

**KS GLEITLAGER USA, INC. SITE
Indiana Voluntary Cleanup Program
Greensburg, Indiana**

In 2004, Ron St. John was hired by KS Gleitlager USA (f/k/a KS Bearings) to take over the role as project manager and lead investigator for their site in Greensburg, Indiana that is enrolled in the Indiana Voluntary Remediation Program. The previous consultant working on the site had struggled to determine source areas of TCE contamination at the site, and was in the process of implementing remedial measures. Mr. St. John led investigative work that identified approximately seven separate source areas of TCE and PCE impacts to soil and groundwater. Additionally, a large area of surficial lead impacted soil was identified, and surficial hexavalent chromium impacts to a drainageway were identified. The groundwater impacts by TCE and PCE were delineated across the site, and adjacent properties. All work at the site was performed pursuant to an Agreed Order with the Indiana Department of Environmental Management (IDEM).

In February 2008, IDEM approved the RWP for the site. Highlights of the remediation work performed at the site since that time include:

- Adjusted cleanup goals in soil for the chlorinated volatile organic compounds (CVOCs) PCE, TCE, DCE and VC were negotiated. The cleanup goals are as follows: PCE = 23.8 mg/kg; TCE = 13 mg/kg; DCE = 215.2; and VC = 1.0 mg/kg.
- Four of the source areas of TCE impacts that extended to bedrock (or close to it) were remediated using Electrical Resistive Heating (ERH). In total approximately 26,000 yds³ of soil (in-place) were successfully remediated using ERH under a fixed price contract.
- Four surficial TCE impacted source areas were excavated for off-site disposal.
- A large area of surficial soils impacted with lead, and a separate large area of surficial soils impacted with hexavalent chromium along a drainageway at the site and were excavated for off-site disposal in a landfill.
- CVOC and hexavalent chromium groundwater impacts in the glacial drift and dolomitic bedrock were remediated biologically through several rounds of injection of emulsified edible oil. Approximately 100 injection wells were used to address the six groundwater plumes occurring in the glacial sediments and fractured dolomitic bedrock.

The remediations related to the source areas at the site have been completed and approved by IDEM. To date, plume stability demonstrations have been completed for five of the six groundwater plumes. Continued groundwater monitoring to demonstrate the effectiveness of the groundwater biological remediation and show plume stability is the final on-going work at the site.