

## **Situation Assessment – May 2007**

### **Armco-Hamilton Superfund Site, New Miami, Ohio**

#### **Introduction**

EPA's primary responsibility at Superfund sites is to ensure the protection of human health and the environment. EPA's cleanup programs have also set a national goal of returning formerly contaminated sites to long-term, sustainable, and productive use. By engaging local stakeholders in a collaborative decision-making process about a site's future use, EPA can help ensure the long-term effectiveness and permanence of site remedies. The Superfund Redevelopment Initiative (SRI) was created by EPA in 1999 to help communities and stakeholders in their efforts to return environmentally impaired sites to beneficial use. SRI provides a range of tools and information resources for both EPA staff and stakeholders interested in site reuse.

#### **Situation Assessment**

With funding from SRI and EPA Region 5, environmental consulting company E<sup>2</sup> Inc. conducted a situation assessment in the Village of New Miami and St. Clair Township, Ohio in March 2007 to gather information to inform EPA's efforts to help ensure the long-term effectiveness and permanence of future remedies selected at the Armco Incorporated Hamilton Plant Superfund site (Armco-Hamilton site).

The situation assessment was conducted following the information collection guidelines outlined in EPA's 2001 Reuse Assessment Guidance (OSWER 9355.7-06P).<sup>1</sup> Information gathered and reviewed included local stakeholders, site features and environmental considerations, site ownership, land use considerations and environmental regulations, community input, public initiatives, and likely future uses.

Activities conducted during the situation assessment:

- Conference calls with EPA site staff, local government representatives, community residents, and representatives from local organizations;
- Information gathering and review of community planning materials and EPA site reports; and
- March 2007 site and community visit that included meetings with representatives from EPA Region 5, Ohio EPA (OEPA), property owner and potentially responsible party (PRP) AK Steel, community residents, elected officials from New Miami and St. Clair Township, as well as other community and local government stakeholders.

This summary memo provides an overview of the key findings identified during the project's situation assessment as well as a set of potential next steps for incorporating reuse and long-term stewardship considerations into the remedial planning process at the Armco-Hamilton site.

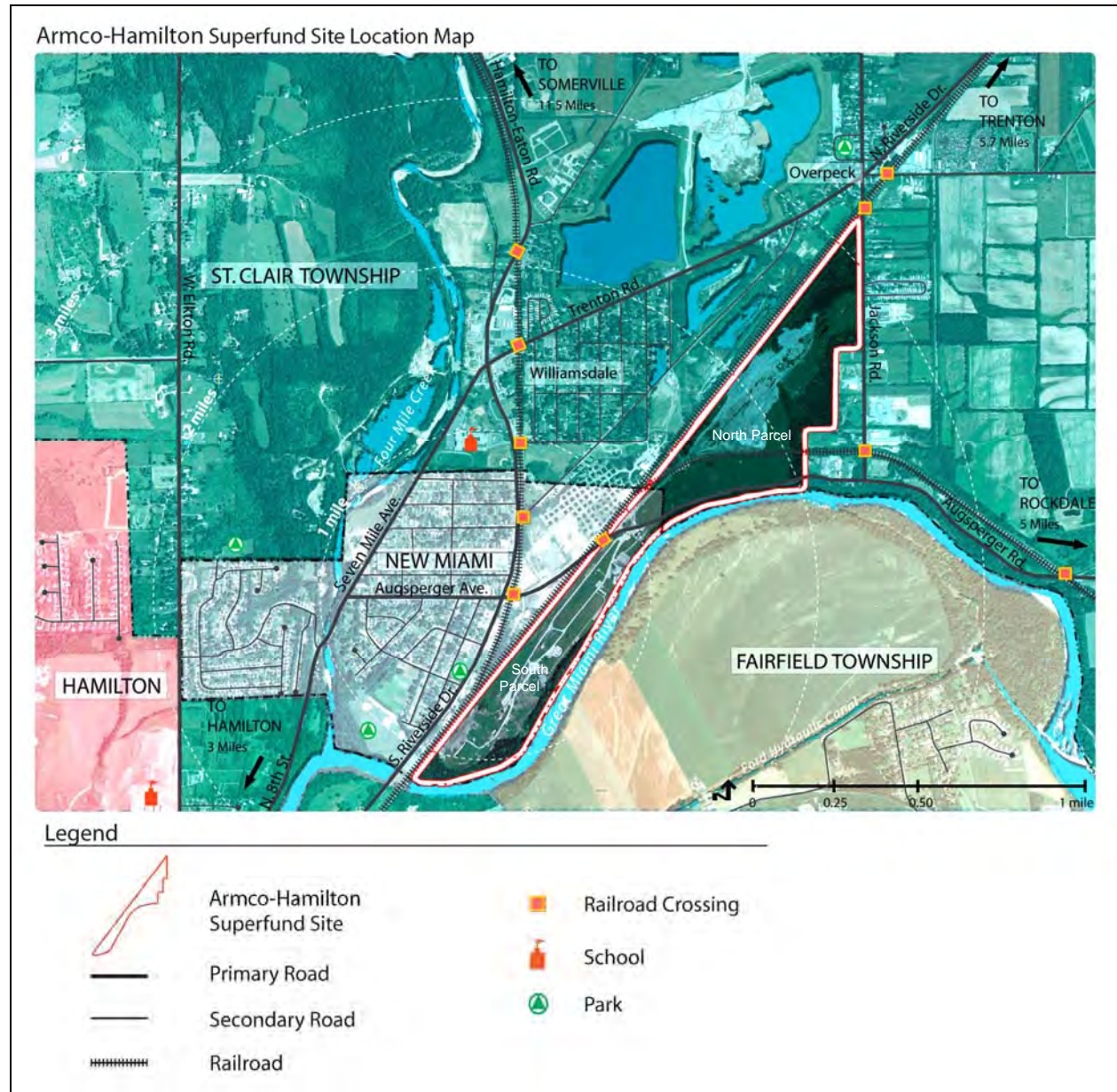
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<sup>1</sup> Reuse Assessments: A Tool to Implement the Superfund Land Use Directive (OSWER 9355.7-06P, 2001): [www.epa.gov/oerrpage/superfund/programs/recycle/pdf/reusefinal.pdf](http://www.epa.gov/oerrpage/superfund/programs/recycle/pdf/reusefinal.pdf)

## I. Findings

### A. *Site Overview*

- **Site Location:** The Armco-Hamilton site is located in the Village of New Miami and St. Clair Township in southwestern Ohio. New Miami is located approximately 20 miles north of Cincinnati.
- **Site Size and Surroundings:** The site occupies approximately 250 acres east of New Miami Village along the Great Miami River. Surrounding land uses at the site include an aggregate processing plant, an active CSX rail yard, warehousing and a municipal maintenance yard, recycling facilities, a municipal park, agricultural land, and residential areas.
- **Site History:** Iron and coke production operations began at the site around the turn of the century. Hamilton Coke and Iron Company operated a coke plant from 1855-1937, when operations were sold to American Rolling Mills Company (Armco). AK Steel, a subsidiary of Armco, is the current site owner and PRP. AK Steel closed operations at the site in 1994 and subsequently demolished manufacturing facilities and conducted a series of remedial activities without EPA oversight. EPA is currently working with AK Steel to develop a remedial investigation and cleanup plan for the site.
- **Current Site Status:** The Armco-Hamilton site is designated as a Superfund Alternative site. Proposed for inclusion on EPA's National Priorities List (NPL) in 2003, the site has not yet been listed. With oversight from EPA Region 5, PRP AK Steel has been conducting voluntary site investigations, developing draft ecological and human risk assessments, and finalizing a Remedial Investigation Report for the site. A draft Remedial Investigation Report (RI), developed in July 2006, is currently undergoing revisions. A final RI is expected to be completed in 2007. A Feasibility Study (FS) will likely be available by early 2008.
- **Key Considerations:** Representatives from EPA and AK Steel indicated that the **Risk Assessment (RA)** for human exposure scenarios at the site is currently on hold. Initial plans for the site's human health RA called for considering a broad range of reasonably anticipated future land uses, including residential, industrial, commercial, recreational, and ecological uses. Local and regional land use analyses could help to better characterize reasonably anticipated future land uses for the site. Accurate and up to date future land use considerations could help to inform and target future risk assessments at the site.



B. *Site Characteristics*

- The site includes two parcels separated by Augsperger Road, which are referred to as the north and south parcels. The north parcel includes an approximately 100 acres located north of Augsperger Road; the south parcel includes approximately 150-acres located south and east of Augsperger Road adjacent to the Great Miami River. The Armco-Hamilton plant's primary manufacturing operations were located on this parcel.
- *South Parcel:* Former manufacturing activities carried out on the south parcel included coke production, iron production, and materials processing.

Coke Production Area – At a 50-acre Coke Production Area, 120 coke ovens were marshaled at the site in order to convert coal to coke. Once distilled from coal, coke was used as the primary fuel in blast furnaces at the site. At the peak of site operations, roughly 1,730 tons of coke were produced at the site per day. Waste products from the site's coking operation contained significant amounts of ammonium sulfate, coal tar, and light hydrocarbon compounds that were either sold or deposited in a landfill on the northern portion of the site. When coking operations ceased at the site in 1982, the production building was demolished, buried on site, and capped with local fill dirt.

Blast Furnace Area - The Blast Furnace Area occupied ten acres at the southern tip of the site and consisted of two furnaces used in the production of molten iron. Blast furnace by-products included slag, dust, contact wastewater, and scrubber sludge. Contaminants believed to be associated with these wastes are ammonia, cyanide, phenol, and lead and zinc dust.

Settling Ponds - Wastewater generated from the blast furnace operation was frequently discharged into two settling ponds located at the southern end of the site. Wastewater released into the settling ponds contained several pollutants, including ammonia, cyanide, phenol, and lead. Contaminated particulates were allowed to settle out of the wastewater and were then dredged from the settling ponds and shipped off-site for reclamation.

By-Products Processing - By-products from blast furnace and coking operations were staged and reprocessed in an area on the eastern portion of the south parcel. By-products handled in this area included blast furnace scrubber sludge and iron slag, as well as coal gas extracted during the coking process. Coal gas was stored in an above-ground storage tank and shipped via pipeline from the site to a steel mill in Middletown, Ohio.

- *North Parcel:* The site's north parcel was used as a materials storage and staging area, for slag processing and also as a landfill.

Rail Yard - The Rail Yard served as a storage area for by-products generated at the site. Scrubber sludge, a byproduct of the site's blast furnace operation, was frequently shipped to a nearby Armco steel mill in Middletown, Ohio for reclamation. This area is located in between the CSX rail line and Augsperger Road and is currently unfenced.

Landfill - From the 1960s through the 1980s, a landfill operated on the northern portion of the site, receiving waste products from coking operations and other industrial activities at the site. The depth of waste in the landfill is unknown; the landfill is unlined and does not have a

leachate recovery system. The landfill area is currently fenced and barely visible from Augsperger Road.

Slag Processing Area – Iron slag, a by-product from the site’s blast furnace, was reprocessed to reclaim iron for use in steel production off-site. Piles of grey iron slag and remnants of the slag processing structures remain on the far northern portion of the site’s north parcel.

- **Key Considerations: The areas of concern highlighted above will likely serve as important points of reference as remedial investigation plans for the Armco-Hamilton site are clarified. In general, the site’s former industrial manufacturing, processing, storage, and waste disposal areas are distributed across the site. Remedial plans for the site would likely be designed to address contamination within the areas highlighted above, also known as Areas of Concern (AOCs).**

**There are significant amounts of property at the site that are not specifically associated with former site activities. As remedial plans are clarified, it may be feasible to consider administrative modifications to the site boundary that would result in the separation of uncontaminated acreage from the Superfund site. This acreage could then be made available for use.**

### *C. Community Characteristics*

- The Armco-Hamilton site’s boundary spans two different jurisdictions. The north parcel lies in St. Clair Township and the south parcel in the Village of New Miami. Both St. Clair Township and New Miami are independent municipalities. New Miami is located northwest of the Armco-Hamilton site. The area surrounding the Armco-Hamilton site includes a mixture of industrial, agricultural, and residential land uses. New Miami’s consolidated elementary, junior and senior high school and a municipal well field are located within one mile of the site. St. Clair Township is located north of the Armco-Hamilton site. The portion of St. Clair Township surrounding the site includes primarily residential land uses. Fairfield Township and the City of Hamilton border New Miami to the south and east. Butler County includes all jurisdictions mentioned above. The county provides a range of planning and technical support services to townships, rural areas, and villages and coordinates future land use plans with the various municipalities.

- *Village of New Miami*

The Village of New Miami (pop. 2,469) is incorporated as a village within the State of Ohio. New Miami’s governing body is comprised of a six-member Village Council of elected officials. New Miami also has an elected Board of Public Affairs. All land use decisions and zoning regulations fall under the purview of New Miami’s Village Council. New Miami also has the authority to exact local income taxes for commercial activities in the Village. Butler County’s planning department provides technical support services to assist the Village of New Miami with zoning enforcement, permitting, land use planning, and technical ordinance development.

- *St. Clair Township*

St. Clair Township (pop. 7,336) is incorporated only within Butler County. St. Clair’s governing body includes a three-member Board of Trustees. St. Clair Township has the authority to establish its own zoning regulations but coordinates with Butler County on future land use plans and subdivision approvals. St. Clair Township’s zoning administrator coordinates with the

Board of Trustees and Butler County’s planning department on zoning and future land use planning issues.

- **Key Considerations: Three local governments – the Village of New Miami, St. Clair Township, and Butler County – have the authority and responsibility for future land use planning and zoning ordinance implementation for land areas that include the Armco-Hamilton site.**

**The Armco-Hamilton site’s remediation could potentially affect the future use of properties located in both New Miami and St. Clair Township. As EPA Region 5, OEPA, and AK Steel assess site remediation alternatives, remedial plans and potential land use restrictions for the Armco-Hamilton site will likely need to inform and coordinate with the land use planning goals and priorities of the three local government entities.**

*D. Community History*

- The Village of New Miami, once known as Otto-Coke, was incorporated in 1929. New Miami was reportedly settled by former residents of Ashland, Kentucky, an area that specialized in coke manufacturing for iron and steel production. Since the early 1900s, the village’s economy has relied on coke and iron production at the Armco plant and the nearby Otto-Coke plant.
- Coke and iron production began in New Miami in the late 1800s. The Hamilton-Coke and Iron Company built and began operating a coke production facility at the site in 1855. The American Rolling Mills Company Inc. purchased the existing coke battery and expanded site operations in the 1930’s to include a blast furnace for producing iron. The Armco plant served as the engine of New Miami’s economy until the 1980s when iron and steel production began to decline.
- In the 1990s, Armco separated its production facilities into several different corporate entities. Plants in Middletown, Ohio and in Indiana were reorganized through a partnership with Kawasaki under the name AK Steel. Throughout this reorganization, the Armco-Hamilton plant in New Miami remained under independent ownership. AK Steel eventually purchased the Armco-Hamilton plant along with seven others throughout the Midwest. In 1994, the Armco-Hamilton plant was closed and subsequently demolished.
- Since 1980, New Miami and St. Clair Township have struggled with population loss. New Miami’s population has declined approximately 17 percent in the last 20 years, while St. Clair Township’s has declined by roughly ten percent. In this same time period, Butler County’s population has grown by 28 percent. Economically, New Miami and St. Clair Township lag behind Butler County, with higher unemployment rates, lower median household and per capita income rates, and significantly lower median home values.
- Commercial services are limited in New Miami and St. Clair Township. Grocery stores, a gas station, and several roadside commercial businesses are located adjacent to New Miami in St. Clair Township. The Miller Brewing Company, located in St. Clair Township, is the largest employer in the two municipalities.
- New Miami has recently taken several critical steps toward community revitalization. In the past few years, the village upgraded its infrastructure from multiple septic systems to a public sewer

system, and municipal water lines were installed. These infrastructure upgrades brought water and sewer access to the Armco-Hamilton site. Plans are in place to extend water and sewer lines north into St. Clair Township.

- New Miami and St. Clair Township also have several initiatives underway to provide activities for young people and to rehabilitate local housing. The New Miami Resource Center Outreach for Community helps low-to-moderate income families and individuals access available public resources, including public assistance, housing rehabilitation funding, and infrastructure and utility improvements. Butler County operates a housing improvement grant program that is helping to revitalize homes in the two communities.
- **Key Considerations: St. Clair Township and New Miami are independent municipalities working toward community revitalization, and infrastructure enhancement. New Miami is a small, tight-knit community interested in revitalization opportunities. While population loss and a lack of commercial services and jobs present challenges for the community, recent infrastructure upgrades have helped to create a foundation for future community growth. St. Clair Township is experiencing limited residential and commercial growth. The municipality is currently working to improve public infrastructure, including underground utilities, and potential rail enhancements.**

*E. Stakeholder Reuse Considerations*

- AK Steel currently owns all of the site's 252 acres. Research and interviews indicate that the company has no immediate plans to sell or reuse the property.
- Three local governments would likely have an interest in the future use of the Armco-Hamilton site: the Village of New Miami, St. Clair Township, and Butler County, Ohio. The Armco-Hamilton site includes portions of New Miami and St. Clair Township.
- An EPA Technical Assistance Grant was awarded to the Friends of the Great Miami River (FOGM), a regional watershed organization with a mission to promote the Great Miami River as an ecological and recreational resource. The group is currently advocating for ongoing site security improvements, appropriate public notification about the site, and groundwater resource protection. In the long-term, the group would like to see the riparian areas protected and restored.
- Community and local government representatives have indicated an interest in a broad range of future land uses for the Armco-Hamilton site. Future land uses discussed by local stakeholders include recreational and community land uses such as soccer fields, a BMX and skateboard park, and a multi-generational community center. Industrial land uses have been envisioned for the site as well: portions of the Armco-Hamilton site were included in a 2006 feasibility analysis, prepared for Butler County Port Authority by Jordan, Jones & Goulding, for a regional rail expansion. Community representatives have indicated interest in the site's return to multiple uses that can meet multiple community needs.
- **Key Considerations: The site owner, regulatory agencies, local governments, and community organizations could benefit from working together to coordinate plans and priorities throughout the cleanup process for the Armco-Hamilton site. AK Steel, the site's current owner, does not currently have plans to reuse the site. Community**

members in New Miami and St. Clair Township would like to see portions of the site returned to use; reuse preferences range from commercial and industrial uses to a large recreational complex. While site cleanup plans remain to be determined, it is not too early for site stakeholders to work with EPA and OEPA to begin identifying a strategy for ensuring that a viable owner can remain engaged at the site over the long-term.

- At sites like the Armco-Hamilton site, where waste may be left in place, remedies typically require administrative or legal controls, known as Institutional Controls (ICs), to be placed on properties in order to limit future land uses to ensure that site remedies remain protective. Designing and implementing ICs with input from property owners, regulatory agencies, and local governments could help to outline the implications of various future land use preferences and ownership scenarios. Coordinating IC planning with reuse goals can help to ensure that remedial response actions do not create unnecessary barriers to the reuse of sites.

## II. Conclusions and Potential Next Steps

The findings presented here highlight a series of key issues that EPA Region 5, property owner AK Steel, and local government representatives from New Miami and St. Clair Township will likely need to consider in the short term.

- As EPA, OEPA, and AK Steel work together to finalize site investigations and appropriate criteria for human and ecological risk assessments, it may be important to consider the reasonably anticipated future land uses for the site.

**Potential Next Steps: An analysis of local and regional land use trends could help EPA, OEPA, and AK Steel to clarify future land uses that may be appropriate for the site. This analysis could also identify opportunities to incorporate future land use considerations into a tailored risk assessment for the site.**

- In considering reasonably anticipated future land uses for the Armco-Hamilton site, EPA Region 5, AK Steel, and local government officials could potentially benefit from analyzing the site's characteristics and identifying the site's suitability for different of future land uses. While remedial investigation plans for the site are not yet finalized, existing site information could be analyzed to identify the future land use implications of the site's existing contamination, and site features. Such analyses could potentially help to inform remedial planning decisions as well as municipal future land use planning initiatives.

**Potential Next Steps: The identification of the potential reuse scenarios for the Armco-Hamilton site could help EPA Region 5, AK Steel, local government officials, and community members to envision realistic future land use alternatives for the site.**



- EPA, OEPA, and AK Steel, as well as local government officials in New Miami, St. Clair Township, and Butler County will need to consider the site's ownership over the long-term to ensure the protectiveness of the site's remedy. AK Steel currently owns the site. However, the corporation's ownership of the property is not assured over the long-term. The development of a strategy for the Armco-Hamilton site's long-term stewardship prior to the selection of a remedy for the site could help ensure that the site's remedy remains protective of human health and the environment in the future.

**Potential Next Steps: An analysis of future site ownership issues could help to identify opportunities and challenges that could be addressed early in the remedial planning process. Additional research and stakeholder involvement assistance could include the coordination of meetings or teleconferences to discuss long-term site ownership priorities, and the potential implications of different property ownership scenarios.**

- In addition to anticipating local land use priorities, EPA, Ohio EPA, and AK Steel will likely need to begin thinking about institutional controls that could be considered as part of the site's remedy selection. Identifying potentially relevant land use controls at the local (e.g., zoning), and state (e.g., environmental covenants or easements) levels early in the remedy selection process could help to inform and even streamline the remedial decision making, ensuring the long-term effectiveness and permanence of the remedy selected for the site.

**Potential Next Steps: A preliminary analysis and evaluation of local and state land use regulations and policy tools that could be used to restrict land uses and activities at the Armco-Hamilton site in the future could be conducted. This analysis could inform a baseline understanding of the types of institutional controls that could be most effective at the site.**