

# Letter Health Consultation

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Walden Avenue Right-of-Way 2010 Soil Sampling Results

NL INDUSTRIES INC--DEPEW

DEPEW, NEW YORK

EPA FACILITY ID: NYD980531636

**Prepared by  
State of New York Department of Health**

MARCH 18, 2011

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**

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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LETTER HEALTH CONSULTATION

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STATE OF NEW YORK  
DEPARTMENT OF HEALTH

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Nirav R. Shah, M.D., M.P.H.  
*Commissioner*

Sue Kelly  
*Executive Deputy Commissioner*

March 16, 2011

Ms. Arlene Anderson  
On Scene Coordinator  
Removal Action Branch  
U.S. EPA, Region 2  
2890 Woodbridge Avenue  
Building 209  
Edison, New Jersey 08837

Re: Letter Health Consultation  
Walden Avenue Right-of-Way  
2010 Soil Sampling Results  
Former NL Industries Site  
Depew, NY  
EPA ID# NYD980531636

Dear Ms. Anderson:

In September 2010, the United States Environmental Protection Agency (EPA) requested assistance from the Agency for Toxic Substances and Disease Registry (ATSDR) and New York State Department of Health (DOH) to evaluate possible exposures to lead-contaminated soils within the Walden Avenue Right-of-Way adjacent to the former NL Industries Site in Depew, Erie County, New York. This letter health consultation is a summary of our public health evaluation of the potential for current and future exposures to the contaminated soil.

**Site Background:**

The former NL Industries site, at 3241 Walden Avenue in the Village of Depew, is an inactive lead processing facility. It currently houses Metro Waste Paper Recovery, a subsidiary of Norampac of Kingsey Falls, Quebec, Canada. According to state and local records, operations at this location started in 1872 and ceased in 1972. Several companies (for example, Buffalo Brass, Magnus, and Empire Smelting) operated at the site prior to NL assuming ownership and operation in 1936. Past on-site activities included brass foundry operations, smelting operations carried out in the early 1900's, and the processing of metal alloys used for ball bearing surfaces. The rectangular 7.5 acre site contains one main building on the east side of the property. The site is immediately bordered on the south by an active, high speed CSX railroad track serving Buffalo, and commercial parcels to the west and east. Across Walden Avenue to the north and northeast lies a residential area of single family homes and several multifamily dwellings. The Walden Avenue Right-of-Way is a narrow strip of land, approximately 30 feet wide by 1500 feet long, between the site and Walden Avenue. A site location map is attached as Figure 1.

During the operational history of the site, lead contaminated sludges were disposed in lagoons on

the south side of the central portion of the site and were spread on-site throughout the property. On July 14, 1999, Norampac signed, and implemented later that month, a New York State Department of Environmental Conservation (DEC) Order on Consent (a legal agreement) for an interim remedial measure (IRM) to limit airborne migration of lead contaminated dust from the former lagoon area and parking lot. The IRM provided for a soil cover on the western portion of the site, and additional stone for the truck area on the central portion of the site. XCG Consultants, on behalf of NL Industries, conducted limited residential soil sampling for lead in June 1999 along the north curb line of Walden Avenue. In August 2001, XCG Consultants, on behalf of Norampac, conducted surface (0 to 2 inches deep) soil sampling for metals analysis on 13 residential properties north of Walden Avenue. Based upon those results, sampling was expanded to include 20 additional residential properties in April 2002 and re-sampling of one yard from the 2001 sampling event. Both sampling events were performed under the oversight of DOH and DEC.

The EPA's residential lead hazard standard of 400 milligrams per kilogram (mg/kg)(for bare soils in residential play areas) was used as a soil contamination level that defined the areal extent of residential soil contamination requiring cleanup downwind of the facility. Based on the levels detected, and comparison to background levels and public health comparison values, lead was the only identified contaminant of concern.

In 2003, under a cooperative agreement with the ATSDR, the DOH prepared a health consultation for the Former NL Industries Site in Depew, NY (ATSDR 2003). Specifically, the health consultation included an evaluation of soil sampling data and the public health implications of exposure to lead-contaminated residential soils at properties off-site and downwind of the Former NL Industries Site. The DOH and ATSDR concluded that the potential for adverse health effects from exposure to elevated lead-contaminated residential soils existed and recommended that actions be taken to prevent or reduce human exposures.

In 2005, NL Industries began a soil removal action to address lead contamination on 36 residential properties identified in the 2001 and 2002 sampling as requiring remediation (i.e., at locations that exceed 400 mg/kg). These properties, known as the Phase 1 area, were in the area bounded by Walden Avenue to the south, Harvard Avenue to the north, and Transit Road to the east (see Figure 1). Work was substantially completed by late 2005, and was fully completed in 2006.

In April, July, and November of 2005, the EPA conducted additional soil sampling on residential yards further downwind of the remediated area to better define the extent of lead contamination. Additional soil samples were collected on 71 residential properties to the north and east of the area initially delineated for remediation. This area, known as the Phase 2 area, included properties along Tyler Street, Rumford Street, Brewster Street, Lincoln Street, and Walden Avenue, all northeast of the former NL Industries site as well as one property on Princeton Avenue to the northwest of the site (see Figure 1). Soil was collected using modified guidelines contained in the *EPA Superfund Lead-Contaminated Residential Sites Handbook* and submitted to the lab for lead analysis only.

EPA asked ATSDR and DOH whether the conclusions stated in the health consultation for Phase 1 (ATSDR 2003) would apply to the Phase 2 area. ATSDR and DOH evaluated the data generated during the supplemental 2005 (Phase 2 area) soil sampling event and prepared a letter health consultation in 2008 that provided an evaluation of the Phase 2 area soil sampling data, and the public health implications of exposure to lead-contaminated residential soils at Phase 2 area properties. DOH used the soil cleanup objective (SCO) for lead in the "residential" land use category of the 6 NYCRR Part 375 SCOs (DEC 2006) to evaluate the off-site Phase 2 area residential soil sample data because we believe the most likely uses of these properties in the future will remain residential. It should be noted that the NYS SCO for lead in the residential land use category is

400 mg/kg, which is the same numerical value as EPA's residential lead hazard standards for children in bare soil play areas that was used to evaluate the Phase 1 residential area sample data.

Of the 71 Phase 2 area properties sampled, 59 properties had at least one quadrant with a lead concentration exceeding 400 mg/kg. Soil removal activities on these 59 properties began in 2009 and were completed in October 2010.

### Walden Avenue Right-of-Way

In July 2010, EPA collected surface and subsurface soil samples in the Walden Avenue Right-of-Way adjacent to the NL Industries site. The site itself was remediated during 2007 and 2008. During remedial activities, lead contaminated fill was confirmed along the north property line of the NL Industries site, but due to legal restrictions within the cleanup agreement between DEC and Norampac, additional soil removal beyond the site property line was not conducted. However, plastic was used to demarcate the clean back-fill from the contaminated soil along the north property line. Of the 27 locations within the right-of-way that were sampled by EPA in 2010, 25 surface soil and 26 subsurface soil samples were identified as having lead levels exceeding 400 mg/kg. We evaluated the right-of-way sample results using the exposure assumptions for residential soil cleanup objective (residential incidental soil ingestion, dermal contact, inhalation and homegrown vegetable consumption). Many soil samples (18 surface soil and 21 subsurface soil samples, and the average for both surface and subsurface soils) also exceeded the commercial SCO for lead of 1000 mg/kg. The results for lead in surface soils and subsurface soils are summarized in Table 1 below.

**Table 1**

**Concentrations of Lead in Surface and Subsurface Soil Samples from Investigations of the Walden Avenue Right-of-Way adjacent to the NL Industries Site compared to the Residential Soil Cleanup Objective (SCO)**

| Sample Type                    | SCO (mg/kg) <sup>1</sup> | Number of Samples | Range (mg/kg) | Average Result (mg/kg) |
|--------------------------------|--------------------------|-------------------|---------------|------------------------|
| Surface Soil<br>0-6 inches     | 400                      | 25                | 220 – 15,000  | 2107                   |
| Subsurface Soil<br>6-12 inches | 400                      | 26                | 190 – 25,000  | 5178                   |

<sup>1</sup> NYS Part 375-6.8(b) Restricted Use Residential Soil Cleanup Objectives

### Pathways Analysis:

While sampling in the Phase 1 and Phase 2 area properties focused on likely areas of exposure and areas likely impacted by aerial deposition of lead-containing dust from NL and other industries, the right-of-way sampling was conducted to confirm the presence of lead contamination first identified during site remediation along the northern property line of the NL Industries site. The right-of-way shows evidence of some pedestrian usage along heavily traveled Walden Avenue, and is bounded by previously remediated residential properties located across the street to the north, and the remediated site adjacent to the south. The right-of-way is grassed and maintained by the current occupant of the NL Industries site, although occasional thin or bare areas of soil exist. Sidewalks are present on the opposite side of Walden Avenue for the majority of pedestrian traffic. Subsurface utilities are present within the right-of-way, including gas lines and sewer lines that were encountered and accessed during remediation of the NL Industries site.

Currently, the primary exposure potential to lead in soil or dust is through occasional contact by pedestrians passing through the area. Exposures are limited because people usually just use the sidewalk and most of the rest of the area is covered by vegetative or stone cover. A future exposure concern exists if the area is disturbed by construction or utility work, or if the remediated site adjacent to the right-of-way is developed for other uses, such as residential.

Additional information on the public health implications of exposure to lead in soil are contained in ATSDR (2003).

### **Conclusions:**

ATSDR and the DOH conclude that exposures to lead in soils in the Walden Avenue right-of-way are not expected to harm people's health because exposures are limited by the current vegetative or stone cover. However, inhaling dust from or direct contact with lead in soils could harm people's health in the future if the vegetative or stone cover is not maintained, or if the soils are disturbed for utility work, or if the nearby remediated site area is redeveloped for other uses.

Given the proximity of the remediated Phase 1 and Phase 2 areas, as well as the adjoining remediated site, evidence of pedestrian use of the right-of-way, and the potential for exposure by utility workers to very high levels of lead contamination, ATSDR and the DOH find that actions are needed to prevent or reduce human exposures in the right-of-way area. These actions could include removal of contaminated soil and replacement with clean soil.

### **Recommendations**

Nearly all surface and subsurface sampling locations within the Walden Avenue Right-of-way exhibit lead levels that exceed the EPA lead standard for residential bare soil play areas and the New York State SCO for residential land use (400 mg/kg). The potential exists for increased exposure to lead in soil, and measures to reduce exposure such as maintaining grass cover, clean soil, gravel or mulch on bare soils are recommended. Utility workers or persons who maintain the right-of-way should be notified of the potential for exposures to lead in the soil, so appropriate precautions can be taken when working in the area (e.g. warning signs during construction). If feasible, removal of contaminated soil and replacement with clean soil would be the most effective long-term remedy.

Sincerely,



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## References

ATSDR (Agency for Toxic Substances and Disease Registry), 2003. Health Consultation – Off-site Residential Properties Former NL Industries Site, Village of Depew, Erie County, NY. Prepared by the New York State Department of Health under a cooperative agreements with the ATSDR. September 19.

ATSDR (Agency for Toxic Substances and Disease Registry), 2008. Letter Health Consultation – Phase II Residential Properties Former NL Industries Site, Village of Depew, Erie County, NY. Prepared by the New York State Department of Health under a cooperative agreements with the ATSDR. September 25.

DEC (New York State Department of Environmental Conservation). 2006. Superfund/Brownfield Regulation, 6 NYCRR Part 375 - Environmental Remediation Programs.

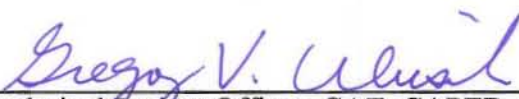
<http://www.dec.ny.gov/chemical/34189.html>

Attachments: Figure 1



## CERTIFICATION

The letter health consultation for the NL Industries Inc, Depew, New York, was prepared by the New York State Department of Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is 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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Technical Project Officer, CAT, CAPEB, DHAC

The Division of Health Assessment and Consultation (DHAC), ATSDR, has reviewed this health consultation, and concurs with its findings.



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Team Leader, CAT, CAPEB, DHAC, ATSDR