

Health Consultation

I-75/CANIFF AREA (HAMTRAMCK) LEAD
CONTAMINATION - UPDATE

WAYNE COUNTY, MICHIGAN

FEBRUARY 7, 2008

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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HEALTH CONSULTATION

I-75/CANIFF AREA (HAMTRAMCK) LEAD CONTAMINATION – UPDATE

WAYNE COUNTY, MICHIGAN

Prepared By:

Michigan Department of Community Health
Under A Cooperative Agreement with the
U.S. Department of Health and Human Services
Agency for Toxic Substances and Disease Registry

Table of Contents

Summary	1
Purpose and Health Issues	1
Background	1
Discussion	3
Analysis of Recent Blood Lead Level Data.....	3
Lead Paint Remedial Activities	4
Clean-up of Contaminated Soil.....	6
Health Education Activities	6
Conclusions.....	6
Recommendations.....	6
Public Health Action Plan.....	6
Preparers of Report	8
References.....	9
Certification	10

List of Tables

Table 1. Elevated blood lead levels in children living near the I-75/Caniff area, Hamtramck, Michigan. Data from 2000-2006. Each child only counted once per year.	4
Table 2. Elevated blood lead levels in children living in Michigan zip code areas 48607, 48915, and 49007. Data from 2000-2006. Each child only counted once per year.....	4

List of Figures

Figure 1. I-75/Caniff Area, Hamtramck, Wayne County, Michigan	2
Figure 2. One-Half Mile Radius Circle Containing I-75/Caniff Area, Hamtramck, Wayne County, Michigan	5

Summary

The federal Agency for Toxic Substances and Disease Registry (ATSDR) asked the Michigan Department of Community Health (MDCH) to evaluate the impact of public health activities at the I-75/Caniff Area Lead Contamination site in Hamtramck, Wayne County, Michigan. Area soils had been impacted by former lead smelter emissions and contained concentrations of lead greater than the state clean-up criterion. In a 2006 health consultation, MDCH concluded that the I-75/Caniff Area and the surrounding communities were exposed to multiple sources of lead and that a public health hazard existed. The U.S. Environmental Protection Agency removed soils containing unacceptable concentrations of lead. Follow-up analysis of blood lead data indicates that fewer children are being diagnosed as lead-poisoned. Although conditions have improved, there is still a public health hazard in regard to lead. Health agencies should continue to provide education regarding the sources of lead and encourage blood lead testing for young children.

Purpose and Health Issues

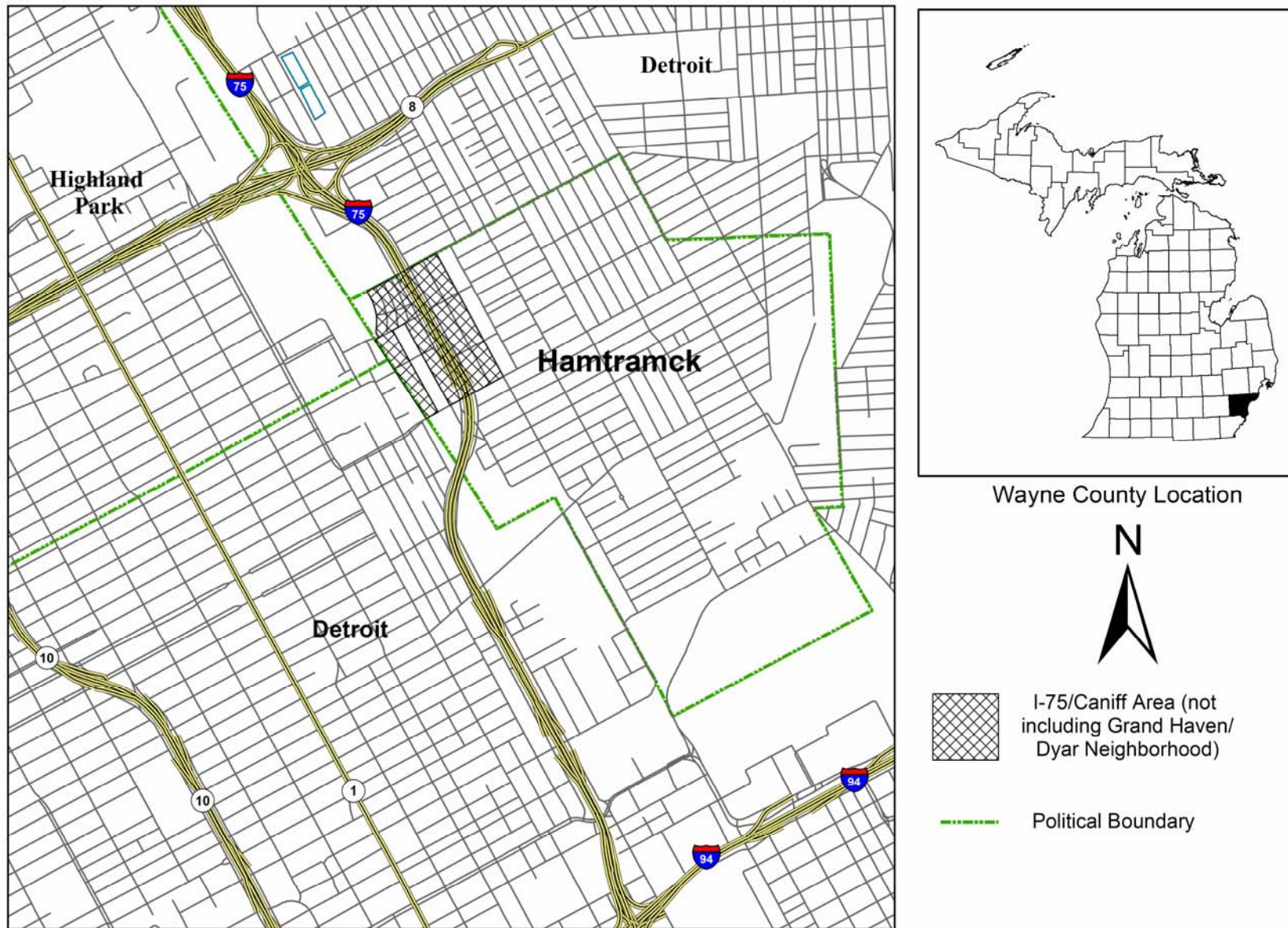
The purpose of this health consultation update is to assess and document the public health impact of earlier interventions at the I-75/Caniff Area Lead Contamination site in Hamtramck, Wayne County, Michigan. This site is one of several greater-Detroit-area neighborhoods impacted by former lead smelter emissions. In the previous health consultation for this site, the Michigan Department of Community Health (MDCH) determined that “overall exposure to lead in the I-75/Caniff area, via soil, deteriorating lead-based paint, and other sources, has caused local children’s blood lead levels to be elevated (10 micrograms per deciliter or greater) and is a public health hazard” (ATSDR 2006). The Agency for Toxic Substances and Disease Registry (ATSDR) requested that MDCH provide an update on the status of the site. This was in keeping with the Program Assessment Rating Tool (PART) review of sites posing a public health hazard.

MDCH conducted this health consultation for ATSDR under a cooperative agreement. ATSDR conducts public health activities (assessments/consultations, advisories, education) at sites of environmental contamination and concern. ATSDR is primarily an advisory agency. Therefore, its reports usually identify what actions are appropriate to be undertaken by the regulatory agency overseeing the site, other responsible parties, or the research or education divisions of ATSDR in order to prevent exposure.

Background

In March 2005, the Michigan Department of Environmental Quality (MDEQ) requested assistance from MDCH in evaluating the public health threat posed by elevated concentrations of lead in residential soils in a densely populated urban area downwind from several former lead smelters. The I-75/Caniff area is located in the City of Hamtramck (Figure 1), bordering Detroit and Highland Park. The neighborhood of interest lies on both sides of Interstate 75, between Interstate 94 and Davison Highway. MDCH did not include a sub-section of this area, bounded by Grand Haven, Caniff, Dyar, and Commor (known as the “Grand Haven/Dyar Neighborhood”) in the assessment because the Wayne County Health Department had already performed cleanup of residential soils in this neighborhood (ATSDR 2006).

Figure 1. I-75/Caniff Area, Hamtramck, Wayne County, Michigan



Three metals smelters had operated historically near this site: Continental Metals, Federated Metals, and Commodity Metals. The U.S. Environmental Protection Agency (EPA), which conducted the clean-up of the I-75/Caniff Area, refers to the site as “Commodity Metals” (EPA 2007a).

In its initial evaluation of the site, MDCH reviewed local soil sampling data and blood lead data from children in the neighborhood of interest, Hamtramck itself, and neighboring communities. Additionally, MDCH reviewed census data to determine age of housing in the area. (Most often, lead-based paint in older homes is the primary source of lead exposure in a person’s environment. Lead in paint was at its highest concentration before the 1950s, and lead use in residential paint was discontinued in 1978.) The agency concluded, based on elevated concentrations of lead in the soils, a large percentage of tested children having elevated blood lead levels (BLLs), and nearly all of the homes being built before lead paint was banned, that a public health hazard existed, not only for the site but the area as a whole (ATSDR 2006).

Recommendations to correct the situation included (ATSDR 2006):

- ▶ All children under six years of age should be tested for BLLs. Those children diagnosed with elevated BLLs (greater than 10 micrograms per deciliter [mcg/dl]) should have their environment evaluated and lead hazard control measures and/or medical management conducted.
- ▶ Homes with lead-based paint should be remediated.
- ▶ Soils containing greater than 400 parts per million (ppm) lead should be remediated, preferably concurrent with any lead paint remediation.
- ▶ Homeowners, landlords, and residents should be educated on the hazards of lead and how to prevent exposures.

Discussion

Analysis of Recent Blood Lead Level Data

The MDCH Childhood Lead Poisoning Prevention Program (CLPPP) provided the MDCH toxicologist with area-specific BLL data that had been generated subsequent to the earlier health consultation. Table 1 shows the comparison between the earlier data (representing a five-year span) and data from 2005 and 2006, separately. The data indicate that, although rates of elevated BLL incidences are still unacceptable, the rates have decreased in all areas investigated.

ATSDR also requested that MDCH compare the BLL data from this area to other areas in Michigan with similar-aged housing but no history of lead smelting activities. The CLPPP data manager provided information from the Saginaw, Lansing, and Kalamazoo areas (zip codes 48607, 48915, and 49007, respectively), urging caution in making any inferences in the comparison. This is because “many factors are involved in childhood lead poisoning, and each of these factors can vary greatly from one area to another” (R. Scott, MDCH-CLPPP, personal communication, 2007). Table 2 shows the BLL data for the comparison areas, combining data from 2000 to 2004 and showing data from 2005 and 2006 separately.

Table 1. Elevated blood lead levels in children living near the I-75/Caniff area, Hamtramck, Michigan. Data from 2000-2006. Each child only counted once per year.

Area Analyzed	Year(s)	No. children tested	No. non-confirmed elevated BLLs ^{1,2}	No. confirmed elevated BLLs (%) ³
One-half mile radius circle centered on I-75/Caniff area ⁴	2000-2004	755	9	79 (10.6)
	2005	214	3	9 (4.3)
	2006	261	5	8 (3.1)
Zip code 48212 (Hamtramck)	2000-2004	5,050	97	444 (9.0)
	2005	1,554	31	97 (6.4)
	2006	1,632	21	63 (3.9)
Zip code 48203 (Highland Park)	2000-2004	5,973	129	689 (11.8)
	2005	1,474	29	146 (10.1)
	2006	1,460	19	118 (8.2)
Zip code 48202 (Detroit)	2000-2004	2,624	50	402 (15.6)
	2005	624	8	63 (10.2)
	2006	656	13	44 (6.8)
Zip code 48211 (Detroit)	2000-2004	1,529	68	316 (21.6)
	2005	351	15	58 (17.3)
	2006	405	6	30 (7.5)
Zip code 48234 (Detroit)	2000-2004	6,201	72	412 (6.7)
	2005	1,770	33	67 (3.9)
	2006	1,662	7	54 (3.3)

Notes: 1. BLL = blood lead level

2. Elevated BLLs determined by capillary sample must be confirmed with venous sample.

3. Those children with elevated BLLs not confirmed by venous sample were not included in the percentage calculation:

No. confirmed / (No. tested – No. non-confirmed) X 100%

4. See Figure 2.

Table 2. Elevated blood lead levels in children living in Michigan zip code areas 48607, 48915, and 49007. Data from 2000-2006. Each child only counted once per year.

Area Analyzed	Year(s)	No. children tested	No. non-confirmed elevated BLLs ^{1,2}	No. confirmed elevated BLLs (%) ³
Zip code 48607 (Saginaw)	2000-2004	217	9	23 (11.1)
	2005	62	2	5 (8.3)
	2006	55	2	8 (15.1)
Zip code 48915 (Lansing)	2000-2004	916	10	25 (2.8)
	2005	203	2	5 (2.5)
	2006	233	2	3 (1.3)
Zip code 49007 (Kalamazoo)	2000-2004	781	10	66 (8.6)
	2005	181	2	13 (7.3)
	2006	308	6	14 (4.6)

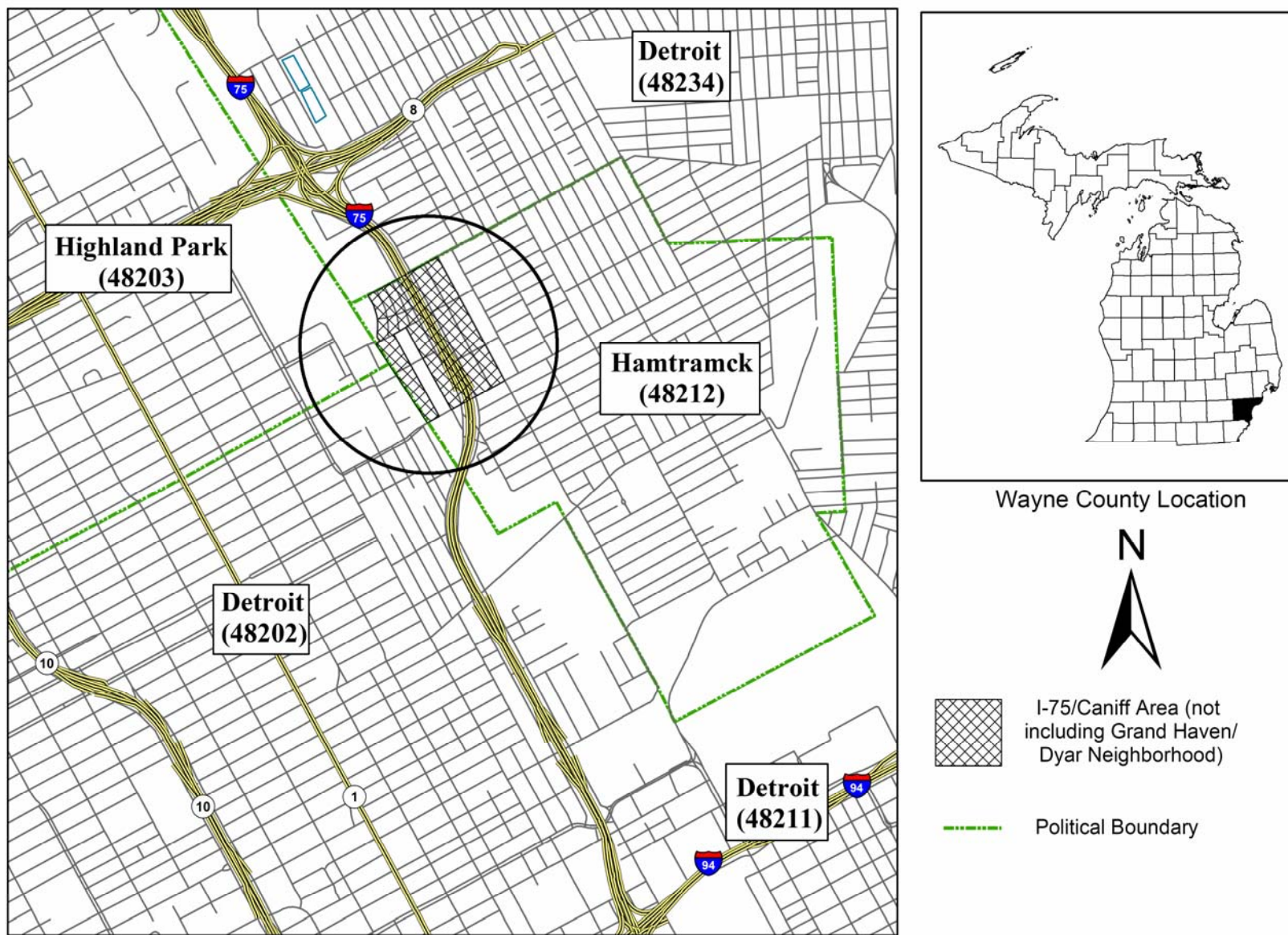
Notes: 1. BLL = blood lead level

2. Elevated BLLs determined by capillary sample must be confirmed with venous sample.

3. Those children with elevated BLLs not confirmed by venous sample were not included in the percentage calculation:

No. confirmed / (No. tested – No. non-confirmed) X 100%

Figure 2. One-Half Mile Radius Circle Containing I-75/Caniff Area, Hamtramck, Wayne County, Michigan.



Lead Paint Remedial Activities

The MDCH toxicologist consulted with the MDCH Lead and Healthy Homes Section regarding what lead paint remedial activities had been reported in the area of interest since the release of the earlier health consultation. No abatements have been reported (L. Jaquette, MDCH Lead and Healthy Homes Section, personal communication, 2007), although some may go unreported dependent on whether the abatement is carried out by the property owner or by a licensed professional.

Clean-up of Contaminated Soil

MDEQ requested clean-up assistance from the EPA, who started removal activities in September 2006. As of October 2007, 152 properties have been excavated, back-filled, and completely restored. Access permission for sampling is still needed for two properties and access permission for removal is required for one property (EPA 2007a).

Health Education Activities

During the earlier assessment, MDCH CLPPP and Lead and Healthy Homes representatives attended an MDEQ-hosted public meeting in Hamtramck in May 2005 and provided information to concerned residents. The CLPPP manager also provided written information regarding exposures and gardening in lead-contaminated soil, which was included in the earlier health consultation (ATSDR 2006).

The MDCH toxicologist, a community involvement specialist with the department, and the CLPPP manager attended an EPA-led public meeting in October 2006 and provided educational materials for community members.

Conclusions

Conditions are improving at the I-75/Caniff and surrounding areas: contaminated soils have been removed and children's BLLs are dropping. However, there may still be homes that have lead-based paint hazards in them, and there are still children who are being diagnosed as lead-poisoned. Therefore, this area still poses a public health hazard, although to a lesser degree than before public health intervention.

Recommendations

1. Continue educating people about the hazards of lead.
2. Test all children under six years of age in high-risk areas for BLLs, providing follow-up care and guidance as needed.
3. Continue to remediate soils that contain unacceptable levels of lead in other areas of greater Detroit and the rest of Michigan, preferably concurrent with lead-based paint remediation in older homes.

Public Health Action Plan

1. The MDCH Lead and Healthy Homes Section provides information and training regarding lead paint hazards in homes. CLPPP provides guidance to prevent children from being lead poisoned. Information about both programs is available at www.michigan.gov/leadsafe.

2. The Wayne County Health Department, the local health agency, provides BLL testing and follow-up environmental evaluations. Information from the county agency is available at <http://www.waynecounty.com/hhSvcs/environ/lead.htm>.
3. EPA has begun soil remediation activities in another greater-Detroit neighborhood (EPA 2007b).

MDCH will remain available as needed for future consultation at this site.

If any person has additional information or health concerns regarding this health consultation, please contact MDCH's Division of Environmental Health at 1-800-648-6942.

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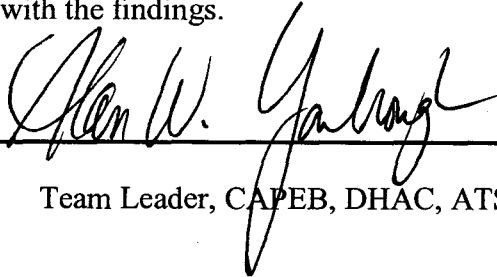
Certification

This Health Consultation was prepared by the Michigan Department of Community Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures. Editorial review was completed by the cooperative agreement partner.



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The Division of Health Assessment and Consultation, ATSDR, has reviewed this public health consultation and concurs with the findings.



Team Leader, CAPEB, DHAC, ATSDR