Letter Health Consultation

PHILLIPS RESIDENTIAL PROPERTY
TACOMA, WASHINGTON

Prepared by the
Washington State Department of Health

JUNE 3, 2009

Prepared under a Cooperative Agreement with the
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

A health consultation is a verbal or written response from ATSDR or ATSDR's Cooperative Agreement Partners 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 or ATSDR's Cooperative Agreement Partner which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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LETTER HEALTH CONSULTATION

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Health Consultation Memorandum

April 27, 2009

TO: Alan Yarbrough
Agency for Toxic Substances and Disease Registry

FROM: Lenford O'Garro
Washington Department of Health

SUBJECT: Phillips Residential Property PART follow-up – Tacoma, Washington

Statement of Issues

In 2008, the Washington State Department of Health (DOH) prepared a health consultation evaluating soil sampling data at the Phillips Residential Property in Pierce County, Tacoma, Washington. DOH concluded that a public health hazard existed to residents living in the Phillips Residential Property. The purpose of this health consultation is to present follow-up information to the Agency for Toxic Substances and Disease Registry (ATSDR) on actions taken by the Washington State Department of Ecology (Ecology) and Tacoma-Pierce County Health Department (TPCHD) to reduce exposure.

Background

The Phillips Residential Property is located in Tacoma, Washington. The property is a 0.14-acre parcel in a residentially zoned area of the city. It includes a one-and-a-half story, 1,320 square foot house constructed in 1908, and a detached garage constructed in 1918. Prior to renting the property, the owner lived at this location. The owner reportedly has been melting lead down into blocks at this property for reuse, and has been doing so for at least a few years. This operation continued while tenants occupied the property.

In March 2007, a family moved into the property and in November 2007, their blood lead levels were tested. The results indicated all of the children had elevated blood lead levels ((EBLL) = 10≥ μg/dl), with the youngest child having the highest concentration. TPCHD notified DOH of the EBLL of the children, a standard protocol whenever a child in Washington State has an EBLL.

In January 2008, TPCHD staff conducted a site visit and observed numerous five-gallon buckets stacked along the south side of the driveway with metal pieces and debris inside. The backyard contained metal debris and a large propane tank. TPCHD collected two surface (0 - 3 inch) soil samples from the backyard area immediately adjacent to the concrete driveway where the lead melting occurred. These samples are likely hot spots or a worst-case scenario because they were taken from a location adjacent to the melting area that had been recently washed down. The maximum concentration of lead and arsenic in the surface soil was 75000 parts per million (ppm) and 200 ppm respectively. DOH concluded that a public health hazard existed for residents exposed to lead and arsenic in soil at this residential property because soil levels exceeded State and Federal clean up levels.

Paint samples were reportedly field tested by a contractor for the presence of lead. Positive results were obtained for three areas: a tan under-layer of paint visible in a chipped edge of a kitchen wall; a cream topcoat in good condition on the upstairs bedroom door; and the same cream topcoat on top of the furnace door. In addition, carpet samples were analyzed for the presence of lead. Another possible source of lead in the home could be the drinking water. Older homes often have lead pipes or lead soldering, which leaches lead into the drinking water. Lead-contaminated soil may also have been tracked into the home. Melting of lead is also a source of airborne lead that can be inhaled. The melting of lead has ceased at the Phillips Residential Property.

Remediation/Discussion

In March 2008, Ecology and TPCHD contacted residents in the neighborhood about possible lead contamination on their property. TPCHD sampled and analyzed the surface soil at three properties closest to the Phillips Residential Property. Two of the neighboring properties had soil lead ranging from 4 ppm to 150 ppm. The other neighboring property to the south had the highest levels of lead, with five samples above the threshold (250 ppm) for state cleanup. Two of the elevated samples were at the fence line immediately adjacent to the actual lead-melting equipment. The other elevated levels were found behind the garage in an area likely unrelated to air deposition from the lead melting. The maximum level found was 430 ppm with a 95% upper confidence limit (UCL) of 202 ppm. Sample results were relayed to yard owners. A frequently asked questions fact sheet was distributed by Ecology and TPCHD. Ecology plans to have the soil from the neighbor's fence area removed and replaced with clean fill.

In August 2008, a second health order was issued by TPCHD to the property owner. The order stipulates to immediately stop the removal of any debris, brush, soil or other soil contaminated articles from the property and furnish the Health Department with receipts verifying proper disposal of any soil or soil contaminated debris, brush or other articles removed from the property. The previous order also remains in effect. No one can occupy the home until remediation is completed. The children were moved out of the home in November of 2007 and the parents vacated the property in January of 2008. The rental property has remained unoccupied since January of 2008.

In October 2008, a lead-based paint inspection/risk assessment report for the Phillips Residential Property was completed. Fourteen interior and three exterior painted components were found to be above the U.S. Department of Housing and Urban Development (HUD) threshold of 1.0 mg/cm^2. In addition, 15 interior dust wipe samples collected ranged from <50 to 4000 ug/ft^2 for lead.

In November 2008, a phase II site investigation was carried out on the soil on the Phillips property. Surface soil samples taken from 0 to 6 inches ranged from 64 to 800 ppm lead with an average of 357 ppm. The results showed five samples were above the state cleanup level of 250 ppm for unrestricted land use. Subsurface soil samples taken from 12 to 18 inches ranged from 58 to 500 ppm lead with an average of 128 ppm. The results showed one sample was above the state cleanup level of 250 ppm for unrestricted land use. Some of the soil will need additional cleanup per state environmental regulation.

The exposed children continue to have regular blood lead level testing. The children's blood lead levels continue to decrease.

Conclusions

- Historically, DOH concluded that the Phillips Residential Property could harm people's health. While some of the soil samples are above the state cleanup level, DOH concludes that touching, breathing or accidentally eating the average concentration of lead found in soil at the Philips residential property or neighboring properties yards are not expected to harm people's health now because the average concentration at the site is below the federal clean up standard of 400 ppm. Also, the UCL concentration for the neighboring properties is below the state clean up standard of 250 ppm. However, additional soil cleanup will be needed per state environmental regulation.

- Certain interior and exterior portions of the Philips residential property house need to be cleaned to meet the HUD clearance standard.

- Exposed children's blood lead levels continue to decrease.

Recommendations

DOH does not have any further recommendations at this time.

Link to the previous health consultation

http://www.atsdr.cdc.gov/HAC/pha/PhillipsResidentialProperty/PhillipsPropertyHC042208.pdf

Certification

The Washington State Department of Health prepared this Letter Health Consultation under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It was completed in accordance with approved methodology and procedures existing at the time the health consultation was initiated. 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.

Alan W. Yarbrough
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Agency for Toxic Substances & Disease Registry