

# Letter Health Consultation

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COLLINSVILLE KEEL

COLLINSVILLE, ILLINOIS

JUNE 23, 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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LETTER HEALTH CONSULTATION

COLLINSVILLE KEEL

COLLINSVILLE, ILLINOIS

Prepared By:  
Illinois Department of Public Health  
Under Cooperative Agreement with the  
The U.S. Department of Health and Human Services  
Agency for Toxic Substances and Disease Registry



Rod R. Blagojevich, Governor  
Damon T. Arnold, M.D., M.P.H., Director

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April 30, 2008

Illinois Environmental Protection Agency  
Bureau of Land  
1021 North Grand Avenue East  
Springfield, IL 62706

Dear Illinois EPA:

At your request, Illinois Department of Public Health (IDPH) staff have evaluated the historical data for the Collinsville Keel dump site to determine if it poses a public health hazard and requires further action. The site is in Madison County, about 1.5 miles east of Collinsville on Lebanon Road. Catherine Dondanville, an environmental toxicologist in the IDPH Edwardsville Regional Office, conducted this evaluation.

In 1981, Illinois EPA began an investigation of the property following an anonymous citizen's complaint. The site was remotely located and secluded, which likely kept the illegal dumping unnoticed for a period of time. An Illinois waste hauler was suspected to be the primary person dumping at the site from approximately 1976 to 1978. In 1981, Illinois EPA collected samples from some of the deteriorated drums and referred the abandoned site to the U.S. Environmental Protection Agency (USEPA).

In the 1980s, about 1,400 people were living within a mile of the site. Physical hazards were a concern at the time because the site was not fenced and if visited by trespassers, direct contact with chemicals could occur. Other than the deteriorating drums, tankers and metal scrap littered the dump and surrounding area. Some inspectors expressed concerns regarding spontaneous combustion of the wastes during the summer. The nearby creek was threatened and any recreation in the surface waters downstream was a potential exposure point.

On March 24, 1982, a joint USEPA-Illinois EPA inspection determined that between 400 and 500 55-gallon drums of waste solvents and sludges were scattered over a 200 foot by 100 foot area adjacent to a coal mine spoil pile. The estimated volume of liquid wastes was 22,000 gallons and many of the drums were covered with coal mining slag. The old coal mining wastes were thought to be accelerating the deterioration of the drums because of the acidic conditions. Many drums were actively leaking and volatilizing, so to prevent further contamination, the inspectors determined the site warranted an emergency clean up.

The site was named for the neighbor who operated a junk yard next to the drum site. Mr. Keel rented a home approximately 100 yards north of the drums and admitted to using several drums

for trash burning barrels. Illinois EPA staff informed him that these drums were not to be used for this purpose and should be left undisturbed.

The results of the August 1981 drum sampling revealed the following chemical concentrations in parts per million (ppm):

Chemical	Drums sampled				
	1	2	3	4	5
Aliphatic hydrocarbons	1,100	7,800			3,200
Toluene		23,000	120,000	130,000	8,400
Xylenes	22,000	16,000	130,000	260,000	9,100
Ethylene glycol monophenyl ether	1,700				
Butylbenzoate	1,700				
Methylethylbenzoate	1,200				
n-Propylbenzamide	1,800				
n-Butylphthalate	19,000		2,500		2,400
Phenanthrene		2,500			
Dimethylphenanthrene	3,700	12,000			
Methylphenanthrene	3,000	17,000			
Trimethylphenanthrene	1,800	3,700			

Odors were described by the visiting inspectors as “prominent” and comments about odors were noted on the sampling forms submitted to the laboratory. The chemicals identified were consistent with wastes produced during plastics manufacturing.

In April 1982, USEPA staff visited the site and an emergency removal plan was developed. This included field testing and sorting of the various wastes, packing of the leaking drums into containers, removal of visibly contaminated soil, solidifying some solid and liquid wastes, and transporting stabilized and packed wastes to appropriate disposal sites.

The clean up began on September 27, 1982 and the grossly contaminated soils, solid wastes, and drums were sorted into four groups: flammable solids, flammable liquids, solids and oils. After the initial sorting, representative samples from each of the four groups were analyzed for pH, flash point, cyanides, sulfides, arsenic, barium, cadmium, chromium, lead, mercury, silver, selenium, xylenes, toluene, and polychlorinated biphenyls (PCBs). This information was likely used to aid in the decisions made for disposal.

After the receipt of the laboratory results, preparations for disposal began. Eventually, 117 drums of solid, nonflammable wastes were transported off the site. In addition, approximately 155 cubic yards of wastes were solidified for transport and eventual disposal. The clean up plan was finalized, approved and funded with state and federal efforts, and the project was considered completed by October 18, 1982.

Illinois EPA assigned a “None” priority to the site on October 30, 1987. Today, the site remains a scrap yard with various coal spoil piles scattered nearby. The road to the site remains gated and locked. IDPH staff visited the site on March 14, 2008. No nearby private wells are known to exist near the site.

The chemicals in the drums prior to clean up included phenanthrenes, toluene, xylenes, and other organic chemicals. Coal mining wastes contain heavy metals and still remain at the site today. However, these hazards were not specifically considered in past investigations and subsequent cleanup. No data for heavy metal sampling have been identified. Also, there is no information available that includes the current levels, if any, remaining contamination.

The persons most likely to be potentially exposed are persons who may have contacted site-related chemicals in the past, including the workers who dumped the drums, any trespassers and visiting and playing at the site, individuals playing downstream from the site before the clean up efforts, and the workers who conducted the clean up. No evidence or documentation can verify that these exposures occurred. Therefore it is possible that a completed exposure pathway never existed at this site.

The initial complaint and subsequent investigation of the chemical and physical hazards at this site found cause for concern. Since the clean up efforts were completed, there have been no complaints or citizen inquiries regarding this site received by IDPH or Illinois EPA.

IDPH concludes that the site does not currently pose a public health hazard. Coal mine spoils still remain on the site, which potentially could expose individuals to heavy metals. However, the road to the site remains gated and locked and there is no evidence of trespassing. Drums were likely deposited at the site sometime from 1976 to 1978. Shortly after discovery, a cleanup was initiated and completed. All the drums, along with some contaminated soil and mine wastes, were removed, eliminating the threat to persons in the area by the end of 1982. Workers removing the waste were trained individuals who minimized exposures to themselves and the neighborhood.

If any future data or reports are generated regarding this site, IDPH will provide a health-based interpretation. Please contact me at 217-782-5830 if you have any questions.

Sincerely,

Ken Runkle  
Environmental Toxicologist