OHIO ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF DRINKING AND GROUND WATERS

UNDERGROUND INJECTION CONTROL

FACT SHEET (03/2/09)

Facility Name:	AK Steel Corporation
Facility Location:	1801 Crawford Street Middletown, Ohio 45042
Ohio UIC Permit Numbers:	UIC- 05-09-001-PTO-I (Well #1) UIC-05-09-002-PTO-I (Well #2)

AK Steel Corporation, located at 1801 Crawford Street, Middletown, Ohio, operates two Class I hazardous underground injection wells. According to the AK Steel website: "AK Steel produces flat-rolled carbon, stainless and electrical steel products for automotive, appliance, construction and manufacturing markets, as well as tubular steel products."

These wells, which began operation in 1969, are used to dispose of a waste fluid commonly referred to as spent pickle liquor (SPL) which consists of hydrochloric acid, iron salts, and water. The waste stream is considered hazardous due to its corrosivity (pH < 2) and toxicity (lead and chromium) characteristics. SPL is generated at AK Steel when hydrochloric acid is used to remove iron scale from the surfaces of steel produced onsite. Statistics from the last five years indicate that AK Steel injects an average of 9.5 million gallons of waste per year, 50% less than previous years. As of December 31, 2008, cumulative injection totaled approximately 567 million gallons.

The injection zone of the wells' is separated from the lowermost underground source of drinking water by approximately 1900 feet of shales, limestones, dolomites and sandstones. The waste stream is injected into the lower Eau Claire Formation, the Mount Simon Sandstone, and the Middle Run Formation at depths in excess of 2900 feet below ground level.

The permits to operate issued to AK Steel specify maximum injection pressure limitations, require mechanical integrity testing and include many other operational and testing requirements. Ohio EPA issued the original permits to operate (PTO) for both of AK Steel's injection wells on October 7, 1986. In August 1990, U.S. EPA approved information and mathematical modeling provided in the facility's Land Ban Petition to demonstrate, with a reasonable degree of certainty, that the injected waste will not migrate vertically out of the injection zone and not more than two miles laterally from the wells in a period of 10,000 years. The permits were later modified to reflect updated State requirements and U.S. EPA's approval of the Land Ban Petition. Renewal permits were issued on October 10, 2007 and are set to expire on October 12, 2012. Shortly after issuance, AK Steel filed an

appeal contesting certain language within the permits. The appeal is ongoing, however, the permits issued on October 10, 2007 remain in full effect until the appeal is settled.

Table 1

WELL No.	DRILLED*	BEGAN OPERATION	MAXIMUM INJECTION PRESSURES	ANNULUS PRESSURE**	TOTAL DEPTH***
1	3/3/67	June 1969	633psi	50psi > IP	3296'
2	4/24/68	May 1969	634psi	50psi > IP	3285'

* Well construction completed.

** Annulus pressure must be at least fifty (50) psi greater than injection pressure (IP).

***Total depth measured from ground level.