or may be structured as low-interest loans. Some programs only provide remodeling or renovation services, which consequently can reduce lead hazards. These resources should be provided to the client and/or rental property owner to help make more permanent and expensive hazard reduction activities possible.

MDCH, Lead Hazard Remediation Program - This program provides lead hazard abatement services to households in several of Michigan's counties at high-risk for childhood lead poisoning, and sometimes statewide, depending upon current funding. Contact the program at 517.335.9390 or toll-free 866.691.5323 to learn more about the availability of such offerings.

Michigan State Housing Development Authority, Property Improvement Program - The Property Improvement Program is offering a 4% loan for lead hazard abatement in rental or owner occupied properties. The following are the primary stipulations for eligibility:

- The residing child must be under 7 years of age
- The housing unit must have been built be fore 1978
- Annual income limitations are $56,650 (in 2004) for owner-occupied homes or owner-occupied rental units in urban areas
- Annual income limitations are $44,000 (in 2004) for owner-occupied homes or owner-occupied rental units in rural areas
- There are no income limitations for tenants or rental property owners; however, the monthly rent for the unit cannot exceed 125% of fair market value for the area
- The program mandates that a minimum monthly payment be made after the loan is secured

Community Development Block Grant Programs - Local housing rehabilitation organizations often times have Community Development Block Grant funds, other free funding or loan programs to support housing rehabilitation activities in rental or owner occupied housing. These programs can be sought to perform rehabilitation work that simultaneously removes lead hazard identified through the EBL assessment.

Community Action Agency, Weatherization Programs - Local weatherization programs will not directly address lead hazards; however, can indirectly assist in making a home safer regarding lead. Weatherization programs will inspect a home for energy efficiency and make the necessary corrections to the home. They may replace some windows and doors in the process. They are required to perform technical cleans on older homes and lead dust clearance must be achieved to complete the project. Many of the weatherization workers are receiving the one-day Lead Safe Work Practices training. Weatherization assistance programs are structured as income-based programs, and services are free to households that qualify. Rental property owners must agree to have their units enter the program.

To locate a weatherization program, contact the local Family Independence Agency, call the Michigan Community Action Agency Association at 517.321.7500, or search their website at www.mcaaa.org for a local program.

Family Independence Agency, State Emergency Relief Programs - Every local FIA office offers the State Emergency Relief Program, which provides Relocation Services. This program is a state-funded entitlement program meaning that if the family applies and qualifies, they automatically receive the needed assistance. According to program policy, eligibility should be determined within 10 days of submitting an application.

The State Emergency Relief Program will offer assistance with first months rent, security deposit, and moving expenses for qualifying applicants. There are several circumstances under which these funds can be utilized, as determined by the program eligibility criteria:

- An FIA services specialist, with supervisory approval, determines that a family must be relocated from unsafe housing for the protection of children
- A family is evicted because of lead poisoning or lead hazard issues
- A residential dwelling is condemned due to lead hazards
- A child needs adequate care to avoid foster care placement
- A family is temporarily living in another household to escape domestic violence

Local FIA offices also receive annual state dollars for Emergency Services; this is a separate program from State Emergency Relief. It is locally determined how these funds will be spent. If the EBL family does not qualify for the State Emergency Relief Program, the Emergency Services funds may be a viable resource for relocation to lead-safe housing.

Tab 6

Follow-Up Activities

February 2004

I PURPOSE OF THE FOLLOW-UP VISIT

The Follow-Up Environmental Investigation is conducted to determine if the lead hazard control recommendations (abatement and/or interim controls) in the EBL Environmental Investigation report were performed satisfactorily to make the environment lead-safe for the child. The interventions are verified by a visual inspection and dust wipe clearance testing performed by the environmental investigator. The dust samples should be submitted to the MDCH Lead Lab for analysis at no cost to the local health agency.

If a secondary site was investigated, a Follow-Up Environmental Investigation should be conducted at that address also.

II CONTACTING THE FAMILY

Within 30 days of sending the EBL Environmental Assessment Report, contact the family to determine if any of the recommendations in the report were performed. If the client cannot be contacted by telephone after several attempts, use certified mail for correspondence. If interventions were accomplished, a follow-up visit to the address should be done.

III FOLLOW-UP ACTIVITIES AT THE SITE

A visual inspection of the lead hazard interventions recommended in the EBL Environmental Assessment Report should be done, in addition to dust wipe clearance sampling of those areas. The dust samples should be sent to the MDCH Lead Laboratory for analysis; the local health department will not be charged by the Lead Lab for this service.

Lead poisoning prevention messages should be reiterated at this visit. Bring educational materials again to leave with the household. Educational materials can be found in Appendix C of this protocol and Section B of the EBL Environmental Assessment Report master.

Medicaid will reimburse the local health department for this follow-up visit to the home if the child is enrolled. If a secondary site needs follow-up, Medicaid will also reimburse for this site visit.

Further follow-up visits will not be reimbursed; however, the Environmental Investigator should continue to work with the household to reduce the child's exposures to lead if the blood lead level persists or increases.

IV REPORTING TO THE CLIENT

A follow-up report should be mailed by certified letter or otherwise provided to the client. Educational materials should be included to reiterate lead poisoning prevention messages. If all of the lead hazard control recommendations were accomplished and cleared, the investigator's report should specify the lead-safe condition and clearance of lead dust testing. If the investigator finds that the lead hazard control recommendations have not been performed or performed incompletely, the follow-up report should specify the recommendations that should still be performed and indicate that reinspection will be conducted at the time that corrections are made.

The Environmental Investigator should communicate to the parent or legal guardian that follow-up blood lead testing of the child with the physician's office or clinic should be done to determine if the child's lead levels are decreasing.

V CLOSING A CASE

Criteria for closing a case based upon completed services provided and administrative closures are explained in the Introduction to this protocol in the Closing A Case section.

VI STELLAR - Systematic Tracking of Elevated Lead Levels and Remediation

If the department has an active STELLAR database, ensure that follow-up information regarding the case is provided for the electronic case file.

- Within the address record, under the Investigation tab, go to the Remediation Activity and Closing section. Have available the date the remediation was completed, the abatement contractor's name and address, the hazard remediation methods used, the date the investigation was closed, and the reason for the case closure. Under the Events button, browse the RMxxx codes to determine what may apply to the case.

Tab 7

Michigan Department of Community Health

Distribution: Local Health Department 01-01

Issued: April 1, 2001

Subject: Blood Lead Poisoning Follow-up Services

Effective: April 1, 2001

Programs Affected: Medicaid, Children's Special Health Care Services

This bulletin transmits information relative to blood lead poisoning follow-up services.

To perform these services and seek Medicaid reimbursement, the local health department must be enrolled with Medicaid specifically for blood lead poisoning follow-up services. If the health department is not currently enrolled to perform these services, the health officer must complete the MSA-1530 (Blood Lead Poisoning Follow-up Services Assurance of Services Provision) form attached to this bulletin.

Effective for dates of service on and after April 1, 2001, the reimbursement rates for the environmental (previously known as epidemiological) investigations are increased as follows:

Procedure Code 300025 (Initial Environmental Investigation) is increased to $200

Procedure Code 300026 (Follow-up Environmental Investigation) is increased to $150

Medicaid's maximum allowable amount for reimbursement of in-home health education visits (Procedure Code 300027) remains at $82.63.

Manual Maintenance

Retain this bulletin for future reference.

Questions

Any questions regarding this bulletin should be directed to: Provider Inquiry, Medical Services Administration, P.O. Box 30479, Lansing, Michigan 48909-7979. Providers may phone toll free 1-800-292-2550 or e-mail ProviderSupport@state.mi.us.

Approved:

James K. Haveman, Jr.
Director

Robert M. Smedes
Deputy Director for
Medical Services Administration

BLOOD LEAD POISONING FOLLOW-UP SERVICES ASSURANCE OF PROVISION

This is to certify that as health officer of a local health department, I will assure that environmental investigations provided by this department as blood lead poisoning follow-up services will be conducted by qualified staff according to Medicaid published policies and procedures.

INSTRUCTIONS:

- **Photocopy this form**, complete it, then mail it to the address below:

  PROVIDER ENROLLMENT
  MICHIGAN DEPARTMENT OF COMMUNITY HEALTH
  PO BOX 30238
  LANSING MI 48909

Enter all **Medicaid ID Numbers** under which blood lead poisoning follow-up services will be billed: *(Please Type or Print)*

Medicaid ID Number	Physician Name
Medicaid ID Number	Physician Name
Medicaid ID Number	Physician Name

Handwritten Signature of Health Officer	
Printed Name of Health Officer	Date

Name of Local Health Department	Telephone Number ( )
Address (Number and Street, City, State, ZIP Code)	

AUTHORITY: Title XIX of the Social Security Act **COMPLETION:** Is voluntary, but is required if Medical Assistance Program payment is desired.	The Department of Community Health is an equal opportunity employer, services, and programs provider.

MSA-1530 (01/01) (W) Formerly DSS-1530 which may be used

MSA MEDICAL SERVICES ADMINISTRATION

Bulletin

Michigan Department of Community Health

Distribution: Local Health Department 02-01
Practitioner 02-06
Medicaid Health Plan 02-07

Issued: August 1, 2002

Subject: Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Policy

Effective: September 1, 2002

Programs Affected: Medicaid, Children's Special Health Care Services Special Health Plans

This bulletin consolidates all provider information relative to the early and periodic screening, diagnosis, and treatment (EPSDT) program.

The schedule of visits and the components of these visits now more closely reflect recommendations from the American Academy of Pediatrics (AAP), Centers for Disease Control and Prevention (CDC), and the Centers for Medicare and Medicaid Services (CMS), which was formerly known as the Health Care Financing Administration (HCFA).

Please read the entire document carefully; some information is new and some is older standard operating procedure. All components and the new schedule shall be implemented by September 1, 2002.

Manual Update

The pages attached to this bulletin are not in manual format but, as a temporary measure, you may file them in the Medical Assistance Program Manual until the entire Chapter is rewritten.

Local health departments may file the attached pages in their manuals.

Practitioners may discard pages 130-137 of the current Chapter III and insert the pages attached to this bulletin.

Medicaid health plans (MHPs), formerly known as qualified health plans (QHPs), and Children's Special Health Care Services special health plans (SHPs) may discard pages 7-13 of Chapter IV and insert the pages attached to this bulletin.

NOTE: Any providers who still have the very old "EPSDT Chapter" that was used when the "comprehensive EPSDT program" was in effect should discontinue using it as the basis for EPSDT visits.

Practitioner bulletins 00-02, 98-09, 98-02, 96-03, and 94-05 are obsolete and may be discarded.

Health maintenance organization/clinic plan (QHP) bulletins 00-01, 98-10, and 98-03 are obsolete and may be discarded.

MSA bulletins 00-02, 98-11, and 98-03 are obsolete and may be discarded.

Questions

Any questions regarding this bulletin should be directed to Provider Inquiry, Department of Community Health, P.O. Box 30479, Lansing, Michigan 48909-7979 or e-mail ProviderSupport@michigan.gov. When you submit an e-mail, be sure to include your name, affiliation, and phone number so you may be contacted if necessary. Providers may phone toll free 1-800-292-2550.

Approval

James K. Haveman, Jr.
Director

Patrick Barrie
Deputy Director for
Health Programs Administration

BLOOD LEAD POISONING FOLLOW- UP SERVICES

Many local health departments provide blood lead poisoning follow -up services, which consist of environmental investigations and nursing assessment/investigation visits. The provider shall contact the local health department to determine if services are available in the area and the blood lead levels at which referrals are accepted.

Local health departments may bill the MDCH directly for blood lead poisoning follow -up services provided to any Medicaid- covered child, regardless if the child is enrolled with an MHP, SHP, or is in the fee- for-service program. Authorization for these services is not required by the MHP/SHP; however, local health departments must notify the plan of the service(s) provided and provide the plan with a summary of each.

Documentation of the child's blood lead poisoning level that initiated service must be maintained, as well as documentation of all environmental investigations and nursing assessment/investigation visits.

All blood lead follow-up services must be billed using the child's Medicaid ID Number.

Environmental Inv estigations

To be eligible for reimbursement of environmental investigations, the health officer from the local health department must complete a copy of the BLOOD LEAD POISONING FOLLOW -UP SERVICES ASSURANCE OF PROVISION form (DCH-1530), which appears as Exhibit 9. The form must be mailed to:

PROVIDER ENROLLMENT
MICHIGAN DEPARTMENT OF COMMUNITY HEALTH
PO BOX 30238
LANSING MI 48909

If more than one child in the home has blood lead poisoning, the local health department must select one child's Medicaid ID Number and bill a single initial and a single follow -up environmental visit if provided.

Initial Environmental Investigation (Procedure Code Z6200)

A risk assessor certified by the State of Michigan's Lead Hazard Remediation Program must conduct the investigation of the child's home. If necessary, an investigation may be covered at a second site if the child spends time regularly at that site and it is a possible source of lead exposure. The MDCH will reimburse a maximum of two such investigatio ns per episode of blood lead poisoning.*

The investigation must follow the "Protocol for Environmental Investigations for Children with Elevated Blood Lead Levels" and risk assessment activities per the Lead Abatement Act of 1998. The investigation must include the testing of appropriate potential sources of paint, house dust, soil, water, and other household risk factors such as pottery and home remedies. Education must be provided regarding known and potential sources of lead poisoning, reduction of future exposures, and suggestions for specialized cleaning techniques.

The risk assessor must prepare a risk assessment report per rule R325.9916 promulgated pursuant to the Lead Abatement Act that will include lead hazard control recommendations and the potential relocation of the child depending upon the severity of the lead hazards found.

Discussion with the family shall include agencies that may be able to provide assistance with lead hazard control recommendations provided in the risk assessment report.

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* An episode includes a venous blood sample indicating the child is at risk according to recommendations of the Centers for Disease Control and Prevention, and also includes resulting treatment and follow-up services.

Follow-up Environmental Investigation (Procedure Code Z6210)
The MDCH will cover one follow-up environmental investigation per episode of poisoning* to determine if lead hazard control interventions were performed satisfactorily and verified by a visual inspection and dust wipe clearance sampling. However, if a second site was investigated as the possible source of lead exposure and had lead hazard control interventions performed, the MDCH will reimburse for a follow -up environmental investigation performed at that site.

Environmental Investigation Resource Documents
Providers may obtain the "Protocol for Environmental Investigations for Children with Elevated Blood Lead Levels", a list of certified risk assessors, applications for training and certification, and education materials from:

MICHIGAN DEPARTMENT OF COMMUNITY HEALTH
LEAD HAZARD REMEDIATION PROGRAM
PO BOX 30195
LANSING MI 48909
(517) 335-9390

Nursing Assessment/Investigation Visits
The MDCH will reimburse up to two nursing assessment/investigation visits per episode of blood lead poisoning.* If more than one child in the home has blood lead poisoning, the nursing assessment/investigation visits may be billed for each child.

The blood lead nursing visits must be provided in the child's home. The visits may be conducted by and reimbursed to a fee-for-service home health agency (Provider Type 15) or a local health department or other Provider Type 77 or physician (Provider Type 10 or 11) using Procedure Code Z6220. **NOTE:** Maternal Support Services and Infant Support Services providers may not bill this procedure code.

Blood lead nursing visits provided directly by an MHP or SHP may not be billed separately to the MDCH.

The first nursing assessment/investigation visit focuses on:

- assessment of growth and developmental status of the child, including any symptomatology that may be present in the child
- behavioral assessment of the child, including any aggressiveness and/or hyperactivity
- nutritional assessment of the child
- assessment of typical family practices that may produce lead risk (e.g., hobbies, occupation, cultural practices)
- limited physical identification of lead hazards within the dwelling
- identification and planning for testing for any other family member at risk for sequelae of lead hazard exposure
- education and information regarding lead hazards and ways to minimize those risks in the future
- development of a family plan of care to increase the safety of the child from lead hazards

The second blood lead nursing visit focuses on:

- reinforcement of the educational information presented to the family during the first visit
- validation of the family's ability to carry out activities to minimize risks of continued lead exposure
- modifications of the plan to minimize lead risks, as needed

* An episode includes a venous blood sample indicating the child is at risk according to recommendations of the Centers for Disease Control and Prevention, and also includes resulting treatment and follow-up services.

Blood Lead Resource Documents
Providers are encouraged to review "Guidelines for Environmental and Nursing Investigations for Children with Elevated Venous Blood Lead Levels" and apply these standards of good practice. This publication, plus other materials concerning blood lead poisoning, may be obtained from:

MICHIGAN DEPARTMENT OF COMMUNITY HEALTH
CHILDHOOD LEAD POISONING PREVENTION PROGRAM
PO BOX 30195
LANSING MI 48909
(517) 335-8885

LOCAL HEALTH DEPARTMENT LEAD PROGRAM
MEDICAID BILLING - Sample Form

Child's Name:	Birth Date:	Sex:	Race:
Address: City/Zip:	Phone:		
Medicaid#: ___ ___ ___ ___ ___ ___ ___ ___ or HMO Medicaid#: Name of Medicaid HMO:	Date Coverage was Verified: Primary Care Provider if HMO Medicaid:		

I authorize any holder of medical information about the above-referenced child to release to Medicaid or their intermediaries or carriers information needed for this claim. I permit a copy of this authorization to be used in place of the original, and request payment of medical insurance benefits to this Department which accepts assignment.

Parent/Guardian Signature: Date:

Client ID#:	Date of Service:	Diagnosis Code: **V825**	Site:	Provider:

Home Visit Code Description	Fee
☐ Medicaid Procedure Code T1029 - Initial Environmental Investigation Comprehensive environmental lead investigation, not including laboratory analysis, per dwelling	*$
☐ Medicaid Procedure Code T1029 (TS modifier) - Follow-Up Environmental Investigation Comprehensive environmental lead investigation, not including laboratory analysis, per dwelling	*$
Professional's Signature:	Date Submitted:

* Department to determine real cost of services

Tab 8

Michigan Department of Community Health

Environmental Investigation Summary for Children With Elevated Blood Lead Levels

\SE IDENTIFICATION

Date Referred/Referred By:	Medicaid #	Child SS #
Investigator	Agency	Certification #

CHILD INFORMATION

Name	Date of Birth	Gender ☐ Male ☐ Female
Primary Address		Dates of Residency
City	County	Zip Code
Previous Address # 1		Dates of Residency
Previous Address # 2		Dates of Residency
Parent/Guardian Name	Phone Numbers Home: _____ Work: _____	Case Nurse Phone: _____
Person Interviewed	Relationship	Other Contact Name: _____ Phone #: _____

Primary structure year built Condition of the dwelling/site	Type of Dwelling ☐ Attached Single Family ☐ Day Care Center ☐ Detached Single Family ☐ MultiFamily ☐ Other ☐ School ☐ Unknown	Occupancy ☐ Owner Occupied ☐ Public Housing ☐ Private Rental ☐ Section 8 ☐ Unknown

RENTAL PROPERTY INFORMATION

Name	☐ Owner ☐ Manager	Phone #
ldress		

Child: _____

SURVEY/INSPECTION OF PRIMARY SITE

ıte of Investigation of ımary Site:	Address:
Lead Paint Hazard Results ☐ Interior ☐ Exterior ☐ Both ☐ None Found	
Hazards Identified by sampling: ☐ Dust ☐ XRF ☐ Soil ☐ Spot Test ☐ Paint Chips ☐ Water Bottle Provided	
Lead Hazards found other that paint-related: ☐ No ☐ Yes (Describe)	
Industrial Facility Within One Mile ☐ Yes ☐ No	Near major Thoroughfare ☐ Yes ☐ No

SECONDARY SITES

Site 1 Address/Location Name:	Contact:	Phone:
Type of Dwelling ☐ Attached Single Family ☐ Day Care Center ☐ Detached Single Family ☐ MultiFamily ☐ Other ☐ School ☐ Unknown	Start Date # Hours spent there per week:	Dwelling Condition: Hazards Identified: ☐ No ☐ Yes (Describe below)

e 2 Address/Location Name:	Contact:	Phone:
Type of Dwelling ☐ Attached Single Family ☐ Day Care Center ☐ Detached Single Family ☐ MultiFamily ☐ Other ☐ School ☐ Unknown	Start Date # Hours spent there per week:	Dwelling Condition: Hazards Identified: ☐ No ☐ Yes (Describe below)

HAZARD ABATEMENT / REDUCTION (Submit for STELLAR data entry)

Referred to Lead Hazard Control Program ☐ No ☐ Yes	If yes, agency name	Date Remediation / abatement completed:
Type(s) of reduction used: ☐ Removal / Replacement ☐ Enclosure ☐ Encapsulation ☐ Interim Controls		
Comments:		
HEPA Loan Program Available? ☐ Y ☐ N	HEPA Offered ? ☐ Y ☐ N	HEPA Used ? ☐ Y ☐ N
Specialized / technical cleaning explained? ☐ Y ☐ N		
Comments:		

CASE CLOSURE

ıvestigation Closed Date:	Investigator Name:
mments/reason for closure:	

EBL ENVIRONMENTAL INVESTIGATION ACTIVITY LOG

Case Address: _____

tigator Name (print): _____ Initials: _____ Dates on Case: _____

Investigator Name (print): _____ Initials: _____ Dates on Case: _____

Investigator Name (print): _____ Initials: _____ Dates on Case: _____

Date	Activity	Initials

Form # DCH-1084 (02/04)

EBL ENVIRONMENTAL INVESTIGATION ACTIVITY LOG (Continued)

Date	Activity	Initials

EBL Environmental Investigation Check Off List

February 2004

CASE ID: _____

CHILD'S NAME: _____

ADDRESS: _____

No.	Task/Info	Date Completed	Comments	Initials
1	Review files for existing information pertaining to the address			
2	Assign a case number to the file			
3	Begin Form DCH-1085 and other necessary forms			
4	Coordinate home visit with Nursing,, as applicable			
5	Schedule environmental assessment with client			
6	Ensure that all field forms and sampling materials are assembled (Pre-Visit Preparation)			
7	Client interview and environmental investigation of the address completed			
8	Nursing visit completed, as applicable			
9	Environmental samples sent to the Lead Lab			
10	XRF data downloaded, as applicable			
11	Received Lead Lab analysis results			

12	Sample results recorded in case file, database, etc.			
13	EBL Report forwarded to client			
14	EBL Report forwarded to rental property owner, as applicable			
15	Cover letter forwarded to Nursing, and other agencies, as appropriate			
16	Referrals made to local agencies that can assist with lead hazard control: • • •			
17	State reporting form sent to MDCH/LHRP by the 15th of the month			
18	Follow-up contact with client			
19	Follow-up home visit			
20	Follow-up report forwarded to the client			
21	Follow-up report forwarded to the rental property owner, as applicable			
22	Case officially closed			

Provide additional or more detailed comments on the EBL Environmental Investigation Activity Log.

DIAGNOSTIC TESTING

If the initial blood lead test uses a capillary specimen, and is ≥10 mg/dL, it must be confirmed with a venous test. An elevated venous sample is always confirmatory. Schedule for diagnostic testing of a child with an elevated BLL on a screening test.

If the screening test is:	obtain a venous test within:
10-19 μg/dL	3 months
20-44 μg/dL	1 month - 1 week*
45-59 μg/dL	48 hours
60-69 μg/dL	24 hours
≥70 μg/dL	Immediately as an emergency test

*** The higher the BLL, the more urgent the need for a diagnostic test**

CLINICAL EVALUATION

MEDICAL HISTORY

Symptoms
Developmental history
Mouthing activities and Pica
Previous BLL measurements
Family history of lead poisoning

ENVIRONMENTAL HISTORY

Age, condition, and ongoing remodeling or repainting of primary residence and other places where the child spends time (including secondary homes and day-care centers). Determine whether the child may be exposed to lead-based paint hazards at any or all of these places.

Occupational and hobby histories of adults with whom the child spends time. Determine whether the child is being exposed to lead from an adult's workplace or hobby.

Other local sources of potential lead exposure.

NUTRITIONAL HISTORY

Take a dietary history.
Evaluate the child's iron status using appropriate laboratory tests.
Ask about history of food stamps or WIC participation.

PHYSICAL EXAMINATION

Pay particular attention to the neurologic examination and to the child's psychosocial and language development. Refer to Early On*.

* MDCH Advisory Committee recommendations included.
** *Screening Young Children for Lead Poisoning.* CDC. Nov. 1997

PHYSICIAN AND HEALTH DEPARTMENT FOLLOW-UP ACCORDING TO DIAGNOSTIC BLOOD LEAD LEVEL

(μg/dL)	ACTION
<10	Reassess and test again (if indicated) in 1 year. Provide lead poisoning prevention pamphlets (appropriate language and reading level).
10-14	Provide lead poisoning prevention pamphlets and anticipatory guidance to prevent further exposure to lead. Blood lead level (BLL) again in 3 months.
15-19	Refer to local PH for family lead assessment & education nursing visit. (Time frame determined by local resources, suggested within 2 weeks) Provide or refer for follow-up BLL in 3 months. Refer for social services as needed. If BLLs persist (i.e. 2 venous BLLs in this range at least 3 months apart), proceed according to actions for BLLs 20-44.
20-44	EBL Environmental Investigation: Physician to provide thorough physical assessment and clinical management and refer to local PH for coordination of care as soon as possible. Refer other children under age 6 and pregnant women who live or spend time at this residence for blood lead tests. Local PH staff provide nursing and environmental investigations in the home within 5 working days of the referral. (Recommend joint visit if possible) NOTE: EBL investigations require a trained and certified Inspector/Risk Assessor. Refer for lead hazard control as needed.
45-69	Clinical management includes chelation therapy. Refer ASAP to local PH for nursing and environmental investigation, to be done within 48 hours of the referral. **Lead hazard control should be completed before the child returns to residence.****
≥70	Hospitalize child immediately and begin medical management, including chelation therapy. Refer immediately to local PH for nursing and environmental investigation (to be done within 24 hours of referral). **Lead hazard control should be completed before the child returns to residence.**

Continuing follow-up care is needed until the child has two consecutive BLLs (at least three months apart) less than 10 μg/dL (MDCH). At that time, the child may be discharged from care. Blood lead levels may remain high for extended periods of time, depending upon the length of time and severity of exposure. During this time, encourage family to continue the prescribed food plan

Five Childhood Lead Poisoning Pediatric consultants:

Kanta Bhambhani, M.D., Childrens' Hospital of Michigan, Detroit (313) 745-5515
Don Passal, M.D., Saginaw Cooperative Hospital, (517) 771-6825
Ihuoma Eneli, M.D., Michigan State University (517) 353-5042
M. Gail Shebuski, M.D., Western UP District Health Dept. (906) 482-7382
Sharon Swindell, M.D., Ypsilanti Pediatrics ((734) 484-7288

Tab 9

LEAD ASSESSMENT HOME VISIT
Consent to Enter Property and Take Samples

This is a request for the _____ Health Department to assess the following property for lead hazards:

ADDRESS: _____

CITY/COUNTY: _____

I agree to provide full access to the entire premises, both interior and exterior, to the health department, its agents, employees, and representatives for the purpose of the assessment. This access includes any and all other buildings, structures, and fixtures located on the subject property. In the event that a return visit is necessary for additional assessment, I agree to provide full access to the property at that time. Additionally, I agree to fully cooperate with the Health Department staff during the assessment.

The site visit may involve taking lead analyzer readings, dust, soil, paint chip, and water samples. I understand that it may be necessary for suspected lead hazards and the property in general to be photographed and/or videotaped. A return visit may be needed to do additional lead testing, photographing, and/or videotaping of the area.

The Health Department will take reasonable care when collecting samples for lead testing; however, will not be responsible for repair of areas where lead samples are taken. The owner(s) shall hold the Health Department harmless for any repairs.

I understand that an assessment report will be written and a copy of the report will be provided to me and the owner of the property, if not the same individual. The report is also considered a public record and is, therefore, subject to disclosure by the Health Department upon request, with the following information removed prior to release: property owner, tenants, property address, telephone numbers, and any information that could be used to identify children with lead poisoning living in the home.

In order to provide the best care for the child, I give permission to release related information gathered and/or reports generated as a result of this assessment to local health department staff, the child's health care providers, the local housing authority and/or the Michigan Department of Community Health.

I represent to the health department that I have a legal interest in the subject property, either as an owner, lessee, or by some other legal interest, and possess the legal right and authority to permit the above-described assessment. I further represent to the health department that I have sought and obtained permission from all necessary parties and/or entities and I have their authority to permit the assessment.

☐ Parent

☐ Owner

☐ Guardian

☐ Renter

_____ _____

SIGNATURE DATE

Revision 02/2004

GLOSSARY
BUILDING TERMS

Anchor Bolt: A bolt used for securing structural steel or wood to masonry or concrete. The bolt is placed in the concrete while the concrete is being poured.

Angle Brace: A support used to stiffen a frame, placed across a corner at an angle to the supported members.

Apron: That piece of window trim located under the window sill.

Asphalt: A mineral pitch insoluble in water and used extensively in the building industry for water-proofing, roof coverings, shingles, floor tiles, paints, and surface coverings.

A.S.T.M.: Acronym for American Society for Testing Materials. It is a society dedicated to the standardization of building materials.

Balusters: Small pillars that support a hand rail. Balusters are also known as banister spindles or spindles.

Bargeboard: The finished board covering the gable rafter on a gable roof after the siding has been installed.

Baseboard: The interior trim used around the wall at the floor line.

Batten: A narrow strip of wood placed over the vertical joint of sheathing or paneling.

Casing: The finished framework around a window or door.

Chair Rail: That decorative piece of molding which separates the wainscot from the rest of the wall.

Chalking: The photo-oxidation of paint that causes a powder to form on the surface.

Component: Any portion of a building that may be painted or have dust on its surface.

Concrete: A cement mixture used for sidewalks, driveways, and patios.

Cove Molding: That decorative piece of molding installed between the ceiling and the wall.

Crown: A smaller decorative piece of molding attached to the cove.

Door: A wooden or steel piece of material which hangs in the doorway and acts as a barrier to enter or exit a room.

Dormer: A framed structure projecting above a sloping roof surface. It normally contains a vertical window unit.

Downspout: Any connector for carrying water from the roof of a building to the ground

Drip Cap: A molding trim of wood placed over the outside window or door frame to shed water away from the wall.

Dry Rot: A decay of seasoned wood. The decay is due to a lack of air circulation which permits fungus growth. The fungus reduces wood to a fine powder.

Eaves: The projecting lower edge of a roof overhang that extends beyond the wall of a building.

Eave Trough: A metal or plastic catch basin attached to the eave. Used for the purpose of moving water away from the structure.

Facia: A board used in cornice construction.

Footing: The lowest portion of a structure generally made of concrete and spread out to distribute the weight of the building over the greatest possible area.

Foundation: The supporting portion of a structure below the first-floor construction or grade.

Gable: The end wall of a building where the roof slopes on only two sides. It is the triangular shaped part of the wall between two eaves and the ridge.

Gypsum Board: A wallboard made out of a mineral, hydrous sulfate of calcium, and covered with paper. It is also referred to as drywall or sheetrock.

Header: A supporting member extending between two joists or studs and used for supporting the load of a floor or wall.

Horse: One of the slanting supports of a stairway system to which the treads and risers of a stair are attached. This is also called a carriage or stringer.

Jamb: The lining of a rough opening for the installation of a door or window.

Joist: A horizontal beam used as a floor, ceiling, or roof support.

Landing: The small platform between two flights of stairs which run between the floors of a building.

Louver: An opening in a wall used for the passage of air.

Mantle: A decorative piece of flat trim used in the construction of a fireplace.

Masonite: A hard composition board usually about 1/4" thick.

Molding: Any strip of wood or other material cut to serve as an ornamental trim.

Mullion: In woodwork, it is the vertical pieces of wood between window frames which are side by side.

Muntin: The wooden pieces in a window frame that separate the pieces of glass.

Nosing: That part of the stair tread that projects over the riser.

Railing: A piece of wood or steel used in a stairway system to hold on to while going up or down. Also a protective structure used around a deck.

Ridge: The top of a roof.

Riser: The upright piece of wood which connects successive stair treads.

Room: A partitioned portion of an inside of a building.

Room Equivalent: Any portion of a building that is considered large enough to walk into and be considered a separate room.

Sash: The outer framework which holds the glass in a window.

Scuttle: A hole which affords entrance to a crawl space or attic.

Shoe Molding: A decorative piece of wood used at the floor between flooring material and baseboard.

Siding: The covering over the outside wall of a frame building.

Sill: The lowest part of a wood frame or the lowest part of an opening in a wall or window. Most commonly used in conjunction with windows.

Soffit: The underside of an overhang.

Stair Well: The compartment extending vertically through a building in which the stair system is built.

Stool: Older terminology for Window sill.

Stop: That portion of door trim used to stop the door.

Stringer: One of the slanting supports of a set of steps to which the treads and risers of a stair are attached.

Strike Plate: That part of a door lock which is fastened to the jamb.

Stud: An upright piece of wood or steel usually 2" x 4" or 2" x 6" which runs from sole to top plate.

Subfloor: That flooring material laid directly on the joists serving as a floor during construction and as the underlayment for final flooring material.

Substrate: A surface on which paint, varnish, or other coating has been applied or may be applied.

Testing Combination: A unique surface to be tested that is characterized by room equivalent, component, substrate, and visible color.

Test location: A specific area on a testing combination where an XRF test will be taken for lead-based paint.

Threshold: A flat piece of wood in a doorway that lies flat at the floor level.

Transom: A decorative portion of a doorway above the header. Often a small window.

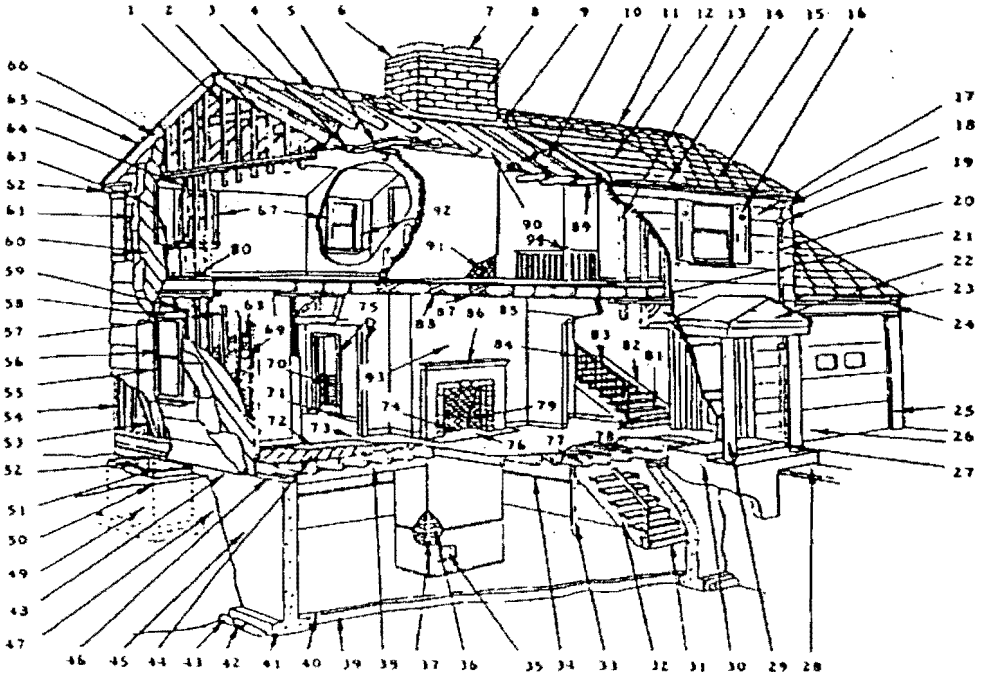
Tread: That portion of a stairway system that lays flat on the stringer and is used to step on while going up or down the stairs.

Trim: The finished woodwork of any structure.

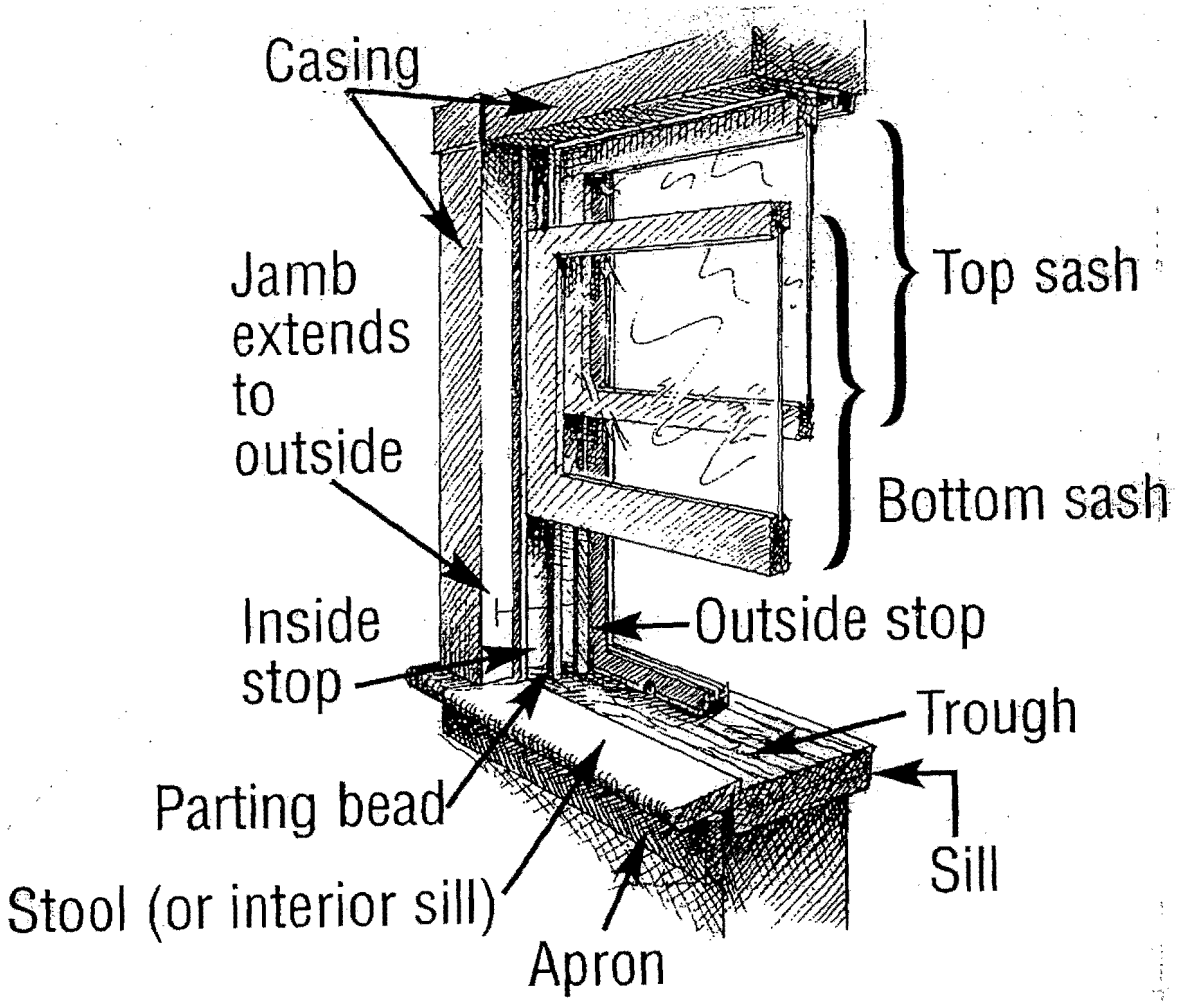
Trough: That area of a window located between the inside window and the storm windows in which the window sets.

Wainscot: The lower section of a wall that is a different material than the rest of the wall.

VIEW OF RESIDENTIAL CONSTRUCTION

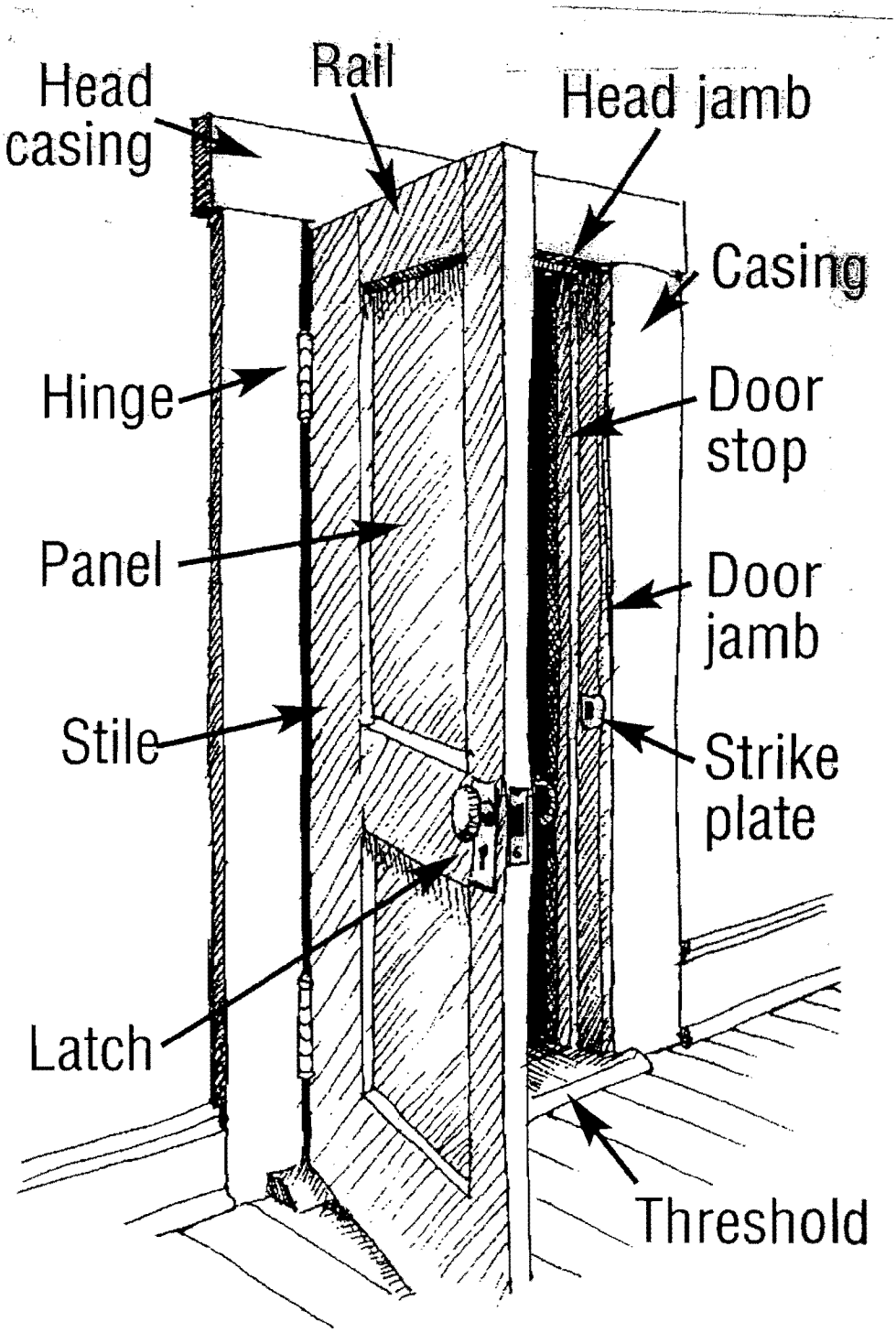


1 Gable stud
2 Collar beam
3 Ceiling joist
4 Ridge board
5 Insulation
6 Chimney cap
7 Chimney pot
8 Chimney
9 Chimney flashing
10 Rafters
11 Ridge
12 Roof boards
13 Stud
14 Eave trough or gutter
15 Roofing
16 Blind or shutter
17 Bevel siding
18 Downspout or leader gooseneck
19 Downspout or leader strap
20 Downspout, leader or conductor
21 Double plate
22 Entrance canopy
23 Garage cornice
24 Frieze
25 Door jamb
26 Garage door
27 Downspout or leader shoe
28 Sidewalk
29 Entrance post
30 Entrance platform
31 Basement stair riser
32 Stair stringer
33 Girder post
34 Chair rail
35 Cleanout door
36 Furring strips
37 Corner stud
38 Girder
39 Cinder or gravel fill
40 Concrete basement floor
41 Footing for foundation wall
42 Tar paper strip
43 Foundation drain tile
44 Diagonal subflooring
45 Foundation wall
46 Mud sill
47 Backfill
48 Termite shield
49 Areaway wall
50 Grade line
51 Basement sash
52 Areaway
53 Corner brace
54 Corner studs
55 Window frame
56 Window light
57 Wall studs
58 Header
59 Window cripple
60 Wall sheathing
61 Building paper
62 Frieze or barge board
63 Rough header
64 Cripple stud
65 Cornice moulding
66 Fascia board
67 Window casing
68 Lath
69 Insulation
70 Wainscoting
71 Baseboard
72 Building paper
73 Finish floor
74 Ash dump
75 Door trim
76 Fireplace hearth
77 Floor joists
78 Stair riser
79 Fire brick
80 Sole plate
81 Stair tread
82 Finish stringer
83 Stair rail
84 Balusters
85 Plaster arch
86 Mantel
87 Floor joist
88 Bridging
89 Lookout
90 Attic space
91 Metal lath
92 Window sash
93 Chimney breast
94 Newel post



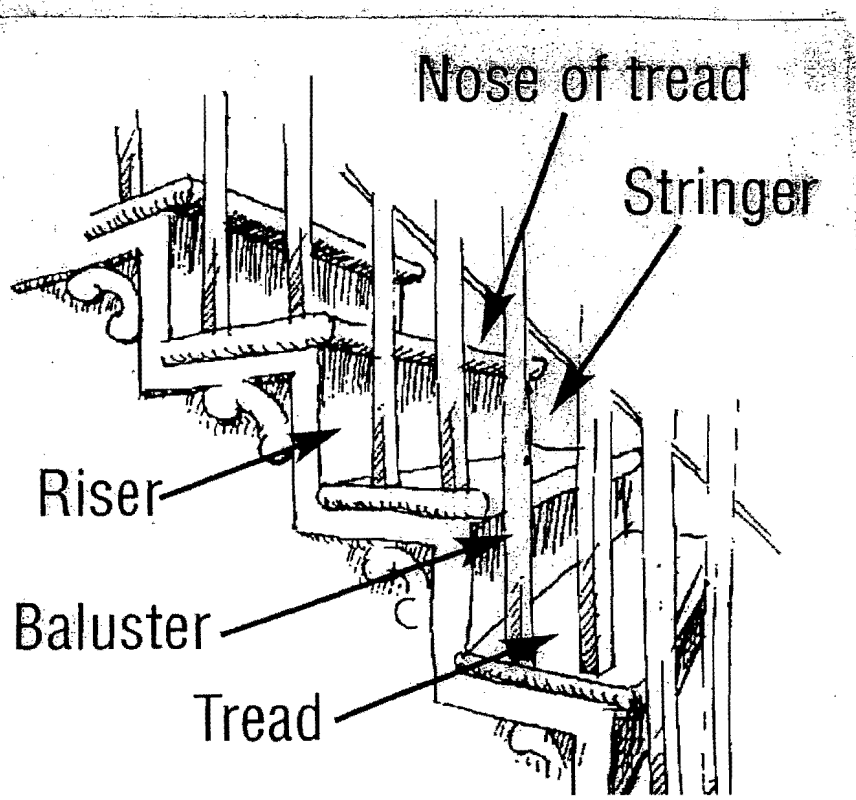
Window Components

Adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.



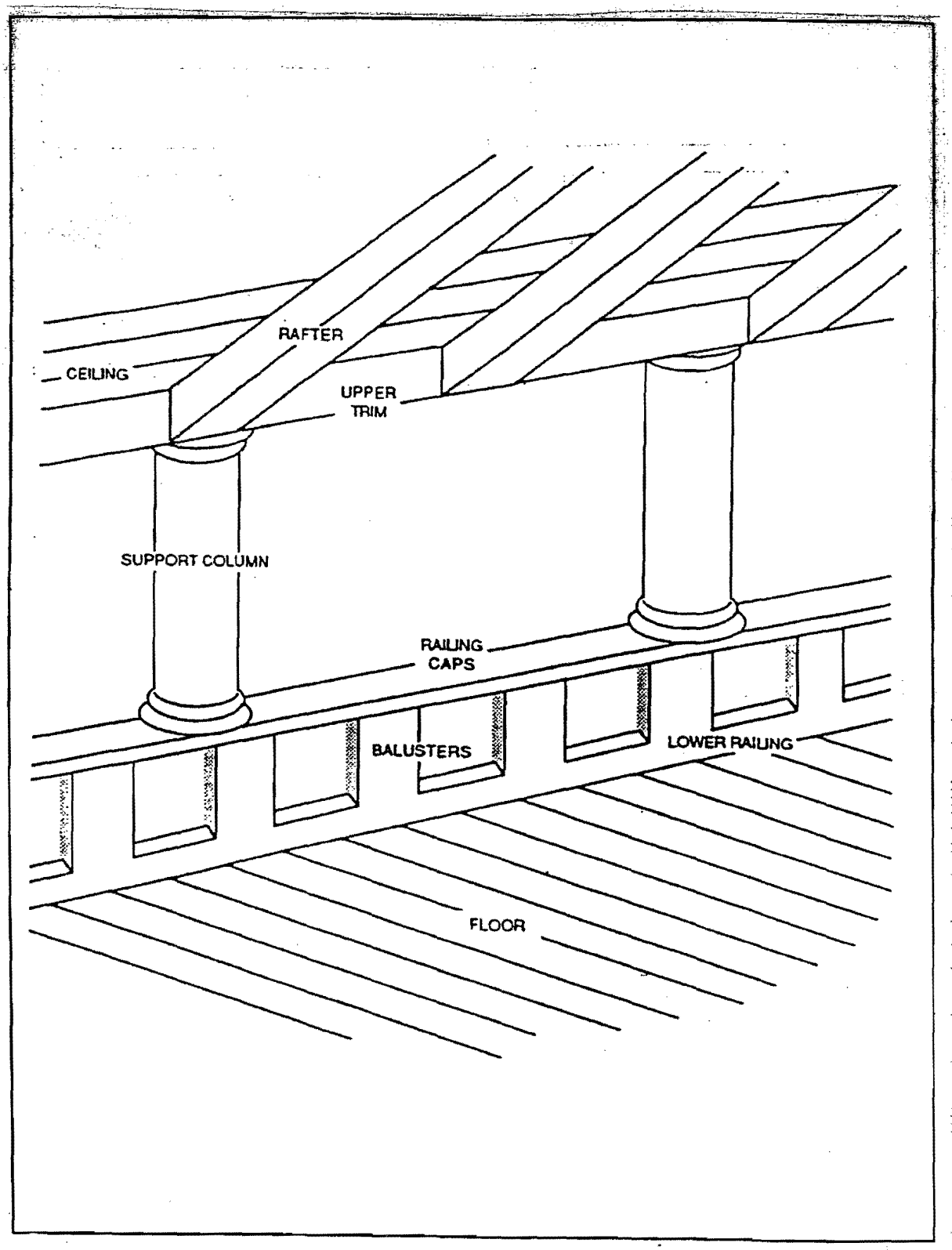
Door Components

Adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.

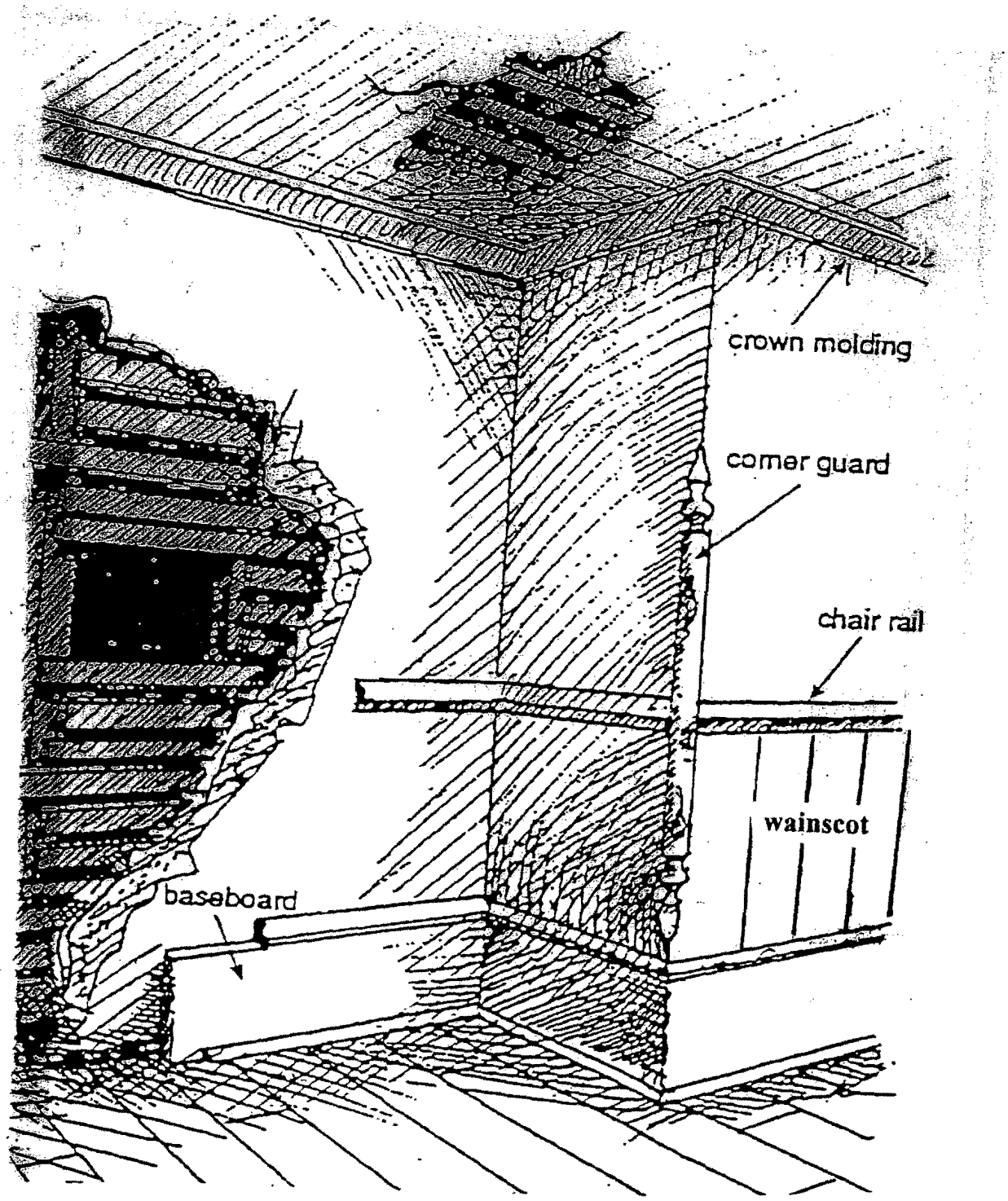


Stair Components

Adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.



Porch Components



Wall Components

Michigan Department of Community Health
Bureau of Laboratories **11/01**
Division of Chemistry and Toxicology

Paint Chip Sampling Procedure for Lead

Dust sampling should always be done **before** paint chip sampling in order to minimize the prospect of cross-sample contamination. Paint chip sampling is a destructive method that may release a small quantity of lead dust. Although paint chip samples are to be collected from inconspicuous areas, the occupant must always be notified that paint chip sampling may be necessary.

1. Paint Chip Sampling Tools and Materials:

   a. Sharp stainless steel paint scraper (such as Proprep Scraper, $7.50, 1-800-255-4535) available at many paint stores

   b. Disposable **"Triad"**or **"Wash'n Dri"** wipes for cleaning paint scraper

   c. Non-sterilized non-powdered disposable gloves

   d. Hard-shelled containers (such as non-sterilized 50 mL polypropylene centrifuge tubes) that can be rinsed quantitatively for paint chip samples or Ziplock baggies can be used since results are to be reported in µg/g or percent be weight.

   e. Collection device (clean creased piece of paper or cleanable tray)

   f. Environmental Lead Sampling Requests for Paint Chips, DCH-055A 10/98 or Environmental Lead Sampling Request, DCH-0058 October 2001 (For MDCH Requisition Phone (517) 335-9867 or Fax (517) 335-9871).

   g. Ladder

   h. Plastic trash bags

   I. Flashlight

   j. Adhesive tape

   k. Heat gun or other heat source operating below 1100° F to soften the paint before removal (optional)

2. Containment:

   a. Method One: Plastic Sheeting Underneath Sampling Area

   A clean sheet of plastic measuring four feet by four feet should be placed under the area to be sampled to capture any paint chips that are not captured by the collection device or creased piece of paper. Any visible paint chips falling to the plastic should be included in the sample. Dispose of the plastic at the dwelling. Wet wipes may be used to clean the area.

   b. Method Two: "Glovebag" Approach

   If further containment is deemed necessary, a "glovebag" approach may be used. a durable sheet of plastic is loosely taped to the surface to be sampled, with a paint scraper, collection device, and shipment container housed inside the plastic. There should be enough "play" in the plastic to permit a scraping motion without dislodging the tape holding the plastic to the surface. Large plastic baggies can be used in lieu of the plastic sheet if paint chips are to be shipped to the lab in plastic baggies. Properly conducted, this method completely seals the surface during the actual scraping operation. A four by four foot sheet of plastic is still required under the glove bag to capture any debris that falls to the ground during the glove bag removal. The tape should be <u>slowly</u> removed from the surface to avoid lifting any additional paint off of the surface.

3. Paint Sample Collection:

The paint chip sample need not be more than 1" x 1" in size. Persons collecting paint chips should wear new disposable gloves for each sample.

The most common paint sampling method is to scrape paint directly off the substrate. The goal is to remove <u>all</u> layers of paint equally, but not of the substrate. A heat gun should be used to soften the paint before removal to reduce the chances of including substrate with the sample and to help prevent sample loss. Including substrate in the sample will dilute the lead content if results are reported in μg/g or weight percent. Hold the heat gun no closer than six inches from the surface. Do not scorch the paint. discontinue heating as soon as softening or blistering is observed.

Use a razor-sharp scraper to remove paint from the substrate. Paint samples collected in this fashion are usually reported in μg/g or % lead only. The sample may be placed in a baggie for shipment to the laboratory.

4. Composite Paint Chip Sample Collection:

Paint chip samples may be composited by collecting individual subsamples from different surfaces. When results are reported in weight percent or µg/g, each subsample should have about the same weight. The result is then compared to the standard for lead-based paint divided by the number of sub-samples (the composite standard). If the result is above this number, one or more of the samples must be above the standard. Each sample should be reanalyzed individually in this case. If the result is below the number, none of the sub-samples can contain lead above the standard. No more than 5 subsamples should be included in the same sample container or ziplock baggie. If both single-surface and composite samples are collected side-by-side, the individual samples can be submitted for analysis without returning to the dwelling if the composite result is above the composite standard.

5. Cleanup and Repair:

a. All settled dust generated must be cleaned up using wet wipes.

b. The surface can be resealed with new paint if necessary. If desired, apply spackling and/or new paint to repair the area where paint was removed.

c. Personnel conducting paint sampling should avoid hand-to-mouth contact (specifically: smoking, eating, drinking, and applying cosmetics) and should wash their hands with running water immediately after sampling. The inspector should ask to use the resident's bathroom for this purpose. Wet wipes may be used if no running water is available or if the bathroom is not available.

6. Form Completion:

Fill out the Environmental Lead Sampling Request for Paint Chips completely.

Chain of custody requirements should be followed if applicable.

Fees: Although the MDCH lab is non-commercial, the fee for testing environmental lead samples is $10.00. Fee based samples will only be accepted from Counties with accredited inspectors. A check payable to the **State of Michigan** must be submitted with each specimen. The name of the client, or a list of clients must be submitted with the check if the name is different from the payee. Attach the check to the Environmental Lead Sampling Request. A monthly billing for the testing services may also be arranged with the laboratory, indicate "Bill to Provider" on the Lead Sampling Request. Local public health departments are exempt from a fee when submitting "public health" related samples. Public health

related samples are environmental lead testing follow-up specimens for a lead poisoned client, or investigation of a contaminated site of public health concern.

7. Quality Assurance/Quality Control:

Any sample submitted with an insufficient sample size (< 100 mg), will need additional samples collected. If analyzed a insufficient sample will be indicated on the report in the ID#/Condition field.

Any questions or problems concerning environmental lead sampling and results should be directed to:

Michigan Department of Community Health
Manager, Trace Metals Laboratory
PO Box 30035
3350 Martin Luther King Blvd.
Lansing, MI 48909
(517) 335-8244
(517) 335-9776, fax

6. Lead Hazard Identification: >5,000 μg/g (0.5%) or 1.0 mg/cm^2.

7. Reference: *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, U.S. Department of Housing and Urban Development, June, 1995. Copies of the Guidelines are available for a small handling fee from HUD USER at 1-800-245-2691.

Michigan Department of Community Health

Division of Environmental and Occupational Epidemiology
Lead Hazard Remediation Program
3423 Martin Luther King Jr BLVD Lansing, Michigan 48906 (517) 335-9390

LEAD DUST WIPE COLLECTION PROTOCOL

The following Lead Dust Wipe Collection Protocol is a guide to be used when performing an EBL environmental investigation.

1) Draw a site map - include yard, driveway, garage, other important features (i.e., fences, play areas).

2) Record general building information such as room colors, painted components, floor coverings and paint conditions.

3) Take photographs of the home (recommended). Include exterior (sides A, B, C and D) and interior spaces.

4) Take dust wipe samples following EPA or HUD sampling procedures. No visual assessment or sampling is required in areas that are not living spaces AND the child has no access to. Test areas in question if they are accessible to the child and the area is a potential hazard. The following list is a guide for typical areas to be tested:

   a) Child's bedroom – 1 floor and 1 window (sill or trough)
   b) Child's play area – 1 floor and 1 window (sill or trough)
   c) Living area – 1 floor and 1 window (sill or trough)
   d) Kitchen – 1 floor and 1 window (sill or trough)
   e) Bathroom – 1 floor and 1 window (sill or trough)
   f) Porch – 1 floor and 1 window (sill or trough)
   g) Other high traffic areas - 1 floor and 1 window (sill or trough)
   h) **Any other areas where a child may be exposed**

   Take additional dust samples from the nearest horizontal surface adjacent to any component where friction damage has occurred.

   Composite dust samples are not permitted.

5) Complete the chain of custody forms issued by the Michigan Department of Community Health Bureau of Laboratories (Form#DCH-0558) and send it with the dust wipes to the State Lead Laboratory for analysis.

6) After receiving results from the State lab, determine lead contaminated dust hazards:

   Floor>= 40 ug/ft^2 Window sill >= 250 ug/ft^2 Window trough >= 400 ug/ft^2

7) Place all site specific data such as dust wipe results, site maps and letters in file folder and file for future reference.

Michigan Department of Community Health

Division of Environmental and Occupational Epidemiology
Lead Hazard Remediation Program
3423 Martin Luther King Jr. Blvd Lansing, Michigan 48909 (517) 335-9390

SOIL SAMPLE COLLECTION PROTOCOL

The following Soil Collection Protocol is a basic protocol to be utilized when collecting composite soil samples for hazard evaluation in an EBL Environmental Investigation.

Supplies:

•Disposable gloves •Disposable wipes •Centrifuge tubes •DCH Form No. 0558 – Chain-of-Custody •Diagram master •Soil sample log •Roll-a-tape or tape measure •Permanent marker •Gallon "Ziplock"-type bags for sample shipment and waste disposal • Metal or plastic disposable spoon • Shipping supplies

Definitions:

***Target area* is the bare soil perimeter or play area being addressed; *Primary sample* is the sample comprising several *secondary samples* collected in a particular target area.**

1) Establish a sampling plan by first creating a site plan. The plan should be oriented the same as the site diagram which was generated for interior risk assessment purposes. Sketch a schematic lay-out for the house, all out-buildings, fences, heavy traffic areas, play areas, other bare soil areas and the lot boundaries. Be sure to identify the drawing by address, and indicate North on the diagram, as well as the location of the address side of the unit.

2) Number each target area (bare, perimeter or play) on the diagram and enter the number with an area description in the space at the bottom of the diagram master and soil sample log. Estimate the square footage of each target area.

3) Enter data on the soil sample log for soil characteristics, accessibility, target area square footage, etc., and take photos of each target area.

4) Sketch in sampling routes over target areas. For perimeter sampling draw an axis parallel and within 2 feet of the foundation, fence or other structure. For odd-shaped areas draw diagonals, creating an "X" over the area. Spot secondary sample locations equally along these lines.

5) Calculate the number of primary samples and secondary samples needed. One primary sample can be collected for up to 800 square feet of ground area. Spot from 3 to 10 secondary samples 2 to 6 feet apart, depending on the square footage of the target area being addressed. Group numerous small bare spots as one target area. Group areas with a common function (e. g, multiple play, multiple garden, multiple pet, etc.), Do not group areas with a significant potential for hazard; treat these areas separately. For example, if one particular area is next to a badly deteriorated structure, identify it as a separate target area. The purpose is to isolate areas for future soil lead hazard control.

6) Using an approved sampling device, collect samples from the first one-half inch of surface soil and transfer into clean, first-use centrifuge tubes. The centrifuge tube itself may be used if appropriately decontaminated before placing in the sample shipping bag. De-contaminate equipment between target samples. It is not necessary to decontaminate between secondary collections.

7) Enter sample area and target sample number on centrifuge tube before proceeding to next sample; place tube in the sample shipping bag.

8) Once all samples have been collected, decontaminate equipment and seal all related waste in a disposal bag. Dispose of waste off-site as ordinary household waste. Wash face and hands and complete the remaining information on the soil sample log. Transcribe necessary information from the log to the laboratory chain of custody form and mark the sample shipping bag with identifier information.

EBL Environmental Investigation *SOIL DIAGRAM*

ADDRESS: _____ *DATE:* _____

#	AREA DESCRIPTION	
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X

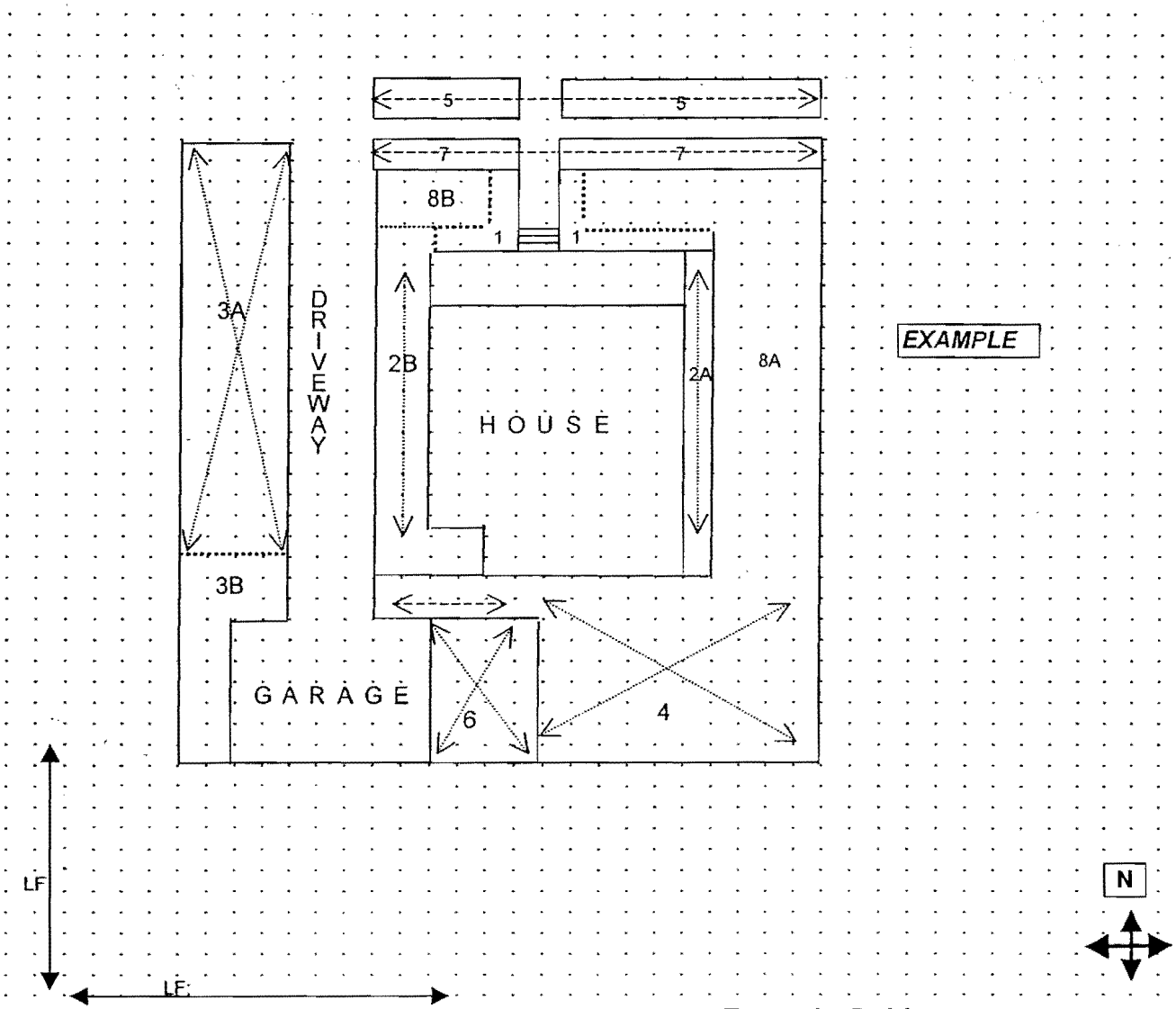
#	AREA DESCRIPTION	
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X
		X

ADL S: _____ SOIL S LE LOG DATE: _____ _____

CHAIN OF CUSTODY ID #	AREA NUMBER	COMPOSITE #	# SUBSAMPLES	PHOTO LOG REFERENCE #	SQUARE FOOTAGE	AREA DESCRIPTION	LOOSE (Y/N)	COMPACTED (Y/N)	ACCESSIBLE (Y/N)	PLAY AREA (Y/N)	PERIMETER (Y/N)	RESULT NUMBER 1 (ug/kg)	RESULT NUMBER 2 (ug/kg)	RESULT NUMBER 3 (ug/kg)	RESULT NUMBER 4 (ug/kg)

EBL Environmental Investigation *SCHEMATIC DIAGRAM*

PROJECT: 128 Hypothetical Lane Anywhere, MI #: 1234567 *DATE: Anyday 2003*



#	AREA DESCRIPTION	Total SF
1	Front Porch/House Walk Perimeter	180
2A	East (Side B) Perimeter	110
2B	West (Side D) Perimeter	160
3A	West of Drive	240
3B	West and northwest garage	NA
4	Back Yard	1,260
5	North of sidewalk	720
6	Dog pen	830
7	Rocky area between fence and sidewalk	780
8A	Sodded area east of house	NA
8B	Sodded area northwest of house	NA

Example Guidance

Divide areas up into "zones" according to soil characteristics and use patterns. Sample along an imaginary vertical/horizontal axis for perimeters and along diagonal lines for other areas. Spot 3-10 sub-samples 2-6 feet apart, depending on the total area. Allow one primary sample per 800 square feet. Identify primary samples to correlate with diagram, (example: area 4 will have samples:4.1 & 4.2). Diagonal arrows do not neccessarily imply 2 samples; they only determine a general sampling pattern/direction.

SITE _____ SOIL S LE LOG DATE: _____

SITE #: _____

CHAIN OF CUSTODY ID #	AREA NUMBER	COMPOSITE #	# SUBSAMPLES	PHOTO LOG REFERENCE #	SQUARE FOOTAGE	AREA DESCRIPTION EXAMPLE	LOOSE (Y/N)	COMPACTED (Y/N)	ACCESSIBLE (Y/N)	PLAY AREA (Y/N)	PERIMETER (Y/N)	RESULT NUMBER 1 (ug/kg)	RESULT NUMBER 2 (ug/kg)	RESULT NUMBER 3 (ug/kg)	RESULT NUMBER 4 (ug/kg)
1	1	1	?	1	180	Front Porch/House Walk Perimeter	Y	N	Y	Y	Y				
NA	2	NA	NA	NA	110	East (Side B) Perimeter	N	Y	Y	N	Y				
2	2	2	?	2	160	West (Side D) Perimeter	Y	N	Y	Y	Y				
3	3	3	?	3A	240	West of Drive	Y	N	Y	N	N				
3	3	3	?	3B	NA	West and northwest garage	N	Y	N	N	N				
4.1	4	4.1	?	4	1,260	Back Yard	Y	N	Y	Y	N				
4.2	4	4.2	?	4	1,260	Back Yard	Y	N	Y	Y	N				
5	5	5	?	5	720	North of sidewalk	N	Y	Y	Y	N				
6	6	6	?	6	830	Dog pen	N	Y	Y	N	Y				
7	7	7	?	7	780	Rocky area between fence and sidewalk	N	Y	Y	N	N				
NA	8	NA	NA	8A	NA	Sodded area east of house	N	Y	N	N	N				
NA	8	NA	NA	8B	NA	Sodded area northwest of house	N	Y	N	N	N				

RA: _____

CERT. #: _____

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SCIENCE AND SERVICES DIVISION, DRINKING WATER LABORATORY

REQUISITION FOR WATER SAMPLE UNITS

By authority of PA 368, 1978

;DER INFORMATION

Name			WSSN(public supply)
Street Address			Date
City	State	Zip code	Area Code & Phone Number

INSTRUCTIONS

- Determine TEST CODE and UNIT NUMBER for desired analysis using the Testing Fee Schedule on reverse side.
- Indicate QUANTITY NEEDED next to appropriate UNIT NUMBER. **DO NOT ORDER MORE SUPPLIES THAN WILL BE USED IN 3 MONTHS.**
- Testing is available only for determining the quality of drinking water, swimming pools and surface water.

UNIT NUMBER	Quantity Of SINGLES Needed	Quantity Of CASES Needed	UNIT PURPOSE (Preservatives - if any)
30			Bacteriological Testing - (10% Sodium Thiosulfate) *40 bottles per case - **limit 2***
30a	*cartons*		Bacteriological Testing - Six bottle carton (no mailing supplies included)
31			Bacteriological & Automated Partial Chemistry - Two Bottles *20 sets per case*
32			Automated Partial Chemistry *40 bottles per case*
32a			Disinfection Byproducts - (0.125mL of 5% Ethylenediamine)
33			Complete Minerals and Corrosion Control
36AC			Ammonia Testing - (0.5mL 1+1 Sulfuric Acid)
36CC			Lead & Copper Testing
36CN			Cyanide Testing, Unchlorinated Sources - (2.0mL of 10N Sodium Hydroxide)
36CNa			Cyanide Testing, Chlorinated Sources - (0.2g of Ascorbic Acid & 1 vial containing 2.0mL 10N Sodium Hydroxide)
36DQ			Diquat & Paraquat Testing - (0.1g sodium thiosulfate)
36EN			Endothall Testing - (0.02g sodium thiosulfate)
36FY			Fluorescent Dye Testing (Charcoal Packets)
36GY			Glyphosate Testing - (0.012g sodium thiosulfate)
36HA			Dalapon & Haloacetic Acids Testing (0.025g ammonium chloride)
36HS			Sulfide Testing - (2.5 mL of Zinc Acetate)
36LP			Carbamate Pesticides, Unchlorinated Sources - (3.6mL Monochloracetic Acid)
36LPa			Carbamate Pesticides, Chlorinated Sources - (0.01g of Sodium Thiosulfate & 1 vial containing 3.6 mL Monochloracetic Acid)
36ME			Metals, Except "first draw" lead copper samples requiring Unit 36CC
36NV			Synthetic organic compounds and Chlorinated Pesticides/Herbicides - (0.05g Sodium Sulfite)
36MP			Trihalomethane Formation Potential - (0.11mL 15:100 bleach) **One Month Expiration Made to Order**
36TO			Total Organic Carbon - (2 drops of 1+1 Phosphoric Acid)
36VO			Volatile Organic Substances - (0.025g Ascorbic Acid) *25 sets per case*
36VOb			Field blank - *14 Day Expiration* - MADE TO ORDER
37			Regulatory Monitoring for Public Water Supplies - includes: 36ME, 36VO, 36NV(2), 36LP, 36CN, 32
38			Unregulated Contaminate Monitoring Rule - includes: 36VO(2), 36NV(3), 32
			Other (please specify)

Orders may be telephoned to (517) 335-8184 or faxed (517) 335-8562.

This requisition may also be mailed to: **WATER SAMPLE UNIT ORDERS**
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
P O BOX 30270
LANSING MI 48909

DEQ

Jennifer M. Granholm, Governor

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SCIENCE & SERVICES DIVISION, DRINKING WATER LABORATORY
http://www.michigan.gov/deq/

Steven E. Chester, Director

TESTING FEE SCHEDULE

- **This Fee Schedule is effective January 1, 2002.** Fee amounts are subject to annual changes.
- See reverse side for description of sample unit codes and unit ordering information.
- **TEST CODE must be indicated in the TESTING REQUEST INFORMATION section of the form submitted with the sample.**

INORGANIC CHEMISTRY

TEST DESCRIPTION	FEE	UNIT NUMBER(S)	TEST CODE
Automated Partial Chemistry (Fluoride, Chloride, Hardness, Nitrate, Nitrite, Sulfate, Sodium, Iron)	$14.00	32	R
Cyanide by distillation/colorimetry (unchlorinated)	$ 25.00	36CN	CCN
Cyanide by distillation/colorimetry (chlorinated)		36CNa	
Hydrogen Sulfide by Titration	$30.00	36HS	CCHS
Specific Conductance	$ 12.00	32,33	CCON
Ammonia by Specific Ion Electrode	$30.00	36AC	CNH3
pH Determination	$ 13.00	32,33	CPH
Resistance for Demineralized Water	$ 10.00	32,33	CRES
Total Alkalinity as CaCO3	$ 16.00	32,33	CTALK
Silica as SiO2 by Colorimetry	$14.00	32,33	CSI
Tannates (Presence/Absence)	$ 11.00	32,33	CTAN
Hydrogen Sulfide (Presence/Absence)	$23.00	32	CH2S
Fluorescent Dye (Presence/Absence)	$ 17.00	36FY	CFDY
TBAS Screening	$13.00	32	CTBAS
Complete Minerals (TALK, Cl, F, NO3, NO2, SO4, SI, PM2, K, CON, PH, Hardness)	$100.00	33	CMIN
Ortho Phospate by Colorimetry	$ 17.00	32	CPO4
CCON, CTALK, CPO4, Calcium	$ 63.00	33	CORR
Disinfection Byproducts	$ 75.00	32a	CDBP
Perchlorate	$ 75.00	32	CCLO4
Total Organic Carbon	$30.00	36TO	CTOC

NOTE: Do not request more than **three test procedures** for each unit 32. Larger units may be used for more extensive requests, ie. unit 33 (more than three procedures).

METALS CHEMISTRY

TEST DESCRIPTION	FEE	UNIT NUMBER(S)	TEST CODE
Aluminum	$ 16.00	36ME	CAL
Antimony	$ 16.00	36ME	CSB
Arsenic	$ 16.00	36ME	CAS
Barium	$ 16.00	36ME	CBA
Beryllium	$ 16.00	36ME	CBE
Cadmium	$ 16.00	36ME	CCD
Chromium	$ 16.00	36ME	CCR
Lead	$ 16.00	36ME	CPB
Lead/Copper for corrosion control	$ 22.00	36CC	CCUB
Mercury	$ 16.00	36ME	CHG
Nickel	$ 16.00	36ME	CNI
Potassium	$ 13.00	32,33	CK
Selenium	$ 16.00	36ME	CSE
Strontium	$ 16.00	36ME	CSR
Thallium	$ 16.00	36ME	CTL
Tin	$ 16.00	36ME	CSN
Calcium/Magnesium/Sodium	$ 18.00	32,33	CPM2
Iron/Manganese/Copper/Zinc	$ 20.00	36ME	CPM1
Complete Metals for Private Wells (AS,SE,BA,CD,CR,HG,PB,PM1)	$ 70.00	36ME	CMET
Complete Metals for Public Supplies (SB,AS BA,BE,CD,CR,HG,PB,SE,NI,TL)	$ 80.00	36ME	CMET2

VOLATILE ORGANIC (VOC) CHEMISTRY

TEST DESCRIPTION	FEE	UNIT NUMBER(S)	TEST CODE
EDB and DBCP by GC/MS	$70.00	36VO	CXEV
Max Potential TTHM Formation	$ 55.00	36MP	CXMP
Organic Solvents Screen by ITD	$90.00	36VO	CXVO
Trihalomethanes	$ 55.00	36VO	CXTM
p-Dioxane	$115.00	36VO	CXPD

NOTE: Each test procedure requires a **separate sample unit.** Where possible, all detected substances will be identified by mass spectral examination. Names of specific compounds of concern should be provided along with sample and test request.

NON-VOLATILE ORGANIC (SOC) CHEMISTRY

TEST DESCRIPTION	FEE	UNIT NUMBER(S)	TEST CODE
Acidic Phenols by ITD	$150.00	36NV	CXACP
Aromatics by ITD	$110.00	36NV	CXPA
Organophosphate Pesticides by NPD	$150.00	36NV	CXPOT
UV Active Pesticides by HPLC/UV	$110.00	36NV	CXLU
Carbamates by HPLC/PCD (unchlorinated)	$ 95.00	36UP	CXUP
Carbamates by HPLC/PCD (chlorinated)		36UPa	
Chlorinated Acid Herbicides	$ 95.00	36NV	CXHB
Pesticides Screening by ECD & NPD	$120.00	36NV	CXPT
Dalapon & Haloacetic Acids	$120.00	36HA	CXHA
Diquat	$150.00	36DQ	CXDQ
Glyphosate	$100.00	36GY	CXGY
Endothall	$150.00	36EN	CXEN

NOTE: Generally each test procedure requires a **separate sample unit.** If more than one type of testing is needed, contact the laboratory to determine the number of different units needed. Where possible, all detected substances will be identified by mass spectral examination. Names of specific compounds of concern should be provided with sample and test request(s).

MICROBIOLOGY

TEST DESCRIPTION	FEE	UNIT NUMBER(S)	TEST CODE
Drinking Water Coliforms (total & E. coli)	$12.00	30,30a	BPTC
Standard Plate Count (48 hours)	$12.00	30,30a	BSPC
Fecal Coliforms for Surface/Wastewater	$15.00	30,30a	NPFC
E. coli for Surface/Wastewater	$15.00	30,30a	NPEC
Swimming Pool Water Coliform	$12.00	30,30a	NSPC
Non-Potable Water Standard Plate Count (pools)	$12.00	30,30a	NPPC

NOTE: Surface water bacteriology is intended only to estimate bacterial group populations.

For questions regarding testing, contact
Drinking Water Laboratory
(517) 335-8184 - Lansing
(906) 482-3011 - Houghton

DRINKING WATER LABORATORY - LANSING
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

DEQ

REQUEST FOR WATER ANALYSIS

Issued under authority of Act 368, P.A. 1978

- A form is required for **each sample site** (Collection Site and Sampling Point must be the same for all samples with this form).
- **PREPAYMENT OR CUSTOMER ACCOUNT NUMBER IS REQUIRED FOR TESTING.**
- **Complete all parts of this form which apply.** Samples not properly identified or not having clear test requests MAY NOT be tested.
- Fee amounts are subject to annual changes.

Customer Account Number	OR	Check # (payable to State of Michigan)	Amount enclosed

WSSN (Type I-II Public Water) or Pool Serial Number	Does sample contain chlorine? ☐ Yes ☐ No

DO NOT SEND CASH!

SAMPLE SOURCE - *Circle One*

0 - Single Family Dwelling
1 - TYPE I (community, apartment, subdivision, mobile home park, etc., with 25 or more residents year round)
2 - TYPE II (school, industry, restaurant, office, etc., serving 25 or more persons - 60 days or more per year)
3 - TYPE III (all other public supplies, duplex, small office, etc.)
7 - Surface Water (includes bathing beach and waste water discharge)
8 - Swimming pool or Spa
9 - Other

SAMPLING PURPOSE - *Circle One*

0 - Routine Monitoring
1 - Real Estate Transaction
2 - Repeat Sample
3 - Repair/Construction/New Well
5 - Water Quality Problem
9 - Other

SAMPLE POINT - *Circle One*

1 - Public System Well
2 - Public System Surface Water
3 - Untreated Public Distribution System
4 - Treated Public Distribution System
5 - Untreated Private Well
6 - Treated/Softened Private Well
7 - Pressure Tank/Plant Tap
9 - Other

REPORT RESULTS TO: *PLEASE PRINT*

Name	E-mail address		Sample Collector Name
Mailing Address	Area Code & Phone number		Date Collected
City	State	Zip	Time Collected AM PM

SAMPLE COLLECTION INFORMATION *PLEASE PRINT*

Collector Code *Circle One* 0 - County Personnel 1 - Water Supply Operator 2 - MDEQ WD staff 3 - Private Citizen 4 - MDEQ Staff other than WD 5 - MDNR Staff 6 - MDA Staff 9 - Other		System/Owner Name	
Collection Site (Street Address)		Township (If known)	Section (If known)
City	County	Zip	Well (If more than one) Number
Sampling Point (kitchen, bath, etc.)		Site Code (If known)	

TESTING REQUEST INFORMATION (REQUIRED)

INSTRUCTIONS: Check box next to Test Code(s) of desired analysis. Check the UNIT # on bottle to ensure you have the REQUIRED UNIT for desired analysis. For other types of testing, enter the TEST CODE, UNIT # (located on the sample bottle) and FEE in the area on the right side of this section. Refer to the full Testing Fee Schedule available from county health departments and DEQ Drinking Water Laboratory for other types of testing. **Fee amounts are subject to annual changes.**

☑	TEST CODE	REQUIRED UNIT #	TEST	FEE
	B	30	Drinking Water Coliforms (Bacteriology)	$12.00
	SW	30	Swimming Pool Water Coliform	$12.00
	NPEC	30	E. coli for **Surface/Wastewater**	$15.00
	N	30	Fecal Coliforms for **Surface/Wastewater**	$15.00
	R	32	Automated Partial Chemistry, *including Fluoride, Chloride, Hardness, Nitrate, Nitrite, Sulfate, Sodium and Iron*	$14.00
	CAS	36ME	Arsenic	$16.00
	CPM1	36ME	Iron, Manganese, Copper and Zinc	$20.00
	CPB	36ME	Lead	$16.00
	CCUB	36CC	Lead/Copper for corrosion control	$22.00
	CXVO	36VO	Organic Solvents Screen	$90.00

TEST CODE	UNIT#	FEE
TOTAL OF ALL FEES »		

Submit White Copy With Sample - Keep Yellow Copy For Your Records

For additional information contact your local county health department or the Drinking Water Laboratory, telephone (517) 335-8184 or visit our web site: http://www.michigan.gov/deq

Allow two weeks for results on most testing.

SAMPLE COLLECTION INSTRUCTIONS

UNIT#	INSTRUCTIONS
30	1. **This testing unit contains preservatives in the sample bottle.** Do not rinse the bottle with sample. Do not open the bottle until ready to collect the sample. Do not touch the inside of cap or bottle. 2. If not collecting sample from a tap (lake, pool, etc.), plunge bottle mouth down, move in continuous arc down and back up from water, discard top half-inch or to 100 ml line. 3. If using a sample tap, select a clean faucet and remove such attachments as aerators, dishwasher connectors, etc. Allow water to run for about ten minutes (until cold) at full flow from the sampling tap. Reduce flow to avoid splashing, and collect the sample directly into the bottle. Do not use an intermediate container. Do not allow water from the outside surface of the faucet to drip into the bottle. **Fill bottle only to the bottom of neck, or to 100 ml line.**
32, 32a 33, 36AC 36CN, 36DQ 36EN, 36GY 36HA, 36HS 36LP, 36ME 36NV	1. **Sample bottle may contain preservative** (refer to unit label on bottle). Do not rinse bottle with sample. Do not open the bottle until ready to collect the sample. Do not touch the inside of cap or bottle. 2. Select a clean faucet and remove such attachments as aerators, dishwasher connectors, etc. Allow water to run for about ten minutes (until cold) at full flow from the sampling tap. Reduce flow to avoid splashing, and collect the sample directly into the bottle. Do not use an intermediate container. Do not allow water from the outside surface of the faucet to drip into the bottle. **Fill bottle to the bottom of neck.**
36MP 36TO 36VO	1. **The sample vials contain preservative. Tap each vial in upright position to drain preservatives from cap. Do not rinse vial before collection.** 2. Do not open the vial until ready to collect the sample. Do not touch the inside of cap or vial. Select a clean faucet without attachments or leaking stem. Allow water to run for ten minutes (until cold) at full flow. 3. Reduce flow and collect the sample directly into all vials provided. **Fill vial until water rounds at the top of vial. Cap and invert to check for air in vial. THE SEPTA (RUBBER PART INSIDE CAP RING) MUST BE SMOOTH SIDE DOWN IN CONTACT WITH SAMPLE TO AVOID POSSIBLE CONTAMINATION.** 4. If air is observed in inverted sample, remove cap, add water (**DON'T DUMP SAMPLE**) and recap as instructed.
36CNa 36LPa	1. **Enclosed vial contains dilute preservative and caution should be exercised. This testing unit also contains preservatives in the sample bottle. Tap unit in upright position to drain preservatives from cap. Do not rinse bottle before collection.** 2. Do not open the bottle until ready to collect the sample. Do not touch the inside of cap or bottle. 3. Do not rinse the bottle with sample. Select a clean faucet without attachments or leaking stem. Allow water to run for about ten minutes (until cold) at full flow from the sampling tap. 4. Reduce flow to avoid splashing, and collect the sample directly into the bottle. Do not use an intermediate container. **Fill to 1" below top of bottle. Cap and invert 5 times to mix sample with preservatives. Carefully add all preservative in vial to sample bottle. Cap the sample and mix sample. Rinse vial and return.**
36CC	1. Do not open the bottle until ready to collect the sample. Do not touch the inside of cap or bottle. 2. **Sampling point should not have been used for a minimum of six hours prior to sampling.** Do not flush the sample tap before sample collection. 3. Place bottle mouth below tap and turn on water filling bottle to the bottom of the neck.

Environmental Lead Sampling Requisition

Michigan Department of Community Health - Trace Metals Section
3350 N. Martin Luther King Jr. Blvd. P.O. Box 30035 Lansing Michigan 48909
Phone: 517-335-9490 Fax: 517-335-9776 Web: HTTP://www.Michigan.gov/MDCH

Date Received @ MDCH | Initials

Tab 10

Print in UPPERCASE using dark pen **Keep canary copy for your file** **Send top copy with specimen**

SUBMITTER INFORMATION

NT/SUBMITTER CODE

AGENCY/COMPANY NAME

INSPECTOR'S NAME

LICENSE NUMBER

SITE INFORMATION

NUMBER

STREET

APT

CITY

STATE

ZIP

PROPERTY OWNERS OR SITE NOTE

OCCUPANT/PATIENT INFORMATION

NAME (FIRST, LAST, M.I.)

DATE OF BIRTH M M D D Y Y

SAMPLE INFORMATION - INDICATE SAMPLE TYPE

COLLECTION DATE M M D D Y Y

DUST WIPES PAINT CHIPS SOIL

INITIAL RETEST CLEARANCE

Submitter ID #	Surface (Dust Wipes & Paint Chips) Or Area Description (Soil)	Room (DUST WIPES & PAINT CHIPS Only)	Dust Wipe Area (inches x inches) or Soil & Paint (Laboratory Weight)	Sample Number - MDCH Use ONLY

ITIONAL COPY CODE

AGENCY/COMPANY NAME

PAGE ____ OF ____

By Authority of Act 368, P.A. 1978

Tab 11

Elevated Blood Lead (EBL) Environmental Investigation Report

For the Property at

STREET ADDRESS
CITY, STATE AND ZIP

OWNER'S NAME
STREET ADDRESS
CITY, STATE AND ZIP
PHONE #

Prepared for:

PARENT'S NAME

Prepared by:

EBL Investigator's Name
Michigan Certification Number P-XXXX

Agency
Street Address.
City, State and ZIP
EBL Investigator's Phone Number

Day Month Year
Date of Investigation

Day Month Year
Date of Report

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1.0 PURPOSE

The purpose of this Environmental Investigation is to identify the lead-based paint and lead hazards that exist at this property, **the role that they played in contributing to the identified child's lead poisoning**, and to determine the location, type, and severity of existing and potential health hazards associated with exposures to lead.

2.0 CONCLUSIONS

Report Summary: {Tell the story of the investigation here - when, where, what and how. If there are areas of concern that are not current hazards, discuss them here. List what happened, what you found and what needs to happen to eliminate the identified hazards. Bullet or narrative format can be used. IF THERE ARE THINGS THAT THE OCCUPANT CAN DO NOW TO REDUCE CRITICAL HAZARDS, DISCUSS THEM HERE.}

The following table lists the lead hazards that were found at this property and options for correcting these hazards. Rental property owners and managers cannot make any of these lead repairs themselves, now that a lead poisoned child has been associated with the property. Rental property owners are obligated to correct identified hazards within 90 days of receiving this report per Michigan Compiled Laws 333.5475a (Section 7.0). Lead abatement activities, which are permanent fixes, must be performed by a Michigan-certified lead abatement company. Examples are component replacement, enclosing the lead hazards, or coating hazards with encapsulant paint. Interim control activities (non-abatement lead hazard control activities), are temporary fixes, and fall under the definition of renovation per the EPA's Renovation, Repair and Painting Rule (40 CFR 745.80 Subpart E). If the rental property owner chooses to perform interim control activities personally or with staff, then the owner's business entity must be certified as a Renovation Firm, and anyone working on the lead repairs must be certified as an Abatement Worker or Renovator. In addition, a certified Lead Abatement Supervisor must be present during set-up and cleaning activities. If the rental property owner uses a property management company or hires an outside company to perform the work, they also must be certified as explained above. Examples of interim controls are specialized cleaning and coating lead hazards with house paint. A dust clearance examination must be performed immediately after these corrections have been made. If the health department representative is not available to perform this service, the rental property owner must hire a certified professional. Certified companies and individuals can be found at www.michigan.gov/leadsafe.

If your local jurisdiction has a lead ordinance, explain it here. The verbatim legal text will be inserted in Section 7.0

Although homeowners/parents do not have any regulatory restrictions as far as making lead repairs on their own homes, it is highly recommended that they take, at a minimum, lead-safe work practices or certified renovator training before attempting the work. Doing lead repairs without training can further poison the child.

2.1 Lead-Based Paint Hazards and Recommended Corrective Action:

Component	Location of Hazard	Severity	Priority	Recommendation	Cost Estimate
List specific components	List room or other locations including side	1 or 2 or 3 etc	1 or 2 or 3 etc	**Best option - abatement:** List the best possible way t component replacement, encapsulation or enclosure **Next best option - abatement:** List the second best solution, if any – component replacement, encapsulation or enclosure **Third best option - interim control:** List interim control option	$ $ $

1 – Most severe 2 – Very severe 3 -- Somewhat severe 1 -- Highest priority 2 -- High priority 3 -- Priority

NOTE: Cost estimates are only estimates if work was to be completed by a certified Lead Abatement Contractor. Costs may vary substantially depending upon area and availability of certified contractors.

2.2 Lead-Based Paint Potential Hazards:

Component	Location of Hazard	Component	Location of Hazard
List specific components **List all + XRF readings with intact or fair paint condition**	List room or other locations including side	List specific components	List room or other locations including side

ir

Sampling Protocols

The assessor used one or more of the following protocols to sample paint chips, dust and/or soil: U.S. Department of Housing and Urban Development Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing; U.S. Environmental Protection Agency Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil; U.S. Environmental Protection Agency Residential Sampling for Lead: Protocols for Dust and Soil Sampling, Report Number EPA 747-R-95-001; ASTM E1727 Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques; and ASTM E1728 Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques.

2.3 Dust Wipe Sample Results - Minimum of 6 rooms with floor and window in each room:

Sample Number	Room Location	Component tested (floor, trough, stool/sill, other)	Hazard? Yes/No	Lead Concentration in ug/sq.ft.
1	{Example- Room 1 or Living Room, window}	{Example-window trough side A}	{Example-Yes}	{Example-3,487 ug/ft^2}
2	{Example- Room 1 or Living Room, floor}	{Example-floor side A by register}	{Example-No}	{Example-32 ug/ft^2}
3	{Example- Room 2 or Dining Room, window}	{Example-window stool side B}	{Example-No}	{Example-148 ug/ft^2}
4	{Example- Room 2 or Dining Room, floor}			
5	{Example- Room 3 or Kitchen, window}			
6	{Example- Room 3 or Kitchen, floor}			
7	{Example- Room 4 or Child's Bedroom, window}			
8	{Example- Room 4 or Child's Bedroom, floor}			
9	{Example- Room 5 or Bedroom, window}			
10	{Example- Room 5 or Bedroom, floor}			
11	{Example- Room 6 or Back Entrance, window}			
12	{Example- Room 6 or Back Entrance, floor}			
13	{Example-Front Porch floor}			
14	{Example-Cellar Stairway or landing}			
15	{Example-Garage Floor by door			

	to house}			

First 12 wipes are required by State and Federal regulations

HUD reporting limits – floors - 40 ug/ft^2; window stools\interior sills - 250 ug/ft^2; window troughs - 400 ug/ft^2; BRL = below reporting limits **Bold results are lead hazards.**

Dust and soil samples were analyzed by the Michigan Department of Community Health/Trace Metals Laboratory located at 3335 Martin Luther King Jr. Blvd., Lansing, Michigan 48909 (517-335-9490). The Michigan Department of Community Health/Environmental Lead Laboratory participates in the Environmental Lead Proficiency Analytical Testing (ELPAT) quality control rounds and is approved by the National Lead Laboratory Accreditation Program (NLLAP).

2.4 Soil Sample Results of Bare Soil at House Perimeter and All Bare Soils Areas 9ft^2 or Larger:

Sample Number	Location	No sample collected due to snow	Hazard? Yes/No	Results in Parts per Million
	House perimeter Side A			
	House perimeter Side B			
	House perimeter Side C			
	House perimeter Side D			
	Back yard play area			
	Garden			
	Sand Box			

Note – Lead in soil is considered a hazard at 1,200 ppm or more. For child play areas, this number is defined as a hazard at 400 ppm. BRL = below reporting limits. Bold results are lead hazards.

If the above box indicates the ground was covered with snow, then the investigator must return in the spring to collect all required soil samples. Any soil identified as a lead hazard at that time will be reported with corrective action recommendations.

Signature of investigator indicating that the ground was covered with snow, making it impossible to collect soil samples:

Name_____Date_____

HOW TO INTERPRET XRF READINGS:

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

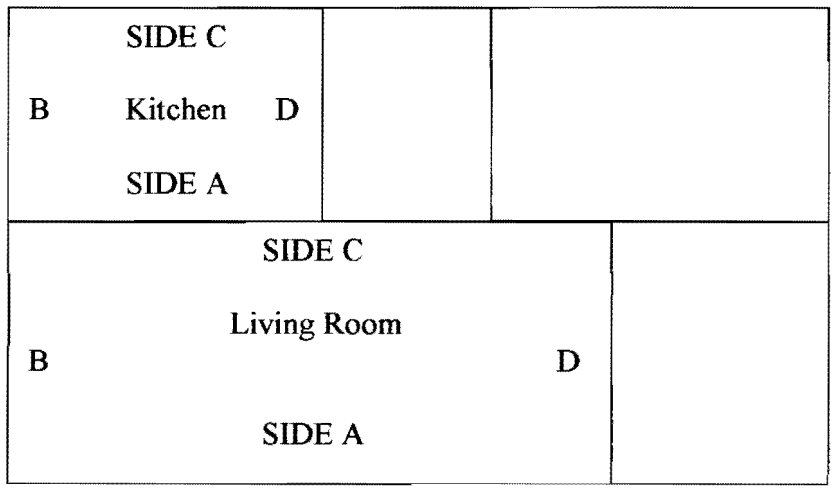
XRF #: The numeric identifier that the XRF gives to each reading. They are typically sequential.

Floor: This corresponds to the floor of the building. Basements are identified as "Floor 0".

Room: The number or name of the room that was tested. Example: Kitchen, Room 1, etc.

Side: This column determines where the item being tested is located in the room. Side A is always the address side of the building. Then, proceeding clockwise, the adjacent sides are labeled B, C and D. Sides A, B, C and D are identified on the floor plan. For example, if you were standing in a bedroom that had two windows on different walls, these windows would be identified by the side location such as Window Side A and Window Side B.

Side C of House - back yard



Side B of House - side yard

Side D of House - side yard

Side A of House - Front of house is side that is street address

street or road

Component: This column identifies the surface that was tested. Examples are doors, door casings, walls, ceiling, exterior siding, etc. Also listed in this column is the XRF calibration. The XRF must be calibrated at the start and end of the investigation. Additionally, the XRF needs to be calibrated every 4 hours if the investigation goes beyond that time.

Substrate: This column defines what material the paint was applied to. Common substrates are plaster, wood, metal and concrete.

Condition: This column identifies the condition of the paint on the surface being tested. Intact, fair and poor are used to describe paint condition.

Color: This is the color of the paint on the component being tested.

Result: This column indicates if the paint tested positive or negative for the presence of lead.

PbC: This number refers to the amount of lead present in the paint. This is measured in milligrams per

square centimeter (mg/cm^2) of surface area. A reading of 1.0 or greater means that lead-based paint is present.

Depth Index: The XRF has the capability to detect lead in many layers of paint, not just the top layer. A depth index reading of less than 1.5 indicates that lead is near the surface. A reading between 1.6 and 4 indicates that lead is at a moderate depth. A reading of 4 or more indicates that lead was found deeply in the material tested.

2.5 XRF Readings:

The XRF device used to conduct this environmental investigation was used in accordance with the manufacturer's operating procedures and field operation guidance. The XRF was also used in accordance with the Performance Characteristics Sheet for 'Lead-in-Paint mode' applicable to the following substrates: brick, concrete, drywall, metal, plaster and wood.

Positive XRF Reading Results:

XRF #	FLOOR	ROOM	SIDE	COMPONENT	SUBSTRATE	CONDITION	COLOR	Results	PbC	Depth Index

Insert positive XRF data, including the header and XRF serial number

All XRF Reading Results:

XRF #	FLOOR	ROOM	SIDE	COMPONENT	SUBSTRATE	CONDITION	COLOR	Results	PbC	Depth Index

Insert all (positive & negative) XRF data, including the header and XRF serial number

2.6 Personal Property Testing Results:

It may be possible that the Consumer Product Safety Commission has announced a recall on a personal item that has tested positive for lead, and was reported in this section. The Commission Recall Hotline is 800-638-2772. The website address is www.cpsc.gov, where lead-contaminated items can be researched.

XRF Testing: The items below were tested using the XRF but do not comply with the Performance Characteristics Sheet as they represent different substrates (i.e. plastic, porcelain, etc). The XRF indicated the presence of lead in the items listed below and are included in this report as potential sources of lead. It is recommended that these items be removed from the child's environment. The amounts of lead present by this form of testing are qualitative only. A precise determination of the lead content for the listed items can only be made by laboratory analysis. These results may not be used for legal actions.

Insert positive XRF testing of toys, dishes and other personal items. Include any items that have a reading of greater than 0.0 mg/cm^2.

Dust Wipe Testing: The items below were tested for lead in dust. There is no federal health hazard standard to compare these items tested. The lab results indicated the presence of lead in the dust that was wiped from these items. They are included in this report as potential sources of lead. It is recommended that these items be removed from the child's environment. The amounts of lead present without a comparable health standard make these results qualitative only. A precise determination of the lead content for the listed items can only be made by laboratory analysis. These results may not be used for legal actions.

Insert dust testing results of toys and other personal items. Include any items that have a result greater than 0.0 ug/sq.ft.

Chemical Spot Testing: The items below were tested using a chemical spot test manufactured by {insert name – Lead Check, Know Lead, etc.}. The spot test shows a color change if the item has lead present. This test is only used to find out if lead is present; it does not tell how much lead is present. This form of testing is qualitative. The items are included in this report as potential sources of lead. Precise determination of the lead content of the listed items can only be made by laboratory analysis. These results may not be used for legal action.

Insert positive colormetric testing of toys, dishes and other personal items.

3.0 SITE DESCRIPTION

Narrative: Describe the site, outbuildings, neighborhood, neighboring structures, street traffic and other related items.

4.0 Building Condition	Yes/No
Is roof missing parts of surface covering? **List all locations:**	
Does the roof have holes or large cracks? **List all locations:**	
If present, are gutters or downspouts broken? **Where?**	
Are chimney blocks or masonry joints cracked, with loose or missing components, out of plumb or otherwise deteriorated? **Explain:** {Example-Cracked masonry units are allowing water to damage painted surface in kitchen}	
Do exterior or interior walls have large cracks, or damage requiring more than routine painting? **List all locations:**	
Is exterior siding missing components? **List all locations:**	
Are there water stains on interior walls or ceilings?	

.ist all locations:	
Are plaster walls or ceilings deteriorated? **List all locations:**	
Are there two or more windows or doors missing, broken or boarded up? **List all locations:**	
Does the porch or steps have major cracks, missing materials, structural leans, or is it visibly unsound? **List all locations:**	
Does the foundation have damage, structural leans or is it visibly unsound? **Explain:**	
Is bathtub cast iron, porcelain or old? Does the child bathe in it? **Test with XRF?**	
Is lavatory cast iron, porcelain or old? **Test with XRF?**	
Is kitchen sink cast iron, porcelain or old? **Test with XRF?**	
Does the home have lead or copper pipes soldered with lead? **Test joints of copper pipes with XRF:**	
Are there ceramic tiles in bath or kitchen? **Test with XRF?**	
To the best of your knowledge, has the soil ever been tested for lead? **Results:**	
Are there bare soil areas where the child likes to play? **Where, specifically?**	
Has the child been seen eating soil? **Location:**	
Do occupants take shoes off at the door?	
Are there floor mats at entrances to the home?	
Have nearby buildings or structures (bridge, water tower, homes, etc.) recently been repainted, demolished or burned? **Specify:**	
Does the family eat food grown in a garden?	
Has there been any recent water damage in the home? **Location:**	
Are vinyl mini blinds present? Does child have access? **Test with XRF?**	
Are there bite marks found anywhere in the home, such as child's crib, furniture or window sills? **Location:**	
Date or approximate date of construction of the building:	
Any prior lead testing of the property? **Ask for report:**	

5.0 HOUSEHOLD INTERVIEW

Children's Habits and Behavioral Risk Factors			
Does a child 6 years of age or younger live in or visit this home?	Name/Age {Example-Julie Burr, 17 months}	Name/Age {Example-Teri Jones, 34 months}	Name/Age {Example-John Sneed, 4 years}
How long at this address?			
Bedroom location:	{Example - Room 3}	{Example - Room 3}	{Example - Room 4}
Where does child sleep?			
List all rooms where child eats:	{Example-Rooms 1, 2 and Kitchen per mother, I also saw child eat in Room 3}	Example-Rooms 1, 2 and Kitchen per mother, I also saw child eat in Room 3}	
Primary location where child plays indoors:			
Primary location where child plays outdoors:			
Where are toys stored?			
List all address that the child spends time at away from home, and the amount of time:	{Example – Aunt's house, 123 Main St., every Monday}	{Example - Weekends at father's house, 2343 Davis Ct., Anywhere USA}	{Example - Plays at neighbor's house after day care}

	Yes/No
Does the child suck his/her fingers or thumb?	
Does the child eat without washing hands before meals or snacks?	
Does child put painted objects into the mouth? **Specify:**	
Does child chew on painted surfaces, such as painted cribs, window sills, furniture edges, railings, door moldings, or broom handles?	
Does child chew or eat paint chips or pick at painted surfaces?	
Does child put soft metal objects in the mouth? (Ex: pewter, metal toy soldiers, jewelry, gunshot, bullets, beads, fishing sinkers, or items containing solder (electronics))	
Does child put printed material (newspapers, magazines) in the mouth?	
Are toys and pacifiers washed frequently? **How frequently?**	
Dietary Risk Factors	**Yes/No**

Does the family use imported canned foods? **Specify:**	
Is food prepared, served or stored in the following types of containers? **Circle: pewter glazed ceramic crystal lead soldered**	
Does the child have a favorite cup or eating utensil? **Specify and test with XRF:**	
Does the child take dolomite, oyster shell or bone meal as a calcium or phosphorus supplement?	
Does the family use home remedies, folk medicines or herbal treatments? **Circle: Alarcon, Alkohl, Azarcon, Bali Goli, Coral, Ghasard, Greta, Liga, Pay-loo-ah, Rueda, Kohl, Surma or Ceruse** **Specify and test with XRF**:	
Water Risk Factors	**Yes/No**
Source of drinking water for the child: ☐ Municipal water ☐ Private well ☐ Bottled water ☐ Other Has the water ever been tested for lead? **Results:**	
Is hot tap or first draw water used for drinking, cooking or baby formula preparation? **If Yes, then educate not to:**	
Other Household Risk Factors	**Yes/No**
Does the family have a dog, cat, or other pet that could track soil or dust?	
Does the child have access to any of the following? **Circle: shellacs, lacquers, coloring pigments, epoxy resins, pipe sealants, putty, dyes, industrial (big) crayons or markers, paints, pesticides, gear oil, detergents, or batteries**	
Family Use Patterns	**Yes/No**
Which entrances are used most frequently?	
Which windows are opened most frequently?	
Is there a window fan that is used during summer months? **Where? Deteriorated paint on the sill?**	
Are window air conditioners used? **Where? Is there paint damage from condensate?**	
Do any household members have a vegetable garden? **Where?**	
Are you planning any landscaping activities? **Where? What type?**	
How often is the house cleaned?	
What is the method and frequency of the cleanings?	
Did you recently complete any building renovations? Were any external renovations done on a neighboring property? Repainting, remodeling, renovation, window replacement, sanding, scraping or power washing painted surfaces inside or outside of the home?	

If yes, where? What was done?	
Is building debris stored in the yard? **Where?**	
Are you planning any building renovations? **If yes, where?**	

Occupational/Hobby Risk Factors

Does anyone living with or caring for the child have an occupation or hobby that could result in lead exposure?
Check all that apply to household members.

Auto/boat repair		Furniture refinishing	
Auto parts/accessories manufacturing		Art/painting	
Radiator repair		Jewelry and pottery making	
Battery manufacturing/repair		Stained glass making	
Bridge/tunnel/highway repair		Lead soldering (electronics)	
Plumber, pipe fitter		Utilizing lead shot/bullets/fishing sinkers	
Wrecking and demolition		Brass/copper/bronze/lead/iron foundry work	
Brass/copper/aluminum processing		Power washing of older homes/buildings	
Chemical manufacturing		Scrap metal handling	
Plastics manufacturing		Paint manufacturing (non-residential)	
Rubber products manufacturing		Machining/grinding/melting lead alloys	
Welding or torch cutting		Bronze polishing	
Renovating/remodeling older homes		Leaded glass manufacturing	
Burning painted wood		Candle/incense burning	
Ceramics		Building materials recycler	

Name:	Relationship:	Occupation/Hobby:

	Yes/No
Does the child have access to the area where the activity (occupation or hobby) takes place? **Where is the area?**	
Are the clothes worn during these activities separated from family laundry? **If yes, dust wipe test the laundry storage area.**	
Are work\hobby shoes worn into the house? **Educate.**	
Is the child held or greeted by listed individuals before they shower, change clothes or wash hands after work or hobby activities? **Educate.**	

Person(s) Interviewed: **Relationship:**

List name(s) and relationship(s)

CONFIDENTIAL CHILD-RELATED INFORMATION

Child's Name: _____ DOB: _____ Gender: _____

Blood Lead Level:____ µg/dL Venous or Capillary Test: Test Date:

Blood Lead Level:____ µg/dL Venous or Capillary Test: Test Date:

Blood Lead Level:____ µg/dL Venous or Capillary Test: Test Date:

Race (if more than one race indicated, choose race of mother)	**Ethnicity**
☐ Asian Indian ☐ Hawaiian ☐ Samoan ☐ Native American/Alaskan ☐ Asian/Pacific Islander, ☐ Chinese ☐ Vietnamese ☐ Hmong ☐ Korean ☐ Japanese ☐ Filipino ☐ Guamian ☐ Black/African American ☐ White ☐ Don't Know ☐ Other:	☐ Hispanic ☐ Non-Hispanic

Language Spoken at Home:

Health Care Provider / Clinic:

Phone: Address:

Have any other siblings, playmates or adults been diagnosed with lead poisoning?

Name	**Age**	**Relationship to case child**

3.0 FLOOR PLANS

{Insert a drawing of the floor plan for each level of the structure - include all windows, doors, stairs, porches. Label each room uniquely. Label the locations of dust wipe samples collected. Use one page for each floor.}

3.1 SITE PLAN

{Insert drawing of all structures, sheds, play areas, gardens, driveways, fence lines and bare soil areas. Label the locations of the soil samples collected.}

3.2 SITE MAP

{Insert a map of the surrounding area with the address location identified. Map Quest or MS Streets and Trips is recommended.}

7.0 APPLICABLE FEDERAL/STATE REGULATIONS AND LOCAL ORDINANCES

Federal and state regulations affect homeowners, rental property owners and tenants alike for different reasons. The federal and state laws that affect this address are explained in this section. If there is a city or county 'lead in housing' ordinance that this property is subject to, it is also explained in this section.

State of Michigan Landlord Penalty Law

Michigan Compiled Law 333.5475a -- Rental unit containing lead-based hazard; presumption of actual knowledge; violation; penalties; defense; burden of proof; definitions.

Section 5475a. (1) A property manager, housing commission, or owner of a rental unit who rents or continues to rent a residential housing unit to a family with a minor child who is found to have 10 micrograms or more of lead per deciliter of venous blood is subject to the penalties provided under subsection (3) if all of the following apply:
(a) The property manager, housing commission, or owner of the rental unit has prior actual knowledge that the rental unit contains a lead-based paint hazard.
(b) At least ninety days have passed since the property manager, housing commission, or owner of the rental unit had actual knowledge of the lead paint hazard.
(c) The property manager, housing commission, or owner of the rental unit has not acted in good faith to reduce the lead paint hazards through interim controls or abatement or a combination of interim controls and abatement.

(2) A property manager, housing commission, or owner of the rental unit is presumed to have prior actual knowledge that a unit contains a lead-based paint hazard only if 1 of the following applies:
(a) The property manager, housing commission, or owner of the rental unit signed an acknowledgment of the hazard as a result of a risk assessment under this chapter at the time the risk assessment was made.
(b) The property manager, housing commission, or owner of the rental unit was served as a result of a risk assessment under this chapter with notice of the hazard by first-class mail and a return receipt of that service was obtained.

(3) A property manager, housing commission, or owner of the rental unit convicted of violating this section is guilty of a crime as follows:
(a) Except as provided in subdivision (b), the property manager, housing commission, or owner of the rental unit is guilty of a misdemeanor punishable by imprisonment for not more than 93 days or a fine of not more than $5,000.00, or both.
(b) If the property manager, housing commission, or owner of the rental unit was previously convicted of violating this section or a local ordinance substantially corresponding to this section, the property manager, housing commission, or owner of the rental unit is guilty of a misdemeanor punishable by imprisonment for not more than 93 days or a fine of not more than $10,000.00, or both.

(4) The property manager, housing commission, or owner of the rental unit may assert 1 or more of the following as an affirmative defense in a prosecution of violating this section, and has the burden of proof on that defense by a preponderance of the evidence:
(a) That the property manager, housing commission, or owner of the rental unit requested or contracted with a person having responsibility for maintaining the rental unit to reduce the hazard through interim controls or abatement and reasonably expected that the hazard would be reduced.
(b) That the tenant would not allow entry into or upon premises where the hazard is located or otherwise interfered with correcting the hazard.

(5) As used in this section:
(a) "Property manager" means a person who engages in property management as defined in section 2501 of the occupational code, 1980 PA 299, MCL 339.2501.
(b) "Lead-based paint hazard" means that term as defined in section 5458 of the public health code, 1978 PA 368, MCL 333.5458.

Local Ordinance

{If your city or county has a lead-based paint ordinance, explain it in this section and include the excerpted ordinance }

7.1 Federal Lead Disclosure Law

Federal law requires that this report be made available to any potential buyer or renter/lessor of the property addressed in this report prior to finalizing any transactions.

The Federal Residential Lead-Based Paint Hazard Reduction Act, 42 U.S.C. 4852(d), requires sellers and landlords of most residential housing built before 1978 to disclose all available records and reports concerning lead-based paint or lead-based paint hazards, **including the test results in this report**, to purchasers and tenants at the time of sale or lease or upon lease renewal. This disclosure must occur even if hazard reduction or abatement has been completed. In addition, a pamphlet entitled "Protect Your Family From Lead In Your Home" must be provided. Single copies of this pamphlet can be obtained from the National Lead Information Center by calling 1.800.424.LEAD. The pamphlet can also be downloaded and printed from the U.S. Environmental Protection Agency website at http://www.epa.gov/lead/pubs/leadpdfe.pdf.

Failure to disclose this information results in a violation of U.S. Department of Housing and Urban Development (HUD) and the U. S. Environmental Protection Agency regulations at 24 CFR Part 35 and 40 CFR Part 745 and can result in a fine of up to $11,000 per violation. More details including the full regulation and compliance can be found at HUD's website at http://www.hud.gov/offices/lead/enforcement/disclosure.cfm.

3.0 ONGOING MONITORING SCHEDULE BY PROPERTY OWNER

The Ongoing Monitoring Schedule has two parts — the Re-evaluation and Owner Visual Survey. The Re-evaluation and Owner Visual Survey schedules are established by using the findings of this investigation with the actual steps that will be taken to reduce the lead health hazards found in this report.

The Re-evaluation is a follow-up risk assessment done by a state-certified Risk Assessor to find out how well the lead hazard corrective actions implemented from this report actually worked. The Re-evaluation also looks for new lead hazards that may have developed since this investigation report. The Re-evaluation looks for:

- New areas where leaded dust hazards may be found.
- New damage to painted surfaces that may contain lead.
- Areas where lead hazards were fixed but did not last.
- New bare soil areas that may be lead hazards.

The Re-evaluation for this property by the owner should be done 12 months after the lead hazards found in this report have been fixed.

The Owner Visual Survey may be done by the property owner or someone else for the owner. It is usually done much sooner and more often than the Re-evaluation for the same reasons — to make sure that the lead hazard corrections are still working and to find any new lead hazards. An Owner Visual Survey looks for:

- New damage to painted surfaces that may contain lead.
- Areas where lead hazards were fixed but did not last.
- Problems with the building that could create new lead hazards.

The Owner Visual Survey for this property should be done 1 month after the lead hazards identified in this report have been fixed, again 6 months later, and if no problems are found, once each year thereafter.

If any lead hazards are fixed with encapsulants (a paint-like liquid that is brushed or sprayed onto a lead paint hazard), the encapsulant should be checked to make sure it is still sticking well to the painted surface. This should be done one month after the job was done, six months later, and then at least once every year. If a painted surface was enclosed by covering it with a hard material such as wood or drywall, it should be checked at least once every year.

9.0 CERTIFICATION

The information contained in this report is a true and accurate representation of the conditions and activities at this property at the time of the investigation, based on the professional judgment of the person(s) who conducted and reported this Elevated Blood Lead Environmental Investigation.

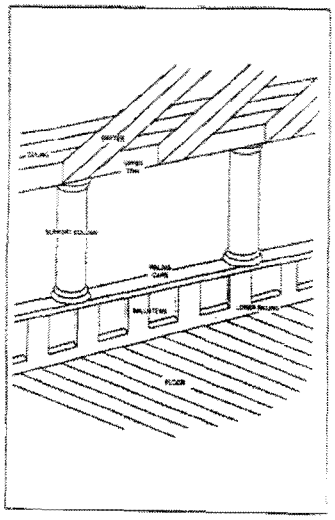
(Signature of Investigator)_____

Michigan Lead Inspector and Risk Assessor Certification Number P-XXXX

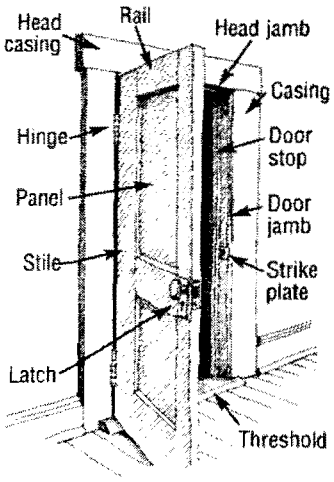
10.0 PHOTOGRAPHS

{Photos should include front and side shots of the dwelling, play areas, representative hazards found at the time of inspection, deteriorated paint surfaces and any other pertinent information that establishes the potential causes of the poisoning.}

Version: 16 December 2009

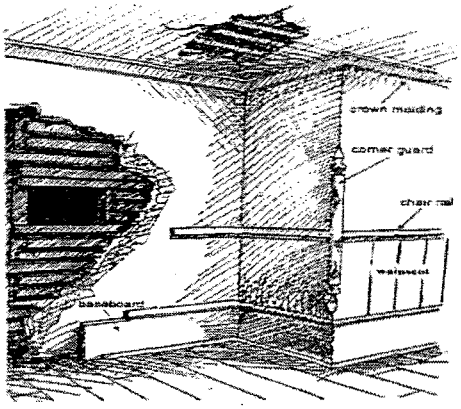


Porch Components



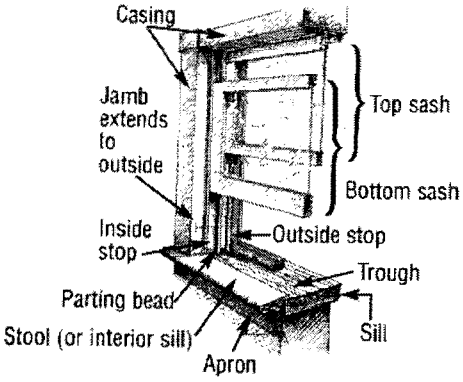
Door Components

Adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.



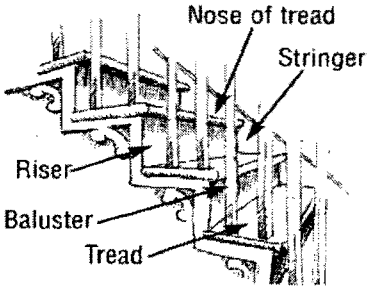
Wall Components

Component Identification



Window Components

Adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.



Stair Components

Adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.

Ways to Work Lead-Safe
for Parents/Guardians as Homeowners

(As of April 22, 2010, rental property owners/managers are restricted by Michigan law from fixing lead hazards on their own without proper training/certification. See the Report Summary for more details about training.)

The Fuss About Dust - Choose ways to work that create the least amount of dust

- Hand sand wetted surfaces
- Use chemical strippers (but not those containing methylene chloride)
- Use heat guns (but not those that operate over 700°F)
- Consider buying or borrowing a HEPA vacuum from your local health department, which can be safely used where there is lead dust

Play It Safe - Always follow these safety guidelines as you work

- Keep children and pregnant women out of the work area.
- Work on one room at a time.
- Remove as much furniture as you can from the room.
- Cover remaining furniture with 6 mil plastic securely taped in place.
- Close off the work area by taping 6 mil plastic over all doors, windows, the floor, ground and other exposed surfaces.
- Turn off forced-air heating and cooling systems and cover vents with 6 mil plastic securely taped in place.
- Allow only workers in the area until the job is done. Be careful not to track dust out of the work area.
- Don't eat, drink, or smoke while in the work area.
- Use a plant mister to wet the work surface before hand scraping and sanding. Mist drop cloths/plastic sheets before rolling up. Misting will reduce dust.
- If others do the work, ensure they follow these work practices to protect your family's health and safety.

The Right Stuff - Using the proper equipment will help you complete your job safely

- Protective clothing (such as safety glasses, disposable gloves, hat, shoe covers, and protective clothes)
- 6 mil plastic drop cloths
- Duct tape
- Mops and two buckets
- All purpose cleaner or cleaner made just for lead clean-up
- Spray bottles/plant misters
- Disposable rags or paper towels
- Heavy duty plastic bags
- HEPA vacuum

Leave the Scene Clean - Always clean up carefully at the end of each workday

- Change work clothes and shoes before leaving the work site.
- Wash hands and face immediately after leaving the work area.
- Shower and wash hair as soon as possible after work/cleanup is completed.
- Wash work clothes separately.

At Final Clean-Up

- Place all dust and chips in double garbage bags.
- Carefully roll or fold 6 mil plastic drop cloths inward (keep the dust from flying around) and discard in double garbage bags.
- Use two buckets for cleaning, one with detergent and one with clean rinse water.
- Wash floors, walls, etc with an all purpose cleaner and disposable or paper towels, then rinse well. Change rinse water often.
- Dispose of towels in plastic bags.
- Never burn leaded debris.

Take It Off, Slowly - Never use these dangerous paint-removal methods

- Don't dry scrape
- Don't sandblast
- Don't use an open flame or torch to burn paint
- Don't power sand
- Don't use methylene chloride
- Don't use heat guns which operate over 700°F

Lead-safe information adopted from the 'Keep It Clean' campaign of the Rhode Island Department of Health

A Guide To Cleaning Up Lead Paint Chips and Dust

Step 1 - Supplies

Gloves, absorbent throw-away wipes or towels, garbage bags, spray bottle with liquid detergent and water, disposable towels and mop. Children should not be present while cleaning.

Step 2 – HEPA Vacuum

HEPA vacuum obtained from your local health department. A regular vacuum is NOT recommended. CAUTION: Do not open, change bag, or empty contents inside the home.

Step 3 – Wet Surfaces

HEPA* vacuum windows, floors, and porches, and then mist lightly with the soap solution. If a HEPA is not available, carefully remove dirt and paint chips with a wet towel. Replace towels until the surface is clean.

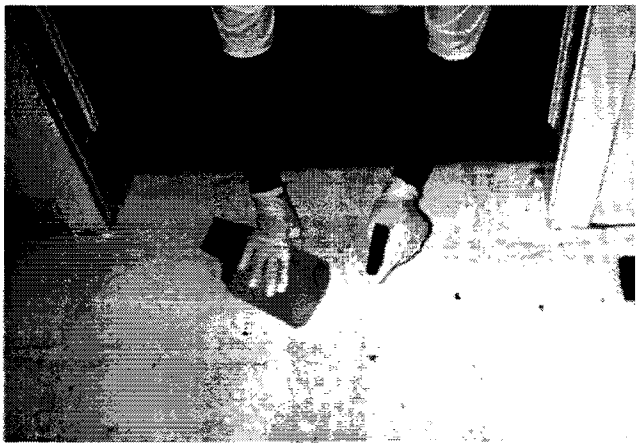
Step 4 – Clean Surfaces

Wipe surfaces clean by applying pressure. This has proven to be effective in removing lead dust.

* A HEPA vacuum has a high efficiency particulate air filter built in that catches fine lead dust. This filter catches up to 99% of the dust and dirt sucked into the vacuum. The HEPA vacuum should meet ANSI Z9.2 standards and OSHA and EPA regulations. Check the vacuum or owner's manual.

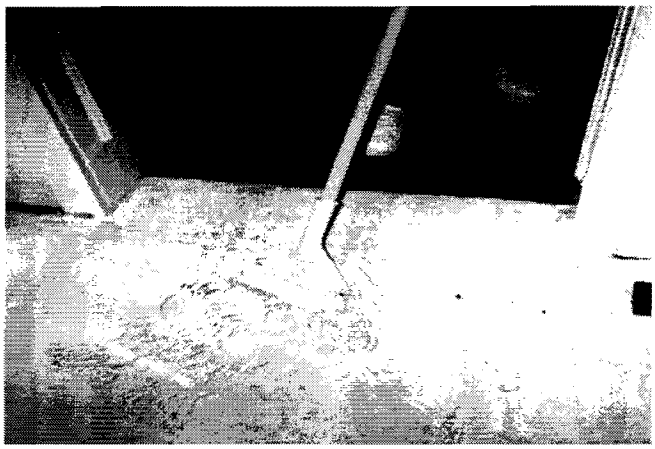
A Guide To Cleaning Up Lead Paint Chips and Dust

Step 5 – Wipe Floors



Misting with the soap solution and then wiping with towels is the best way to remove lead dust.

Step 6 – Mop Floors

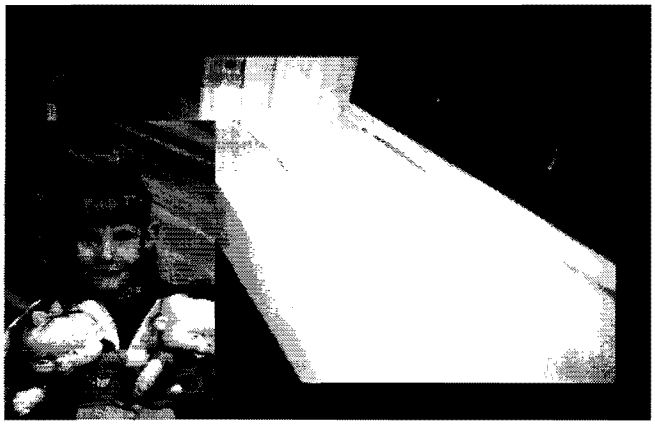


A second choice is to damp mop vinyl and wood floors with the soap solution. Start at the back of the room and work toward the exit door. This way is not as good as Step 5.

Step 7 – Bag It

Change towels often until no paint chips or dirt can be seen. Put them in a garbage bag, and seal with tape or a knot. The bag can be put out for normal trash pickup.

Step 8 – Clean Often



Do these steps often to protect your children from lead poisoning. They count on you for a lead-safe home to grow up healthy and smart.

Special acknowledgement to the Field Neurosciences Institute/Saint Mary's Hospital, Saginaw, Michigan for their contribution in the development of this cleaning guide.
January 2005

Instructions for Completing an EBL Environmental Investigation Report

The very first thing is to find out if any previous testing for lead has been done. If testing has been previously completed, review a copy of the testing results. If no copy is available then proceed as if no testing has been conducted.

In order to activate the Landlord Penalty Law, the EBL report must be delivered first class mail with return receipt. Another acceptable way to send is by proof of service. It is always advisable to hand-deliver the report to the child's primary caretaker so that important messages can be reinforced verbally. The report must be sent or delivered within 30 days of receiving the lab results.

Cover Page

1. Fill in property address for the investigation.
2. Include owner's name, address, and phone number.
3. Fill in the child's parental information (name, address, phone number).
4. Insert EBL Investigator's name(s), certification number(s), agency name, agency address and phone number.
5. Complete date of investigation and date of report.

Body of EBL Report

Table of Contents - Insert the correct page numbers for each section after the report is completed. The pagination will change with each report. Fill in the property address on the pagination line.

2.0 Conclusions Section - In your own words, tell the story of what happened, where the lead is, what hazards were found, and what needs to be done. Include information on secondary sites if appropriate and items that were discovered from the Household Interview.

- Sometimes simple things can be done by the parents to temporarily reduce exposures to the child; include that information here. For example, mentioning as actions like washing contaminated surfaces often or eliminating access to contaminated areas.
- If there are areas that need to be avoided by the child until they are abated, describe them.
- This section can be as short as a few paragraphs or as long as a couple of pages. It depends upon what was found during the investigation. Write it in plain language.

2.1 Table Of Lead-Based Paint Hazards and Recommended Corrective Action

- Component - List every component that is a hazard – e.g., window stool/sill or window trough

- Location of Hazard – Identify each location of the hazard listed in the previous column on that row. Be specific, what room, wall or side, etc. The reader must be able to identify each hazard location in the dwelling.
- Level of Severity/Priority – State regulations require that each hazard have severity and priority indexing. List the priority and severity of each hazard listed in the previous column on that row.
    - Severity tells how bad the paint, dust or soil hazard is. Use three levels: *1 – Most severe; 2 – Very severe; 3 - Somewhat severe.* Location and accessibility are not a factor in the severity rating, it is only rated on condition.
    - Priority is a numerical rating to indicate what needs to be done first. Use three levels: *1 - Highest priority; 2 - High priority; 3 - Priority.* This is where accessibility and location are factored in.
    - Sometimes a hazard that is very severe is not a priority due to its location or child inaccessibility. In this case, it would be a #3 Priority. Conversely, a less severe hazard could be a very high priority due to its location and child accessibility.
- Recommendation – This is where the options for corrective action are listed - how to fix/eliminate the hazard. List at least two options for each hazard: one abatement option and one interim control option. There may be additional options. List them per your judgment. Attachment A is a reference that provides a list of components and recommended corrective actions.
    - Abatement options may include:
        - encapsulation of non-friction/impact surfaces
        - enclosure of damaged surfaces that are too costly to remove
        - removal of a deteriorated paint component
    - Interim control options include:
        - elimination of lead paint on friction and impact surfaces, substrate stabilization, and wet scraping and repainting of components
        - temporarily eliminating access to the hazardous components
- Cost Estimates - must be included in the report. This information factors in the determination of which hazard reduction/elimination methods are chosen. If $7,000 is required to abate one hazard, would that money be better spent on the hazard reduction (interim controls) of several hazards?
    - Estimates can be done two ways: total cost or a per unit cost.
        - Total cost is preferred as it gives the owner a better picture of the cost verses having to measure, count and add up the totals – e.g., $300 per window to replace X 12 windows = $3,600.
        - Per unit cost is easier to put in as you need not do the measuring and counting – e.g., $300 per window.

- 2.2 Lead-Based Paint Potential Hazards – Must be filled in to satisfy State regulations.
    - Two types of potential hazards
        - First is all lead painted surfaces that are intact or fair condition and not otherwise listed as a hazard
        - Second is all items that were not specifically tested
    - List from the XRF Table into the component column
    - List location from XRF table into the Location of Hazard column
    - This table has been formatted for a double column listing to conserve space

Dust Wipe Sample Results –State law requires that dust wipe samples are collected from windows and floors in no less than 6 rooms. A blank dust sample must also be collected on site. If dust wipes cannot be taken for some reason (inaccessibility, occupant refusal, etc.), document it in the report.

- Sample Number – has been filled in to remind you to collect enough dust samples to meet requirements.
    - Fill in additional samples taken.
    - Eliminate sample rows if you do not use them.
    - Alternate between window stools/sills and window troughs. You will collect 12 samples at a minimum, unless the house has fewer than 6 rooms or room equivalents. You may need to collect more wipes as determined by the investigation and Household Interview.
    - As per the ASTM collection standards, all floor samples should be 12" X 12".
- As per the ASTM collection standards, all confined area samples (window stools & troughs) must be wiped in their entirety. Collect all dirt, dust, paint chips and debris that are in that area.
    - Accurately measure the area that is wiped.
- Room Location – List the room - living room, dining room, kitchen, child's bedroom, parent's bedroom, etc.
- Component Tested – List the component - floor, window stool/sill or trough; however, sometimes it is necessary to test other items. When you do, be specific about what was tested.
- Hazard – Is the amount of dust found on the component above or below the HUD/EPA standards?
    - HUD reporting limits – floors - 40 ug/ft^2; window stools\interior sills - 250 ug/ft^2; window troughs - 400 ug/ft^2;
    - If under, it is not a hazard.
    - If equal to or above, it is a hazard.
- Lead Concentration in ug/ft^2 – Lab results are entered here. If the lab reports the wipe result as 312 ug/ft^2, then enter 312 in this column.

Soil Sample Results – Soils must be sampled at the house perimeter (drip line) and all areas of bare soil that total 9 ft^2 or larger. ASTM Standards are very specific as to how soil should be sampled. A composite soil sample should be two or more samples collected within a 1' diameter circle. Each sample container should contain at least two composite samples from that circle. One container per circle. One 1' circle per container. If soil samples cannot be taken for some reason (snow coverage, ferocious pets, etc.), document it in the report. That composite sample can represent an entire bare area of any size that you want it too. Professional judgment is used to make that determination.

- Sample Number – The identification number used to uniquely identify one sample from another. It should be the same number that was used on the lab chain-of-custody form.
- Location – List specifically where the sample came from.
    - Each side of the house should be sampled separately.
    - All play areas should be sampled separately.
    - All vegetable/herb gardens should be sampled separately.
- Hazard – Is the amount of lead in soil found in the sample above or below the HUD/EPA standards? – Lead in soil is considered a hazard at 1,200 PPM or greater. For child Play areas, this number is defined as a hazard for children at 400 PPM.
    - If under the standard, it is not a hazard.
    - If equal to or above the standard, it is a hazard.
- Results in PPM - The lab results are entered here. If the lab reports that the concentration is 1,242 PPM, then 1,242 is entered in this column.

Positive XRF Reading Results

Paint is tested with an XRF. This testing is non-destructive and takes only a few seconds each shot. When using an XRF you must calibrate it prior to testing and when testing is completed. If testing takes longer than 4 hours, the XRF will need to be calibrated every 4 hours.

A paint inspection requires many testing combinations to be tested

This guidance can be used for XRF lead analyzer use or paint chip collection for laboratory analysis. The results should be used to make hazard determinations and subsequent hazard control recommendations.

The following components may be grouped under one testing combination, meaning that one XRF reading or paint chip sample result may be used to identify the grouped components as positive or negative for lead content. When using this approach, it is recommended that the investigator alternate between components within the group to reduce test-bias or skewed results.

A testing combination is a unique combination of room equivalent, component type and substrate. Grouping testing combinations takes into account that there is a reasonable likelihood that some components will share the same painting history. HUD Guidelines for the Evaluation of Lead-Based Paint Hazards in Housing, Revised Chapter 7, permits the grouping of certain testing combinations indicated as follows:

Combination	Testing Frequency
Interior Window Components: 1: Casing or Inside Stop or Apron 2: Sash or Mullion interior 3: Jamb or Trough 4: Sill: test separately Storm/screen sash interior should be tested separately	At least one interior window per room unless different type of window or different painting history At least one storm/screen per room unless different painting history
Exterior Window Components: As many as 3 chip samples per window, assuming damage as described above on any one component 1: Casing or Stop or Apron or Exterior Sill 2: Sash or Mullion 3: Jamb or Trough Storm/screen assemblies: test separately	At least one exterior window per side of dwelling, if the same type and painting history At least one storm/screen per room unless different painting history
Interior Door Components: 1: Jamb or Stop or Transom 2: Stile or Rails or Panels or Mullions 3: Casing Note-door to be tested on each side. Storm/screen doors: test separately, use the same testing combinations	At least one door per room, given the same type and painting history
Exterior Door Components: 1: Jamb or Stop or Transom 2: Stile or Rails or Panels or Mullions 3: Casing Note-door to be tested on each side. Storm/screen doors: test separately, use the same testing combinations	All exterior doors All storm/screen
Interior Components: Testing combination: Baseboards or associated trim Test chair rails separately Crown Moldings Book Cases Fire Place Mantels Radiators\Registers Kitchen Cabinets-doors, frames, shelves, interiors Bath Vanity, Medicine Cabinets Electrical Panels	At least one per room, given the same type and painting history
Interior Components: Walls Ceilings Floors Bathtubs Lavatories Kitchen Sink	All of these must be tested
Closets: Doors Shelves Rods	One per room, given the same type and painting history

Casings Baseboards Walls	
Exterior: Exterior wall Foundation Exterior Trim Components Fascia Soffit Freeze Drip Board Corner Posts	At least one of each component on each side of the housing unit, given the same painting history
Porches: Deck Column Rail Baluster Newel Upper beam Ceiling Stair tread Riser board Band joist Skirting Wall	At least one of each component on each side of the housing unit, given the same painting history
Other Exterior: Shed Garage Fence Play set Clothes posts Trellis	

- Include the positive XRF readings only in this section. Positive readings are results at or above 1.0 ug/cm^2. You can sort the readings by results in the Excel table that the XRF downloads into. Users of the report find this separate listing helpful in determining which components are covered with lead paint.
    - XRF Number - This is the shot number of the reading. It should be sequenced from 1 to the last shot number. It includes calibration shots also. The number is usually assigned by the XRF software.
    - Floor – This is the floor level of the dwelling where the component is located; e.g., cellar, first, second, third, ground, etc.
    - Room – Is the room where the component is located; e.g., Child's bedroom, Play area, Room 1, kitchen, living room, etc. The room designation must match the floor plan diagram in the report.
    - Side – Is the side of the structure where the tested component is located. There are four sides to every structure: A, B, C and D. A is always the street address side of the house. Then it goes B, C & D clockwise around the house.

- Component – Is the item that is tested. The component could be a window stool, door jambs, closet shelf, wall crown molding, cabinet door, etc.
- Substrate – Is the material that the component is made of; e.g., plaster, wood, concrete, metal, drywall, etc.
- Condition – Is the condition of the component that is being tested. This is evaluated by assessing the surface coating and substrate conditions.
    1. Surface coating condition: Painted surface may be intact, fair or poor. Chipping, peeling and chalking are symptoms of fair and poor surface conditions.
    2. Substrate condition: Substrate deteriorations include rot, cracks, separations and other damage.
- Color – Is the color of the component surface that is being tested; e.g., white, brown, blue, etc.
- Results – Only positive results should be in this column.
    1. Occasionally, a reading of null can be the result of the test. This happens when the XRF was removed from the tested component before the test was complete.
    2. Inconclusive is the result when the lead level on the painted surface is in a range that the XRF is unable to quantify.
- PbC - Is the numeric value that the XRF assigns to the amount of lead that was found in/on the component. These values range from 0.01 ug/ cm^2 to over 40 ug/ cm^2.
- Depth Index – The XRF has the capability to detect lead in many layers of paint, not just the top layer. A depth index reading of less than 1.5 indicates that lead is near the surface. A reading between 1.6 and 4 indicates that lead is at a moderate depth. A reading of 4 or more indicates that lead was found deeply in the material tested.
- Serial Number – Each XRF has a unique serial number. State law requires that the serial number be printed on each table of readings.

All XRF Reading Results – Include the positive and negative XRF readings in this section. Negative readings are results below 1.0 ug/ft2. You can sort the readings by results in the Excel table that the XRF downloads into. You might want to include positive readings with the negative.

Personal Property Testing Results - This is where the testing results of personal property items are included from XRF readings, dust wipe testing, and chemical spot tests. These will most often be identified through the Household Interview. There are no corresponding lead standards to compare results with, so disclaimers are necessary and are addressed in the report section.

3.0 Site Description – Describe your observation of the site; it must be specific to the property.

- Discuss the condition of the home, neighborhood, out buildings, adjacent properties, burned out buildings, proximity to freeway, etc.

4.0 Building Condition – Consists of a table of questions that need to be answered during the visual inspection.

- There are some questions that need to have details added – e.g., where or when. Fill in that information.

5.0 Household Interview

Children's Habits and Behavioral Risk Factors – Questionnaire with simple questions for the child's primary caretaker. This questionnaire should be asked while at the home, not in advance of the visit. The caretaker should be interviewed. Do not allow them to fill out the questionnaire, as reading comprehension can make answers inaccurate. Some of the answers will need follow-up that may require testing of personal items. Most of this testing should be done with the XRF.

- Name and age of child 6 or under
- Length of time at that address
    - Was the child there long enough to get poisoned?
- Bedroom location - remember that the child's bedroom always receives dust wipe sampling.
- Where does the child sleep? Often not in their bedroom. This room will also receive dust wipe sampling.
- List all rooms where child eats - sometimes you will see something other than what is presented to you by the caretaker. List what you observe as well as the responses.
- Where does the child play indoors? Sometimes you will observe something other than what is presented to you by the caretaker. List what you observe as well as the responses.
- Where does the child play outdoors? Look around. If toys are in other locations, that should cause you to ask more questions.
- Where are toys stored? This should be obvious, but.....
- List all addresses where the child spends any amount of time. The answer is usually that they stay at home. Did you have trouble getting an appointment? Ask enough questions to seek out any other locations that may exist.
- Does the child suck fingers or thumb? Is this important? Yes as the dust is going to be on the fingers or thumb if present.
- Does the child put painted objects into mouth? Find out what they are. List, collect, and test.
- Does child chew on painted surfaces? Find out what they are. List, collect, and test.

- Does the child chew on soft metal objects? Find out what they are. List, collect, and test.
- Does the child put printed material in his/her mouth? Find out what they are. List, collect, and test.

Dietary Risk Factors – Continue questionnaire with primary caretaker. Some of the answers will need follow-up that may require testing of personal items. Most of this testing should be done with the XRF.

- Does the family use imported canned foods? List items and usage frequency. Test with XRF; record results.
- Are food storage containers homemade, imported or ceramic? List items. Test items with XRF and record results.
- Does the child have a favorite cup or eating utensil? List items. Test with XRF and record results.
- Does child take dolomite, oyster shells or bone meal as a supplement? List items. Send a sample to the lab in a centrifuge tube.
- Does the family use home remedies, folk medicines or herbal treatments? List items. Test with XRF or send sample to lab.

Water Risk Factors - Continue questionnaire with primary caretaker. Some of the answers will need follow-up that may require water testing, but is an unlikely source. Educational dialog with the caretaker is important.

- Check box for the drinking water source. Had it been tested? Record results, if any.
- Talk to occupant about first draw water, and if it is used for drinking, formula preparation, cooking, etc.

Other Household Risk Factors - Continue questionnaire with primary caretaker. Some of the answers will need follow-up that may require testing of personal items. Most of this testing should be done with the XRF.

- Does the family have a dog or cat that can track soil/dust from outside?
    - Visually inspect the path that the animal takes and take an appropriate dust wipe. If concerned, wipe test the pet.
- After asking about access to shellacs, lacquers, coloring pigments, epoxy resins, pipe sealants, putty, dyes, industrial (big) crayons or markers, paints, pesticides, gear oil, detergents, or batteries take a look yourself, and determine what potential role these products play in exposure pathways for the child.
    - Batteries and used motor oils can contain high quantities of lead
    - Look at labels of other products to see if they contain lead
- When in doubt, use the XRF to test. Record the results or send a sample to the lab.

Family Use Patterns - Continue questionnaire with primary caretaker. Some of the answers will need follow-up that may require additional XRF, soil or dust testing. Interviewing within this section creates good opportunities for education.

- Which entrances are used most frequently?
    - Take a wipe sample in front of door. Is there poor paint with positive lead surfaces that they must cross when using this entrance?
    - Is this the entrance that is used by the child when playing outside? Consider taking samples from a second entrance
- Which windows are opened most frequently?
    - These would be good locations for trough samples.
    - Does child use these areas too? With toys or gazing outside?
- Is there a window fan?
    - Look for deterioration due to vibration.
    - Check trough for dust.
    - Dust wipe sample floor within 5' of fan and paint chip fall out.
- Is there a window air conditioner?
    - Look for paint deterioration due to vibration.
    - Look for paint and substrate damage due to moisture from condensate.
    - Dust wipe sample floor within 5' of air conditioner and paint chip fall out.
- Is there a vegetable or herb garden?
    - Does child eat food from or play in the garden?
    - Take soil samples from this garden
- Are landscaping activities planned?
    - Where? Near the house or outbuildings?
- How often is the house cleaned?
    - Record caretaker's response and record your own observations; they may be contradictory.
        1. Be specific about floor and window cleaning. This is important in determining how fast the dust is accumulating. Ask when the last time the surface you are sampling for dust was cleaned.
- How is cleaning performed ?
    - Is vacuum contaminated? Dust wipe test, if needed.
    - Check mopping equipment. Educate.
- Have any renovations been recently completed? When? Where? What?
    - Could the HVAC system be contaminated?
        1. Wipe test the register pans in the affected rooms.
        2. Wipe test the blower box or return air duct to determine if ducts need cleaning.
        3. Dishes, bedding, carpets, etc. contaminated?
        4. Dust wipe test, as needed.

- Is/Was renovation debris stored in the yard? When? Where?
    - Take soil samples in the area.
    - Visually inspect for paint chips and debris
- Planning any renovations? Educate on the importance of working lead-safe.
    - Since this is a complete paint inspection all surfaces that will be remodeled will have been tested. Use the results to reinforce education.

Occupational/Hobby Risk Factors - Continue questionnaire with primary caretaker. Some of the answers will need follow-up that may require additional testing. Interviewing within this section creates good opportunities for education.

- Place an X in the columns that apply.
    - Follow up with questions and dust wipe testing based on answers.
    - Be sure to check the locations where these activities are taking place, e.g., basement, spare room, garage, etc.
- Record name(s), relationship and activity in the table.
- Can child access the areas?
    - Parents may not know that a child is capable of accessing areas, when they are capable.
    - Is vehicle used to commute to/from this activity and home?
        1. Dust wipe test the floor and driver's area of vehicle.
- Where is the clothing worn during these activities stored for cleaning?
    - Dust wipe sample this area.
    - Educate on keeping clothes separate from family laundry.
- Are shoes from the listed activities worn into the house?
    - Educate.
    - Dust wipe test shoe storage area.
- Is the child held by the individual prior to changing/cleaning up after the activity?
    - Educate.
    - If a specific daily routine is done, consider dust wipe testing the items used in that routine (e.g., a favorite chair).

Persons Interviewed – Who provided answers to the questions that were asked during the interview process? List all persons who gave answers and their relationship to the EBL child. If you have made more than one visit and interviewed others, record these also.

Confidential Child-Related Information – this is specific to the child; name, date of birth, identifying reference numbers (Medicaid, etc.)..

- When giving a copy of the report to anyone other than the parents or health department staff, this information must be blacked out/redacted. This includes responding to Freedom of Information Act requests.

6.0 Floor Plan – Create a diagram of the floor plan for this property. Dotted grids have been included for field sketching. Show all windows, doors and stairs. If possible, include room dimensions for cost estimating.

- Label all rooms the same as have been labeled with the XRF and dust sampling data.
- Indicate the locations of each dust sample collection point.

6.1 Site Plan – This is a drawing of the property site. Drawing should include all structures, sheds, play areas, gardens, driveways, fence lines and bare soil areas, along with the location of the soil sample(s).

- If a building on another property abuts the property, include it in the site plan.

6.2 Site Map - Insert a map of the surrounding area with the property location identified on the map. Map Quest, MS Streets and Trips or an equivalent application is a useful resource.

- This will give a wide-angle view of the property location in relation to a city limit or other land designation.

7.0 Applicable Federal/State Regulations and Local Ordinances - An overview of Michigan's Landlord Penalty Law that affects rental property owners when a lead poisoned child is associated with their property. The federal Lead Disclosure Law is also presented.

- If there is a local city or county 'lead in housing' ordinance that affects the property owner of this address, insert the language of the ordinance and legal reference number (e.g., housing code number, etc.).

8.0 Ongoing Monitoring Schedule - Includes information on what has to be done to insure that hazard reduction activities are maintained over time.

9.0 Certification – The EBL Investigator(s) must sign. This certifies that the Investigator is responsible for the report content.

10.0 Photographs – Photographs are required in this report. A front photograph of the property, as well as interior/exterior photographs of representative lead hazards should be included. Activate the date stamp on the camera, if available.

This table below is an example of how to fill in the one in the EBL report. Just providing the E/I with some general examples that they may want to use or modify as needed.
The following is an example of a completed hazard and corrective action table, with general cost estimates concluding this EBL report guidance document:

Table of Lead Based Paint Hazards and Recommended Corrective Action

Window exterior sashes, some interior sashes, jambs, stops and troughs			**Best option-Abatement**: Remove the existing window sashes and install new vinyl replacement window sashes **Next best option-Abatement:** Chemically strip/remove all paint from window systems, neutralize and repaint **Third best option-Interim-control**: Remove paint from all friction and impact points and repaint.	B/O $300 each window N/B/O $300 each window T/B/O/I/C $200 each window
Doors, jambs and thresholds			**Best option-Abatement**: Remove the door systems completely and replace with new **Next best option-Abatement:** Remove all paint from the friction and impact points and encapsulate with a Michigan approved encapsulating product **Third best option-Interim-control:** Remove all paint from friction and impact points and repaint	B/O $225 each door N/B/O $100 each door T/B/O/I/C $80 each door
Porch floor			**Best option-Abatement:** Remove porch floor decking completely and dispose of properly. Install new decking **Next best option-Abatement:** Encapsulate and then cover with exterior grade plywood **Third best option-Interim-control:** Repaint and cover with exterior grade plywood	B/O $975 N/B/O $525 T/B/O/I/C $400
Kitchen cabinet frames and doors			**Best option-Abatement:** Remove the existing cabinets and replace with new **Next best option-Abatement:** Encapsulate cabinets with a Michigan approved encapsulating product **Third best option-Interim-control:** Wet scrape and repaint	B/O $175 per foot X 11' = $1925 N/B/O $375 T/B/O/I/C

				$200
Kitchen counter top			**Best option-Abatement:** Remove the counter top and dispose of it. Replace with new. **Next best option-Abatement:** None **Third best option-Interim-control:** None	B/O $45 per foot X 11' = $495 N/B/O $0 T/B/O/I/C $0
The house siding and trim components			**Best option-Abatement:** Enclose the entire exterior with vinyl, aluminum and wood. **Next best option-Abatement**: Encapsulate with a Michigan approved encapsulating product **Third best option-Interim-control:** Wet scrape and repaint	B/O $3 ft2 X 6200 ft2 = $18600 N/B/O $2 ft2 X 6200 ft2 = $12400 T/B/O/I/C $1.50 ft2 X 6200 ft2 = $9300
Exterior porches hand rail fall protection systems			**Best option-Abatement:** Remove the existing system and replace with new built of treated lumber. **Next best option-** Abatement: Perform substrate stabilization and encapsulate with a Michigan approved encapsulate. **Third best option-** Interim controls: Perform substrate stabilization and repaint with two coats of enamel paint.	B/O $20 per running foot N/B/O $5 per running foot Third best option $3 per running foot
Detached garage			**Best option-Abatement:** Enclose the entire exterior with vinyl, aluminum and wood. **Next best option-Abatement:** Encapsulate with a Michigan approved encapsulating product	B/O $3 ft2 X 2100 ft2 = $6300 N/B/O $2 ft2 X 2100 ft2 =

			Third best option-Interim-control: Wet scrape and repaint	$4200 T/B/O/I/C $1.50 ft2 X 2100 ft2 = $3150
Door casings			**Best option-Abatement:** Remove the components and replace with new **Next best option-Abatement:** Encapsulate with a Michigan approved encapsulating product. **Third best option-Interim-control**: Wet scrape and repaint	B/O $100 per door both sides N/B/O $50 per door both sides T/B/O/I/C $30 per door both sides
Walls			**Best option-Abatement**: Enclose the wall with new drywall or paneling **Next best option-Abatement:** Perform substrate stabilization and encapsulate **Third best option-Interim-control:** Wet scrape and repaint	B/O $1400 N/B/O $800 T/B/O/I/C $400
Ceiling			**Best option-Abatement:** Enclose the ceiling with wood, drywall or another rigid material. **Next best option-Abatement:** perform substrate stabilization and encapsulate with a Michigan approved encapsulating product. **Third best option-Abatement:** Remove the ceiling material completely and dispose of it. Install new drywall or wood ceiling. **Fourth best option-Interim controls:** Perform substrate stabilization, wet scrape and repaint.	B/O $600 N/B/O $600 T/B/O $800 F/B/O/I/C $250
Soils			**Best option-Abatement:** Remove the top 6" of soils and haul away. Bring in new soils that have a total lead concentration of	B/O $2700

			less than 400 PPM **Next best option-Interim control:** till soils with a mechanical tilling device to mix the top soils with those at least 8" deeper to dilute the concentrations of lead to a more acceptable level, then cover with sod or mulch	N/B/O $800
Soils			**Best option-Abatement:** Remove the top 6" of soils and haul away. Bring in new soils that have a total lead concentration of less than 400 PPM **Next best option-Interim control:** till soils with a mechanical tilling device to mix the top soils with those at least 8" deeper to dilute the concentrations of lead to a more acceptable level, then cover with sod or mulch	B/O $4800 N/B/O $1500
Rail system/fall protection – Balusters, newel post, hand rails, lower rail Interior stairways Also good (not cost estimate) for fences, stationary exterior fixtures, cellar beams and support columns, etc.			**Best option-Abatement**: Remove all components and dispose of properly. Install new rail and fall protection to Code. **Next best option- Abatement:** Encapsulate all components with a Michigan approved encapsulating product. **Third best option-Interim control:** Wet scrape and repaint all components with two coats of enamel paint.	B/O $2800 N/B/O $900 T/B/O/I/C $500
Stair treads, risers boards and stringers Interior stairways			**Best option-Abatement:** Remove components and replace with new. **Next best option- Abatement:** Encapsulate all components with a Michigan approved encapsulating product, then cover the friction/impact points with carpeting, vinyl	B/O $2500 N/B/O $1700 T/B/O/I/C

			or wood to protect the encapsulate coating. **Third best option-Interim control:** Wet scrape and repaint all components. Cover treads with vinyl to protect the paint. **Another option- Abatement:** Chemically strip remove all paint, neutralize and repaint	$600 A/O $2000
Cellar floor			**Best option-Abatement: :** Chemically strip/remove all paint from components, neutralize and repaint. **Nest best option-Abatement**: Encapsulate then install sheet vinyl floor covering to act as an encapsulate protector. **Third best option-Interim control:** Wet scrape and repaint with two coats of enamel paint. Then install vinyl floor covering to protect the paint.	B/O $5 ft^2 N/B/O $6 ft^2 T/B/O/I/C $4 ft^2
Dust			**Best option-Abatement:** Clean entire house for the presence of lead dust. Use the HEPA-wet wash-HEPA system. **Next best option-Interim controls**: Clean entire house for the presence of lead dust. Use the HEPA-wet wash-HEPA system.	B/O $100 per room equivalent N/B/O/I/C $100 per room equivalent

General Cost Estimates:

- Window sash replacement $300-400 each
- Door replacement
  - Interior $200-350 each depends on door type and if plaster or drywall on adjoining wall
  - Exterior $300 to 500 each depending on door type and wall surface type
- Exterior siding $3 per sq ft for new vinyl with aluminum trim
- Painting exterior $.75-2 per ft^2
- Painting interior $.75 per ft^2
- Substrate stabilization $.25 to $1 per ft^2depending on materials and severity of damage.
- Lead dust cleaning $.50-1.00 ft^2