



## State of New Jersey

### DEPARTMENT OF HEALTH AND SENIOR SERVICES

PO BOX 360  
TRENTON, N.J. 08625-0360

JON S. CORZINE  
*Governor*

[www.nj.gov/health](http://www.nj.gov/health)

HEATHER HOWARD  
*Commissioner*

September 22, 2008

Mr. Gregory V. Ulirsch, M.S., Ph.D.  
Technical Project Officer, Superfund Site Assessment Branch  
Agency for Toxic Substances and Disease Registry/DHAC  
1825 Century Center  
Atlanta, GA 30345

Dear Mr. Ulirsch:

This Letter Health Consultation (LHC) has been completed for the Ironbound Athletic Field B (IAFB) located along Saint Charles Avenue in Newark, Essex County, New Jersey. Information for this LHC was obtained through discussions with personnel from the Newark Department of Health and Human Services and provides an update to the January 16, 2008 LHC prepared for the recreational field.

#### **Statement of Issues**

This LHC was prepared in response to a request by the Agency for Toxic Substances and Disease Registry (ATSDR) for a status update of remedial actions implemented for the IAFB. This document also includes a re-evaluation of potential exposure pathways and health risks to area residents to lead from the lead-based synthetic turf fibers and synthetic-based dust present on the surface of the IAFB.

#### **Background**

In July 2007, a Letter of Technical Assistance (LTA) was prepared in response to a United States Environmental Protection Agency (USEPA) Region 2 request that the NJDHSS evaluate potential health risks posed by contaminants detected at the Tidewater Baling site located at 26 Saint Charles Avenue in Newark, Essex County, New Jersey. Recommendations within the LTA included evaluating whether lead contamination was present at the adjacent IAFB. Assessment of the IAFB by the NJDHSS and USEPA in August and November 2007, respectively, indicated lead in surface dust of the field at average concentrations of 1,280 to 3,742 milligrams per kilogram (mg/Kg) or 49 to 133 micrograms of lead per square foot ( $\mu\text{g Pb}/\text{ft}^2$ ). Lead in synthetic surface fibers of the field was determined to contain high concentrations of lead at an average of 3,500 to 4,800 mg/Kg. Further evaluation of data from both assessments indicated the source of the lead concentrations in surface dust originated primarily from the deterioration of the lead-containing synthetic fibers of the field surface.

This city-owned field is used by area residents for various recreational activities. During three separate site visits conducted by ATSDR and NJDHSS in 2007, representatives from these agencies observed a small group of young children (estimated age range 3 to 6 years), under adult supervision, playing on the field surface and making hand contact with both the synthetic field and exposed soil surfaces (located at the field perimeter). On October 31, 2007, the City of Newark closed the Ironbound Athletic Field B for public use by recommendation of the ATSDR and NJDHSS.

A health consultation was completed by the NJDHSS in January 2008 categorizing the IAFB as a **Public Health Hazard** to users of the field due to elevated lead concentrations in surface dust. The recommendation included maintaining field closure to area residents until measures are taken to reduce or eliminate the lead dust exposure hazard present on the field surface where it no longer creates a hazard to public health.

### **Discussion**

Following the October 2007 field closure, the City of Newark engaged their environmental consultant to determine the correct measures to implement for the removal and disposal of the synthetic field. City of Newark supplied information indicated the synthetic field surface was an AstroTurf product called AstroTurf XL and was approximately ten years old at the time of the field closure.

On February 21, 2008, a public meeting was held and was attended by the NJDHSS, US EPA, City of Newark, the Ironbound Community Corporation, contractors to the City of Newark and area residents. The NJDHSS provided a presentation regarding the findings of the January 2008 LHC, the basis for recommending closure of the IAFB, future recommendations to the City of Newark, and the NJDHSS and ATSDR's involvement in planned investigation of lead in synthetic turf products.

In April 2008, the synthetic field surface was removed under contractor oversight using dust suppression control to minimize disturbance of lead containing dust on the field surface. Information provided by the City of Newark indicated that airborne lead was not present above method detection limits in perimeter air samples collected during the removal of the synthetic turf product from the field indicating dust suppression control methods implemented were sufficient. Synthetic materials associated with the field were transported off-site to an approved disposal facility.

In June 2008, a new synthetic field surface was installed at the IAFB. Information provided by the City of Newark regarding test data from samples collected from the new synthetic turf product, specifically surface fibers, indicates lead concentrations were less than 4 mg/Kg. These concentrations are less than the USEPA Residential Soil Guidance Value of 400 mg/Kg in soil and the US Consumer Products Safety Commission acceptable lead content in consumer products of  $\leq 600$  parts per million (mg/Kg); therefore, this material is not considered to be an exposure concern regarding lead. Additionally, based on the lead concentrations in the fibers of the new synthetic turf product, if this field surface deteriorates over time and creates a synthetic-based dust, the resulting lead concentrations in this dust would not be of concern.

## Conclusions

Based on this review, the remedial actions implemented at the IAFB, the ATSDR and NJDHSS categorize the current and future recreational use of the athletic field as a *No Public Health Hazard* as the lead dust exposure hazard has been removed from the field. Elimination of this lead dust hazard was accomplished by the removal of the former high lead-containing synthetic turf product which was deteriorating creating the lead dust hazard and replacement with a synthetic turf product containing lead concentrations at levels which would not pose a health hazard.

## Recommendations

Future recommendations are for the City of Newark to keep abreast of developing information regarding the current and future studies being conducted by federal and state agencies regarding potential health-related issues from the use of synthetic turf products. Concerns raised in the United States by both the public and governmental agencies has generated focused interest in continued study of physical and chemical health-related issues pertaining to synthetic turf products, including lead. Specifically regarding recommendations to the IAFB, there are no further actions recommended.

Please contact me at 609-588-7497, [Glenn.Pulliam@doh.state.nj.us](mailto:Glenn.Pulliam@doh.state.nj.us) or alternately, Ms. Leah Graziano, Associate Regional Representative, ATSDR Region II at 732-906-6932, [Escobar.Leah@epamail.epa.gov](mailto:Escobar.Leah@epamail.epa.gov) to discuss the findings of this letter.

Yours truly,



Glenn Pulliam  
Occupational Health Consultant,  
Health Assessment and Consultation Unit  
Hazardous Site Health Evaluation Program

c: Gregory Ulirsch, Technical Project Officer, ATSDR  
Arthur Block, Senior Regional Representative, ATSDR Region II  
Leah Graziano, Associate Regional Representative, ATSDR Region II  
Nicholas Magriples, On-Scene Coordinator, USEPA Region II  
Jerald Fagliano, MPH, PhD, Program Manager, NJDHSS  
Edward Putnam, Assistant Director, NJDEP  
Robert Dooley, Department of Engineering, City of Newark  
Marsha McGowan, Department of Health and Human Services, City of Newark

## References

[ATSDR] Agency for Toxic Substances and Disease Registry. 2006. Toxicological profile for Lead. US Department of Health and Human Services, Atlanta, Georgia.

[ATSDR] Agency for Toxic Substances Disease Registry. Letter Health Consultation for Ironbound Athletic Field, Newark, Essex County, New Jersey. January 16, 2008.

[USEPA] United States Environmental Protection Agency. Ironbound Athletic Field Artificial Turf Investigation, Newark, New Jersey. December 14, 2007.

[NJDHSS] Glenn Pulliam, New Jersey Department of Health and Senior Services and Robert Dooley, Department of Engineering, City of Newark, personal communication, September 16 & 19, 2008.

Weston Solutions, Inc. Summary Report Ironbound Athletic Field to Robert Dooley, Department of Engineering, City of Newark. July 11, 2008.