

# Health Consultation

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BYRON SALVAGE YARD  
(a/k/a BYRON JOHNSON)

BYRON, OGLE COUNTY, ILLINOIS

EPA FACILITY ID: ILD010236230

FEBRUARY 23, 2005

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

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BYRON, OGLE COUNTY, ILLINOIS

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Prepared by:

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

## **Purpose**

In 2004, the Agency for Toxic Substances and Disease Registry (ATSDR) requested that the Illinois Department of Public Health (IDPH) evaluate the recent efforts of the U.S. Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency (Illinois EPA) at the Byron Johnson Salvage Yard Superfund site. In response to this request, IDPH evaluated the information available to determine if the site currently poses a public health hazard.

## **Background and Statement of Issues**

### **Site Location and Description**

The Byron Johnson Salvage Yard site is in Ogle County, about 3 miles southwest of Byron in north-central Illinois (Attachment 1). The Rock River is about 1.5 miles west of the site. USEPA and Illinois EPA have divided the Byron Salvage Yard Superfund site into two areas: the Byron Johnson Salvage Yard and the former Dirk's Farm property.

The Salvage Yard comprises 20 acres divided into a 2.5-acre tract, a 7.5-acre tract, and a 10-acre tract. Razorville Road is on the western perimeter of the Salvage Yard. In the 1960s and early 1970s, the Salvage Yard accepted waste that included cyanide, plating wastes, oils, and several organic solvents. The result of such disposal produced soil, sediment, and groundwater contamination by volatile organic compounds (VOCs), cyanide, and heavy metals.

Dirk's Farm is west of the Salvage Yard across Razorville Road. Dirk's Farm also was used as a storage and salvage area during the 1960s and 1970s. Acorn Road borders Dirk's Farm on the north. Commonwealth Edison Company (CECo) owns the property, which comprises 160 acres of woods and farmland.

Approximately 5000 people live in Byron, Illinois. About 200 people live within a 1-mile radius of the site, including the Rock River Terrace subdivision approximately 1 mile northwest of the site and the Equestrian Estates subdivision approximately 1 mile southwest of the site. Except for the Byron Nuclear Power Plant, the land surrounding the site is agricultural, residential, or wooded (Attachment 2). The "west waterway" and the "south waterway" are small ravines that drain the Salvage Yard into the south branch of Woodland Creek. Meyers Spring Pond is approximately 0.5 miles northwest of the site. Dirk's Farm is drained by narrow paths from east to west on the southern part of the property and south to north on the extreme northeastern edge of the property.

### **Site History**

Investigation and remediation efforts at the site have been extensive since the early 1970s. In the mid-1970s, CECo removed approximately 1500 barrels of waste and 3750 cubic yards of contaminated soil from the Dirk's Farm property. The Byron Johnson Salvage Yard site was placed on the National Priorities List (i.e., Superfund) in 1982. Groundwater contamination was found in 1984, and homes with affected private wells were provided with bottled water. Whole-

house water-treatment units were installed in 1986, and Illinois EPA completed a municipal water line in 1989. An extension of the water line was completed in 1993. Meanwhile, USEPA moved forward with soil and source remediation. Illinois EPA continues to monitor groundwater contamination in the area (ATSDR, 1999).

In 1999, IDPH wrote a public health assessment for the site, which ATSDR released. IDPH concluded that a public health hazard existed for anyone drinking contaminated groundwater. Although most residents near the site were connected to public water, some still used well water for purposes other than drinking. They were advised not to drink water from their wells.

IDPH also concluded that on-site remediation activities of soil and waste removal and the fencing of the Salvage Yard had reduced the potential for human exposure to contamination. IDPH recommended that the Salvage Yard property not be redeveloped because people then could be exposed to any remaining on-site soil and sediment contamination. Illinois EPA would monitor groundwater contamination in the area, and the Ogle County Health Department would restrict installation of new wells in areas of groundwater contamination (ATSDR, 1999).

In 2002, USEPA completed the removal of remaining contaminated soil at the Dirk's Farm property. In 2002, Illinois EPA sampled monitoring wells and remaining residential wells in nearby Equestrian Estates for VOCs. Levels of contamination have decreased since the removal of the source area at Dirk's Farm. Because the levels are declining, no additional efforts are necessary to prevent exposure to contaminated groundwater. Area monitoring wells and private wells in Equestrian Estates will be tested annually (USEPA, 2003).

In 2003, the city of Byron completed the installation of a new municipal well and associated water lines that supply public water to residences in Rock River Terrace. Also in 2003, USEPA completed a preliminary close-out report that concluded that all construction activities for the site are complete (USEPA, 2003B).

## **Site Visit**

IDPH staff most recently visited the site on April 29, 2004. The Salvage Yard property remains fenced, and the locked gate is accessible to the owner of the property. The Dirk's Farm property was covered with grass and clover. The nearest home is just south of the Salvage Yard property and belongs to the owner of the Salvage Yard. Homes along Acorn Road have public water, as do the homes in Rock River Terrace. The homes in Equestrian Estates have been built in the past few years and have private wells.

## **Discussion**

### **Chemicals of Interest**

IDPH compared the results of each environmental sample with the appropriate comparison values used to select chemicals for further evaluation for carcinogenic and noncarcinogenic

health effects. Chemicals found at levels greater than comparison values or those for which no comparison values exist were selected for further evaluation (Attachment 3).

Although chromium, copper, lead, zinc, mercury, nickel, cyanide, and VOCs (including toluene, xylenes, chloroform, trichloroethylene, and tetrachloroethylene) have been associated with the site, the most recent groundwater sampling did not find any chemicals at levels exceeding comparison values (USEPA, 2003). Only two VOCs—chloroform and toluene—were detected in the 2004 sampling of private wells and nearby monitoring wells, and both were less than comparison values (Tony Rutter, USEPA, personal communication, 2004). Chloroform was detected at 1.3 micrograms of chemical per liter of water ( $\mu\text{g/L}$ ), compared to a drinking water standard of 80  $\mu\text{g/L}$ . Toluene was detected at 3.7  $\mu\text{g/L}$ , compared to a drinking water standard of 1000  $\mu\text{g/L}$ . Therefore, no chemicals of interest exist.

### **Exposure Evaluation**

A chemical can cause an adverse effect only if people contact it at a sufficient level for a sufficient time. That requires a source of exposure, an environmental transport medium, a point of exposure, a route of exposure, and an exposed population. An exposure pathway is complete if all of the components are present, and people were exposed in the past, are currently exposed, or will be exposed in the future. If parts of a pathway are absent or if data are insufficient to decide whether the pathway is complete or whether exposure could occur at some time (past, present, future), then a potential exposure pathway exists. If part of an exposure pathway is not present and will never exist, the pathway is incomplete and can be eliminated from further consideration.

In the past, area residents with private wells were exposed to elevated levels of site-related contaminants in their well water. Since that time, public water has been sufficient to prevent people from being exposed to contaminated well water. The homes that still use private wells in Equestrian Estates do not have chemicals in their water at levels that exceed comparison values. The source remediation at the site should reduce the potential for the levels of site-related chemicals to reach these wells. Private wells and monitoring wells will be sampled annually to ensure the levels do not increase.

### **Community Health Concerns**

The community has shown little interest in the site since the initial installation of public water in the early 1990s. Developers building new homes east of the site expressed apprehension about groundwater becoming contaminated in the area. In September 2003, this concern was eliminated when the new city water line and well projects were finished and public water became available for that area.

### **Child Health Considerations**

IDPH recognizes that children are especially sensitive to some contaminants. Children are not being exposed to chemicals associated with the Byron Salvage Yard site.

## **Conclusions**

Because of the installation of a new municipal well and water line and the fact that the levels of chemicals detected in remaining private wells are less than health-based comparison values, IDPH concludes that exposure to contaminated groundwater poses no apparent public health hazard for residents near the Byron Johnson Salvage Yard site. According to USEPA, all construction is complete at the site.

## **Recommendations**

IDPH recommends that

- USEPA and Illinois EPA continue to conduct annual sampling and monitoring of residential wells in Equestrian Estates and area monitoring wells to ensure the quality of drinking water in the area. This is part of the remedial plan for the site.
- the Salvage Yard property not be redeveloped, because people could be exposed to any remaining on-site contamination. This is part of the remedial plan for the site.

## **Public Health Actions**

The Ogle County Health Department is aware of the location of the groundwater contamination and will decide on a case-by-case basis about permitting any wells in these areas.

## **Preparer of Report**

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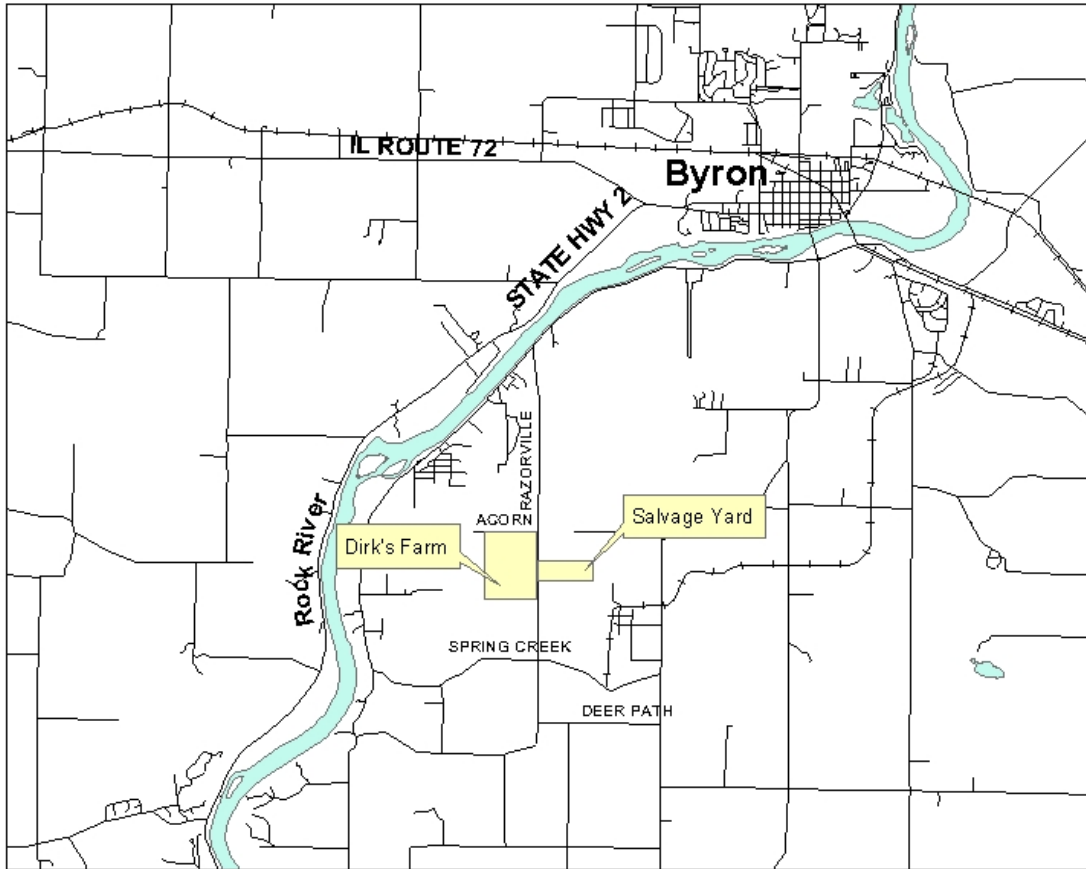
## **References**

Agency for Toxic Substances and Disease Registry. Public health assessment for Byron Salvage Yard. Atlanta: U.S. Department of Health & Human Services, 1999.

U.S. Environmental Protection Agency. Five-year review report for Byron Salvage Yard Superfund Site. Springfield, Illinois: U.S. Environmental Protection Agency, 2003.

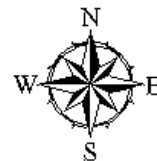
U.S. Environmental Protection Agency. Preliminary Closeout Report Byron Salvage Yard Site. Springfield, Illinois: U.S. Environmental Protection Agency, 2003.

## Approximate Location of Byron Salvage Yard



### Legend

- Surface Water
- Roads
- Rails

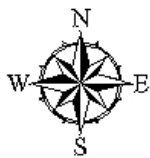
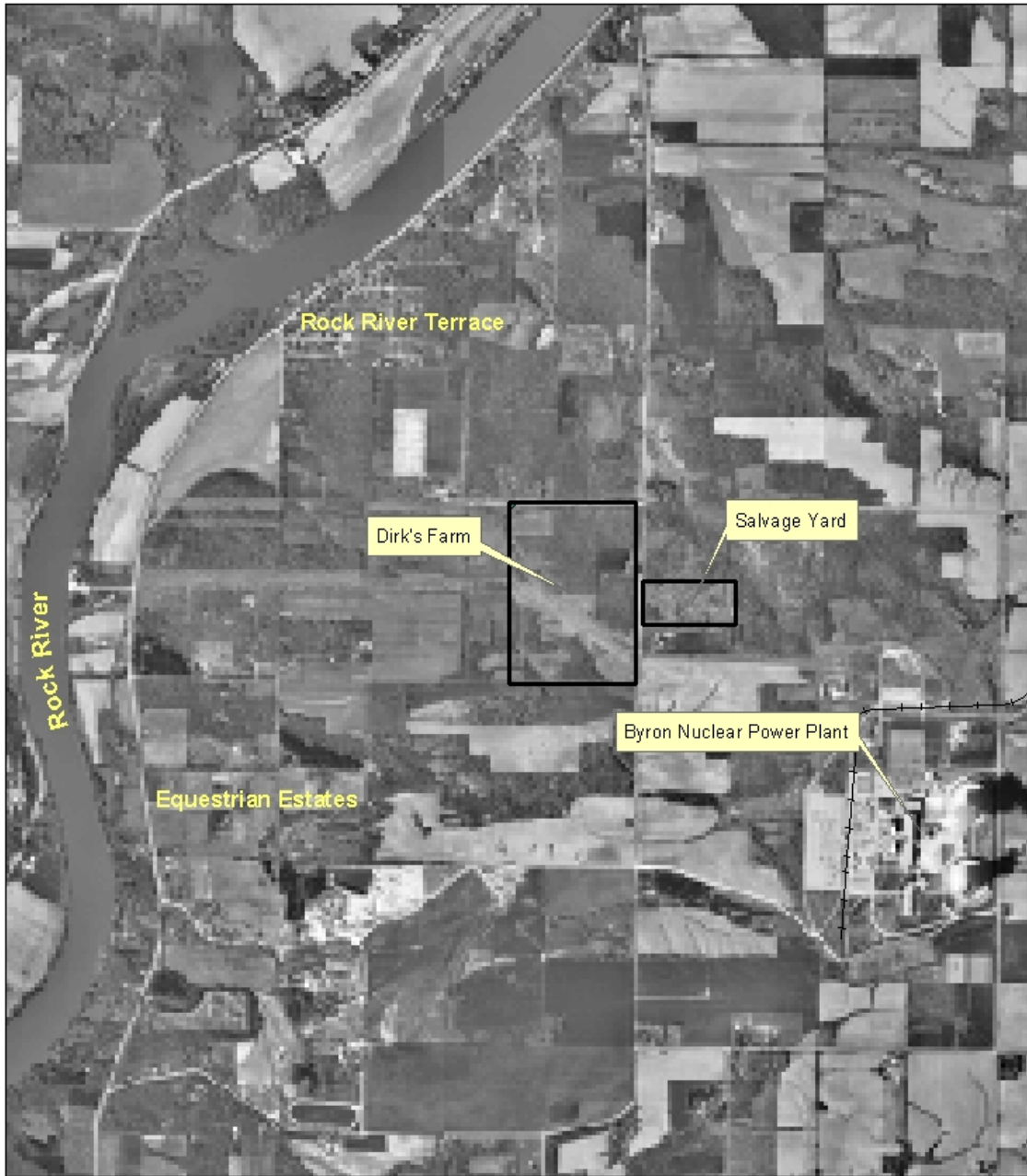


Source: Illinois Department of Public Health GIS



# Aerial Photograph of Byron Salvage Yard and Surrounding Area

Attachment 2



Source: Illinois Department of Public Health GIS

### **Comparison Values Used In Screening Contaminants For Further Evaluation**

Environmental media evaluation guides (EMEGs) are developed for chemicals on the basis of their toxicity, frequency of occurrence at National Priorities List (NPL) sites, and potential for human exposure. They are derived to protect the most sensitive populations and are not action levels, but rather comparison values. They do not consider carcinogenic effects, chemical interactions, multiple route exposure, or other media-specific routes of exposure, and are very conservative concentration values designed to protect sensitive members of the population.

Reference dose media evaluation guides (RMEGs) are another type of comparison value derived to protect the most sensitive populations. They do not consider carcinogenic effects, chemical interactions, multiple route exposure, or other media-specific routes of exposure, and are very conservative concentration values designed to protect sensitive members of the population.

Cancer risk evaluation guides (CREGs) are estimated contaminant concentrations that are based on a probability of 1 excess cancer in 1 million persons exposed to a chemical over a lifetime. These are also very conservative values designed to protect sensitive members of the population.

Maximum contaminant levels (MCLs) have been established by USEPA for public water supplies to reduce the chances of adverse health effects from contaminated drinking water. These standards are well below levels for which health effects have been observed and take into account the financial feasibility of achieving specific contaminant levels. These are enforceable limits that public water supplies must meet.

Lifetime health advisories for drinking water (LTHAs) have been established by USEPA for drinking water and are the concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure. These are conservative values that incorporate a margin of safety.