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Prepared for:
AK Steel Corporation
Middletown, Ohio

Screening Level Ecological Risk Assessment For the Former Armco Hamilton Plant Site

Final

ENSR Corporation
12 March 2008
Document No.: 00076 069 550

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March 13, 2008

Pablo N. Valentin
Remedial Project Manager
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Subject: Final Screening Level Ecological Risk Assessment for the Former ARMCO Hamilton Plant Site

Dear Mr. Valentin:

ENSR Corporation is providing to you, on behalf of the AK Steel Corporation, two copies of the *Final Screening Level Ecological Risk Assessment (SLERA)* for the Former ARMCO Hamilton Plant Site, located in New Miami, Ohio. This document is being submitted as discussed during our February 14, 2008 telephone call.

This document has also been updated to reflect comments of the United States Environmental Protection Agency (USEPA) and Ohio Environmental Protection Agency (OEPA). Upon receipt of your approval of this document, AK Steel will commence preparation of the Baseline Ecological Risk Assessment (BERA) for the Great Miami River.

If you have any questions, please do not hesitate to contact Matthew Cousino at (412) 261-2910 (ext. 204).

Sincerely yours,

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Prepared for:
AK Steel
Middletown, Ohio

Screening Level Ecological Risk Assessment For the Former Armco Hamilton Plant Site Final

John A. Stiles / Christie Archer
Prepared By

Matthew A. Cousino
Reviewed By

ENSR Corporation
12 March 2008
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List of Acronyms

AHP	Armco Hamilton Plant
AOC	Area of Concern
AVS	Acid Volatile Sulfides
AWQC	Ambient Water Quality Criteria
BERA	Baseline Ecological Risk Assessment
CERCLA	Comprehensive, Environmental Response, Compensation and Liability Act
COG	Coke Oven Gas
COPC	Chemicals of Potential Concern
CSM	Conceptual Site Model
DNR	Department of Natural Resources
EPC	Exposure Point Concentration
EqP	Equilibrium Partitioning
ERA	Ecological Risk Assessment
ER-L	Effects Range-Low
ESL	Ecological Screening Level
FOD	Frequency of Detection
GMR	Great Miami River
HCP	Hamilton Coke Plant
HQ	Hazard Quotient
LEL	Low Effect Level
MDL	Method Detection Limit
NOAA	National Oceanic and Atmospheric Administration
OMOE	Ontario Ministry of the Environment
ORNL	Oak Ridge National Laboratory
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PFS	Problem Formulation Statement
RI/FS	Remedial Investigation/Feasibility Study
SEM	Simultaneously Extracted Metals
SLCOPC	Screening Level Chemical of Potential Concern
SLERA	Screening Level Ecological Risk Assessment
SMDP	Scientific /Management Decision Points
SQL	Sample Quantitation Limit
SRV	Sediment Reference Value

SVOC	Semi-Volatile Organic Compound
TCDD	Tetrachlorodibenzodioxin
TCDF	Tetrachlorodibenzofuran
TEF	Toxic Equivalency Factor
TEQ	Toxic Equivalent
TOC	Total Organic Carbon
tPAH	Total Polycyclic Aromatic Hydrocarbons
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOC	Volatile Organic Compound
WHO	World Health Organization

1.0 Introduction

On April 29, 2002, the United States Environmental Protection Agency (U.S. EPA) and AK Steel Corporation (AK Steel) entered into an Administrative Order on Consent (Order; EPA Docket No. V-W-'02-C-692) pursuant to the Comprehensive, Environmental Response, Compensation and Liability Act of 1980 (CERCLA) for a Remedial Investigation/Feasibility Study (RI/FS) at the former Armco Hamilton Plant (AHP) facility (the Site) in New Miami, Ohio. Figure 1-1 presents the Site locus.

An ecological risk assessment (ERA) is being conducted as part of the AHP RI. The ERA will provide an evaluation of the potential risks to ecological receptors posed by chemicals of potential concern (COPCs) in environmental media at the Site. The ERA process at the AHP Site is being conducted in several tiers or phases of work in accordance with the RI/FS Support Sampling Plan Work Plan (ENSR, 2005) and in accordance with U.S. EPA Region 5 risk assessment guidance (www.epa.gov/region5/superfund/ecology).

This document presents the Final Screening Level ERA (SLERA) for the Great Miami River (GMR) and the upland portion of the Site (which includes all areas of concern (AOCs) and former production areas (i.e., Block areas) except AOC 22) and is based on data collected during the 2005 to 2006 Phase 1 RI field program. A draft SLERA will be prepared for AOC 22 (the riparian area located between the upland fence and the GMR) following completion of the riparian area investigation activities included in the Revised Supplemental Investigation Work Plan (ENSR, 2008).

The Draft SLERA was submitted to the U.S. EPA in July 2006 (ENSR, 2006a). This Final SLERA report was prepared in response to comments from U.S. EPA, which were provided to AK Steel in November 2006. This Final SLERA also reflects numerous communications between AK Steel, U.S. EPA, and Ohio EPA (OEPA) regarding the agency comments, AK Steel response to comments, and the revisions of the SLERA. A summary of the key activities and communications between AK Steel and the agencies regarding the Draft SLERA is provided in Appendix A-1. Several meetings and telephone conferences were held between U.S. EPA, OEPA, AK Steel, and AK Steel's contractor (ENSR Corporation [ENSR]) following AK Steel's submittal of interim comment responses on December 21, 2006. On June 1, 2007 a Site inspection attended by representatives of OEPA, AK Steel and ENSR was conducted in order to introduce the OEPA ecological risk assessor to the Site, and for members of the project team to help determine the pathway(s) forward for completion of ERA activities at the Site. Discussions during and subsequent to the site visit resulted in the following conceptual agreement between AK Steel and the agencies on how to finalize the Draft SLERA (ENSR, 2006a) and the Draft RI Report (ENSR, 2006b):

1. The results of the SLERA indicate that additional Baseline ERA (BERA) activities are required under the RI program to better understand whether or not a potential for ecological risk exists in the Great Miami River adjacent to the Site;

2. The results of the SLERA indicate that additional investigation of the riparian floodplain located between the Site and the adjacent river is warranted based on the observation of tar-like material in portions of the floodplain adjacent to the Site; and

3. The results of the SLERA indicate that no additional ecological risk evaluation of the terrestrial AOCs, Block areas or AOC 7 is warranted, and that a finding of no significant risk can be reached for these portions of the Site.

In order to further evaluate ecological conditions within the Great Miami River and it floodplain, the following investigations are currently underway:

- A work plan for a supplemental Great Miami River field effort was provided to the U.S. EPA and OEPA in August 2007 (ENSR, 2007a). Substantial field work on the river commenced in the fall of 2007. This field effort included sediment sampling, as well as biological surveys of the benthic invertebrate and fin fish communities (conducted in accordance with OEPA biocriteria guidance; OEPA, 1987a; 1987b; 1989a; 1989b). The results of the 2007 biological sampling efforts will be presented in a future BERA deliverable. A separate investigation regarding the nature and extent, fate and transport properties, and potential risks associated with exposure to the tar-like material in the riparian area (AOC 22) is currently underway. This investigation is further described in the Revised Supplemental Investigation Work Plan, which was provided to U.S. EPA and OEPA in January 2008(ENSR, 2008).

The Final SLERA presented in this document presents a screening of sediment, surface water, and surface soil data collected during the 2005 to 2006 field effort. It also presents the SLERA problem formulation, which includes an evaluation of potential exposure pathways, a conceptual site model, and the SLERA measurement and assessment endpoints. As depicted in Figure 1-2, this SLERA deliverable is designed to serve as Steps 1 and 2 of the U.S. EPA eight-step process for ecological risk assessments at Superfund sites (U.S. EPA, 1997). In addition, this SLERA serves to present the framework for Step 3 (Problem Formulation Statement [PFS]) of the ERA process. The PFS serves to refine the screening-level risk evaluation, and sets the stage for the followup risk assessment actions in the Great Miami River and its floodplain. As described herein, a more detailed BERA will be required to further evaluate the potential for ecological risk in certain exposure areas (i.e., the Great Miami River). The Great Miami River BERA will provide estimates of potential ecological risks through a weight-of-evidence approach and will be used to help support risk management decision-making, and if necessary, to develop site-specific ecological-based remedial goals. Based on the findings of the riparian area (AOC 22) SLERA, an addendum to the BERA may be necessary.

Each successive tier of ERA requires more detailed and quantitative data analysis and interpretation. The tiered approach used to evaluate the potential for ecological risks at the AK Steel site has been designed to focus the work efforts at the Site, to permit technical flexibility, to ensure that the needs of the ERA are incorporated into the analytical sampling program, to comply with available regulatory guidance, and to ensure that the ERA provides the required information to help make informed risk-based management decisions.

The ERA at the AHP Site is being conducted in accordance with relevant state and federal guidance, including the following:

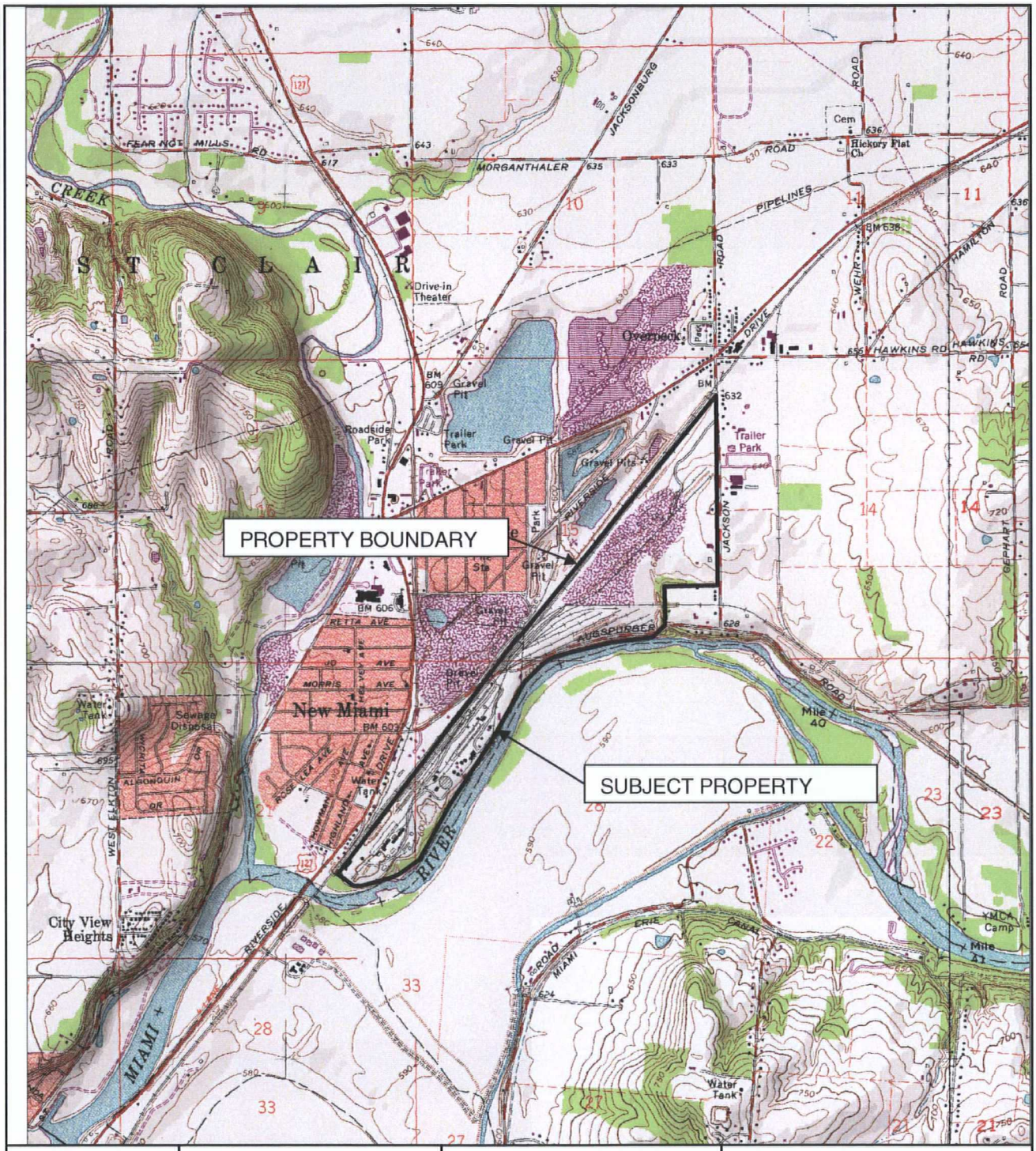
- Framework for Ecological Risk Assessment (U.S. EPA, 1992);
- U.S. EPA Region 5 ecological risk assessment guidance website (http://www.epa.gov/region5/superfund/ecology/index.html);
- Intermittent "ECO Update" Bulletins of U.S. EPA;
- Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (Interim Final) (U.S. EPA, 1997); and
- Guidelines for Ecological Risk Assessment (U.S. EPA, 1998).

The most recent U.S. EPA Superfund process guidance (U.S. EPA, 1997) presents an eight-step process for assessments specific to Superfund sites (Figure 1-2). The elements of the eight-step Superfund process, as well as the accompanying scientific/management decision points (SMDPs) are the basis for the U.S. EPA Region 5 approach to ERA. SMDPs require communication between the risk assessors and risk managers at several points during the process to evaluate, re-direct, and ultimately approve the risk assessment at a site.

The remainder of this document is organized in the following manner. Chapter 2 describes the general approach and methodologies used in the SLERA at the AHP Site. Following Chapter 2, which presents site-wide information and SLERA methodologies, individual Chapters 3 through 10 present the findings of the SLERA at the ecological exposure areas depicted in Figure 1-3:

- Chapter 3: Block A (former slag processing area);
- Chapter 4: AOC 2 (closed landfill);
- Chapter 5: AOC 21 (wooded area) and AOC 18 (on-site coke oven gas (COG) pipeline);
- Chapter 6: AOC 7 (intermittent stream);
- Chapter 7: AOC 1 (sludge lay down area);
- Chapter 8: AOC 19 (off-site COG pipeline);
- Chapter 9: Great Miami River; and
- Chapter 10: Southern Parcel (including the following former production areas: Block B -Sinter Pant Production area, Block C - Blast Furnace Production area, Block D – Railroad Repair area, Block E – Quenching Station, Block F – Met Screening area, Block G – Coal Handling and Coke Battery Production area; and areas of concern: AOC 8 – Former Railcar Thaw area, AOC 9 – Former Fuel Oil UST area, AOC 10 – Former Fuel Oil AST area, AOC 11 – Former Gasoline UST area, AOC 12 – Former Wastewater Settling Ponds, AOC 13 – Former By-Products Processing area, AOCs 14 and 15 – Former Transformer and Compressor areas, and AOC 20 – Remaining Southern Parcel areas).

Chapter 11 of this document presents a discussion of the SLERA uncertainties and Chapter 12 presents a summary and recommendations for future ERA activities. Appendix A presents a summary of relevant regulatory interactions related to the SLERA. This includes a summary of the key activities and communications between AK Steel and the agencies regarding the Draft SLERA in Appendix A-1 and letters regarding threatened and endangered species from Ohio DNR and USFWS in Appendix A-2. Appendix B presents the summary statistics for each medium and Appendix C presents individual data for all analytical samples considered in the SLERA. Appendix D presents Natural Resources Conservation Service soil survey information for Butler County.



Scale: 1:25,000

AK Steel Former Armco Hamilton Plant

Hamilton, Ohio Quadrangle 1988

Site Locus Map

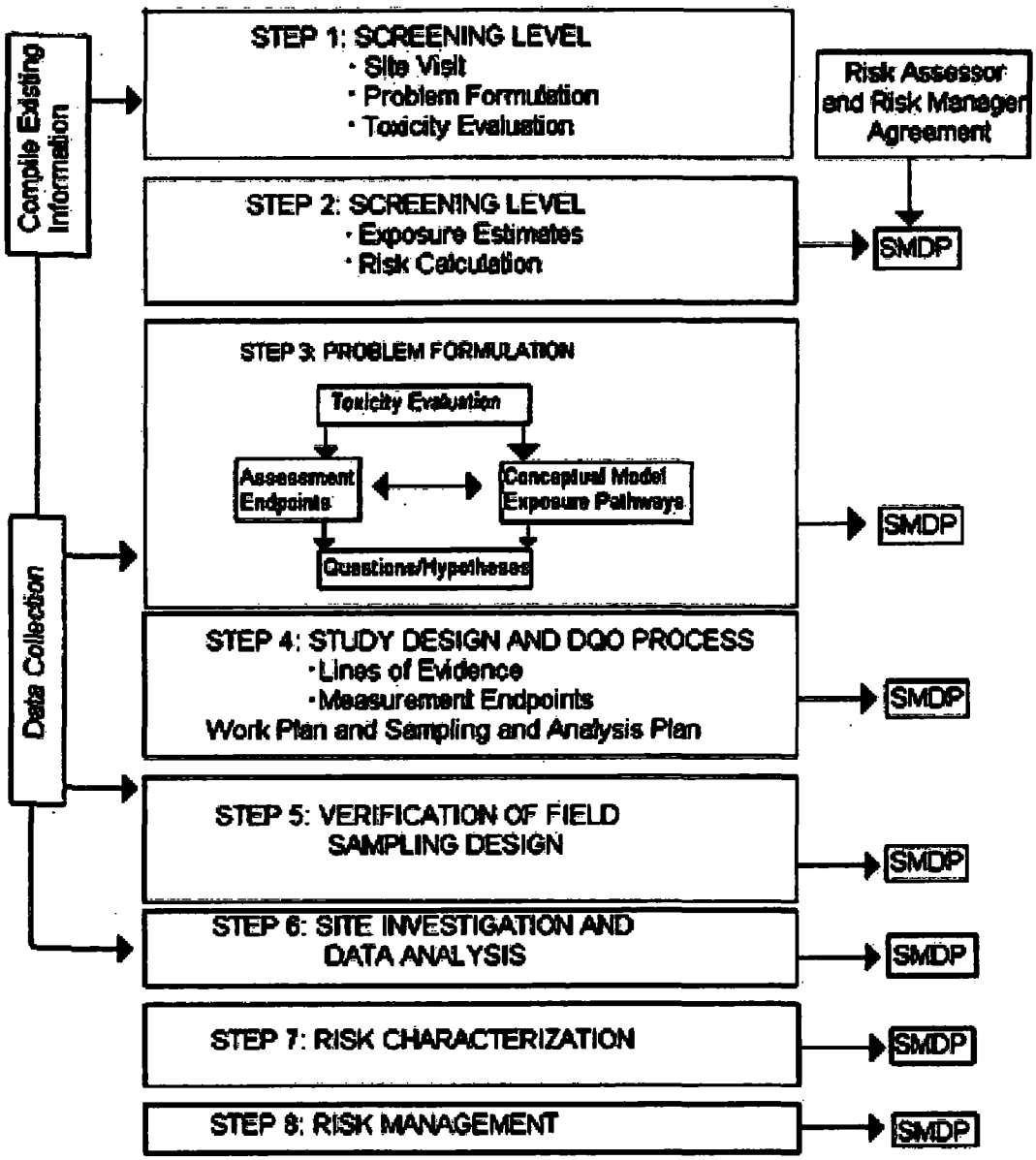
Hamilton, Ohio

July 2006 Job No.00076-069-550

Figure 1-1

www.ensr.aecom.com

Figure 1-2 Eight Step ERA Process



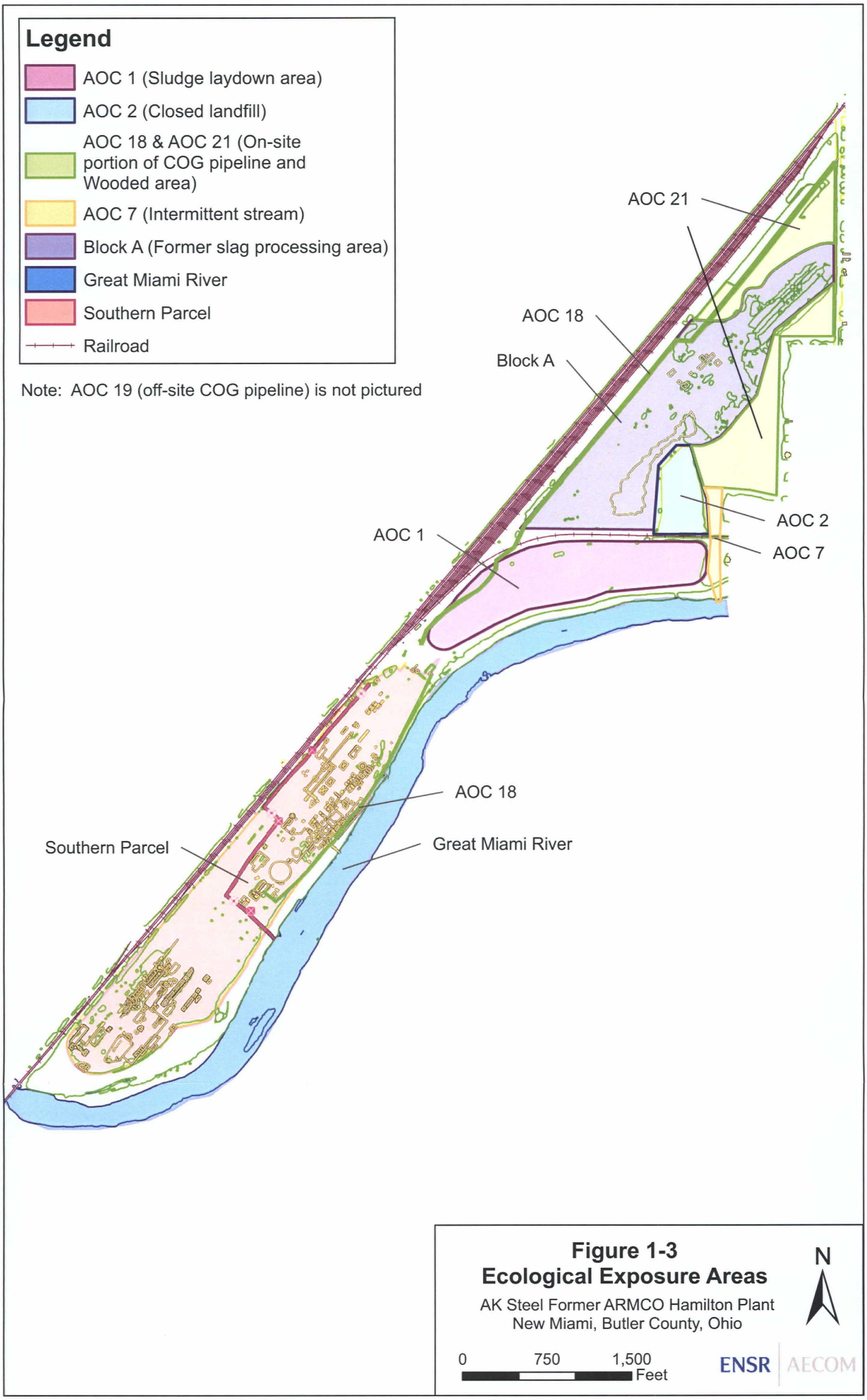


Figure 1-3
Ecological Exposure Areas

AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio

2.0 Problem Formulation and Assessment Methodology

This chapter describes the general approach and methodologies for the SLERA at the AHP Site. Following this section, which presents site-wide information and methodologies, individual Chapters 3 through 10 present the findings of the SLERA at the eight AHP ecological exposure areas. The SLERA is organized according to the three following major sections suggested by U.S. EPA's Framework for Ecological Risk Assessment (U.S. EPA, 1992):

1. Problem Formulation: In this step, the objectives of the SLERA are defined, and a plan for characterizing and analyzing risks is determined. Available information regarding stressors and the specific site is integrated. Products generated through problem formulation include measurement and assessment endpoints and the conceptual site model (CSM).

2. Risk Analysis: Risk analysis is directed by the problem formulation. Data are evaluated to characterize potential ecological exposures and effects.

3. Risk Characterization: During risk characterization, exposure and stressor response profiles are integrated through risk estimation. Risk characterization also includes a summary of uncertainties, strengths, and weaknesses associated with risk assessment

These three components are semi-sequential. The risk assessment process is frequently iterative, and new information brought forth during the risk characterization phase, for instance, may lead to a review of the problem formulation phase, or additional data collection and analysis.

2.1 SLERA Problem Formulation

Problem formulation is the initial step of the SLERA process and provides the basis for decisions regarding the scope and objectives of the SLERA. Information is collected to develop a CSM in which the screening level chemicals of potential concern (SLCOPCs) and exposure pathways are identified. The problem formulation phase for the AHP SLERA includes:

- Definition of risk assessment objectives;
- Ecological characterization;
- Exposure pathway evaluation;
- Identification of risk characterization endpoints;
- Development of the CSM;
- Definition of data evaluated in the SLERA; and
- Selection of SLCOPCs.

2.1.1 Definition of Risk Assessment Objectives

The primary objective of this SLERA is to conservatively evaluate recently collected RI analytical chemistry data to determine whether or not there is potential current or future exposure of environmental receptors to chemical stressors at the AHP Site.

2.1.2 Ecological Characterization

The AHP Site is located at 401 Augspurger Road, St. Claire Township, OH and covers approximately 252 acres, which are divided into two parcels. These parcels are adjacent to Augspurger Road and lie on the

north and south sides of the road. The following descriptions of both parcels are from the RI/FS Support Sampling Plan, Volume 1 (ENSR 2005).

The southern parcel is bordered to the east and south by the Great Miami River, to the west by a rail yard operated by CSX Transportation and to the north by Augspurger Road. The southern parcel once contained the Hamilton Coke Plant (HCP), two blast furnaces for ore making, a sinter plant, and associated coal handling facilities. Very little evidence remains of the HCP and blast furnace area, which were decommissioned/ demolished in 1988-89 and 1993-95, respectively. The roadway through the property remains and a large hilly area exists on the western side of the property where the blast furnaces were located. Some concrete slabs remain, indicating where some of the buildings and a large gas collector were once located. The majority of this parcel is covered with tall grass and occasional trees. The southern parcel is currently vacant and is surrounded by a chain-link fence which remains locked.

The northern parcel is bordered to the west-northwest by a rail yard operated by CSX Transportation, to the northeast by Jackson Road, to the east-southeast by residential property, and to the south by Augspurger Road. A CSX rail line bisects the north parcel in the east to west direction, parallel to Augspurger Road. The portion of the parcel between Augspurger Road and the CSX rail line was used to store coal for the HCP and later for storing air scrubber sludge and dust from the blast furnaces. A former slag processing plant was located on the northwestern portion of the north parcel. No buildings are present at the location of the former slag plant. However, concrete block walls remain in one area and a large demolished concrete structure remains in another area.

A closed landfill (AOC 2) is located on the east side of the northern parcel north of the east-west CSX rail line. This landfill is bounded to the north and west by slag piles, abandoned rail lines, and a partially wooded area, to the east by a wooded area containing a drainage ditch, and to the south by the east-west CSX rail line. The closed landfill is approximately 4-5 acres in size, has approximately 3-5 feet of topographic relief and is covered with tall grass. Closing of the landfill was completed in October 1980 in accordance with the necessary provisions of Ohio EPA's then-existing solid waste landfill closure rules (OAC Rule 3745-27-10 titled "Closure of Sanitary Landfill"). At closure, the material in the landfill was stabilized with slag, graded to slopes greater than 1% and less than 25% to facilitate surface water runoff and drainage, covered with two feet of compacted low permeability clay, then with topsoil, and then seeded with grass to complete a dense cover. The landfill remains completely surrounded by a locked chain-link fence.

Based on the information provided above, the portions of the AHP facility subject to investigation under this SLERA have been operationally divided into the following exposure areas:

- Block A (former slag processing area);
- AOC 2 (closed landfill);
- AOC 21 (wooded area) and AOC 18 (on-site COG pipeline);
- AOC 7 (intermittent stream);
- AOC 1 (sludge lay down area);
- AOC 19 (off-site COG pipeline);
- Great Miami River; and
- The entire upland area south of Augspurger Road, referred to herein as the Southern Parcel.

The selected exposure areas are physically discrete parcels with differing histories and potential environmental impacts. In addition, as described in the subsequent AOC-specific chapters, each of the terrestrial exposure areas is generally characterized by relatively limited and uniform habitat and potential exposure pathways. A detailed discussion of the nature and extent of contamination within these areas can be found in the Draft RI

Report (ENSR, 2006b). A revised Draft RI will be prepared following completion of the Revised Supplemental Investigation Work Plan (ENSR, 2008) activities.

Ecological receptors at the ecological exposure areas include a variety of terrestrial, benthic, and aquatic plants and animals. Communications were initiated with state and federal natural resource trustees and agencies regarding the potential presence of sensitive ecological receptors at or in the vicinity of the Site. According to the Ohio Department of Natural Resources (DNR), no rare or endangered species or significant natural features exist within the Site. No proposed nature preserves, scenic rivers, unique ecological sites, geologic features, animal concentrations, or state parks, forests or wildlife areas occur in the vicinity of the site. A potentially threatened species, Carolina willow (*Salix caroliniana*), occurs within one mile north of the Site, on a tributary to the Great Miami River. The United States Fish and Wildlife Service (USFWS) reported that no Federal wilderness areas, wildlife refuges, or designated critical habitat occur within the vicinity of the site. The site does lie within the range of the Federally-listed endangered Indiana bat (*Myotis sodalist*). USFWS has requested it be notified if any site activities cause damage to Indiana bat habitat. Habitat for the Indiana bat may include dead or live trees with cavities which may be used as maternity roost areas, live trees with exfoliating bark (such as shagbark hickory or oak), stream corridors, riparian areas, and upland woodlots which provide forage sites. Letters from Ohio DNR and USFWS regarding threatened and endangered species are in Appendix A-2.

2.1.3 Exposure Pathway Identification

Potentially complete exposure pathways for ecological receptors were identified through a review of historic site information and a site visit by a qualified ecologist. Exposure pathways for several groups of ecological receptors were identified as potentially relevant. Each exposure pathway includes a potential source of SLCOPC, an environmental medium (surface water, surface soil, groundwater, or sediment), and a potential exposure route, including receptors. Incomplete routes of exposure were not evaluated in the SLERA. This approach is used to focus the risk evaluation on exposure pathways that are considered potentially complete and for which there are adequate data pertaining to the receptors, exposure, and toxicity for completion of the risk analysis.

The available data suggest that surface soil, surface water, and sediments are the primary media of potential ecological concern at the Site. These media are potentially impacted from historic operations at AHP. Although surface soils are considered in this SLERA review, it is recognized that much of this industrial parcel contains limited habitat and therefore terrestrial exposure pathways, while potentially present, do not have the same ecological significance that aquatic and benthic pathways have in the higher value Great Miami River (and riparian area floodplain) exposure areas. Although chemical stressors may be present in groundwater and sub-surface soils at the Site, no ecological exposure pathways are complete to sub-surface soil or groundwater. However, in order to conservatively evaluate the potential impact of groundwater discharging from beneath the Site to the Great Miami River, this SLERA includes an assessment of groundwater quality from several shallow groundwater wells which discharge to the river. These shallow wells were selected based on proximity to the river, and were evaluated at three distinct exposure areas that border the Great Miami River. These exposure areas are located along the shorelines of AOC 1 (sludge lay down area), AOC 13 (by products area located within the Southern Parcel Exposure Area), and along the southern tip of the Southern Parcel Exposure Area. These groupings represent different source areas and discharge points along the Great Miami River.

Based on this analysis, potentially complete ecological exposure pathways have been identified at the AHP Site. Table 2-1 presents a summary of potentially complete ecological exposure pathways at the AHP Site. The SLERA focuses on impacts to lower trophic level receptors and does not evaluate all potentially complete exposure pathways.

2.1.4 Identification of Risk Characterization Endpoints

The SLERA ecological measurement and assessment endpoints at AHP were designed to evaluate potential ecotoxicological effects associated with exposure to identified SLCOPCs. According to the U.S. EPA (1998), assessment endpoints are formal expressions of the actual environmental value to be protected. They usually describe potential adverse effects to long-term persistence, abundance, or reproduction of populations of key species or key habitats. Measurement endpoints are the physical, chemical, or biological aspects of the ecological system that are measured to approximate or represent assessment endpoints. Measurement endpoints are often stressor-specific and are used to evaluate the assessment endpoint with respect to potential ecological risks. Since each measurement endpoint has intrinsic and extrinsic strengths and limitations, several measurement endpoints have been used to evaluate each assessment endpoint.

The measurement and assessment endpoints evaluated in the SLERA are presented in Table 2-2. These endpoints were selected to evaluate whether or not populations of ecological receptors are potentially at risk from exposure to chemical stressors in the various media evaluated at AHP.

2.1.5 Ecological Conceptual Site Model

The ecological CSM for the Site (Figure 2-1) is presented as a series of working hypotheses regarding how potential exposure to SLCOPCs might pose a potential risk to the ecosystem and ecological receptors at the site. The CSM helps describe the origin, fate, transport, exposure pathways, and receptors of concern at the site. This SLERA focuses on those pathways for which (1) chemical exposure are the highest and most likely to occur, and (2) there are adequate data pertaining to the receptors, exposure pathways, and ecotoxicity.

Section 2.1.2 describes the existing ecological conditions at the 252 acre site. The majority of the Site is covered with tall grass and occasional trees. Although this area provides open space and does have some habitat value, the invasive grasses and other ruderal species that dominates much of the uplands is only of low to moderate habitat value. Portions of the site are surrounded by a locked chain-link fence. The Great Miami River abuts the southern parcel to the east and south. An intermittent stream (AOC 7) located adjacent to the closed landfill (AOC 2) discharges to the Miami River. This stream rarely holds standing water and therefore serves more as a drainage conveyance than as potential benthic or aquatic habitat. The Site also includes a former COG pipeline that runs approximately eight miles from the former Hamilton plant to another AK Steel plant in Middletown, Ohio. The COG pipeline runs mostly along railroad tracks and crosses the Great Miami River off-site.

Based on past operations at the Site, there are a number of potential sources of contaminants, release mechanisms, and potentially affected environmental media. For purposes of developing a better understanding of potential exposure pathways for ecological receptors, the primary sources of historical releases to the environment are depicted in Figure 2-1, along with the primary release mechanisms, primary and secondary affected media, and potential routes of exposure for ecological receptors.

Past manufacturing operations may have resulted in direct releases of constituents to soil in the form of spills, leaks, leaching, and runoff. Constituents in surface soil may migrate downward into subsurface soil and ultimately to on-site groundwater. Dissolved contaminants in groundwater may migrate to off-site groundwater or may eventually discharge to the Great Miami River. In addition, constituents may have been released directly to the river via former storm water outfalls and via surface runoff during storm events, potentially impacting sediment and surface water in the river. Over time, compounds in aquatic systems often accumulate in bottom sediments due to their poor solubility in water. There are nonetheless several processes that could bring sediment-related compounds into the overlying water. These include sediment erosion during high flows, diffusion of interstitial water into overlying water and resuspension by bioturbation. Once in the overlying water, compounds could either be re-deposited in bottom sediments, taken up by biota, deposited in the floodplain outside the normal channel, or discharged downstream. Based on available information, the media of interest for the SLERA are:

- Surface soil in the upland former industrial parcel;
- Surface water and sediment in the intermittent stream and the Great Miami River;
- Groundwater

As depicted in the preliminary CSM and in Table 2-1, there are a number of potential exposure pathways by which ecological receptors may contact site-related compounds.

2.1.6 Data Evaluated in SLERA

Evaluation of potential ecological risks was conducted through analysis of surface soil, groundwater, surface water, and sediment quality data collected during the 2005-2006 field program. These data include surficial soil (0 to 2 foot stratum) and surficial sediment (0 to 6 inch stratum) samples since these sampling horizons represent the greatest potential for exposure for receptors. Analytes evaluated include inorganic constituents, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and dioxins and furans (which were analyzed in a sub-set of samples). Only the total recoverable fraction was analyzed for inorganics in surface water and groundwater considered in the SLERA (i.e., no dissolved phase data were evaluated in the SLERA).

Table 2-3 presents the sample locations for the analytical data that were evaluated in this SLERA. Figures 2-2 and 2-3 depict the location of individual soil, groundwater, surface water, and sediment sampling stations evaluated in this SLERA (including Great Miami River background stations). Figure 2-4 presents the background groundwater and surface soil sampling stations. Analytical data collected from background locations were not included in the ecological screening, but were considered in the discussion of uncertainty in Section 11. The following table summarizes the total number of sample locations evaluated in the SLERA at each of the eight exposure areas:

Exposure Area	Surface Soil	Groundwater	Sediment	Surface Water
Block A (former slag processing area)	32	0	0	0
AOC 2 (closed landfill)	10	0	0	0
AOC 21 (wooded area) and AOC 18 (on-site COG pipeline)	20	0	0	0
AOC 7 (intermittent stream)	0	0	4	4
AOC 1 (sludge lay down area)	31	2 – AOC 1 Perimeter Wells	0	0
AOC 19 (off-site COG pipeline)	13	0	3	1
Great Miami River	0	0	12 (includes 2 upstream locations) *	7 (includes 2 upstream locations) *
Southern Parcel	149	4 – Southern Parcel Perimeter Wells 5 – AOC 13 Perimeter Wells	0	0
* Upstream locations were excluded from the ecological screening but were considered in the uncertainty discussion in Section 11.4.				

During the course of the SLERA investigation, an additional potential exposure area (AOC 22, the Great Miami River floodplain and riparian area) was defined. Subsequent deliverables focused on AOC 22 will include the SLERA for this newly defined study area.

2.1.6.1 Calculation of Summary Statistics

In accordance with U.S. EPA Region 5 ERA guidance, only the maximum concentration of detected compounds was used in the SLCOPC screening; however, to provide a better understanding of the Site data, summary statistics were calculated for each detected analyte in the samples collected during the field effort. Before summary statistics were calculated, the following steps were taken for each analyte. If a chemical was detected at least once, one-half the chemical's quantitation limit was used as a proxy concentration in the estimation of exposure point concentrations (EPCs) for those instances in which the chemical was reported as undetected. However, if the proxy concentration was greater than any detected value, the proxy concentration was removed from the database. Although this approach is consistent with U.S. EPA guidance (U.S. EPA, 1989), which recognizes that high sample quantitation limits can lead to unrealistic concentration estimates, it does introduce some uncertainty in the SLERA. Estimated concentrations (J-coded values), including those below the quantitation limit but above the Method Detection Limit (MDL), were treated as detected values. Duplicate sample analytical results were averaged, and the average used as the sample point concentration. All detected analytes are included in the calculation of summary statistics.

PAHs were presented as both individual PAHs (since the Region 5 screening values are available for individual PAHs), and as total PAH (tPAH) in the summary statistics. PAHs typically occur in the environment as complex mixtures, rather than as single chemicals. Given that the mode of toxicity of individual PAHs is similar and is assumed to be additive, evaluation of tPAHs, rather than individual PAHs, provides the most realistic estimate of potential toxicity to ecological receptors. A similar approach is being adopted by EPA in establishing sediment benchmarks for tPAHs (DiToro and McGrath, 1999), and has been used to develop PAH narcosis theory benchmarks (DiToro et al., 2000). If an individual PAH was detected at least once, one-half the chemical's quantitation limit was used as a proxy concentration in the estimation of tPAHs for those instances in which the chemical was reported as undetected. The following is the list of chemicals identified as PAHs in the tPAH calculation: acenapthalene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, pyrene, and 2-methylnapthalene.

For dioxins/furans, the ecological screening levels apply to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). Therefore toxic equivalency factors (TEFs) were used to equate the potential toxicity of each congener to that of 2,3,7,8-TCDD. The World Health Organization (WHO) (Van den Berg et al., 2006) has assigned a TEF to each of the applicable dioxin/furan congeners for mammals. The concentration for each dioxin/furan congener was multiplied by its TEF, resulting in a TCDD toxic equivalence concentration (TCDD-TEQ). The TCDD-TEQ values for each of the congeners were then added together to derive TCDD-TEQ for each sample for mammals. The TCDD-TEQ for mammals was included in the screening and both the individual congeners and the TCDD-TEQ for mammals are presented in the summary statistics in Appendix B.

The following summary statistics were calculated for each medium in each of the above-referenced exposure areas:

- Frequency of detection (FOD)
- Range of detected concentrations (minimum, maximum)
- Arithmetic mean of detected concentration

For each of the exposure areas, an EPC was selected for each constituent. In accordance with U.S. EPA Region 5 guidance, the maximum detected concentration of each constituent was selected as the SLERA

EPC. All summary statistics are presented in Appendix B, and Appendix C presents all of the analytical data considered in the SLERA.

It is recognized that detection limits were elevated for a number of analytes in solid matrices (soil and sediment) at the Site due to sample interferences from detected target constituents. The presence of elevated detection limits introduces some uncertainty into the SLERA process; these uncertainties are further explored in Section 11 of this SLERA and will be evaluated further in the PFS.

2.1.7 Selection of Screening Level Ecological Chemicals of Potential Concern

SLCOPCs represent the analytes detected in the environmental media that were considered in the SLERA. In accordance with U.S. EPA Region 5 guidance, selection of SLCOPCs involves a conservative process which is further refined in Step 3 of the ERA (PFS). Exposure to the SLCOPCs could present a potential risk for ecological receptors. To distinguish SLCOPCs from the master list of compounds in the data set, the maximum detected concentration of each compound in each medium was compared to its respective risk-based benchmark. Compounds with maximum concentrations less than their respective compound-specific low effect screening benchmark were not retained as SLCOPCs; compounds with maximum concentrations in excess of the screening values were retained as SLCOPCs. If no screening value was available, the compound was selected as a SLCOPC. Detected bioaccumulative compounds with concentrations below the screening values were retained as SLCOPCs if the screening values were based on impacts to lower trophic level receptors (e.g., benthic invertebrates, terrestrial plants). However, if the screening values reflected the bioaccumulative nature of the constituent of potential concern, the screening value was applied as described above. Additional detail regarding the AHP benchmark screening is presented in the following risk analysis chapter.

2.2 Risk Analysis

The risk analysis phase of the AHP SLERA is based on the CSM developed in problem formulation. Risk analysis includes the characterization of potential ecological exposure and corresponding effects. The ecological exposure assessment involves the identification of potential exposure pathways and an evaluation of the magnitude of exposure of identified ecological receptors. The ecological effects assessment describes the potential adverse effects associated with the identified SLCOPCs to ecological receptors and reflects the type of assessment endpoints selected.

2.2.1 Ecological Screening

Potential adverse ecological effects to terrestrial plants, terrestrial invertebrates, benthic invertebrates, and aquatic receptors were evaluated based on comparisons to literature-derived screening values. The inclusion of U.S. EPA Region 5 ecological screening levels (ESLs) in the ecological screening also incorporates a level of protection for vertebrate wildlife receptors since several of the soil screening values, and selected surface water and sediment screening values, were derived based on food web modeling to wildlife receptors (i.e., the masked shrew for soil, and the mink and kingfisher for surface water and sediment).

For the exposure pathways identified in Section 2.1.3, the highest measured constituent concentration for each environmental medium (i.e., sediment, surface water, groundwater, or surface soil) was used to estimate exposure to constituents in the SLERA. In accordance with U.S. EPA Region 5 guidance, this conservative method was used to make sure that potential risks are being fully addressed.

Constituents with maximum concentrations less than their respective literature-derived screening values were not retained as SLCOPCs; constituents with maximum concentrations in excess of the literature-derived screening values were retained as SLCOPCs. Constituents with no applicable screening value were retained as SLCOPCs, as appropriate. Those SLCOPCs lacking screening values were assessed for potential ecological risk, as feasible, and were considered in the uncertainty analysis.

The presence of SLCOPCs in environmental media at concentrations which exceed benchmark screening values does not necessarily constitute ecological risk. For instance, certain SLCOPCs may not be absorbed into an organism's system following ingestion, or may not be absorbed through direct contact due to the chemical form of the SLCOPCs. Further refinement of the SLCOPC list will be performed following the screening process (i.e., during the Step 3 PFS Refinement of COPCs).

The selection of ecological screening values is discussed in the following sub-sections.

2.2.1.1 Surface Water

To identify SLCOPCs in surface water, the maximum concentration of each constituent was compared to chronic surface water risk-based benchmarks. The surface water screening benchmarks included the following ecotoxicological screening values:

- Data were screened against the lower of the federal ambient water quality criteria (AWQC; U.S. EPA, 2006) and state (Ohio) water quality criteria for the protection of aquatic life (Ohio Revised Code 3745-1). Where appropriate, criteria were adjusted to reflect the average hardness value of the receiving waterbody. Hardness-dependent surface water criteria were adjusted to either the average hardness of the AOC 7 water (264 mg/L as $CaCO_3$) or the Great Miami River water (322 mg/L as $CaCO_3$), as appropriate.
- If neither state nor federal water quality criteria were available, then alternative sources such as Oak Ridge National Laboratories (ORNL) secondary chronic values, EPA Region 5 ESLs, EPA Region 4 surface water screening values, or Region 3 freshwater screening benchmarks were used.

Surface water screening levels were also used to evaluate potential impacts due to on-site groundwater discharging to the Great Miami River. Therefore, hardness-dependent surface water criteria were adjusted to the average hardness of the Great Miami River water (322 mg/L as $CaCO_3$).

2.2.1.2 Sediments

To identify SLCOPCs in the sediment data set, the maximum concentration of each constituent was compared to its respective sediment quality risk-based benchmark. Literature-derived low-effect sediment quality benchmarks were selected to evaluate sediment-associated receptors exposure to constituents in sediment using the following hierarchy:

- If a consensus-based Threshold Effect Concentration (TEC; MacDonald, et al., 2000) was available for a constituent, this value was preferentially selected.
- If no TEC was available for a constituent, then low effect levels (LELs) from the Ontario Ministry of the Environment (OMOE) (Persaud et al., 1996) were selected.
- If neither a TEC nor an OMOE LEL was available, then effects range-low (ER-L) values from NOAA (Long and Morgan, 1990) were selected.
- If none of the above benchmarks were available, sediment screening values were either derived using U.S. EPA (1993) equilibrium partitioning theory and freshwater chronic toxicity values, or EPA Region 5 ESLs were used. Where appropriate, sediment screening values were adjusted to reflect the average total organic carbon (TOC) content of the receiving waterbody. Sediment screening levels were adjusted to either the average TOC of the AOC 7 sediments (2.0%) or the Great Miami River sediments (1.6%), as appropriate.
- If no screening values were identified in the previous sources, the NOAA Screening Quick Reference Tables (Buchman, 1999) and other sources such as EPA Region 4 freshwater sediment screening values or Region 3 freshwater sediment screening benchmarks were reviewed for relevant benchmarks or background concentrations

2.2.1.3 Surface Soils

To identify SLCOPCs in the upland surficial soil data set, the maximum concentration of each constituent was compared to its respective soil risk-based benchmark. Soil screening values were selected to evaluate exposure to soil-associated receptors. No national criteria exist for screening of soil but several nationally recognized data sources were reviewed using the following hierarchy:

- If a U.S. EPA Ecological Soil Screening Value (Eco-SSL) was available, it was preferentially selected. The lower of the values for plants, invertebrates, mammals, and birds was selected. Values were obtained from http://www.epa.gov/ecotox/ecossl.
- ORNL (Efroymson et al., 1997a; 1997b) terrestrial plant and invertebrate screening values were selected when Eco-SSLs were unavailable. The more stringent or conservative of the terrestrial plant or invertebrate screening values were used to screen surface soils.
- If neither of the above screening values were available, then EPA Region 5 ESLs were used.

Ecological screening benchmarks for surface water, sediment, and soil are presented in Table 2-4. Screening level evaluations of surface soil, surface water, groundwater, and sediment are presented in the SLERA section for each study area. The screening tables presented in the individual SLERA sections include the following information: the frequency of detection, maximum detected value, location of the maximum detected value, and the results of the screening. Constituents were retained for further consideration as SLCOPCs if the maximum detected concentration exceeded the screening benchmark, or if no screening benchmarks were available.

Four compounds (calcium, magnesium, potassium, and sodium) are considered to be essential nutrients, are ubiquitous in the environment, and were therefore not retained for consideration as SLCOPCs in any media at the Site.

The U.S. EPA surface soil screening values for aluminum and iron are not numerical values. The aluminum Eco-SSL document (U.S. EPA, 2003b) indicates that potential ecological risks associated with aluminum are identified based on the measured soil pH. Therefore, aluminum is only selected as a COPC if the soil pH is less than 5.5. The iron Eco-SSL document (U.S. EPA, 2003c) indicates that identifying a specific benchmark for iron in soils is difficult since iron's bioavailability to plants and resulting toxicity are dependent upon site-specific soil conditions (pH, Eh, soil-water conditions). Increases in soil pH or Eh (oxidizing conditions) shift iron from the exchangeable and organic forms to the water-insoluble and iron-oxide fractions. The document indicates that iron is not likely to be toxic to plants, and demand for iron may exceed its availability, in well-aerated soils between pH 5 and 8.

Field measurements of pH and Eh were not regularly collected as part of the soil investigation at the Site. However, soil survey information for Butler County is available from the Natural Resources Conservation Service (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx). Survey information from December 2006 indicates that the Site is dominated by an Urban land-Eldean complex with areas of Eldean loam and Xenia silt loam along Jackson Road at the eastern portion of the property (see Appendix D for the soil map and description of soil properties). Specific soil properties are not identified for Urban land, however the surficial soil pH range is expected to be from 5.6 to 7.3 for Eldean loam and from 6.6 to 7.3 for Xenia silt loam.

These data indicate that the soil pH is likely to be within the range where aluminum and iron are not likely to be toxic. Therefore, these two compounds were not retained for consideration as SLCOPCs in soil.

2.3 Risk Characterization

This sub-section presents the SLERA risk characterization approach for the ecological receptors potentially exposed to soil, sediment and surface water at the ecological exposure areas. The ecological risk

characterization integrates the results of the exposure and effects phases of work (i.e., risk analysis), and presents an integrated approach to provide estimates of actual or potential risks to ecological receptors.

In this screening level risk assessment, potential risk was estimated by calculating screening hazard quotients (HQs). Screening HQs were calculated by comparing the maximum detected concentration of each constituent in each medium to the appropriate ecological screening value using the following formula:

Hazard Quotient = Maximum Detected Concentration/Ecological Screening Value

When the HQ was less than 1 (i.e., the exposure point concentration was less than the benchmark toxicity value), the SLCOPC exposure was assumed to fall below the range considered to be associated with adverse effects for growth, reproduction, or survival of individual receptors, and no population level risks were assumed to be present. For HQ values greater than 1, further evaluation of potential risk may be warranted, depending upon factors such as the quality and quantity of the potentially affected habitat, the nature and magnitude of exceedences, etc.

Exceedances of the ecological screening values may indicate the need for further evaluation of the potential ecological risks posed by the site, but does not necessarily imply an ecological risk. The decision concerning the necessity for further evaluation requires the weighing of such factors as the frequency, magnitude, and pattern of these exceedences.

2.4 SLERA Uncertainty Analysis

Uncertainty is introduced into the risk assessment in several places throughout the process. Every time an assumption is made, some level of uncertainty is introduced into the risk assessment. Chapter 11 presents a discussion of the general and site-specific uncertainties that may potentially impact the SLERA.

Table 2-1
Potentially Complete Ecological Exposure Pathways
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

	ECOLOGICAL EXPOSURE AREA							
Exposure Pathway	Block A (Former Slag Processing Area)	AOC 2 (Closed Landfill)	AOC 21 & 18 (Wooded Area and On-site COG pipeline)	AOC 7 (Intermittent Stream)	AOC 1 (Sludge Lay Down Area)	AOC 19 (Off-site COG Pipeline; Great Miami River)	Great Miami River	Southern Parcel
Surface Soil								
Direct contact with surface soil by terrestrial plants and invertebrates	X[1]	X[1]	X[1]	X[1]	X[1]	X[1]	O	X[1]
Root uptake from surface soil by terrestrial plants	X[1]	X[1]	X[1]	X[1]	X[1]	X[1]	O	X[1]
Incidental ingestion of soil by vertebrate wildlife[2]	X[2]	X[2]	X[2]	X[2]	X[2]	X[2]	O	X[2]
Ingestion of prey items which have bioaccumulated constituents from soil by vertebrate wildlife[2]	X[2]	X[2]	X[2]	X[2]	X[2]	X[2]	O	X[2]
Sediments								
Direct contact with sediment by aquatic or benthic invertebrates	O	O	O	X[1]	O	X[1]	X[1]	O
Direct contact with sediment by aquatic vertebrates (e.g. fish)	O	O	O	X[1]	O	X[1]	X[1]	O
Incidental ingestion of sediment by vertebrate wildlife[2]	O	O	O	X[2]	O	X[2]	X[2]	O
Ingestion of prey items which have bioaccumulated constituents from sediment by vertebrate wildlife[2]	O	O	O	X[2]	O	X[2]	X[2]	O
Surface Water								
Direct contact with surface water by aquatic invertebrates	O	O	O	X[1]	O	X[1]	X[1]	O
Direct contact with surface water by fish	O	O	O	X[1]	O	X[1]	X[1]	O
Incidental ingestion of surface water by vertebrate wildlife[2]	O	O	O	X[2]	O	X[2]	X[2]	O
Ingestion of prey items which have bioaccumulated constituents from surface water by vertebrate wildlife[2]	O	O	O	X[2]	O	X[2]	X[2]	O
Ground Water								
Discharge of groundwater to surface water and direct contact by aquatic invertebrates and fish.	O	O	O	X[1]	O	O	X[1]	O

X = Potentially complete exposure pathway.
O = Incomplete or insignificant exposure pathway, no further evaluation recommended.

1 - Exposure pathways evaluated in the SLERA.
2 - Several ecological screening levels used in the SLERA incorporate impacts to vertebrate wildlife via food web exposure. A more detailed consideration of bioaccumulation may be warranted in the BERA.

Table 2-2
Assessment and Measurement Endpoints
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Assessment Endpoint/Measurement Endpoint	ECOLOGICAL EXPOSURE AREA							
	Block A (Former Slag Processing Area)	AOC 2 (Closed Landfill)	AOC 21 & 18 (Wooded Area and On-site COG pipeline)	AOC 7 (Intermittent Stream)	AOC 1 (Sludge Lay Down Area)	AOC 19 (Off-site COG Pipeline; Great Miami River)	Great Miami River	Southern Parcel
1) Sustainability of a terrestrial plant and invertebrate community which reflects the available habitat in the Site's upland areas and can serve as a forage base for higher trophic level receptors.								
a) Comparison of terrestrial soil concentrations to soil quality screening benchmarks. Measurement of concentrations in excess of soil quality screening benchmarks will be considered indicators of potential effects on plants and/or invertebrates.	X	X	X	X	X	X		X
2) Sustainability of a healthy and well-balanced benthic invertebrate community which is typical of comparable Ohio habitats with similar structure, morphology, and hydrology.								
a) Comparison of bulk sediment analytical chemistry results to sediment quality benchmarks. Measurement of concentrations in excess of sediment quality benchmarks will be considered indicative of a potential for ecological risks to benthic receptors.				X		X	X	
b) Characterization of sediment metals bioavailability based on simultaneously extracted metals (SEM)/acid volatile sulfides (AVS) relationships. SEM/AVS ratios greater than 1 in a sediment sample will be considered an indicator of potential bioavailability for divalent cationic metals.				X		X	X	
3) Sustainability of a healthy and well-balanced aquatic receptor community (e.g., fish and aquatic invertebrates) which is typical of comparable Ohio aquatic resource areas with similar structure, morphology, and hydrology.								
a) Comparison of surface water concentrations to chronic water quality criteria. Measurements of concentrations in excess of water quality criteria will be considered indicators of potential effects on aquatic receptors.				X		X	X	
b) Comparison of groundwater concentrations to chronic water quality criteria. Measurements of concentrations in excess of water quality criteria will be considered indicators of potential effects on aquatic receptors (application of dilution factors may be relevant).							X[1]	

1 - Groundwater from three shoreline areas is considered for potential discharge into Great Miami River (AOC 1 Perimeter Wells, Southern Parcel Perimeter Wells, and AOC 13 Perimeter Wells)

Table 2-3
Samples Evaluated in the SLERA
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Exposure Area	Medium	Sample Location ID		
Block A	SO	BACA1	BACA2	BACA6SB5
Block A	SO	BACA10	BACA2SB1	BACA7
Block A	SO	BACA10SB4	BACA3	BACA7SB2
Block A	SO	BACA11	BACA3SB2	BACA7SB4
Block A	SO	BACA11SB1	BACA4	BACA8
Block A	SO	BACA12	BACA4SB3	BACA8SB1
Block A	SO	BACA12SB2	BACA4SB4	BACA8SB2
Block A	SO	BACA13	BACA5	BACA9
Block A	SO	BACA13SB2	BACA5SB1	BACA9SB1
Block A	SO	BACA1SB2	BACA6	BACA9SB4
Block A	SO			MW-13S
Block A	SO			MW-18S
AOC 2	SO	AOC2SB1	AOC2SB3	AOC2SB6
AOC 2	SO	AOC2SB10	AOC2SB4	AOC2SB7
AOC 2	SO	AOC2SB2	AOC2SB5	AOC2SB8
AOC 2	SO			AOC2SB9
AOC 21 and AOC 18	SO	AOC18SB1	AOC21SB10	AOC21SB5
AOC 21 and AOC 18	SO	AOC18SB2	AOC21SB11	AOC21SB6
AOC 21 and AOC 18	SO	AOC18SB3	AOC21SB12	AOC21SB7
AOC 21 and AOC 18	SO	AOC18SB4	AOC21SB13	AOC21SB8
AOC 21 and AOC 18	SO	AOC18SB5	AOC21SB2	AOC21SB9
AOC 21 and AOC 18	SO	AOC18SB6	AOC21SB3	MW-15S
AOC 21 and AOC 18	SO	AOC21SB1	AOC21SB4	
AOC 7	SE	AOC7SD10	AOC7SD12	
AOC 7	SE	AOC7SD11	AOC7SD13	
AOC 7	WS	AOC7SW6	AOC7SW8	
AOC 7	WS	AOC7SW7	AOC7SW9	
AOC 1	SO	AOC1CA1	AOC1CA2	AOC1CA6SB1
AOC 1	SO	AOC1CA10	AOC1CA2SB1	AOC1CA7
AOC 1	SO	AOC1CA10SB3	AOC1CA2SB5	AOC1CA7SB1
AOC 1	SO	AOC1CA11	AOC1CA3	AOC1CA8
AOC 1	SO	AOC1CA11SB2	AOC1CA3SB7	AOC1CA8SB3
AOC 1	SO	AOC1CA12	AOC1CA4	AOC1CA9
AOC 1	SO	AOC1CA12SB4	AOC1CA4SB3	AOC1CA9SB3
AOC 1	SO	AOC1CA13	AOC1CA5	MW-11S
AOC 1	SO	AOC1CA13SB1	AOC1CA5SB2	MW-12S
AOC 1	SO	AOC1CA1SB2	AOC1CA6	MW-16S
AOC 1	SO			MW-17S
AOC 1 Perimeter Wells	WG	MW-11S	MW-12S	
AOC 19	SE	GMRSD16	GMRSD17	GMRSD18
AOC 19	WS	GMRSW10		
AOC 19	SO	AOC19SB1	AOC19SB2	AOC19SB7
AOC 19	SO	AOC19SB10	AOC19SB3	AOC19SB8
AOC 19	SO	AOC19SB11	AOC19SB4	AOC19SB9
AOC 19	SO	AOC19SB12	AOC19SB5	
AOC 19	SO	AOC19SB13	AOC19SB6	
Great Miami River	SE	GMRSD1	GMRSD5	GMRSD9
Great Miami River	SE	GMRSD2	GMRSD6	GMRSD14
Great Miami River	SE	GMRSD3	GMRSD7	GMRSD15 *
Great Miami River	SE	GMRSD4	GMRSD8	GMRSD19 *
Great Miami River	WS	GMRSW1	GMRSW3	GMRSW5
Great Miami River	WS	GMRSW2	GMRSW4	
Great Miami River	WS	GMRSW9*	GMRSW11*	
Southern Parcel	SO	AOC10SB1	AOC20CA3SB1	BDSB2
Southern Parcel	SO	AOC10SB2	AOC20CA4	BDSB3
Southern Parcel	SO	AOC10SB3	AOC20CA4SB1	BDSB5
Southern Parcel	SO	AOC10SB4	AOC20CA5	BDSB6
Southern Parcel	SO	AOC12SB1	AOC20CA5SB2	BDSB7

Table 2-3
Samples Evaluated in the SLERA
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Exposure Area	Medium	Sample Location ID		
Southern Parcel	SO	AOC12SB2	AOC20CA5SB3	BDSB8
Southern Parcel	SO	AOC12SB3	AOC20CA5SB4	BESB1
Southern Parcel	SO	AOC12SB4	AOC20CA6	BESB2
Southern Parcel	SO	AOC12SB5	AOC20CA6SB1	BESB3
Southern Parcel	SO	AOC12SB6	AOC20CA7	BESB4
Southern Parcel	SO	AOC13SB1	AOC20CA7SB4	BESB5
Southern Parcel	SO	AOC13SB10	AOC20CA8	BESB6
Southern Parcel	SO	AOC13SB11	AOC20CA8SB2	BESB7
Southern Parcel	SO	AOC13SB12	AOC20CA9	BESB8
Southern Parcel	SO	AOC13SB13	AOC20CA9SB2	BESB9
Southern Parcel	SO	AOC13SB2	AOC20SB39	BFSB1
Southern Parcel	SO	AOC13SB3	AOC20SB40	BFSB2
Southern Parcel	SO	AOC13SB4	AOC8SB1	BFSB3
Southern Parcel	SO	AOC13SB5	AOC8SB2	BFSB4
Southern Parcel	SO	AOC13SB52	AOC8SB3	BFSB5
Southern Parcel	SO	AOC13SB53	AOC8SB4	BFSB6
Southern Parcel	SO	AOC13SB54	AOC8SB5	BFSB7
Southern Parcel	SO	AOC13SB55	AOC9SB1	BFSB8
Southern Parcel	SO	AOC13SB56	AOC9SB2	BGSB1
Southern Parcel	SO	AOC13SB6	AOC9SB3	BGSB10
Southern Parcel	SO	AOC13SB7	AOC9SB4	BGSB11
Southern Parcel	SO	AOC13SB8	BBSB1	BGSB12
Southern Parcel	SO	AOC13SB9	BBSB2	BGSB13
Southern Parcel	SO	AOC14SB1	BBSB3	BGSB2
Southern Parcel	SO	AOC14SB2	BBSB4	BGSB3
Southern Parcel	SO	AOC14SB3	BBSB5	BGSB4
Southern Parcel	SO	AOC14SB4	BBSB6	BGSB5
Southern Parcel	SO	AOC15SB1	BBSB7	BGSB6
Southern Parcel	SO	AOC15SB2	BBSB8	BGSB7
Southern Parcel	SO	AOC15SB3	BCSB1	BGSB8
Southern Parcel	SO	AOC15SB4	BCSB10	BGSB9
Southern Parcel	SO	AOC20CA1	BCSB11	MW-19S
Southern Parcel	SO	AOC20CA10	BCSB12	MW-1S
Southern Parcel	SO	AOC20CA10SB2	BCSB13	MW-20S
Southern Parcel	SO	AOC20CA11	BCSB2	MW-21S
Southern Parcel	SO	AOC20CA11SB2	BCSB2R	MW-22S
Southern Parcel	SO	AOC20CA12	BCSB3	MW-2S
Southern Parcel	SO	AOC20CA12SB1	BCSB3R	MW-3S
Southern Parcel	SO	AOC20CA12SB2	BCSB4	MW-4S
Southern Parcel	SO	AOC20CA13	BCSB5	MW-5S
Southern Parcel	SO	AOC20CA13SB2	BCSB6	MW-6S
Southern Parcel	SO	AOC20CA1SB1	BCSB7	MW-7S
Southern Parcel	SO	AOC20CA2	BCSB8	MW-8S
Southern Parcel	SO	AOC20CA2SB2	BCSB9	MW-9S
Southern Parcel	SO	AOC20CA3	BDSB1	
Southern Parcel Perimeter Wells	WG	MW-4S	MW-2S	
Southern Parcel Perimeter Wells	WG	MW-5S	MW-19S	
AOC 13 Perimeter Wells	WG	MW-7S	MW-20S	MW-8S
AOC 13 Perimeter Wells	WG	MW-21S	MW-9S	

SO = Surface Soil
WS = Surface Water
SE = Surficial Sediment
WG = Groundwater

* Sample located upstream of site influence
See Figures 2-2 and 2-3 for sample locations.

Table 2-4
Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Parameter	CAS No.	Surface Water (ug/L)		Sediment (mg/kg)		Soil (mg/kg)	
Inorganics							
Aluminum	7429-90-5	87	[1]	2600	[9]	NV	[10,24]
Antimony	7440-36-0	30	[2]	2	[7]	0.27	[10,23]
Arsenic	7440-38-2	150	[1]	9.79	[5]	18	[10]
Barium	7440-39-3	4	[2]	0.7	[9]	330	[10]
Beryllium	7440-41-7	0.66	[2]	NV		21	[10,23]
Cadmium	7440-43-9	0.16	[1]	0.99	[5]	0.36	[10,23]
Calcium	7440-70-2	1116000	[3]	NV		NV	
Chromium (total)	7440-47-3	49	[1]	43.4	[5]	26	[10,23]
Cobalt	7440-48-4	23.0	[2]	50	[4,22]	13	[10]
Copper	7440-50-8	5.0	[1]	31.6	[5]	28	[10,23]
Cyanide	57-12-5	5.2	[1]	0.1	[4,22]	1.33	[4,23]
Iron	7439-89-6	1000	[1]	20000	[6]	NV	[10,25]
Lead	7439-92-1	1.3	[1]	35.8	[5]	11	[10,23]
Magnesium	7439-95-4	82000	[3]	NV		NV	
Manganese	7439-96-5	120	[2]	460	[6]	500	[11]
Mercury	7439-97-6	0.91	[1]	0.18	[5]	0.3	[11]
Nickel	7440-02-0	29	[1]	22.7	[5]	28	[10]
Potassium	7440-09-7	53000	[3]	NV		NV	
Selenium	7782-49-2	5	[4]	2	[13]	1	[11]
Silver	7440-22-4	0.36	[2]	1	[7]	4.2	[10,23]
Sodium	7440-23-5	680000	[3]	NV		NV	
Thallium	7440-28-0	12	[2]	NV		1	[11]
Vanadium	7440-62-2	20	[2]	NV		7.8	[10,23]
Zinc	7440-66-6	67	[1]	121	[5]	50	[11]
Organics							
Semivolatile Organic Compounds							
Acenaphthene	83-32-9	38	[4]	0.15	[7]	20	[11]
Acenaphthylene	208-96-8	4840	[4]	0.00587	[4,22]	682	[4,23]
Anthracene	120-12-7	0.73	[2]	0.0572	[5]	1480	[4,23]
Benzo(a)anthracene	56-55-3	0.027	[2]	0.108	[5]	5.21	[4,23]
Benzo(a)pyrene	50-32-8	0.014	[2]	0.15	[5]	1.52	[4,23]
Benzo(b)fluoranthene	205-99-2	9.07	[4]	10.4	[4]	59.8	[4,23]
Benzo(g,h,i)perylene	191-24-2	7.64	[4]	0.17	[6]	119	[4,23]
Benzo(k)fluoranthene	207-08-9	9.07	[4,17]	0.24	[6]	148	[4,23]
Chrysene	218-01-9	NV		0.166	[5]	4.73	[4,23]
Dibenz(a,h)anthracene	53-70-3	0.027	[2,16]	0.033	[5]	18.4	[4,23]
Fluoranthene	206-44-0	15	[3]	0.423	[5]	122	[4,23]
Fluorene	86-73-7	3.9	[2]	0.0774	[5]	122	[4,23]
Indeno(1,2,3-cd)pyrene	193-39-5	4.31	[4]	0.2	[6]	109	[4,23]
Naphthalene	91-20-3	12	[2]	0.176	[5]	0.0994	[4,23]
Phenanthrene	85-01-8	200	[3]	0.204	[5]	45.7	[4,23]
Pyrene	129-00-0	0.3	[4]	0.195	[5]	78.5	[4,23]
Total PAHs	Total PAHs	NV		1.61	[5]	1.0	[12]
1,1-Biphenyl	92-52-4	NV		NV		60	[11]
2,2'-Oxybis(1-Chloropropane)	108-60-1	NV		NV		19.9	[4,23]
2,4,5-Trichlorophenol	95-95-4	NV		NV		4	[11]
2,4,6-Trichlorophenol	88-06-2	4.9	[4]	0.208	[4]	9.94	[4,23]
2,4-Dichlorophenol	120-83-2	11	[4]	0.0617	[4]	87.5	[4,23]
2,4-Dimethylphenol	105-67-9	100	[4]	0.304	[4]	0.01	[4]
2,4-Dinitrophenol	51-28-5	19	[4]	0.00621	[4]	20	[11]
2-Chloronaphthalene	91-58-7	0.396	[4]	0.417	[4]	0.0122	[4,23]
2-Chlorophenol	95-57-8	24	[4]	0.0319	[4]	0.243	[4,23]
2-Methylnaphthalene	91-57-6	330	[4]	0.0202	[4,22]	3.24	[4,23]
2-Nitroaniline	88-74-4	NV		NV		74.1	[4,23]
2-Nitrophenol	88-75-5	300	[2,18]	0.0133	[4,18]	5.12	[4,18]
2,4-Dinitrotoluene	121-14-2	44	[4]	0.0144	[4]	1.28	[4,23]
2,6-Dinitrotoluene	606-20-2	81	[4]	0.0398	[4]	0.0328	[4,23]
3,3'-Dichlorobenzidine	91-94-1	4.5	[4]	0.127	[4]	0.646	[4,23]
3-Nitroaniline	99-09-2	NV		NV		3.16	[4,23]
4,6-Dinitro-2-methylphenol	534-52-1	23	[4]	0.104	[4]	0.144	[4,23]
4-Bromophenylphenyl ether	101-55-3	1.5	[2]	1.2	[8]	NV	
4-Chloro-3-methylphenol	59-50-7	34.8	[4]	0.366	[4]	7.95	[4,23]
4-Chloroaniline	106-47-8	232	[4]	0.146	[4]	1.1	[4,23]
4-Chlorophenylphenyl ether	7005-72-3	NV		NV		NV	
4-Nitroaniline	100-01-6	NV		NV		21.9	[4,23]
4-Nitrophenol	100-02-7	300	[2]	0.0133	[4]	5.12	[4,23]
Acetophenone	98-86-2	NV		NV		300	[4,23]
Atrazine	1912-24-9	1.8	[19]	NV		0.00005	[12]
Benzaldehyde	100-52-7	NV		NV		NV	
Bis(2-Chloroethoxy)methane	111-91-1	NV		NV		0.302	[4,23]

Table 2-4
Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

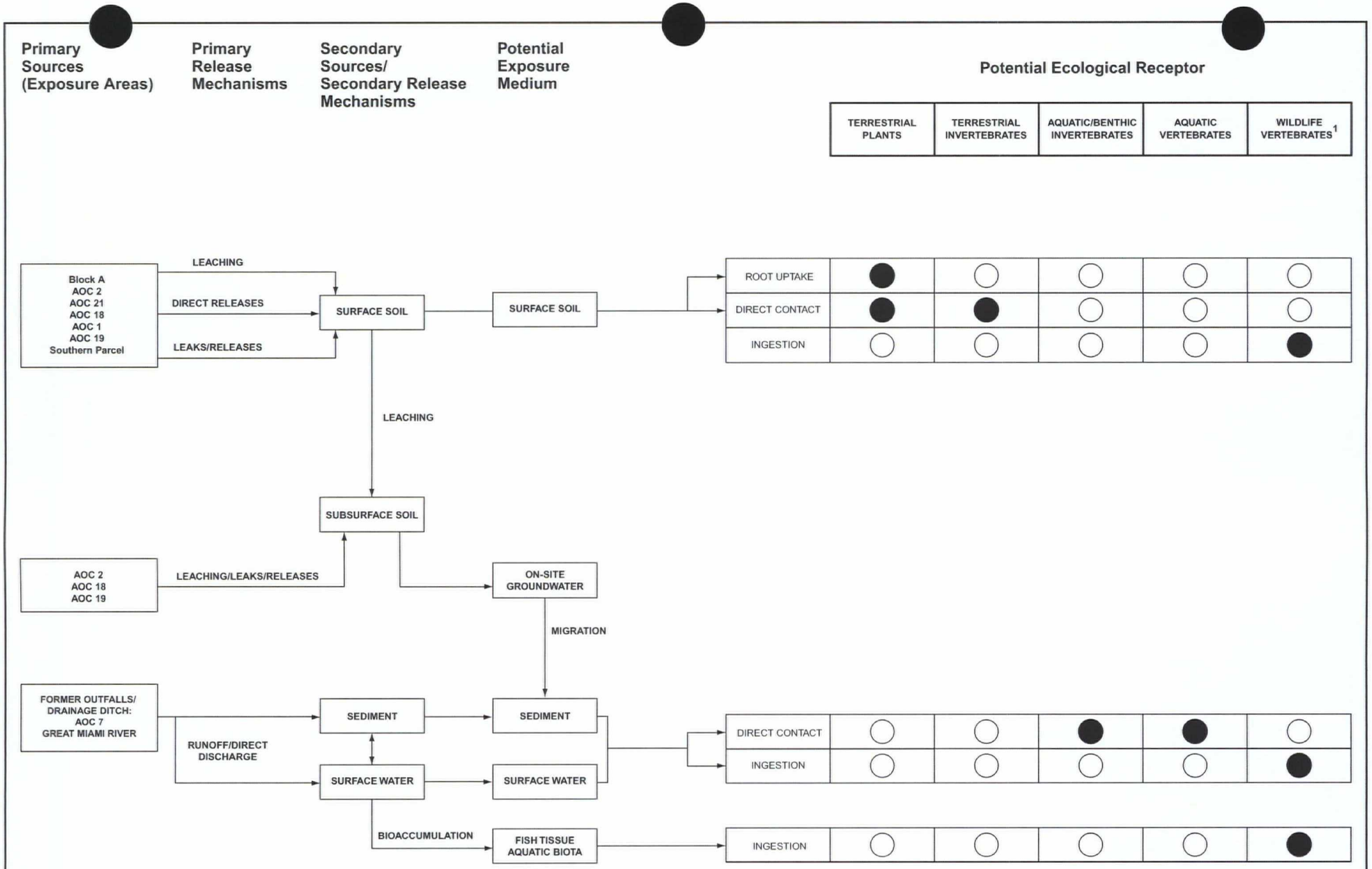
Parameter	CAS No.	Surface Water (ug/L)		Sediment (mg/kg)		Soil (mg/kg)	
Bis(2-Chloroethyl)ether	111-44-4	19000	[4]	3.52	[4]	23.7	[4,23]
Bis(2-Ethylhexyl)phthalate	117-81-7	3	[2]	890	[8]	0.925	[4,23]
Bromodichloromethane	75-27-4	NV		NV		0.54	[4,23]
Butylbenzylphthalate	85-68-7	19	[2]	11	[8]	0.239	[4,23]
Carbazole	86-74-8	NV		NV		NV	
Dibenzofuran	132-64-9	3.7	[2]	0.42	[8]	NV	
Diethylphthalate	84-66-2	210	[2]	0.6	[4]	100	[11]
Dimethylphthalate	131-11-3	210	[2,19]	0.6	[4,19]	734	[4,23]
Di-n-butylphthalate	84-74-2	35	[2]	1.114	[4]	200	[11]
Di-n-octylphthalate	117-84-0	708	[3]	40.6	[4]	709	[4,23]
N-nitrosodi-n-propylamine	621-64-7	NV		NV		0.544	[4,23]
N-Nitrosodiphenylamine	86-30-6	210	[4]	NV		0.545	[4,23]
o-Cresol (2-Methylphenol)	95-48-7	13	[2]	0.012	[8]	40.4	[4,23]
p-Cresol (4-Methylphenol)	106-44-5	25	[4]	0.0202	[4]	163	[4,23]
Pentachlorophenol	87-86-5	4	[1]	23	[4]	3	[11]
Phenol	108-95-2	180	[4]	0.0491	[4]	70	[11]
Volatile Organic Compounds							
1,1,1-Trichloroethane	71-55-6	11	[2]	0.030	[8]	29.8	[4,23]
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NV		NV		NV	
1,1-Dichloroethane	75-34-3	47	[2]	0.027	[8]	20.1	[4,23]
1,1-Dichloroethene	75-35-4	25	[2]	0.031	[8]	8.28	[4,23]
1,2,4-Trichlorobenzene	120-82-1	110	[2]	9.6	[8]	11.1	[4,23]
1,2-Dibromo-3-chloropropane	96-12-8	NV		NV		0.0352	[4,23]
1,2-Dibromoethane	106-93-4	NV		NV		1.23	[4,23]
1,2-Dichlorobenzene	95-50-1	14	[2]	0.33	[8]	2.96	[4,23]
1,2-Dichloroethane	107-06-2	910	[2]	0.26		0.000000212	[4,23]
1,3-Dichlorobenzene	541-73-1	71	[2]	1.7	[8]	37.7	[4,23]
1,4-Dichlorobenzene	106-46-7	15	[2]	0.34	[8]	0.546	[4,23]
2-Butanone	78-93-3	14000	[2]	0.27	[8]	89.6	[4,23]
2-Hexanone	591-78-6	99	[2]	0.022	[8]	12.6	[4,23]
4-Methyl-2-pentanone	108-10-1	170	[2]	0.033	[8]	443	[4,23]
Acetone	67-64-1	1500	[2]	0.0067	[8]	2.5	[4,23]
Benzene	71-43-2	130	[2]	0.16	[8]	0.255	[4,23]
Bromomethane	74-83-9	16	[4]	0.137	[4]	0.235	[4,23]
Caprolactam	105-60-2	NV		NV		NV	
Carbon disulfide	75-15-0	0.92	[2]	0.00085	[8]	0.0941	[4,23]
Carbon tetrachloride	56-23-5	9.6	[2]	0.047	[8]	2.98	[4,23]
Chlorobenzene	108-90-7	64	[2]	0.41	[8]	13.1	[4,23]
Chloroethane	75-00-3	NV		NV		NV	
Chloroform	67-66-3	28	[2]	0.022	[8]	1.19	[4,23]
Chloromethane	74-87-3	NV		NV		10.4	[4,23]
cis-1,2-Dichloroethene	156-59-2	590	[2,14]	0.40	[8,14]	0.784	[4,21]
cis-1,3-Dichloropropene	10061-01-5	0.055	[2,20]	0.000051	[8,20]	0.398	[4,23]
Cyclohexane	110-82-7	NV		NV		0.1	[12]
Dibromochloromethane	124-48-1	NV		NV		2.05	[4,23]
Dichlorodifluoromethane	75-71-8	NV		NV		39.5	[4,23]
Ethylbenzene	100-41-4	7.3	[2]	0.069	[8]	5.16	[4,23]
Hexachlorobenzene	118-74-1	0.0003	[4]	0.02	[4,22]	0.199	[4,23]
Hexachlorobutadiene	87-68-3	0.053	[4]	0.0265	[4]	0.0398	[4,23]
Hexachlorocyclopentadiene	77-47-4	77	[4]	0.901	[4]	0.755	[4,23]
Hexachloroethane	67-72-1	12	[2]	1.0	[8]	0.596	[4,23]
Isopropylbenzene	98-82-8	NV		NV		NV	
m+p Xylene	XYLMP	1.8	[2,15]	0.025	[8,15]	NV	
Methyl acetate	79-20-9	NV		NV		NV	
Methylcyclohexane	108-87-2	NV		NV		NV	
Methylene chloride	75-09-2	2200	[2]	0.37	[8]	4.05	[4,23]
Methyl-tert-butyl-ether	1634-04-4	NV		NV		NV	
Nitrobenzene	98-95-3	220	[4]	0.145	[4]	1.31	[4,23]
o-Xylene	95-47-6	1.8	[2,15]	0.025	[8,15]	NV	
Styrene	100-42-5	32	[4]	0.254	[4]	4.69	[4,23]
Tetrachloroethene	127-18-4	98	[2]	0.41	[8]	9.92	[4,23]
Toluene	108-88-3	9.8	[2]	0.050	[8]	200	[11]
trans-1,2-Dichloroethene	156-60-5	590	[2,14]	0.40	[8,14]	0.784	[4,23]
trans-1,3-Dichloropropene	10061-02-6	0.055	[2,20]	0.000051	[8,20]	0.398	[4,23]
Trichloroethene	79-01-6	47	[2]	0.22	[8]	12.4	[4,23]
Trichlorofluoromethane	75-69-4	NV		NV		16.4	[4,23]
Vinyl chloride	75-01-4	930	[4]	0.202	[4]	0.646	[4,23]
Xylenes (total)	1330-20-7	13	[2]	0.16	[8]	10	[4]

Table 2-4
Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Parameter	CAS No.	Surface Water (ug/L)		Sediment (mg/kg)		Soil (mg/kg)	
Polychlorinated Biphenyls							
Total PCBs	Total PCBs	0.14	[2]	0.0598	[5]	40	[11]
Dioxins/Furans							
Polychlorinated dibenzofurans	51207-31-9	NV		NV		0.0000386	[4,23]
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.000000003	[4]	0.00000012	[4]	0.000000199	[4,23]
Polychorinated dibenzo-p-dioxins	PCDDs	0.000000278	[4]	0.000011	[4]	0.000000199	[4,23]

AWQC - Ambient Water Quality Criteria
CAS - Chemical Abstracts Service
Eco-SSL - Ecological Soil Screening Level
ERL - Effects Range Low
ER-L - Effects Range-Low
ESL - Ecological Screening Level
ESV - Ecological Screening Value
LCV - Lowest Chronic Value
LEL - Lowest Effect Level
NV - Screening value not identified
OAC - Ohio Administrative Code
ORNL - Oak Ridge National Laboratory
PAH - Polycyclic Aromatic Hydrocarbon
PCB - Polychlorinated Biphenyl
SCV - Secondary Chronic Value
TEC - Threshold Effect Concentration
TOC - total Organic Carbon
WQC - Water Quality Criteria

Screening value sources and notes
[1] Lower of the Ohio WQC (OAC Chapter 3745-1-07; effective date 12/30/2002) and the federal freshwater chronic AWQC (U.S. EPA, 2006). Hardness dependent criteria presented in this table are adjusted to default hardness of 50 mg/L as $CaCO_3$. Criteria used in screening are adjusted to site-specific hardness.
[2] ORNL SCV for aquatic biota (Suter and Tsao, 1996).
[3] ORNL LCV for aquatic biota (Suter and Tsao, 1996).
[4] Region 5 ESLs (U.S. EPA 2003a; Available at http://www.epa.gov/RCRIS-Region-5/ca/ESL.pdf). Equilibrium partitioning based sediment ESLs presented in this table are adjusted to a default TOC of 1%. ESLs used in screening are adjusted to site-specific TOC.
[5] TEC from MacDonald, et al. (2000).
[6] LEL from Ontario Ministry of the Environment (Persaud, et al. 1996).
[7] ER-Ls from Long and Morgan (1990).
[8] ORNL SCV for sediment-associated biota (Jones et al., 1997) adjusted to default of 1% TOC. SCVs adjusted to site-specific TOC for screening.
[9] Value from NOAA's Screening Quick Reference Table (Buchman, 1999).
[10] U.S. EPA Eco-SSL. Value selected is the lower of the values derived for soil invertebrates, plants, birds, and mammals.
[11] ORNL screening benchmark for terrestrial plants (Efroymson, et al., 1997); values for earthworms are higher.
[12] Region 4 Ecological Screening Values (U.S. EPA, 2001; Available at http://www.epa.gov/region4/waste/ots/ecolbul.htm).
[13] Region 3 Ecological Screening Values (U.S. EPA, 2006; Available at http://www.epa.gov/reg3hwmd/risk/eco/index.htm).
[14] Value for 1,2-dichloroethene used as a surrogate.
[15] Value for m-xylene used as a surrogate.
[16] Value for benzo(a)anthracene used as a surrogate.
[17] Value for benzo(b)fluoranthene used as a surrogate.
[18] Value for 4-nitrophenol used as a surrogate.
[19] Value for diethylphthalate used as a surrogate.
[20] Value for 1,3-dichloropropene used as a surrogate.
[21] Value for trans-1,2-dichloroethene used as a surrogate.
[22] Region 5 sediment ESL not based on equilibrium partitioning.
[23] Screening level based on impacts to higher trophic level receptors.
[24] No numerical Eco-SSL. Toxicity is dependent on soil pH, not total concentration of aluminum.
[25] No numerical Eco-SSL. Toxicity is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions).



Key:

● Potentially complete exposure pathway.

○ Pathway incomplete or insignificant, no further evaluation recommended.

1 Several ecological screening levels used in the SLERA incorporate impacts to vertebrate wildlife via food web exposure. A more detailed consideration of bioaccumulation may be warranted in the BERA

Figure 2-1
Ecological Conceptual Site Model AK Steel, Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

ENSR | AECOM

M060072

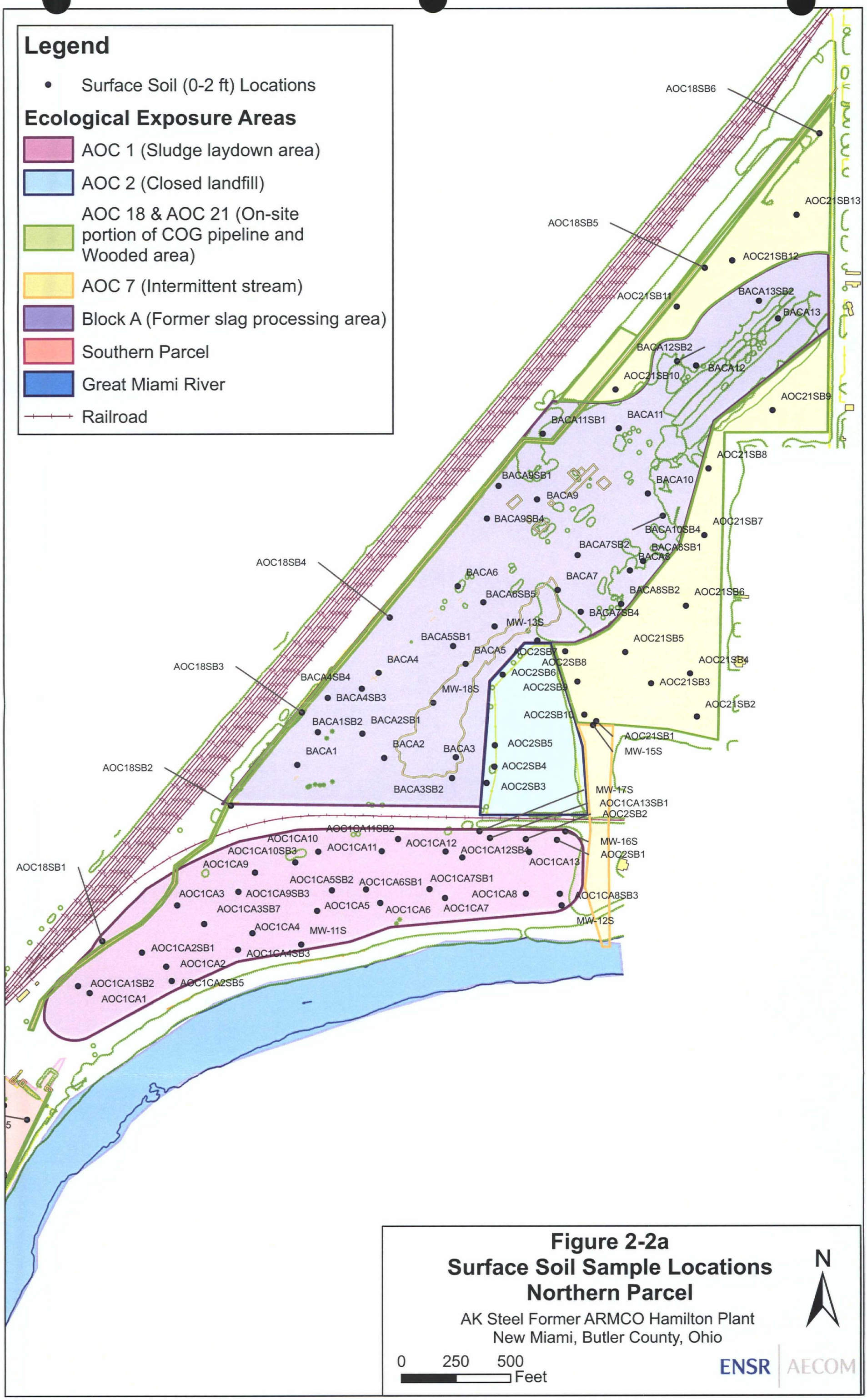


Figure 2-2a
Surface Soil Sample Locations
Northern Parcel

AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio

Figure 2-2b
Surface Soil Sample Locations
Southern Parcel

AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio

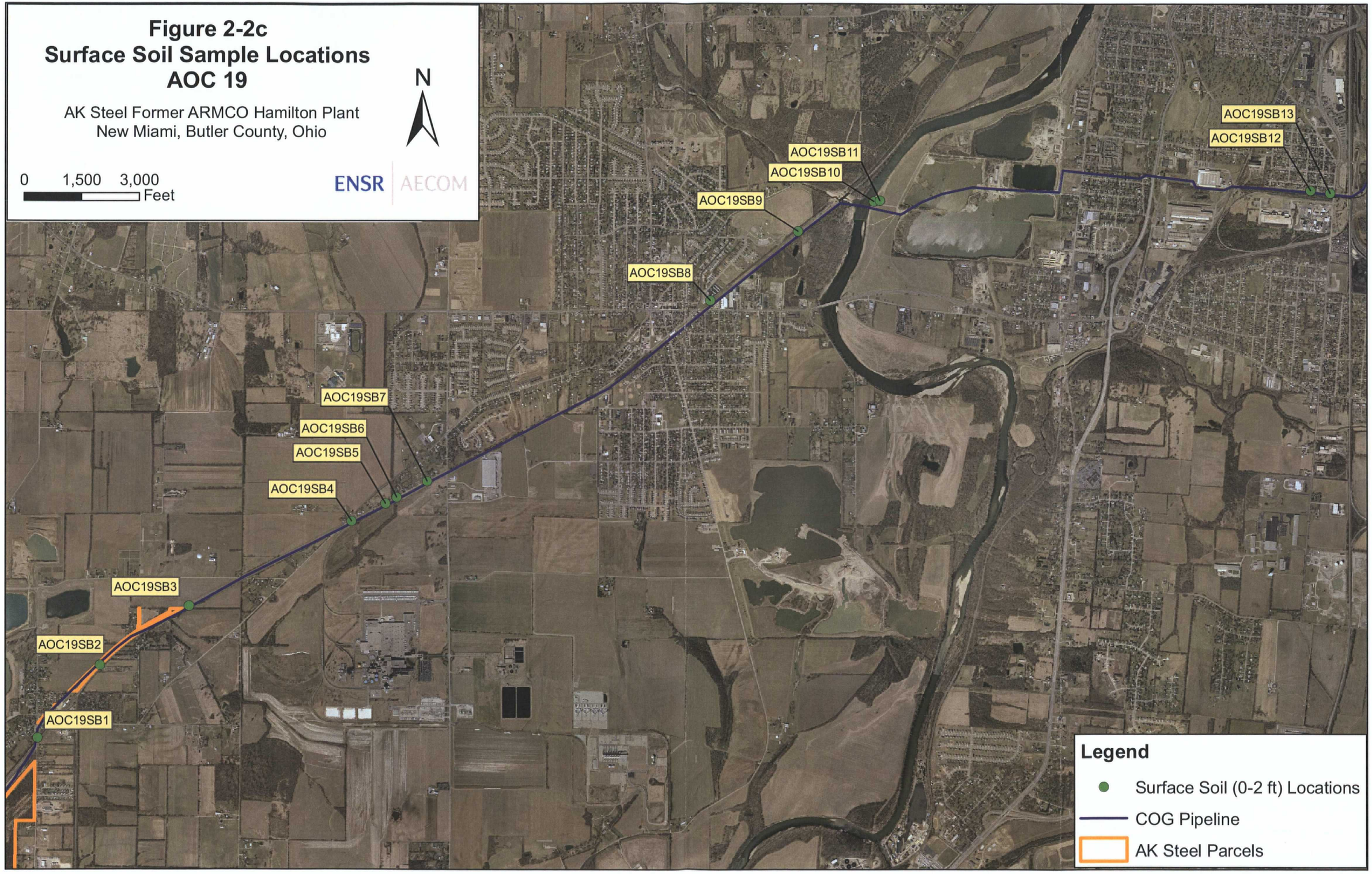
Figure 2-2c
Surface Soil Sample Locations
AOC 19

AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio

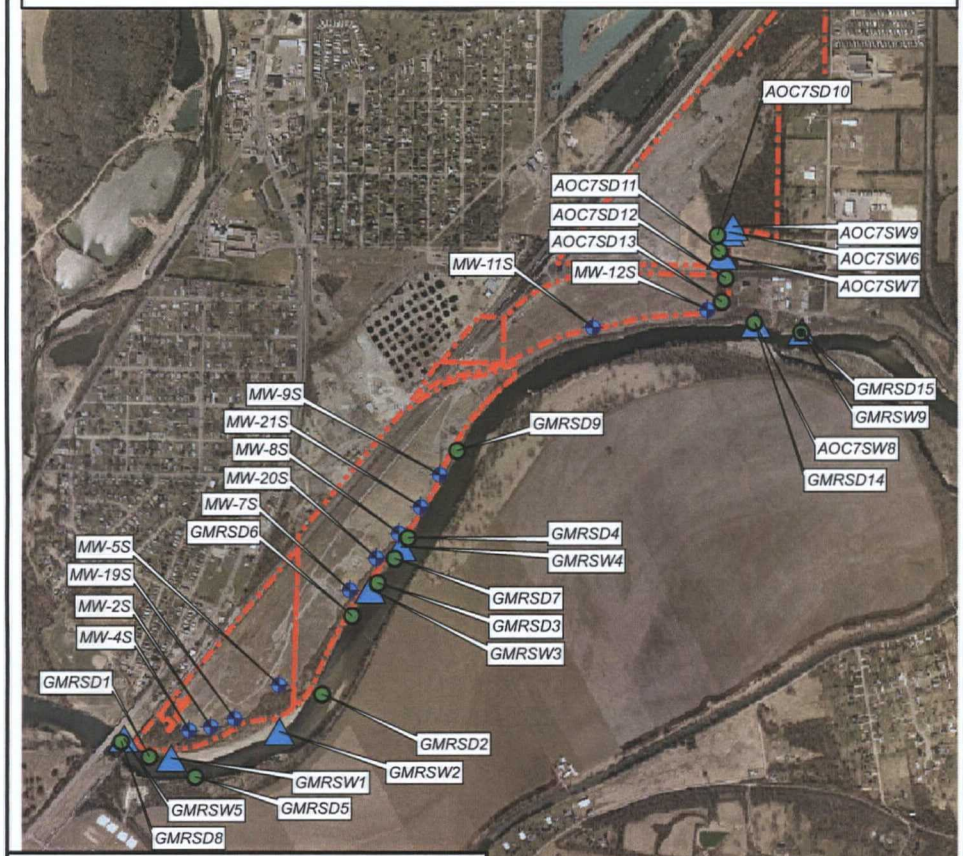
N

0 1,500 3,000 Feet

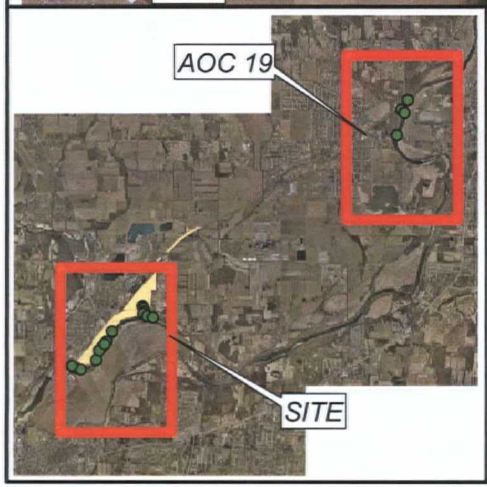
ENSR | AECOM



SITE



AOC 19



Source: USGS Topographic Quadrangles for Butler County

0 1,000 2,000 4,000 Feet

Surface Water, Sediment and Groundwater Sampling Locations

AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio

SCALE	DATE	PROJECT NO.
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ENSR | AECOM

Figure Number

2-3

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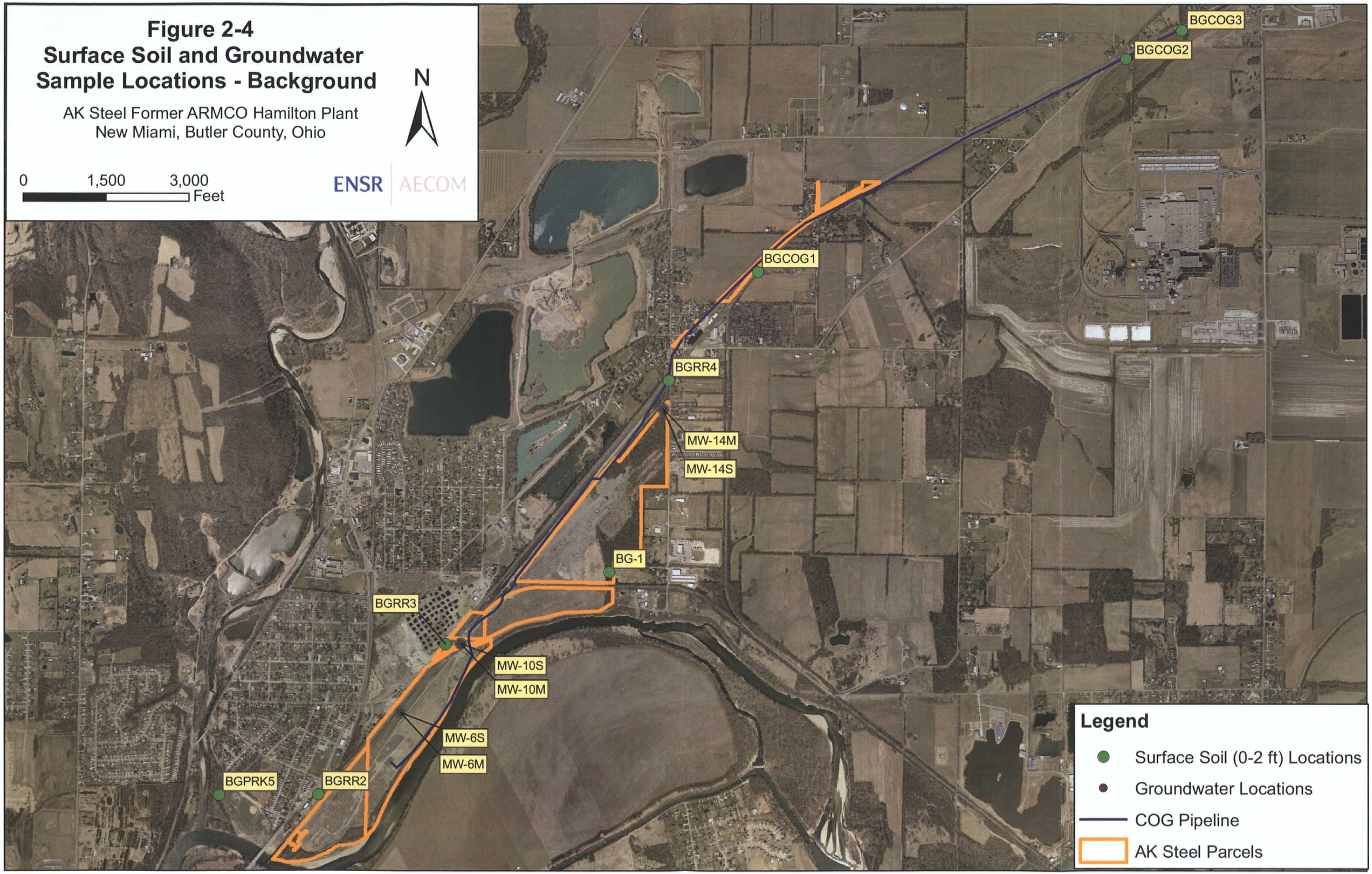


Figure 2-4
Surface Soil and Groundwater Sample Locations - Background
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
N
0
1,500
3,000
Feet
ENSR
AECOM
BGCOG3
BGCOG2
BGCOG1
BGRR4
MW-14M
MW-14S
BG-1
BGRR3
MW-10S
MW-10M
MW-6S
MW-6M
BGPRK5
BGRR2
Legend
Surface Soil (0-2 ft) Locations
Groundwater Locations
COG Pipeline
AK Steel Parcels

3.0 Block A (Former Slag Processing Area) Exposure Area

This section presents the results of the SLERA conducted for the Block A Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The Block A Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the Block A Exposure Area SLERA is to evaluate recently collected analytical chemistry data to determine whether or not there is current or future exposure of environmental receptors to chemical stressors at this portion of the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface soils in the Block A Exposure Area. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figure 2-2. Summary statistics for the soils in the Block A Exposure Area are presented in Appendix B and the screening is presented in Table 3-1.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

3.1 Ecological Characterization

Block A is a large (approximately 50 acre) area bordered to the south by AOC 1 (sludge lay down area), to the west by AOC 2 (Closed Landfill) and AOC 21, and to the north by the CSX Railyard. This portion of the Site includes an area (Block A, Composite Areas 1 through 6) which is covered with large mounds of slag (a by-product material generated from the former iron production facilities on the southern parcel). Little vegetation occurs in this urbanized region, with the exception of occasional tufts of ragweed, knapweed, and goldenrod. Tracks of white-tailed deer (*Odocoileus virginianus*) were observed atop the slag and several swallow nests were observed on an exposed bank of the slag.

The northern and western portion of Block A (Composite Areas 7 through 12) is sparsely vegetated with an early successional ruderal community. This area includes regions of dense shrubs (primarily honeysuckle (likely *Lonicera hirsuta*), as well as more open areas containing secondary herbaceous growth. Vegetation observed in this region includes honeysuckle, smooth sumac (*Rhus glabra*), aster (*Aster* sp.), goldenrod (*Solidago* spp.), mullein (*Verbascum thaspus*), clovers (*Trifolium* sp. *Meliotus alba*), and red cedar (*Juniperus virginiana*). This area is characterized by relatively uniform ruderal conditions and provides only limited habitat value.

3.2 Results: SLERA Evaluation of Surface Soil

Thirty-two surface soil locations were sampled within Block A and are evaluated in this SLERA. Maximum detected concentrations of constituents in soil from the Block A Exposure Area were compared to ecological screening values. This evaluation is presented in Table 3-1. Soil screening values were available for all of the 17 detected inorganic compounds, 18 of the 20 detected SVOC compounds (including total PAHs), 19 of the 23 detected VOC compounds, total PCBs, and dioxin/furans in soil from the Block A Exposure Area.

The maximum detected concentrations of 11 of the inorganic compounds exceeded the respective screening values. The maximum detected concentrations of arsenic, beryllium, mercury, and nickel did not exceed the associated screening values. Soil conditions are expected to limit the potential toxicity of aluminum and iron; therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of 2 of the individual SVOCs with benchmarks exceeded the respective benchmarks. Although few individual PAHs exceeded the respective benchmarks, the maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs. No screening values were available for carbazole and dibenzofuran.

The maximum detected concentrations of 6 of the VOCs with benchmarks exceeded the respective benchmarks. No screening values were available for isopropylbenzene, m + p xylene, methylcyclohexane, and o-xylene. However, m + p xylene and o-xylene were summed and evaluated as total xylenes.

The maximum detected concentration of total PCBs did not exceed the respective benchmark.

The maximum concentrations of 2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF) and 2,3,7,8-TCDD did not exceed benchmarks. The TCDD-TEQ for mammals did exceed the benchmark for 2,3,7,8-TCDD.

3.3 Summary

As presented in Table 3-1, a number of constituents in the Block A Exposure Area soils were present at concentrations above ecological screening values, or did not have ecological screening values identified. Therefore the SLCOPCs retained in soil for the Block A Exposure Area due to benchmark exceedances include: all of the detected inorganic constituents except aluminum, arsenic, beryllium, iron, and nickel; 2 individual SVOCs (benzo(a)pyrene and chrysene) and total PAHs; 6 VOCs (1,2-dichloroethane, benzene, carbon disulfide, ethylbenzene, styrene, and total xylenes); and dioxins (based on the TCDD-TEQ for mammals).The xylene isomers (m + p xylene and o-xylene) lacked screening values, but were retained as SLCOPC since total xylenes exceeded the associated screening value.

The following SLCOPCs were retained due to a lack of benchmarks: carbazole, dibenzofuran, isopropylbenzene and methylcyclohexane. Mercury and total PCBs were retained as SLCOPCs, even though concentrations were below the associated benchmarks, since they are bioaccumulative compounds and the benchmarks are based on impacts to lower trophic level receptors (i.e., terrestrial plants).

Table 3-1
Surface Soil Ecological Screening Evaluation - Block A Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	15 : 15 : 15	36400	(d)	(d)	(d)	BACA1	(d)
7440-38-2	Arsenic	mg/kg	11 : 15 : 15	9.4	18	0.52	No	BACA10	0
7440-39-3	Barium	mg/kg	15 : 15 : 15	***369***	330	1	Yes	BACA9	5
7440-41-7	Beryllium	mg/kg	15 : 15 : 15	8.4	21	0.40	No	BACA6	0
7440-43-9	Cadmium	mg/kg	10 : 15 : 15	***11.95***	0.36	33	Yes	BACA13	10
7440-47-3	Chromium (total)	mg/kg	15 : 15 : 15	***170***	26	7	Yes	BACA5	8
7440-48-4	Cobalt	mg/kg	4 : 15 : 15	***30.55***	13	2	Yes	BACA13	1
7440-50-8	Copper	mg/kg	14 : 15 : 15	***45.3***	28	1.6	Yes	BACA12	4
57-12-5	Cyanide	mg/kg	10 : 15 : 15	***2.66***	1.33	2.2	Yes	MW-18S	9
7439-89-6	Iron	mg/kg	15 : 15 : 15	231500	(e)	(e)	(e)	BACA13	(e)
7439-92-1	Lead	mg/kg	15 : 15 : 15	***34.3***	11	3	Yes	BACA12	10
7439-96-5	Manganese	mg/kg	15 : 15 : 15	***7650***	500	15.3	Yes	BACA13	15
7439-97-6	Mercury	mg/kg	3 : 15 : 15	0.08	0.3	0.27	No	BACA7	0
7440-02-0	Nickel	mg/kg	8 : 15 : 15	24.9	28	0.89	No	BACA5	0
7782-49-2	Selenium	mg/kg	11 : 13 : 15	***10.6***	1	11	Yes	BACA5	11
7440-62-2	Vanadium	mg/kg	15 : 15 : 15	***65.2***	7.8	10.9	Yes	BACA5	15
7440-66-6	Zinc	mg/kg	14 : 15 : 15	***140***	50	2.8	Yes	BACA8	3
SVOCs									
91-57-6	2-Methylnaphthalene	mg/kg	3 : 3 : 15	0.1	3.24	0.031	No	BACA8	0
208-96-8	Acenaphthylene	mg/kg	7 : 15 : 15	2	682	0.0029	No	MW-13S	0
120-12-7	Anthracene	mg/kg	8 : 15 : 15	2	1480	0.0014	No	MW-13S	0
56-55-3	Benzo(a)anthracene	mg/kg	13 : 15 : 15	3.1	5.21	0.60	No	MW-13S	0
50-32-8	Benzo(a)pyrene	mg/kg	13 : 15 : 15	***8.1***	1.52	6.0	Yes	MW-13S	1
205-99-2	Benzo(b)fluoranthene	mg/kg	13 : 15 : 15	11	59.8	0.18	No	MW-13S	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	13 : 15 : 15	8.6	119	0.072	No	MW-13S	0
207-08-9	Benzo(k)fluoranthene	mg/kg	13 : 15 : 15	7.7	148	0.052	No	MW-13S	0
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	3 : 3 : 15	0.07	0.925	0.076	No	BACA7	0
86-74-8	Carbazole	mg/kg	2 : 14 : 15	0.35	NV	NE	NE	MW-13S	NE
218-01-9	Chrysene	mg/kg	13 : 15 : 15	***5.1***	4.73	1.1	Yes	MW-13S	1
53-70-3	Dibenz(a,h)anthracene	mg/kg	9 : 15 : 15	2	18.4	0.11	No	MW-13S	0
132-64-9	Dibenzofuran	mg/kg	1 : 1 : 15	0.046	NV	NE	NE	MW-18S	NE
206-44-0	Fluoranthene	mg/kg	13 : 15 : 15	3.5	122	0.029	No	MW-13S	0
86-73-7	Fluorene	mg/kg	1 : 1 : 15	0.046	122	0.00038	No	MW-18S	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	13 : 15 : 15	6.9	109	0.063	No	MW-13S	0
91-20-3	Naphthalene	mg/kg	3 : 3 : 15	0.096	0.0994	0.99	No	BACA8	0
85-01-8	Phenanthrene	mg/kg	13 : 15 : 15	0.75	45.7	0.02	No	BACA8	0
129-00-0	Pyrene	mg/kg	13 : 15 : 15	5.8	78.5	0.07	No	MW-13S	0
Total PAHs	Total PAHs	mg/kg	13 : 15 : 15	***67.1***	1.0	67.1	Yes	MW-13S	13
VOCs									
120-82-1	1,2,4-Trichlorobenzene	mg/kg	1 : 1 : 18	0.0015	11.1	0.00014	No	AOC1CA8SB3	0
107-06-2	1,2-Dichloroethane	mg/kg	1 : 1 : 19	***0.00046***	0.000000212	2170	Yes	BACA2SB1	1
78-93-3	2-Butanone	mg/kg	5 : 18 : 19	0.041	89.6	0.00046	No	BACA8SB2	0
108-10-1	4-Methyl-2-pentanone	mg/kg	1 : 1 : 19	0.0011	443	0.0000025	No	MW-18S	0
67-64-1	Acetone	mg/kg	14 : 18 : 19	0.081	2.5	0.032	No	BACA8SB1	0
71-43-2	Benzene	mg/kg	13 : 19 : 19	***26***	0.255	98.0	Yes	BACA7SB4	1
75-15-0	Carbon disulfide	mg/kg	16 : 19 : 19	***1.2***	0.0941	12.8	Yes	BACA7SB4	1
74-87-3	Chloromethane	mg/kg	4 : 4 : 19	0.0012	10.4	0.00012	No	BACA7SB2	0
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 : 18 : 19	0.033825	0.784	0.043	No	MW-18S	0
110-82-7	Cyclohexane	mg/kg	5 : 18 : 19	0.0078	0.1	0.078	No	BACA8SB4	0
75-71-8	Dichlorodifluoromethane	mg/kg	1 : 1 : 19	0.00061	39.5	0.000015	No	BACA3SB2	0
100-41-4	Ethylbenzene	mg/kg	6 : 19 : 19	***68***	5.18	10.9	Yes	BACA7SB4	1
98-82-8	Isopropylbenzene	mg/kg	2 : 2 : 19	0.00035	NV	NE	NE	BACA2SB1	NE
XYLMP	m+p-Xylene	mg/kg	3 : 19 : 19	280	NV	NE	NE	BACA7SB4	NE
108-87-2	Methylcyclohexane	mg/kg	8 : 18 : 19	0.013	NV	NE	NE	BACA8SB4	NE
75-09-2	Methylene chloride	mg/kg	3 : 3 : 19	0.0015	4.05	0.00037	No	BACA8SB4	0
95-47-6	o-Xylene	mg/kg	3 : 19 : 19	160	NV	NE	NE	BACA7SB4	NE
100-42-5	Styrene	mg/kg	1 : 19 : 19	***120***	4.69	25.6	Yes	BACA7SB4	1
108-88-3	Toluene	mg/kg	13 : 19 : 19	190	200	0.95	No	BACA7SB4	0
1330-20-7	Total Xylenes	mg/kg	3 : 19 : 19	***440***	10	44.0	Yes	BACA7SB4	1
156-60-5	trans-1,2-Dichloroethene	mg/kg	1 : 1 : 19	0.00092	0.784	0.0012	No	MW-18S	0
79-01-6	Trichloroethene	mg/kg	2 : 2 : 19	0.0017	12.4	0.00014	No	MW-18S	0
75-69-4	Trichlorofluoromethane	mg/kg	3 : 3 : 19	0.00047	16.4	0.000029	No	MW-18S	0
PCBs									
Total PCBs	Total PCBs	mg/kg	2 : 15 : 15	0.14	40	0.0035	No	BACA12	0
Dioxins/Furans									
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	2 : 6 : 6	0.0000015	0.0000386	0.040	No	MW-13S	0
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	1 : 6 : 6	0.000000087	0.000000199	0.44	No	MW-18S	0
Dioxin TEQ-HH	TCDD-TEQ-mammal	mg/kg	6 : 6 : 6	***0.000014583***	0.000000199	73.1	Yes	MW-13S	6

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for aluminum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

4.0 AOC 2 (Closed Landfill) Exposure Area

This section presents the results of the SLERA conducted for the AOC 2 Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The AOC 2 Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the AOC 2 Exposure Area SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors at this portion the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface soils in the AOC 2 Exposure Area. Surface soil samples were collected from borings located along the perimeter of the landfill. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figure 2-2. Summary statistics for the soils in the AOC 2 Exposure Area are presented in Appendix B and the screening is presented in Table 4-1.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

4.1 Ecological Characterization

The closed landfill on the northern parcel (AOC 2) was used for the disposal of tar decanter sludge and general facility trash. Landfill closure was completed in 1980. At closure, the material within the landfill was stabilized and graded, covered with two-feet of low permeability clay, loamed with topsoil, and seeded. The landfill is completely surrounded by a 6-foot tall chain link fence, and appears to be maintained as a dense, grassy monoculture.

The closed landfill is bounded to the north and west by slag piles, abandoned rail lines, and a partially wooded area; to the east by a wooded area containing the AOC 7 drainage ditch; and to the south by the east-west CSX rail lines. The closed landfill is approximately 4 to 5 acres in surface area, has approximately 3 to 5 feet of mounded topographic relief, and is covered with dense graminoids and other herbaceous material (e.g., clovers (*Trifolium* sp.) and ox-eye daisy (*Chrysanthemum leucanthemum)*). An occasional Japanese honeysuckle (*Lonicera japonica*) was observed around the perimeter of the landfill. This area is characterized by relatively uniform ruderal conditions and provides only limited habitat value.

4.2 Results: SLERA Evaluation of Surface Soil

Maximum detected concentrations of constituents in soil from the AOC 2 Exposure Area were compared to ecological screening values. This evaluation is presented in Table 4-1. Soil screening values were available for all 20 of the detected inorganic compounds, 20 of the 22 detected SVOC compounds (including total PAHs), 13 of the 16 detected VOC compounds, total PCBs, and dioxin/furans in soil from the AOC 2 Exposure Area.

The maximum detected concentrations of 12 of the inorganic compounds exceeded the respective screening values. The maximum detected concentrations of barium, beryllium, cobalt, mercury, nickel, and silver did not exceed the associated screening value. Soil conditions are expected to limit the potential toxicity of aluminum and iron; therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of 3 of the individual SVOCs with benchmarks exceeded the respective benchmarks. Although few individual PAHs exceeded the respective benchmarks, the maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs.

None of the VOCs with benchmarks exceeded the respective benchmarks.

The maximum detected concentration of total PCBs did not exceed the respective benchmark.

The maximum concentration of 2,3,7,8-TCDF did not exceed the respective benchmark. The maximum concentration of 2,3,7,8-TCDD exceeded the benchmark. The maximum TCDD-TEQ for mammals exceeded the benchmark for 2,3,7,8-TCDD.

4.3 Summary

As presented in Table 4-1, a number of constituents in the AOC 2 Exposure Area soils were present at concentrations above ecological screening values, or did not have ecological screening values identified. Therefore the SLCOPCs retained in soil for the AOC 2 Exposure Area due to benchmark exceedances include: all of the detected inorganic constituents except aluminum, barium, beryllium, cobalt, iron, nickel, and silver; three individual SVOCs (benzo(a)pyrene, chrysene, and naphthalene) and total PAHs; and dioxins/furans. Although, the VOCs m+p xylene, and o-xylene do not have screening values they are not being retained as SLCOPCs since the total xylenes concentration (calculated as the sum of the isomers) is below the total xylene screening value.

The following SLCOPCs were retained due to a lack of benchmarks: carbazole, dibenzofuran, and methylcyclohexane. Mercury and total PCBs were retained as SLCOPCs, even though concentrations were below the associated benchmarks, since they are bioaccumulative compounds and the benchmarks are based on impacts to lower trophic level receptors (i.e., terrestrial plants).

Table 4-1
Surface Soil Ecological Screening Evaluation - AOC 2 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	10 : 10 : 10	31200	(d)	(d)	(d)	AOC2SB5	(d)
7440-36-0	Antimony	mg/kg	4 : 4 : 10	***3.61***	0.27	13.4	Yes	AOC2SB5	4
7440-38-2	Arsenic	mg/kg	9 : 10 : 10	***23.7***	18	1.3	Yes	AOC2SB2	1
7440-39-3	Barium	mg/kg	10 : 10 : 10	303	330	0.92	No	AOC2SB5	0
7440-41-7	Beryllium	mg/kg	8 : 10 : 10	6.74	21	0.32	No	AOC2SB3	0
7440-43-9	Cadmium	mg/kg	5 : 10 : 10	***5.84***	0.36	16	Yes	AOC2SB2	3
7440-47-3	Chromium (total)	mg/kg	9 : 10 : 10	***33.2***	26	1.3	Yes	AOC2SB2	1
7440-48-4	Cobalt	mg/kg	10 : 10 : 10	9.17	13	0.71	No	AOC2SB6	0
7440-50-8	Copper	mg/kg	10 : 10 : 10	***48.1***	28	1.8	Yes	AOC2SB2	1
57-12-5	Cyanide	mg/kg	9 : 10 : 10	***9.6***	1.33	7.1	Yes	AOC2SB2	3
7439-89-6	Iron	mg/kg	10 : 10 : 10	213000	(e)	(e)	(e)	AOC2SB2	(e)
7439-92-1	Lead	mg/kg	10 : 10 : 10	***336***	11	31	Yes	AOC2SB2	6
7439-96-5	Manganese	mg/kg	10 : 10 : 10	***3430***	500	6.9	Yes	AOC2SB5	9
7439-97-6	Mercury	mg/kg	7 : 10 : 10	0.117	0.30	0.39	No	AOC2SB4	0
7440-02-0	Nickel	mg/kg	10 : 10 : 10	25.1	28	0.90	No	AOC2SB2	0
7782-49-2	Selenium	mg/kg	4 : 10 : 10	***5.04***	1.0	5	Yes	AOC2SB3	4
7440-22-4	Silver	mg/kg	1 : 10 : 10	1.03	4.2	0.25	No	AOC2SB2	0
7440-28-0	Thallium	mg/kg	5 : 10 : 10	***2.47***	1.0	2.5	Yes	AOC2SB2	1
7440-62-2	Vanadium	mg/kg	10 : 10 : 10	***46.3***	7.8	5.9	Yes	AOC2SB6	10
7440-66-6	Zinc	mg/kg	10 : 10 : 10	***1390***	50	28	Yes	AOC2SB2	6
SVOCs									
92-52-4	1,1-Biphenyl	mg/kg	1 : 10 : 10	0.29	60	0.0048	No	AOC2SB2	0
91-57-6	2-Methylnaphthalene	mg/kg	3 : 10 : 10	0.35	3.24	0.11	No	AOC2SB2	0
83-32-9	Acenaphthene	mg/kg	1 : 10 : 10	0.5	682	0.0007	No	AOC2SB4	0
208-96-8	Acenaphthylene	mg/kg	4 : 10 : 10	1.0	682	0.0015	No	AOC2SB1	0
120-12-7	Anthracene	mg/kg	4 : 10 : 10	1.5	1480	0.0010	No	AOC2SB1	0
56-55-3	Benzo(a)anthracene	mg/kg	8 : 10 : 10	3.8	5.21	0.73	No	AOC2SB1	0
50-32-8	Benzo(a)pyrene	mg/kg	7 : 10 : 10	***5.8***	1.52	3.7	Yes	AOC2SB1	2
205-99-2	Benzo(b)fluoranthene	mg/kg	7 : 10 : 10	9.3	59.8	0.16	No	AOC2SB1	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	8 : 10 : 10	2.8	119	0.024	No	AOC2SB1	0
207-08-9	Benzo(k)fluoranthene	mg/kg	8 : 10 : 10	2.4	148	0.016	No	AOC2SB1	0
86-74-8	Carbazole	mg/kg	4 : 10 : 10	0.36	NV	NE	NE	AOC2SB1	NE
218-01-9	Chrysene	mg/kg	7 : 10 : 10	***5.4***	4.73	1.1	Yes	AOC2SB1	1
53-70-3	Dibenz(a,h)anthracene	mg/kg	6 : 10 : 10	1.4	18.4	0.076	No	AOC2SB1	0
132-64-9	Dibenzofuran	mg/kg	4 : 10 : 10	0.25	NV	NE	NE	AOC2SB2	NE
206-44-0	Fluoranthene	mg/kg	7 : 10 : 10	3.7	122	0.030	No	AOC2SB4	0
86-73-7	Fluorene	mg/kg	3 : 10 : 10	0.24	122	0.0020	No	AOC2SB4	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	7 : 10 : 10	2.8	109	0.026	No	AOC2SB1	0
91-20-3	Naphthalene	mg/kg	4 : 10 : 10	***0.41***	0.0994	4.1	Yes	AOC2SB2	3
106-44-5	p-Cresol (4-Methylphenol)	mg/kg	1 : 1 : 10	0.034	163	0.00021	No	AOC2SB1	0
85-01-8	Phenanthrene	mg/kg	7 : 10 : 10	2.4	45.7	0.053	No	AOC2SB4	0
129-00-0	Pyrene	mg/kg	8 : 10 : 10	4	78.5	0.051	No	AOC2SB1	0
Total PAHs	Total PAHs	mg/kg	8 : 10 : 10	***44.5***	1.0	44.5	Yes	AOC2SB1	8
VOCs									
95-50-1	1,2-Dichlorobenzene	mg/kg	1 : 1 : 10	0.0015	2.96	0.00051	No	AOC2SB1	0
541-73-1	1,3-Dichlorobenzene	mg/kg	1 : 1 : 10	0.0018	37.7	0.000048	No	AOC2SB1	0
106-46-7	1,4-Dichlorobenzene	mg/kg	1 : 5 : 10	0.0025	0.546	0.0046	No	AOC2SB1	0
78-93-3	2-Butanone	mg/kg	3 : 3 : 10	0.0029	89.6	0.000032	No	AOC2SB4	0
591-78-6	2-Hexanone	mg/kg	1 : 9 : 10	0.016	12.6	0.0013	No	AOC2SB2	0
67-64-1	Acetone	mg/kg	5 : 5 : 10	0.048	2.5	0.019	No	AOC2SB4	0
71-43-2	Benzene	mg/kg	2 : 2 : 10	0.0016	0.255	0.0063	No	AOC2SB4	0
75-15-0	Carbon disulfide	mg/kg	3 : 9 : 10	0.01	0.0941	0.11	No	AOC2SB5	0
110-82-7	Cyclohexane	mg/kg	1 : 3 : 10	0.0041	0.1	0.041	No	AOC2SB4	0
100-41-4	Ethylbenzene	mg/kg	1 : 1 : 10	0.002	5.16	0.00039	No	AOC2SB4	0
XYLMP	m+p-Xylene	mg/kg	1 : 1 : 10	0.0028	NV	NE	NE	AOC2SB4	NE
108-87-2	Methylcyclohexane	mg/kg	1 : 3 : 10	0.0047	NV	NE	NE	AOC2SB4	NE
75-09-2	Methylene chloride	mg/kg	3 : 3 : 10	0.00045	4.05	0.00011	No	AOC2SB3	0
95-47-6	o-Xylene	mg/kg	1 : 1 : 10	0.0013	NV	NE	NE	AOC2SB4	NE
108-88-3	Toluene	mg/kg	1 : 9 : 10	0.0047	5.45	0.00086	No	AOC2SB4	0
1330-20-7	Total Xylenes	mg/kg	1 : 1 : 10	0.0041	10	0.00041	No	AOC2SB4	0
PCBs									
Total PCBs	Total PCBs	mg/kg	4 : 4 : 10	0.017	40	0.00043	No	AOC2SB3	0
Dioxins/Furans									
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	2 : 3 : 3	0.0000061	0.0000386	0.16	No	AOC2SB2	0
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	1 : 3 : 3	***0.000000610***	0.000000199	3.1	Yes	AOC2SB2	1
Dioxin TEQ-HH	TCDD-TEQ-mammal	mg/kg	3 : 3 : 3	***0.000004748***	0.000000199	23.9	Yes	AOC2SB2	3

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for aluminum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

5.0 AOC 21 (Wooded Area) & AOC 18 (On-Site COG Pipeline) Exposure Area

This section presents the results of the SLERA conducted for the AOC 21 and AOC 18 Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The AOC 21 and AOC 18 Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the AOC 21 and AOC 18 Exposure Area SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors at this portion the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface soils in the AOC 21 and AOC 18 Exposure Area. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figure 2-2. Summary statistics for the soils in the AOC 21 and AOC 18 Exposure Areas are presented in Appendix B and the screening is presented in Table 5-1.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

5.1 Ecological Characterization

The former onsite COG pipeline (AOC 18) conveyed COG from the COG gas in underground and aboveground sections on the site. The COG pipeline was a predominately 16-inch diameter underground pipeline located on the eastern portion of the southern parcel and the western portion of the northern parcel, and located offsite between the Site and the AK Steel Middletown Works. Located along various portions of the COG pipe were drip legs, blowoffs and valve pits. The pipeline was decommissioned by OHM by June 1989. The work included cleaning and grouting of the COG line. Approximately 39 pits (i.e., valve pits, pig pits, blow offs, and drip legs) along the course of the COG pipeline were also cleaned, dismantled, and backfilled to grade with fill material.

The decommissioned COG pipeline on the southern portion of the site is located predominantly beneath areas covered by secondary growth, including ruderal grasses, forbes, and shrubs. After it crosses Augsburger Road it borders AOC 1 (the Former Sludge Laydown Area) and parallels a gravel access road and is covered again by a similar vegetative community. The COG pipeline then crosses beneath an active onsite railroad track and travels northward and borders Block A (the former slag processing area) and off-site and adjacent railroad tracks. The COG pipeline that borders Block A is covered by fill material, grasses, forbes, trees and bushes and a gravel access road in some areas.

AOC 21 comprises the remaining areas in the North Parcel. It includes AHP property that is not part of AOC 1, AOC 2, or Block A, but is within the former Armco Hamilton boundaries. The topography in this area is relatively flat, but is punctuated by fill piles which have been colonized by ruderal vegetation. This area is characterized by relatively uniform ruderal conditions and provides only limited habitat value.

Ecologically, AOC 21 is a dense shrub land, and contains a virtual monoculture of honeysuckle (likely *Lonicera hirsuta*). The shrub layer in this portion of the Site is dense enough to preclude much development of an herbacesous community, however the perimeter of this area was colonized by an occasional teasel (*Dipsacus fullonum),* aster (*Aster* sp.), mullein (*Verbascum thaspus*), as well as clumps of smooth sumac (Rhus glabra). Other vegetation observed in AOC 21 includes American elm (*Ulmus americana*), Japanese honeysuckle (*Lonicera japonica*), grape (*Vitis* sp.), hackberry (*Celtis occidentalis*), and cottonwood (*Populus deltoides*).

5.2 Results: SLERA Evaluation of Surface Soil

Maximum detected concentrations of constituents in soil from the AOC 21 and AOC 18 Exposure Area were compared to ecological screening values. This evaluation is presented in Table 5-1. Soil screening values were available for all 19 of the detected inorganic compounds, all 17 of the detected SVOC compounds (including total PAHs), 11 of the 14 detected VOC compounds, total PCBs, and dioxin/furans in soil from the AOC 21 and AOC 18 Exposure Areas.

The maximum detected concentrations of 15 of the inorganic compounds exceeded the respective screening values. The maximum detected concentrations of beryllium and mercury did not exceed the associated screening value. Soil conditions are expected to limit the potential toxicity of aluminum and iron, therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of four of the individual SVOCs with benchmarks exceeded the respective benchmarks. Although few individual PAHs exceeded the respective benchmarks, the maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs.

None of the VOCs with benchmarks exceeded the respective benchmarks.

The maximum detected concentration of total PCBs did not exceed the respective benchmark.

The maximum detected concentration of 2,3,7,8-TCDD and the maximum TCDD-TEQ for mammals exceeded the benchmark for 2,3,7,8-TCDD.

5.3 Summary

As presented in Table 5-1, a number of constituents in the AOC 21 and AOC 18 Exposure Area soil were present at concentrations above screening value or did not have ecological screening values identified. Therefore the SLCOPCs retained in soil for the AOC 21 and AOC 18 Exposure Area due to benchmark exceedances include: all of the detected inorganic constituents except aluminum, beryllium, and iron; four individual SVOCs (benzo(a)anthracene, benzo(a)pyrene, chrysene, and naphthalene) and total PAHs; and dioxins/furans. Mercury and total PCBs were retained as SLCOPCs, even though concentrations were below the associated benchmarks, since they are bioaccumulative compounds and the benchmarks are based on impacts to lower trophic level receptors (i.e., terrestrial plants).

Although, the VOCs m+p xylene and o-xylene do not have screening values they are not being retained as SLCOPCs since the total xylenes concentrations (calculated as the sum of the isomers) are below the total xylene screening value.

Methylcyclohexane was retained due to the lack of a benchmark.

Table 5-1
Surface Soil Ecological Screening Evaluation - AOC 21 and AOC 18 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	20 : 20 : 20	50100	(d)	(d)	(d)	AOC18SB2	(d)
7440-36-0	Antimony	mg/kg	3 : 3 : 20	***0.557***	0.27	2.1	Yes	AOC21SB1	3
7440-38-2	Arsenic	mg/kg	19 : 20 : 20	***18.4***	18	1.0	Yes	AOC21SB1	1
7440-39-3	Barium	mg/kg	20 : 20 : 20	***396***	330	1	Yes	AOC18SB2	2
7440-41-7	Beryllium	mg/kg	15 : 20 : 20	8.2	21	0.39	No	AOC18SB4	0
7440-43-9	Cadmium	mg/kg	9 : 20 : 20	***1.7***	0.36	5	Yes	AOC18SB1	8
7440-47-3	Chromium (total)	mg/kg	20 : 20 : 20	***51***	26	2	Yes	AOC18SB5	5
7440-48-4	Cobalt	mg/kg	14 : 20 : 20	***13.5***	13	1.0	Yes	AOC21SB1	3
7440-50-8	Copper	mg/kg	16 : 20 : 20	***34.1***	28	1.2	Yes	AOC18SB1	2
57-12-5	Cyanide	mg/kg	3 : 20 : 20	***6.7***	1.33	5.0	Yes	AOC18SB1	3
7439-89-6	Iron	mg/kg	20 : 20 : 20	47700	(e)	(e)	(e)	AOC18SB1	(e)
7439-92-1	Lead	mg/kg	18 : 20 : 20	***83.5***	11	9	Yes	AOC18SB1	13
7439-96-5	Manganese	mg/kg	20 : 20 : 20	***7570***	500	15.1	Yes	AOC18SB3	18
7439-97-6	Mercury	mg/kg	3 : 20 : 20	0.16	0.3	0.53	No	AOC18SB1	0
7440-02-0	Nickel	mg/kg	18 : 20 : 20	***38.5***	28	1.3	Yes	AOC21SB1	1
7782-49-2	Selenium	mg/kg	12 : 20 : 20	***7.7***	1.00	8	Yes	AOC18SB2	12
7440-28-0	Thallium	mg/kg	4 : 9 : 20	***1.14***	1.00	1.1	Yes	AOC21SB1	2
7440-62-2	Vanadium	mg/kg	19 : 20 : 20	***63.1***	7.8	8.1	Yes	AOC21SB1	19
7440-66-6	Zinc	mg/kg	20 : 20 : 20	***386***	50	7.7	Yes	AOC18SB1	10
SVOCs									
208-96-8	Acenaphthylene	mg/kg	2 : 20 : 20	2.4	682	0.0035	No	AOC18SB3	0
120-12-7	Anthracene	mg/kg	2 : 20 : 20	0.88	1480	0.00059	No	AOC18SB3	0
56-55-3	Benzo(a)anthracene	mg/kg	6 : 20 : 20	***7.5***	5.21	1.4	Yes	AOC18SB3	1
50-32-8	Benzo(a)pyrene	mg/kg	4 : 20 : 20	***6.8***	1.52	4.3	Yes	AOC18SB3	2
205-99-2	Benzo(b)fluoranthene	mg/kg	5 : 20 : 20	7.4	59.6	0.124	No	AOC18SB3	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	5 : 20 : 20	5.9	119	0.050	No	AOC18SB3	0
207-08-9	Benzo(k)fluoranthene	mg/kg	5 : 20 : 20	7.7	148	0.052	No	AOC18SB3	0
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	1 : 1 : 14	0.04	0.925	0.043	No	AOC21SB10	0
218-01-9	Chrysene	mg/kg	8 : 20 : 20	***9.1***	4.73	1.9	Yes	AOC18SB3	1
53-70-3	Dibenz(a,h)anthracene	mg/kg	3 : 20 : 20	1.9	18.4	0.10	No	AOC18SB3	0
206-44-0	Fluoranthene	mg/kg	9 : 20 : 20	11	122	0.090	No	AOC18SB3	0
86-73-7	Fluorene	mg/kg	1 : 1 : 20	0.16	122	0.0013	No	AOC18SB1	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	3 : 20 : 20	5.4	109	0.050	No	AOC18SB3	0
91-20-3	Naphthalene	mg/kg	2 : 19 : 20	***0.49***	0.0994	4.9	Yes	AOC18SB1	1
85-01-8	Phenanthrene	mg/kg	7 : 20 : 20	3.5	45.7	0.077	No	AOC18SB3	0
129-00-0	Pyrene	mg/kg	9 : 20 : 20	14	78.5	0.18	No	AOC18SB3	0
Total PAHs	Total PAHs	mg/kg	11 : 20 : 20	***83.3***	1.0	83.3	Yes	AOC18SB3	11
VOCs									
78-93-3	2-Butanone	mg/kg	1 : 13 : 14	0.006	89.6	0.000067	No	AOC21SB12	0
67-64-1	Acetone	mg/kg	7 : 14 : 14	0.095	2.5	0.038	No	AOC21SB12	0
71-43-2	Benzene	mg/kg	4 : 20 : 20	0.0035	0.255	0.014	No	AOC18SB2	0
75-15-0	Carbon disulfide	mg/kg	4 : 4 : 14	0.0033	0.0941	0.035	No	AOC21SB10	0
67-66-3	Chloroform	mg/kg	1 : 1 : 14	0.0014	1.19	0.0012	No	AOC21SB1	0
110-82-7	Cyclohexane	mg/kg	2 : 5 : 14	0.0027	0.1	0.027	No	AOC21SB10	0
100-41-4	Ethylbenzene	mg/kg	3 : 3 : 20	0.0014	5.16	0.00027	No	AOC18SB2	0
XYLMP	m+p-Xylene	mg/kg	3 : 20 : 20	0.0065	NV	NE	NE	AOC18SB6	NE
108-87-2	Methylcyclohexane	mg/kg	3 : 5 : 14	0.004	NV	NE	NE	AOC21SB10	NE
75-09-2	Methylene chloride	mg/kg	2 : 2 : 14	0.00088	4.05	0.00022	No	MW-15S	0
95-47-6	o-Xylene	mg/kg	3 : 3 : 20	0.00088	NV	NE	NE	AOC18SB2	NE
108-88-3	Toluene	mg/kg	5 : 20 : 20	0.0035	200	0.00002	No	AOC18SB2	0
1330-20-7	Total Xylenes	mg/kg	3 : 20 : 20	0.00714	10	0.00071	No	AOC18SB6	0
75-69-4	Trichlorofluoromethane	mg/kg	1 : 1 : 14	0.00067	16.4	0.000041	No	MW-15S	0
PCBs									
Total PCBs	Total PCBs	mg/kg	2 : 11 : 11	1.3	40	0.033	No	AOC18SB1	0
Dioxins/Furans									
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	3 : 7 : 7	***0.000000472***	0.000000199	2.4	Yes	AOC18SB5	1
Dioxin TEQ-HH	TCDD-TEQ-mammal	mg/kg	7 : 7 : 7	***0.000000639***	0.000000199	3.2	Yes	AOC18SB5	3

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for aluminum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

6.0 AOC 7 (Intermittent Stream) Exposure Area

This section presents the results of the SLERA conducted for the AOC 7 Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The AOC 7 Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the AOC 7 Exposure Area SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors at this portion of the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface water and surficial sediment in the intermittent stream that comprises the AOC 7 Exposure Area.

The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figures 2-2 and 2-3. Summary statistics for the surface water and sediment in the AOC 7 Exposure Area are presented in Appendix B and the screening is presented in Tables 6-1 through 6-3. Because AOC 7 contains a predominantly dry bed intermittent stream that is only occasionally flooded, there is considerable uncertainty associated with use of aquatic life screening values in this dry bed system. Therefore, concentrations of constituents in sediment were compared to both sediment screening criteria (Table 6-2) and soil screening criteria (Table 6-3). Comparison to sediment screening criteria is a conservative approach to account for those times when parts of AOC 7 are under standing water.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

6.1 Ecological Characterization

The AOC 7 intermittent stream is a meandering, dry-bed drainage feature which serves to convey stormwater runoff from an area north of the Great Miami River into the river. The northern portion of the AOC 7 channel runs parallel to and north of the eastern boundary of the closed landfill (AOC 2). In addition to potentially serving to convey drainage from the vicinity of the closed landfill, it is possible that other portions of the northern parcel are also drained by the AOC 7 drainage ditch.

The substrate in AOC 7 is primarily sand, gravel, and cobble, with little depositional environments present. Although this AOC is characterized by features indicative of flowing water (signs of scour are present throughout portions of the ditch), even after a significant rain event, few pools of standing water were present in AOC 7 at the time of site inspection. Much of the AOC 7 ditch channel is approximately 10 to 12 feet wide, with a steep, undercut bank. The AOC itself covers less than 3 acres. The ditch drains directly into the Great Miami River, without benefit of any velocity reducers or other man-made structures. In upstream portions of the ditch, in addition to the native rock and cobble substrate, a number of railroad ties were observed in and adjacent to the ditch channel.

Both the eastern and western sides of the AOC 7 drainage ditch are densely vegetated with a deciduous shrub community. Dense stands of honeysuckle (likely *Lonicera hirsuta*) occur on both sides of ditch. Dense vines in this region include catbriar (*Smilax glauca*), wild grape (*Vitis* sp.), and poison ivy (*Rhus toxicodendrons*). The forest canopy in the wooded portions of the bank includes occasional hackberry (*Celtis occidentalis*), ash (*Fraxinus* sp.), chinkapin oak (*Quercus muehlenbergii*), and eastern cottonwood (*Populus deltoides*).

The AOC 7 drainage ditch has limited value as an aquatic system and is unlikely to be used by aquatic receptors (e.g., fish, benthic macroinvertebrates) due to the well drained substrate and the lack of standing water. However, fallen logs, leaf litter, and exposed root wads provide some habitat value in this area for wetland and terrestrial ecological receptors.

6.2 Results: SLERA Evaluation of Surface Water

Maximum detected concentrations of constituents in surface water from the AOC 7 Exposure Area were compared to ecological screening values. This evaluation is presented in Table 6-1. Surface water screening values were available for all 14 of the detected inorganic compounds, the 2 detected SVOCs, and the single detected VOC in surface water from the AOC 7 Exposure Area. Calcium and magnesium data collected from the AOC 7 samples indicated that the hardness of the water ranged from 209 to 319 mg/L as $CaCO_3$. The average hardness value (264 mg/L as $CaCO_3$) was used to adjust the hardness-dependent criteria.

The maximum detected concentrations of 4 of the inorganic compounds exceeded the respective screening values.

Fluoranthene and naphthalene were the only SVOCs detected in surface water in AOC 7. None of the detected SVOCs exceeded the associated screening values.

Although likely a laboratory artifact, acetone was the only VOC detected in surface water in AOC 7. Acetone is often used as a solvent in analytical laboratories and is considered to be a common laboratory contaminant (U.S. EPA, 1999). The maximum detected concentration of acetone did not exceed the associated screening value.

6.3 Results: SLERA Evaluation of Sediment

Due to the intermittent nature of the stream flow, maximum detected concentrations of constituents in sediment from the AOC 7 Exposure Area were compared to both sediment- and soil-based ecological screening values. These evaluations are presented in Tables 6-2 and 6-3, respectively.

6.3.1 Comparison to Sediment Screening Levels

In the sediment-based assessment (Table 6-2), sediment screening values were available for 14 of the 16 detected inorganic compounds, 19 of the 21 detected SVOCs (including total PAHs), 9 of the 11 detected VOCs, and total PCBs detected in sediment from the AOC 7 Exposure Area. TOC data collected from the AOC 7 samples indicated that the TOC of the sediment ranged from 0.88% to 3.4%. The average TOC value (2.0%) was used to adjust organic carbon-dependent screening levels selected from ORNL (Jones, et al, 1997) and U.S. EPA Region 5 ESLs (U.S. EPA, 2003a).

The maximum detected concentrations of 4 of the inorganic compounds with sediment benchmarks exceeded the respective benchmarks. The maximum detected concentrations of 17 of the SVOCs with sediment benchmarks exceeded the respective benchmarks. Although likely a laboratory artifact, acetone was the only VOC present slightly in excess of the associated sediment screening value. Acetone is considered to be a common laboratory contaminant (U.S. EPA, 1999). The maximum detected concentration of total PCBs did not exceed the sediment screening value.

6.3.2 Comparison to Soil Screening Levels

In the soil-based assessment (Table 6-3), soil screening values were available for all 16 of the detected inorganic compounds, 18 of the 21 detected SVOC compounds (including total PAHs), 7 of the 10 detected VOC compounds, and total PCBs in sediment from the AOC 7 Exposure Area.

The maximum detected concentrations of five of the inorganics with soil benchmarks exceeded the respective benchmarks. Soil conditions are expected to limit the potential toxicity of aluminum and iron; therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of 4 of the individual SVOCs with soil benchmarks exceeded the respective benchmarks. Although few individual PAHs exceeded the respective benchmarks, the maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs.

The maximum detected concentration of total PCBs did not exceed the soil screening value.

None of the VOCs exceeded the respective soil benchmarks.

6.4 Summary

As presented in Table 6-1, ecological screening values were identified for all detected compounds in surface water. Only four inorganic compounds (aluminum, barium, cyanide, and iron) were present at concentrations above ecological screening values and were retained as SLCOPCs in surface water.

A number of constituents detected in sediment of the AOC 7 Exposure Area were present at concentrations above screening values or did not have ecological screening values identified. SLCOPCs retained in either the sediment- or soil-based screening (Tables 6-2 and 6-3) due to benchmark exceedances included: many of the detected inorganic constituents (aluminum, barium, cyanide, lead, manganese, selenium, vanadium, and zinc); nearly all of the detected SVOCs; a single VOC (acetone; likely a laboratory contaminant); and total PCBs.

Although, the VOCs m+p xylene, and o-xylene do not have screening values they are not being retained as SLCOPCs since the total xylenes concentrations (calculated as the sum of the isomers) are below the total xylene screening value.

The following SLCOPCs were retained due to a lack of either a soil or sediment benchmark: beryllium, vanadium, benzaldehyde, carbazole, dibenzofuran, cyclohexane, and methylcyclohexane. Mercury and total PCBs were retained as SLCOPCs, even though concentrations were below the associated soil and sediment benchmarks, since they are bioaccumulative compounds and the soil and sediment benchmarks are based on impacts to lower trophic level receptors (i.e., terrestrial plants and benthic invertebrates, respectively).

Table 6-1
Surface Water Ecological Screening Evaluation - AOC 7 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	ug/l	4 : 4 : 4	***3790***	87	43.6	Yes	AOC7SW7	4
7440-39-3	Barium	ug/l	1 : 4 : 4	***102***	4.0	25.5	Yes	AOC7SW8	1
7440-70-2	Calcium	ug/l	4 : 4 : 4	77400	1116000	0.069	No	AOC7SW8	0
7440-48-4	Cobalt	ug/l	1 : 1 : 4	1.5	23.0	0.065	No	AOC7SW8	0
57-12-5	Cyanide	ug/L	1 : 4 : 4	***10.4***	5.2	2.0	Yes	AOC7SW7	1
7439-89-6	Iron	ug/l	4 : 4 : 4	***2650***	1000	2.7	Yes	AOC7SW7	2
7439-92-1	Lead	ug/l	2 : 4 : 4	3.3	10.9	0.30	No	AOC7SW8	0
7439-95-4	Magnesium	ug/l	4 : 4 : 4	30500	82000	0.37	No	AOC7SW8	0
7439-96-5	Manganese	ug/l	4 : 4 : 4	49.5	120	0.41	No	AOC7SW8	0
7440-02-0	Nickel	ug/l	1 : 4 : 4	3.7	119	0.031	No	AOC7SW8	0
7440-09-7	Potassium	ug/l	4 : 4 : 4	4880	53000	0.092	No	AOC7SW8	0
7440-23-5	Sodium	ug/l	4 : 4 : 4	25400	680000	0.037	No	AOC7SW8	0
7440-62-2	Vanadium	ug/l	1 : 4 : 4	4.7	20.0	0.24	No	AOC7SW8	0
7440-66-6	Zinc	ug/l	4 : 4 : 4	14.1	273	0.052	No	AOC7SW7	0
SVOCs									
206-44-0	Fluoranthene	ug/l	1 : 1 : 4	0.056	15.0	0.0037	No	AOC7SW8	0
91-20-3	Naphthalene	ug/l	1 : 4 : 4	0.75	12.0	0.063	No	AOC7SW9	0
Total PAHs	Total PAHs	ug/l	2 : 4 : 4	0.75	NV	NE	NE	AOC7SW9	NE
VOCs									
67-64-1	Acetone	ug/l	1 : 1 : 4	2.4	1500	0.0016	No	AOC7SW8	0

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Hardness-dependent criteria adjusted to average hardness of AOC 7 samples - 264 mg/L as $CaCO_3$
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.

Table 6-2
Surficial Sediment Ecological Screening Evaluation - AOC 7 Exposure Area Comparison to Sediment Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value - Sediment	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	4 : 4 : 4	***17600***	2600	6.7	Yes	AOC7SD10	4
7440-38-2	Arsenic	mg/kg	4 : 4 : 4	7.3	9.79	0.75	No	AOC7SD10	0
7440-39-3	Barium	mg/kg	4 : 4 : 4	***183.5***	0.7	276	Yes	AOC7SD10	4
7440-41-7	Beryllium	mg/kg	1 : 4 : 4	1.05	NV	NE	NE	AOC7SD10	NE
7440-47-3	Chromium (total)	mg/kg	4 : 4 : 4	22.35	43.4	0.51	No	AOC7SD10	0
7440-48-4	Cobalt	mg/kg	2 : 4 : 4	6.2	50	0.12	No	AOC7SD12	0
7440-50-8	Copper	mg/kg	4 : 4 : 4	21.75	31.6	0.69	No	AOC7SD10	0
57-12-5	Cyanide	mg/kg	1 : 4 : 4	***1.2025***	0.1	12.0	Yes	AOC7SD10	1
7439-89-6	Iron	mg/kg	4 : 4 : 4	19200	20000	0.96	No	AOC7SD13	0
7439-92-1	Lead	mg/kg	4 : 4 : 4	33.25	35.8	0.93	No	AOC7SD10	0
7439-96-5	Manganese	mg/kg	4 : 4 : 4	***2585***	460	5.6	Yes	AOC7SD10	4
7439-97-6	Mercury	mg/kg	2 : 4 : 4	0.115	0.18	0.64	No	AOC7SD10	0
7440-02-0	Nickel	mg/kg	4 : 4 : 4	15.4	22.7	0.68	No	AOC7SD13	0
7782-49-2	Selenium	mg/kg	1 : 4 : 4	1.4	2	0.70	No	AOC7SD10	0
7440-62-2	Vanadium	mg/kg	4 : 4 : 4	27.8	NV	NE	NE	AOC7SD10	NE
7440-66-6	Zinc	mg/kg	4 : 4 : 4	95.5	121	0.79	No	AOC7SD10	0
SVOCs									
91-57-6	2-Methylnaphthalene	mg/kg	1 : 3 : 4	***0.31***	0.0202	15.3	Yes	AOC7SD13	1
208-96-8	Acenaphthylene	mg/kg	4 : 4 : 4	***4.5***	0.00587	767	Yes	AOC7SD13	4
120-12-7	Anthracene	mg/kg	4 : 4 : 4	***15***	0.0572	262	Yes	AOC7SD13	1
100-52-7	Benzaldehyde	mg/kg	1 : 1 : 4	0.06	NV	NE	NE	AOC7SD10	NE
56-55-3	Benzo(a)anthracene	mg/kg	4 : 4 : 4	***17***	0.108	157	Yes	AOC7SD13	4
50-32-8	Benzo(a)pyrene	mg/kg	4 : 4 : 4	***14***	0.15	93.3	Yes	AOC7SD13	2
205-99-2	Benzo(b)fluoranthene	mg/kg	4 : 4 : 4	12	20.8	0.58	No	AOC7SD13	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	4 : 4 : 4	***9***	0.17	52.9	Yes	AOC7SD13	2
207-08-9	Benzo(k)fluoranthene	mg/kg	4 : 4 : 4	***13***	0.24	54.2	Yes	AOC7SD13	1
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	1 : 1 : 4	0.17	1780	0.00010	No	AOC7SD11	0
86-74-8	Carbazole	mg/kg	1 : 4 : 4	3.1	NV	NE	NE	AOC7SD13	NE
218-01-9	Chrysene	mg/kg	4 : 4 : 4	***17***	0.166	102	Yes	AOC7SD13	3
53-70-3	Dibenz(a,h)anthracene	mg/kg	4 : 4 : 4	***2.8***	0.033	78.8	Yes	AOC7SD13	2
132-64-9	Dibenzofuran	mg/kg	1 : 4 : 4	***1.5***	0.84	1.8	Yes	AOC7SD13	1
206-44-0	Fluoranthene	mg/kg	4 : 4 : 4	***38***	0.423	89.8	Yes	AOC7SD13	2
86-73-7	Fluorene	mg/kg	1 : 4 : 4	***5***	0.0774	64.6	Yes	AOC7SD13	1
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	4 : 4 : 4	***8.3***	0.2	41.5	Yes	AOC7SD13	1
91-20-3	Naphthalene	mg/kg	3 : 4 : 4	***0.58***	0.176	3.3	Yes	AOC7SD13	1
85-01-8	Phenanthrene	mg/kg	4 : 4 : 4	***29***	0.204	142	Yes	AOC7SD13	2
129-00-0	Pyrene	mg/kg	4 : 4 : 4	***31***	0.195	159	Yes	AOC7SD13	3
Total PAHs	Total PAHs	mg/kg	4 : 4 : 4	***216.29***	1.6	135	Yes	AOC7SD13	4
VOCs									
67-64-1	Acetone	mg/kg	2 : 4 : 4	***0.0205***	0.0174	1.2	Yes	AOC7SD13	1
71-43-2	Benzene	mg/kg	2 : 2 : 4	0.001	0.32	0.0031	No	AOC7SD13	0
75-15-0	Carbon disulfide	mg/kg	2 : 2 : 4	0.00076	0.0017	0.45	No	AOC7SD10	0
110-82-7	Cyclohexane	mg/kg	4 : 4 : 4	0.00485	NV	NE	NE	AOC7SD13	NE
100-41-4	Ethylbenzene	mg/kg	2 : 2 : 4	0.00066	0.178	0.0037	No	AOC7SD13	0
XYLMP	m+p-Xylene	mg/kg	1 : 1 : 4	0.00063	0.050	0.019	No	AOC7SD13	0
108-87-2	Methylcyclohexane	mg/kg	4 : 4 : 4	0.00415	NV	NE	NE	AOC7SD13	NE
75-09-2	Methylene chloride	mg/kg	1 : 1 : 4	0.00042	0.74	0.00057	No	AOC7SD10	0
95-47-6	o-Xylene	mg/kg	2 : 2 : 4	0.00042	0.05	0.0084	No	AOC7SD13	0
108-88-3	Toluene	mg/kg	3 : 3 : 4	0.0019	0.10	0.019	No	AOC7SD13	0
1330-20-7	Total Xylenes	mg/kg	2 : 2 : 4	0.00135	0.32	0.0042	No	AOC7SD13	0
PCBs									
Total PCBs	Total PCBs	mg/kg	1 : 4 : 4	0.026	0.0598	0.43	No	AOC7SD10	0

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Organic carbon-dependent screening values adjusted to average TOC of AOC 7 samples - 2.0%
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.

Table 6-3
Surficial Sediment Ecological Screening Evaluation - AOC 7 Exposure Area Comparison to Soil Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value - Soil	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	4:4:4	17500	(d)	(d)	(d)	AOC7SD10	(d)
7440-38-2	Arsenic	mg/kg	4:4:4	7.3	18	0.41	No	AOC7SD10	0
7440-39-3	Barium	mg/kg	4:4:4	193.5	330	0.59	No	AOC7SD10	0
7440-41-7	Beryllium	mg/kg	1:4:4	1.05	21	0.050	No	AOC7SD10	0
7440-47-3	Chromium (total)	mg/kg	4:4:4	22.35	26	0.86	No	AOC7SD10	0
7440-48-4	Cobalt	mg/kg	2:4:4	6.2	13	0.48	No	AOC7SD12	0
7440-50-8	Copper	mg/kg	4:4:4	21.75	28	0.78	No	AOC7SD10	0
57-12-5	Cyanide	mg/kg	1:4:4	1.2025	1.33	0.90	No	AOC7SD10	0
7439-89-6	Iron	mg/kg	4:4:4	19200	(e)	(e)	(e)	AOC7SD13	(e)
7439-92-1	Lead	mg/kg	4:4:4	***33.25***	11	3	Yes	AOC7SD10	4
7439-96-5	Manganese	mg/kg	4:4:4	***2565***	500	5.1	Yes	AOC7SD10	4
7439-97-6	Mercury	mg/kg	2:4:4	0.115	0.30	0.38	No	AOC7SD10	0
7440-02-0	Nickel	mg/kg	4:4:4	15.4	28	0.55	No	AOC7SD13	0
7782-49-2	Selenium	mg/kg	1:4:4	***1.4***	1.0	1.4	Yes	AOC7SD10	1
7440-62-2	Vanadium	mg/kg	4:4:4	***27.9***	7.8	3.6	Yes	AOC7SD10	4
7440-66-6	Zinc	mg/kg	4:4:4	***95.5***	50	1.9	Yes	AOC7SD10	4
SVOCs									
91-57-6	2-Methylnaphthalene	mg/kg	1:3:4	0.31	3.24	0.096	No	AOC7SD13	0
208-96-8	Acenaphthylene	mg/kg	4:4:6	4.5	682	0.0066	No	AOC7SD13	0
120-12-7	Anthracene	mg/kg	4:4:6	15	1480	0.010	No	AOC7SD13	0
100-52-7	Benzaldehyde	mg/kg	1:1:4	0.06	NV	NE	NE	AOC7SD10	NE
56-55-3	Benzo(a)anthracene	mg/kg	4:4:6	***17***	5.21	3.3	Yes	AOC7SD13	1
50-32-8	Benzo(a)pyrene	mg/kg	4:4:6	***14***	1.52	9.2	Yes	AOC7SD13	1
205-99-2	Benzo(b)fluoranthene	mg/kg	4:4:6	12	59.8	0.20	No	AOC7SD13	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	4:4:6	9	119	0.076	No	AOC7SD13	0
207-08-9	Benzo(k)fluoranthene	mg/kg	4:4:6	13	148	0.088	No	AOC7SD13	0
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	1:1:4	0.17	0.925	0.18	No	AOC7SD11	0
86-74-8	Carbazole	mg/kg	1:4:4	3.1	NV	NE	NE	AOC7SD13	NE
218-01-9	Chrysene	mg/kg	4:4:6	***17***	4.73	3.6	Yes	AOC7SD13	1
53-70-3	Dibenz(a,h)anthracene	mg/kg	4:4:6	2.6	18.4	0.14	No	AOC7SD13	0
132-64-9	Dibenzofuran	mg/kg	1:4:4	1.5	NV	NE	NE	AOC7SD13	NE
206-44-0	Fluoranthene	mg/kg	4:4:6	38	122	0.31	No	AOC7SD13	0
86-73-7	Fluorene	mg/kg	1:4:6	5	122	0.041	No	AOC7SD13	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	4:4:6	8.3	109	0.076	No	AOC7SD13	0
91-20-3	Naphthalene	mg/kg	3:4:6	***0.59***	0.0994	5.8	Yes	AOC7SD13	3
85-01-8	Phenanthrene	mg/kg	4:4:6	29	45.7	0.63	No	AOC7SD13	0
129-00-0	Pyrene	mg/kg	4:4:6	31	78.5	0.39	No	AOC7SD13	0
Total PAHs	Total PAHs	mg/kg	4:4:4	***216***	1.0	216	Yes	AOC7SD13	4
VOCs									
67-64-1	Acetone	mg/kg	2:4:4	0.0205	2.5	0.0082	No	AOC7SD13	0
71-43-2	Benzene	mg/kg	2:2:4	0.001	0.255	0.0039	No	AOC7SD13	0
75-15-0	Carbon disulfide	mg/kg	2:2:4	0.00076	0.0941	0.0081	No	AOC7SD10	0
110-82-7	Cyclohexane	mg/kg	4:4:4	0.00465	0.1	0.047	No	AOC7SD13	0
100-41-4	Ethylbenzene	mg/kg	2:2:4	0.00066	5.16	0.00013	No	AOC7SD13	0
XYLMP	m+p-Xylene	mg/kg	1:1:4	0.00093	NV	NE	NE	AOC7SD13	NE
108-87-2	Methylcyclohexane	mg/kg	4:4:4	0.00415	NV	NE	NE	AOC7SD13	NE
75-09-2	Methylene chloride	mg/kg	1:1:4	0.00042	4.05	0.00010	No	AOC7SD10	0
95-47-6	o-Xylene	mg/kg	2:2:4	0.00042	NV	NE	NE	AOC7SD13	NE
1330-20-7	Total Xylenes	mg/kg	2:2:4	0.00135	10	0.00014	No	AOC7SD13	0
PCBs									
Total PCBs	Total PCBs	mg/kg	1:4:4	0.026	40	0.00065	No	AOC7SD10	0

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for alumimum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

7.0 AOC 1 (Sludge Lay Down Area) Exposure Area

This section presents the results of the SLERA conducted for the AOC 1 Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The AOC 1 Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the AOC 1 Exposure Area SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors in this portion of the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface soils in the AOC 1 Exposure Area. In addition, groundwater data from two monitoring wells located along the shoreline were assessed for the potential to impact the surface water of the Great Miami River. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figures 2-2 and 2-3. Summary statistics for the soils and groundwater in the AOC 1 Exposure Area are presented in Appendix B and the screenings are presented in Tables 7-1 and 7-2.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

7.1 Ecological Characterization

AOC 1 is an approximately 30 acre area located immediately to the north of Augspurger Road. This AOC is primarily open field habitat punctuated by two small clusters of trees and shrubs. AOC 1 is bordered to the east by the AOC 7 drainage ditch, to the south by Augspurger Road, and to the north and west by the CSX railroad line. This area was historically used to store raw material (coal) for the coking operations, and also served as the laydown area for air scrubber sludge from the two settling ponds associated with the blast furnace on the Southern Parcel.

The habitat at AOC 1 is very similar to that at the Southern Parcel, with non-native grasses and other invasive herbaceous materials dominating the AOC, and occasional clumps of sycamores. Plants that are typical of this area include a variety of old field grasses such as *Echnichloa crusgalli*, *Setaria* sp., and *Panicum dichotomiflorum*, as well as clovers (*Trifolium* spp. and *Meliotus alba*), dandelion (*Taraxacum officinale*), cinquefoils (*Potentilla* sp.), queen anne's lace (*Daucus carota*), chickory (*Cichorium intybus*), knapweed (*Centaurea maculosa*), dock (*Rumex acetocella*), vetch (*Vicia* sp.), mullein (*Verbascum thapsus*), goldenrod (*Solidago* spp.), oxeye daisy, ragweed, aster (*Aster pilosus*), fleabane (*Erigeron canadensis*), field pepperweed (*Lepidium campestre)*, , smartweed (*Polygonum aviculare*), ragweed *Artemisia annua* , evening primrose (*Oenothera biennis*), and bouncing bet (*Saponaria officinalis*). This area is characterized by relatively uniform ruderal conditions and provides only limited habitat value.

7.2 Results: SLERA Evaluation of Surface Soil

Maximum detected concentrations of constituents in soil from the AOC 1 Exposure Area were compared to ecological screening values. This evaluation is presented in Table 7-1. Soil screening values were available for all 18 of the detected inorganic compounds, 22 of the 25 detected SVOC compounds (including total PAHs), 16 of the 20 detected VOC compounds, total PCBs, and dioxin/furans in soil from the AOC 1 Exposure Area.

The maximum detected concentrations of 12 of the inorganic compounds exceeded their respective benchmarks. Soil conditions are expected to limit the potential toxicity of aluminum and iron; therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of 2 of the individual SVOCs with benchmarks exceeded the respective benchmarks. The maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs.

None of the 16 VOCs with benchmarks exceeded the respective benchmarks.

The maximum detected concentration of total PCBs exceeded the respective benchmark.

The maximum concentration of 2,3,7,8-TCDF did not exceed the respective benchmark. The maximum concentration of 2,3,7,8-TCDD and the maximum TCDD-TEQ for mammals exceeded the benchmark for 2,3,7,8-TCDD.

7.3 Results: SLERA Evaluation of Groundwater in AOC 1 Perimeter Wells

Maximum total recoverable detected concentrations of constituents in selected groundwater monitoring wells from the AOC 1 Exposure Area were directly compared to ecological screening values for surface water. These perimeter wells were selected since they represent groundwater quality in the shallow aquifer immediately prior to discharge to the Great Miami River. This conservative evaluation is presented in Table 7-2. Surface water values were available for all 15 detected inorganics, all 4 of the detected SVOCs (including total PAHs), and 1 of 2 detected VOCs in groundwater from the AOC 1 Perimeter Wells. Since the Great Miami River represents the point of potential exposure to groundwater for aquatic receptors, the hardness-dependent surface water criteria were adjusted to the average hardness value from the Great Miami River water samples (322 mg/L as $CaCO_3$)

The maximum detected concentrations of 7 of the inorganics with ecological benchmarks exceeded their respective benchmarks. Only a single exceedance is observed for each metal, with the exception of barium and selenium. The mean concentration also exceeded the respective benchmarks for 6 of the inorganics with ecological screening values (the mean vanadium concentration is less than the ecological screening value). A ten-fold dilution of the mean concentration would be sufficient to bring all groundwater concentrations, except aluminum and barium, below the associated surface water screening value. A ten-fold dilution is likely a conservative estimate of the amount of dilution that the AOC 1 perimeter groundwater achieves when it is discharged into the Great Miami River. The historical average monthly flow rates recorded in the Great Miami River at the USGS gauging stations upstream and downstream of the site were 3,636 cubic feet per second (cfs) in Middletown and 3,437 cfs in Hamilton (data available at http://waterdata.usgs.gov/nwis). The flow in the Great Miami River is likely to be much greater than ten times the flow of groundwater into the river at any given point in time. To address this uncertainty, the revised RI will include a more focused evaluation of the groundwater-surface water interaction.

No SVOCs or VOCs in groundwater exceeded ecological benchmarks.

7.4 Summary

As presented in Table 7-1, a number of constituents in the AOC 1 Exposure Area soils were present at concentrations above screening values or did not have ecological screening values identified. Therefore the SLCOPCs retained in soil for the AOC 1 Exposure Area due to benchmark exceedances include: 12 inorganic constituents (cadmium, chromium, cobalt, copper, cyanide, lead, manganese, nickel, selenium, silver, vanadium, and zinc); 2 individual SVOCs (2,4-dimethylphenol and naphthalene); total PAHs; total PCBs; and dioxin/furans.

Although, the VOCs m+p xylene, and o-xylene do not have screening values they are not being retained as SLCOPCs since the total xylenes concentrations (calculated as the sum of the isomers) are below the total xylene screening value.

The following SLCOPCs were retained due to a lack of a soil benchmark: benzaldehyde, carbazole, dibenzofuran, isopropylbenzene, and methylcyclohexane. Mercury was retained as a soil SLCOPC, even though concentrations were below the benchmark, since it is a bioaccumulative compound and the benchmark is based on impacts to lower trophic level receptors (i.e., terrestrial plants).

Several inorganic constituents detected in the AOC 1 perimeter groundwater monitoring wells exceeded screening values for surface water (Table 7-2). Therefore the SLCOPCs retained in groundwater for the AOC 1 Exposure Area include: aluminum, barium, cyanide, iron, manganese, mercury, selenium, and vanadium. Mercury was retained as a groundwater SLCOPC, even though concentrations were below the benchmark, since it is a bioaccumulative compound and the benchmark does not account for uptake via the food chain. No organic compounds were retained as SLCOPCs. The groundwater evaluation is highly conservative since maximum concentrations are compared directly to surface water screening values without the application of dilution factors.

Caprolactam was retained as a SLCOPC in groundwater due to a lack of a surface water benchmark.

Table 7-1
Surface Soil Ecological Screening Evaluation - AOC 1 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	17:17:17	32150	(d)	(d)	(d)	MW-118	(d)
7440-38-2	Arsenic	mg/kg	14:17:17	18	18	1.0	No	AOC1CA11	0
7440-39-3	Barium	mg/kg	17:17:17	299.5	330	0.91	No	MW-118	0
7440-41-7	Beryllium	mg/kg	17:17:17	7.3	21	0.35	No	MW-118	0
7440-43-9	Cadmium	mg/kg	15:17:17	***18.1***	0.36	28	Yes	MW-168	15
7440-47-3	Chromium (total)	mg/kg	17:17:17	***88.6***	26	3	Yes	AOC1CA8	12
7440-48-4	Cobalt	mg/kg	9:17:17	***14.5***	13	1	Yes	MW-168	1
7440-50-8	Copper	mg/kg	17:17:17	***86.7***	26	3.3	Yes	AOC1CA8	7
57-12-5	Cyanide	mg/kg	11:17:17	***16.8***	1.33	6.1	Yes	AOC1CA9	10
7439-89-6	Iron	mg/kg	17:17:17	190000	(e)	(e)	(e)	AOC1CA9	(e)
7439-92-1	Lead	mg/kg	17:17:17	***3439***	11	312	Yes	AOC1CA9	16
7439-96-5	Manganese	mg/kg	17:17:17	***5329***	500	10.46	Yes	MW-168	17
7439-97-6	Mercury	mg/kg	9:17:17	0.16	0.30	0.53	No	AOC1CA11	0
7440-02-0	Nickel	mg/kg	17:17:17	***36.7***	26	1.4	Yes	AOC1CA8	4
7782-49-2	Selenium	mg/kg	5:16:17	6.9	1.0	6.9	Yes	AOC1CA8	8
7440-22-4	Silver	mg/kg	5:17:17	4.7	4.2	1.1	Yes	AOC1CA8	2
7440-62-2	Vanadium	mg/kg	17:17:17	***47.9***	7.8	6.1	Yes	MW-168	16
7440-66-6	Zinc	mg/kg	17:17:17	***4610***	50	92	Yes	AOC1CA9	15
SVOCs									
92-52-4	1,1-Biphenyl	mg/kg	6:6:17	0.11	60	0.0018	No	MW-168	0
105-67-9	2,4-Dimethylphenol	mg/kg	1:1:17	***0.057***	0.01	5.7	Yes	AOC1CA4	1
91-57-6	2-Methylnaphthalene	mg/kg	13:16:17	0.34	3.24	0.10	No	AOC1CA4	0
83-32-9	Acenaphthene	mg/kg	2:2:17	0.14	20	0.0070	No	MW-128	0
208-96-8	Acenaphthylene	mg/kg	13:16:17	0.61	682	0.0013	No	MW-128	0
120-12-7	Anthracene	mg/kg	13:16:17	0.93	1460	0.00063	No	MW-128	0
100-52-7	Benzaldehyde	mg/kg	3:15:17	1.7	NV	NE	NE	MW-128	NE
56-55-3	Benzo(a)anthracene	mg/kg	15:16:17	***1.3***	5.21	0.25	No	AOC1CA11, MW-128	0
50-32-8	Benzo(a)pyrene	mg/kg	15:16:17	1.4	1.52	0.92	No	MW-128	0
205-99-2	Benzo(b)fluoranthene	mg/kg	16:16:17	1.4	59.5	0.0234	No	MW-128	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	16:16:17	1	119	0.0084	No	MW-128	0
207-08-9	Benzo(k)fluoranthene	mg/kg	16:16:17	1.3	148	0.0088	No	MW-128	0
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	3:3:17	0.15	0.825	0.18	No	MW-128	0
86-74-8	Carbazole	mg/kg	10:16:17	0.24	NV	NE	NE	MW-128	NE
218-01-9	Chrysene	mg/kg	16:16:17	1.7	4.73	0.36	No	MW-128	0
53-70-3	Dibenz(a,h)anthracene	mg/kg	14:16:17	0.35	18.4	0.019	No	MW-128	0
132-64-9	Dibenzofuran	mg/kg	12:16:17	0.35	NV	NE	NE	AOC1CA11	NE
206-44-0	Fluoranthene	mg/kg	16:16:17	3	122	0.025	No	AOC1CA11	0
86-73-7	Fluorene	mg/kg	8:15:17	0.34	122	0.0028	No	AOC1CA11	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	16:16:17	0.9	109	0.0083	No	MW-128	0
91-20-3	Naphthalene	mg/kg	13:16:17	***2.2***	0.0994	22.1	Yes	MW-168	12
106-44-5	p-Cresol (4-Methylphenol)	mg/kg	2:2:17	0.17	163	0.0010	No	MW-128	0
85-01-8	Phenanthrene	mg/kg	14:16:17	2.5	48.7	0.051	No	AOC1CA11	0
129-00-0	Pyrene	mg/kg	16:16:17	2.4	76.5	0.031	No	AOC1CA11	0
Total PAHs	Total PAHs	mg/kg	16:16:17	***17.7***	1.0	17.7	Yes	AOC1CA11	16
VOCs									
120-82-1	1,2,4-Trichlorobenzene	mg/kg	1:1:18	0.0015	11.1	0.00014	No	AOC1CA8SB3	0
95-50-1	1,2-Dichlorobenzene	mg/kg	1:1:18	0.0004	2.96	0.00014	No	AOC1CA8SB3	0
78-93-3	2-Butanone	mg/kg	4:18:18	0.018	89.6	0.00020	No	AOC1CA10SB3	0
591-78-6	2-Hexanone	mg/kg	2:2:18	0.0017	12.8	0.00013	No	AOC1CA8SB3	0
67-64-1	Acetone	mg/kg	15:18:18	0.056	2.5	0.022	No	AOC1CA10SB3	0
71-43-2	Benzene	mg/kg	15:18:18	0.021	0.255	0.082	No	AOC1CA2SB5	0
75-15-0	Carbon disulfide	mg/kg	10:18:18	0.036	0.0941	0.38	No	AOC1CA2SB5	0
74-87-3	Chloromethane	mg/kg	1:1:18	0.00048	10.4	0.000046	No	MW-178	0
110-82-7	Cyclohexane	mg/kg	13:18:18	0.0041	0.1	0.041	No	AOC1CA2SB5	0
100-41-4	Ethylbenzene	mg/kg	9:14:18	0.0027	5.16	0.00052	No	AOC1CA2SB5	0
98-82-8	Isopropylbenzene	mg/kg	3:17:18	0.0042	NV	NE	NE	AOC1CA8SB3	NE
XYLMP	m+p-Xylene	mg/kg	6:6:18	0.0016	NV	NE	NE	AOC1CA12SB4	NE
108-87-2	Methylcyclohexane	mg/kg	13:17:18	0.0038	NV	NE	NE	AOC1CA8SB3	NE
75-09-2	Methylene chloride	mg/kg	5:5:18	0.0011	4.05	0.00027	No	AOC1CA2SB5	0
95-47-6	o-Xylene	mg/kg	5:5:18	0.001	NV	NE	NE	AOC1CA2SB5	NE
127-18-4	Tetrachloroethene	mg/kg	1:1:18	0.00039	5.92	0.000039	No	MW-178	0
108-88-3	Toluene	mg/kg	15:18:18	0.012	5.45	0.0022	No	AOC1CA2SB5	0
1330-20-7	Total Xylenes	mg/kg	6:6:18	0.0025	10	0.00025	No	AOC1CA2SB5	0
79-01-6	Trichloroethene	mg/kg	1:1:18	0.00049	12.4	0.000035	No	MW-178	0
75-69-4	Trichlorofluoromethane	mg/kg	1:1:18	0.00065	16.4	0.000040	No	MW-178	0
PCBs									
Total PCBs	Total PCBs	mg/kg	12:17:17	***119***	40	2.8	Yes	AOC1CA9	1
Dioxins/Furans									
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	4:5:5	0.0000036	0.0000386	0.093	No	AOC1CA10	0
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	4:5:5	***0.000000718***	0.000000199	3.6	Yes	AOC1CA3	3
Dioxin TEQ-HH	TCDD-TEQ-mammal	mg/kg	5:5:5	***0.000003871***	0.000000199	19.5	Yes	AOC1CA3	4

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for aluminum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

Table 7-2
Groundwater Ecological Screening Evaluation - AOC 1 Perimeter Wells
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Mean Concentration (d)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Does Mean Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics											
7429-90-5	Aluminum	ug/l	1:3:3	***13600***	***4553***	87	156	Yes	Yes	MW-12S	1
7440-39-3	Barium	ug/l	3:3:3	***153***	***96.5***	4.0	38.3	Yes	Yes	MW-12S	3
7440-70-2	Calcium	ug/l	3:3:3	220000	171333	1116000	0.20	No	No	MW-12S	0
7440-47-3	Chromium (total)	ug/l	1:3:3	22.6	8.9	225	0.10	No	No	MW-12S	0
57-12-5	Cyanide	ug/l	1:2:2	***13.1***	***8.1***	5.2	2.5	Yes	Yes	MW-11S	1
7439-89-6	Iron	ug/l	3:3:3	***19100***	***6425***	1000	19.1	Yes	Yes	MW-12S	1
7439-92-1	Lead	ug/l	1:3:3	12.7	5.0	14.1	0.9	No	No	MW-12S	0
7439-95-4	Magnesium	ug/l	3:3:3	75400	58467	82000	0.92	No	No	MW-12S	0
7439-96-5	Manganese	ug/l	3:3:3	***793***	***311***	120	6.6	Yes	Yes	MW-12S	1
7439-97-6	Mercury	ug/l	1:3:3	0.020	0.013	0.91	0.022	No	No	MW-12S	0
7440-09-7	Potassium	ug/l	3:3:3	31100	18203	53000	0.59	No	No	MW-11S	0
7782-49-2	Selenium	ug/l	3:3:3	***7.2***	***7.0***	5	1.4	Yes	Yes	MW-11S	3
7440-23-5	Sodium	ug/l	3:3:3	35400	31733	680000	0.052	No	No	MW-11S	0
7440-62-2	Vanadium	ug/l	1:3:3	***27.5***	9.6	20.0	1.4	Yes	No	MW-12S	1
7440-66-6	Zinc	ug/l	1:3:3	63.4	22.5	323	0.20	No	No	MW-12S	0
SVOCs											
206-44-0	Fluoranthene	ug/l	1:1:2	0.050	0.050	15.0	0.003	No	No	MW-12S	0
85-01-8	Phenanthrene	ug/l	1:2:2	0.11	0.10	200	0.001	No	No	MW-12S	0
129-00-0	Pyrene	ug/l	1:1:2	0.080	0.080	0.30	0.20	No	No	MW-12S	0
Total PAHs	Total PAHs	ug/l	1:2:2	0.22	0.1575	NV	NE	NE	NE	MW-12S	NE
VOCs											
105-60-2	Caprolactam	ug/l	1:2:2	48	26.5	NV	NE	NE	NE	MW-12S	NE
108-88-3	Toluene	ug/l	2:2:2	0.5	0.43	9.8	0.0510	No	No	MW-11S	0

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Hardness-dependent criteria adjusted to average hardness of Great Miami River samples - 322 mg/L as $CaCO_3$
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.
(d) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results where half of the sample quantitation limit is greater than the maximum detected concentration have been excluded.

8.0 AOC 19 (Off-Site COG Pipeline) Exposure Area

This section presents the results of the SLERA conducted for the AOC 19 Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The AOC 19 Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the AOC 19 Exposure Area SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors in this portion of the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface soils, surface water, and surficial sediments in the AOC 19 Exposure Area. While the majority of the samples associated with AOC 19 are from the surface soil along the former pipeline route, surface water and sediment samples were also collected from within the Great Miami River where the pipeline crossed beneath the river. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figures 2-2 and 2-3. Summary statistics for the soils, surface water, and sediment in the AOC 19 Exposure Area are presented in Appendix B and the screenings are presented in Tables 8-1, 8-2, and 8-3.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

8.1 Ecological Characterization

The former off-site COG pipeline (AOC 19) conveyed COG from the Site boundary to the AK Steel Middletown Works in Middletown, Ohio (approximately 8 miles north). The COG pipeline was a predominately 16-inch diameter underground COG pipeline located offsite between the Site and the AK Steel Middletown Works. Located along various portions of the COG pipe were drip legs, blowoffs and valve pits. The pipeline was decommissioned by OHM by June 1989. The work included cleaning and grouting of the COG line. Approximately 39 pits (i.e., valve pits, pig pits, blow offs, and drip legs) along the course of the COG pipeline were also cleaned, dismantled, and backfilled to grade with fill material.

As the COG pipeline travels from AOC 18 (on-site portion of COG Pipeline) to the north and off-site, it is located predominantly adjacent to a railroad right-of-way and is covered by maintained grass in some areas and open fields in other areas. The off-site COG pipeline also traverses adjacent and beneath various roads that front residential houses and commercial buildings, and in some areas, beneath gravel parking lots surrounded by commercial businesses. The COG pipeline crosses beneath the Great Miami River and then beneath a park and wildlife conservation area. As the pipeline reaches Middletown, it can be more accurately described as located adjacent to residential and commercial areas.

8.2 Results: SLERA Evaluation of Surface Soil

Maximum detected concentrations of constituents in soil from the AOC 19 Exposure Area were compared to ecological screening values. This evaluation is presented in Table 8-1. Soil screening values were available for all 17 of the detected inorganic compounds, all 17 of the detected SVOC compounds (including total PAHs), 4 of the 6 detected VOC compounds (including total xylenes), total PCBs, and dioxin/furans in soil from the AOC 19 Exposure Area.

The maximum detected concentrations of 12 of the 17 inorganic compounds exceeded the respective benchmarks. Soil conditions are expected to limit the potential toxicity of aluminum and iron, therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of 2 of the individual SVOCs with benchmarks exceeded the respective benchmarks. The maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs.

None of the VOCs with benchmarks exceeded the respective benchmarks.

The maximum detected concentration of total PCBs did not exceed the respective benchmark.

The maximum concentration of 2,3,7,8-TCDF did not exceed the benchmark. The maximum concentration of 2,3,7,8-TCDD and the maximum TCDD-TEQ for mammals exceeded the benchmark for 2,3,7,8-TCDD.

8.3 Results: SLERA Evaluation of Surface Water

A single surface water sample was collected from the Great Miami River downstream of the point where the COG pipeline passes under the river. The detected concentrations of constituents in surface water from this AOC 19 Exposure Area sample were compared to ecological screening values. This evaluation is presented in Table 8-2. Surface water screening values were available for all of the 13 detected inorganic compounds in surface water from the AOC 19 Exposure Area. No SVOCs, VOCs, or PCBs were detected in surface water in the AOC 19 Exposure Area. Calcium and magnesium data collected from the Great Miami River samples indicated that the hardness of the water ranged from 277 to 347 mg/L as $CaCO_3$. The average hardness value (322 mg/L as $CaCO_3$) was used to adjust hardness-dependent criteria.

The maximum detected concentrations of 3 of the inorganics with benchmarks exceeded the respective benchmarks.

8.4 Results: SLERA Evaluation of Surficial Sediment

Three sediment samples were collected from the Great Miami River downstream of the point where the COG pipeline passes under the river. Maximum detected concentrations of constituents in surficial sediment from the AOC 19 Exposure Area were compared to ecological screening values. This evaluation is presented in Table 8-3. Sediment screening values were available for 10 of the 11 detected inorganic compounds, all 15 of the detected SVOCs (including total PAHs), all 3 of the detected VOCs, and total PCBs detected in sediment from the AOC 19 Exposure Area. TOC data collected from all of the Great Miami River samples indicated that the TOC of the sediment ranged from 0.15% to 3.3%. The average TOC value (1.6%) was used to adjust organic carbon-dependent screening levels selected from ORNL (Jones, et al, 1997) and U.S. EPA Region 5 ESLs (U.S. EPA, 2003a).

The maximum detected concentrations of 3 of the inorganic compounds with benchmarks exceeded the respective benchmarks.

The maximum detected concentrations of 10 of the individual SVOCs with benchmarks exceeded the respective benchmarks. The maximum total PAH concentration exceeded the sediment screening value for total PAHs.

None of the detected VOCs exceeded the associated screening values.

The maximum detected concentration of total PCBs in sediment exceeded the screening value.

8.5 Summary

As presented in Table 8-1, a number of constituents in the AOC 19 Exposure Area soils were present at concentrations above ecological screening values, or did not have ecological screening values identified. The SLCOPCs retained in soil for the AOC 19 Exposure Area due to benchmark exceedances include: 12 detected inorganic constituents (arsenic, cadmium, chromium, copper, cyanide, lead, manganese, mercury, nickel, selenium, vanadium, and zinc); two individual SVOCs (benzo(a)pyrene, and naphthalene); total PAHs; and dioxins/furans. Although, the VOCs m+p xylene, and o-xylene do not have screening values they are not being retained as SLCOPCs since the total xylenes concentrations (calculated as the sum of the isomers) are below the total xylene screening value. No other constituents lacked soil screening values. Total PCBs were retained as SLCOPC, even though concentrations were below the associated benchmark, since PCBs are bioaccumulative compounds and the benchmark is based on impacts to lower trophic level receptors (i.e., terrestrial plants).

Three inorganic constituents (aluminum, barium, and iron) in the AOC 19 Exposure Area surface water were present at concentrations above ecological screening values (Table 8-2) and were retained as SLCOPCs. No constituents lacked surface water screening values. Mercury was retained as a surface water SLCOPC, even though concentrations were below the benchmark, since it is a bioaccumulative compound and the benchmark does not account for uptake via the food chain.

A number of constituents in the AOC 19 Exposure Area sediments were present at concentrations above ecological screening values, or did not have ecological screening values identified. The SLCOPCs retained in sediment for the AOC 19 Exposure Area due to benchmark exceedances include: 3 inorganic constituents (aluminum, barium, and manganese), most of the individual detected SVOCs; total PAHs; and total PCBs (Table 8-3). Vanadium in sediment was retained due to the lack of a benchmark.

However, as discussed in Chapter 11, the naturally occurring inorganic compounds found in sediment and surface water are generally consistent with upstream samples from the Great Miami River collected during the RI field effort.

Table 8-1
Surface Soil Ecological Screening Evaluation - AOC 19 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	13 : 13 : 13	21300	(d)	(d)	(d)	AOC19SB13	(d)
7440-38-2	Arsenic	mg/kg	13 : 13 : 13	***101***	18	5.6	Yes	AOC19SB8	2
7440-39-3	Barium	mg/kg	13 : 13 : 13	287	330	0.87	No	AOC19SB9	0
7440-41-7	Beryllium	mg/kg	12 : 13 : 13	1.45	21	0.069	No	AOC19SB1	0
7440-43-9	Cadmium	mg/kg	5 : 13 : 13	***7.4***	0.36	21	Yes	AOC19SB9	5
7440-47-3	Chromium (total)	mg/kg	13 : 13 : 13	***34.2***	26	1.3	Yes	AOC19SB9	2
7440-48-4	Cobalt	mg/kg	11 : 13 : 13	10.8	13	0.83	No	AOC19SB13	0
7440-50-8	Copper	mg/kg	13 : 13 : 13	***540***	28	19	Yes	AOC19SB9	7
57-12-5	Cyanide	mg/kg	1 : 13 : 13	***11.2***	1.33	8.4	Yes	AOC19SB11	1
7439-89-6	Iron	mg/kg	13 : 13 : 13	37300	(e)	(e)	(e)	AOC19SB13	(e)
7439-92-1	Lead	mg/kg	13 : 13 : 13	***435***	11	40	Yes	AOC19SB9	13
7439-96-5	Manganese	mg/kg	13 : 13 : 13	***1119.5***	500	2.2	Yes	AOC19SB1	9
7439-97-6	Mercury	mg/kg	10 : 13 : 13	***2.7***	0.3	9.0	Yes	AOC19SB11	3
7440-02-0	Nickel	mg/kg	13 : 13 : 13	***28.4***	28	1.0	Yes	AOC19SB9	1
7782-49-2	Selenium	mg/kg	7 : 13 : 13	***4.6***	1	5	Yes	AOC19SB5	7
7440-62-2	Vanadium	mg/kg	13 : 13 : 13	***58.2***	7.8	7.2	Yes	AOC19SB13	13
7440-66-6	Zinc	mg/kg	13 : 13 : 13	***942***	50	19	Yes	AOC19SB9	11
SVOCs									
83-32-9	Acenaphthene	mg/kg	1 : 13 : 13	1	20	0.050	No	AOC19SB1	0
208-96-8	Acenaphthylene	mg/kg	6 : 12 : 13	0.37	682	0.00054	No	AOC19SB9	0
120-12-7	Anthracene	mg/kg	7 : 13 : 13	2.15	1480	0.0015	No	AOC19SB1	0
56-55-3	Benzo(a)anthracene	mg/kg	8 : 13 : 13	4.25	5.21	0.82	No	AOC19SB1	0
50-32-8	Benzo(a)pyrene	mg/kg	8 : 13 : 13	***3.05***	1.52	2.0	Yes	AOC19SB1	2
205-99-2	Benzo(b)fluoranthene	mg/kg	7 : 13 : 13	2.95	59.6	0.049	No	AOC19SB1	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	6 : 13 : 13	1.7	119	0.014	No	AOC19SB9	0
207-08-9	Benzo(k)fluoranthene	mg/kg	8 : 13 : 13	3	148	0.020	No	AOC19SB1	0
218-01-9	Chrysene	mg/kg	8 : 13 : 13	4.15	4.73	0.88	No	AOC19SB1	0
53-70-3	Dibenz(a,h)anthracene	mg/kg	3 : 13 : 13	0.57	18.4	0.031	No	AOC19SB1	0
206-44-0	Fluoranthene	mg/kg	12 : 13 : 13	9.1	122	0.075	No	AOC19SB1	0
86-73-7	Fluorene	mg/kg	4 : 13 : 13	0.95	122	0.0078	No	AOC19SB1	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	6 : 13 : 13	1.5	109	0.014	No	AOC19SB9	0
91-20-3	Naphthalene	mg/kg	6 : 12 : 13	***0.89***	0.0994	9.0	Yes	AOC19SB12	4
85-01-8	Phenanthrene	mg/kg	11 : 13 : 13	8.1	45.7	0.18	No	AOC19SB1	0
129-00-0	Pyrene	mg/kg	12 : 13 : 13	8.6	78.5	0.11	No	AOC19SB1	0
Total PAHs	Total PAHs	mg/kg	12 : 13 : 13	***51.3***	1.0	51.3	Yes	AOC19SB1	12
VOCs									
71-43-2	Benzene	mg/kg	6 : 6 : 13	0.0022	0.255	0.0086	No	AOC19SB11	0
100-41-4	Ethylbenzene	mg/kg	3 : 3 : 13	0.00085	5.16	0.00013	No	AOC19SB13	0
XYLMP	m+p-Xylene	mg/kg	2 : 2 : 13	0.00097	NV	NE	NE	AOC19SB11	NE
95-47-6	o-Xylene	mg/kg	1 : 1 : 13	0.00041	NV	NE	NE	AOC19SB11	NE
108-88-3	Toluene	mg/kg	10 : 10 : 13	0.0022	200	0.000011	No	AOC19SB11	0
1330-20-7	Total Xylenes	mg/kg	2 : 2 : 13	0.00138	10	0.00014	No	AOC19SB11	0
PCBs									
Total PCBs	Total PCBs	mg/kg	1 : 13 : 13	0.184	40	0.0046	No	AOC19SB10	0
Dioxins/Furans									
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	2 : 7 : 7	0.0000019	0.0000388	0.049	No	AOC19SB11	0
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	3 : 7 : 7	***0.000001452***	0.000000199	7.3	Yes	AOC19SB6	3
Dioxin TEQ-HH	TCDD-TEQ-mammal	mg/kg	5 : 7 : 7	***0.000008834***	0.000000199	44.4	Yes	AOC19SB1	5

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for aluminum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

Table 8-2
Surface Water Ecological Screening Evaluation - AOC 19 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	ug/l	1 : 1 : 1	***3410***	87	39.2	Yes	GMRSW10	1
7440-39-3	Barium	ug/l	1 : 1 : 1	***95.5***	4.0	23.9	Yes	GMRSW10	1
7440-70-2	Calcium	ug/l	1 : 1 : 1	67500	1116000	0.060	No	GMRSW10	0
7440-47-3	Chromium (total)	ug/l	1 : 1 : 1	4.7	225	0.021	No	GMRSW10	0
7439-89-6	Iron	ug/l	1 : 1 : 1	***2780***	1000	2.8	Yes	GMRSW10	1
7439-92-1	Lead	ug/l	1 : 1 : 1	3.8	14.1	0.27	No	GMRSW10	0
7439-95-4	Magnesium	ug/l	1 : 1 : 1	27000	82000	0.33	No	GMRSW10	0
7439-96-5	Manganese	ug/l	1 : 1 : 1	53.6	120	0.45	No	GMRSW10	0
7439-97-6	Mercury	ug/l	1 : 1 : 1	0.03	0.91	0.033	No	GMRSW10	0
7440-02-0	Nickel	ug/l	1 : 1 : 1	4.1	140	0.03	No	GMRSW10	0
7440-09-7	Potassium	ug/l	1 : 1 : 1	5760	53000	0.11	No	GMRSW10	0
7440-23-5	Sodium	ug/l	1 : 1 : 1	19000	680000	0.028	No	GMRSW10	0
7440-62-2	Vanadium	ug/l	1 : 1 : 1	8.6	20.0	0.430	No	GMRSW10	0

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
Hardness-dependent criteria adjusted to average hardness of Great Miami River samples - 322 mg/L as $CaCO_3$
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.

Table 8-3
Surficial Sediment Ecological Screening Evaluation - AOC 19 Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	3 : 3 : 3	***5230***	2600	2.0	Yes	GMRSD18	2
7440-38-2	Arsenic	mg/kg	3 : 3 : 3	3.5	9.79	0.36	No	GMRSD17	0
7440-39-3	Barium	mg/kg	3 : 3 : 3	***70.7***	0.7	101	Yes	GMRSD18	3
7440-47-3	Chromium (total)	mg/kg	3 : 3 : 3	12.1	43.4	0.28	No	GMRSD18	0
7440-50-8	Copper	mg/kg	3 : 3 : 3	21.8	31.6	0.69	No	GMRSD18	0
7439-89-6	Iron	mg/kg	3 : 3 : 3	12700	20000	0.64	No	GMRSD18	0
7439-92-1	Lead	mg/kg	3 : 3 : 3	15.1	35.8	0.42	No	GMRSD18	0
7439-96-5	Manganese	mg/kg	3 : 3 : 3	***481***	460	1.0	Yes	GMRSD17	1
7440-02-0	Nickel	mg/kg	2 : 3 : 3	9.9	22.7	0.44	No	GMRSD18	0
7440-62-2	Vanadium	mg/kg	3 : 3 : 3	15.5	NV	NE	NE	GMRSD18	NE
7440-66-6	Zinc	mg/kg	3 : 3 : 3	59.3	121	0.49	No	GMRSD18	0
SVOCs									
120-12-7	Anthracene	mg/kg	2 : 3 : 3	***0.14***	0.0572	2.4	Yes	GMRSD18	1
56-55-3	Benzo(a)anthracene	mg/kg	3 : 3 : 3	***0.52***	0.108	4.8	Yes	GMRSD18	2
50-32-8	Benzo(a)pyrene	mg/kg	3 : 3 : 3	***0.85***	0.15	5.7	Yes	GMRSD18	2
205-99-2	Benzo(b)fluoranthene	mg/kg	3 : 3 : 3	0.77	16.6	0.046	No	GMRSD18	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	3 : 3 : 3	***0.46***	0.17	2.7	Yes	GMRSD18	1
207-08-9	Benzo(k)fluoranthene	mg/kg	3 : 3 : 3	***0.56***	0.24	2.3	Yes	GMRSD18	1
218-01-9	Chrysene	mg/kg	3 : 3 : 3	***0.66***	0.166	4.0	Yes	GMRSD18	2
53-70-3	Dibenz(a,h)anthracene	mg/kg	1 : 1 : 3	0.012	0.033	0.36	No	GMRSD16	0
84-74-2	Di-n-butylphthalate	mg/kg	1 : 1 : 3	0.063	1.8	0.035	No	GMRSD16	0
206-44-0	Fluoranthene	mg/kg	3 : 3 : 3	***1.4***	0.423	3.3	Yes	GMRSD18	1
86-73-7	Fluorene	mg/kg	1 : 1 : 3	0.019	0.0774	0.2	No	GMRSD16	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	3 : 3 : 3	***0.4***	0.2	2.0	Yes	GMRSD18	1
85-01-8	Phenanthrene	mg/kg	3 : 3 : 3	***0.56***	0.204	2.7	Yes	GMRSD18	1
129-00-0	Pyrene	mg/kg	3 : 3 : 3	***1.1***	0.195	5.6	Yes	GMRSD18	2
Total PAHs	Total PAHs	mg/kg	3 : 3 : 3	***7.42***	1.6	4.6	Yes	GMRSD18	2
VOCs									
67-64-1	Acetone	mg/kg	1 : 1 : 3	0.009	0.01392	0.65	No	GMRSD18	0
75-09-2	Methylene chloride	mg/kg	3 : 3 : 3	0.0051	0.592	0.009	No	GMRSD17	0
108-88-3	Toluene	mg/kg	3 : 3 : 3	0.00072	0.080	0.0090	No	GMRSD18	0
PCBs									
Total PCBs	Total PCBs	mg/kg	2 : 3 : 3	***0.24***	0.0598	4.0	Yes	GMRSD18	2

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Organic carbon-dependent screening values adjusted to average TOC of Great Miami River samples - 1.6%
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.

9.0 Great Miami River Exposure Area

This section presents the results of the SLERA conducted for the Great Miami River Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The Great Miami River SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the Great Miami River SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors in this portion of the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface water and surficial sediment in the Great Miami River. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figure 2-3. Summary statistics for surface water and sediment are presented in Appendix B and the screenings are presented in Tables 9-1 and 9-2.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

9.1 Ecological Characterization

The Great Miami River forms the southern and eastern boundary of the Site. This tributary of the Ohio River is approximately 170 miles long, and drains a significant portion of southwestern Ohio (drainage area = 5,385 square miles), eventually discharging into the Ohio River. The watershed is generally characterized by flat to gently rolling terrain underlain by glacial till and rich soils. Agriculture is the dominant land use within the watershed, with residential, commercial, and industrial uses covering a significantly smaller portion of the watershed.

Most of the Great Miami River is classified by the OEPA as a Warmwater Habitat, supporting "typical" warmwater assemblages of aquatic organisms. According to the Friends of the Great Miami (www.fogm.org), the river is home to 114 fish species, 297 macroinvertebrate species, and 37 freshwater mussel species. As a result of the watershed's glacial deposits, the Great Miami River flows over a buried aquifer with thick deposits of sand, gravel, cobble, and boulders. In the vicinity of the Site, much of the shoreline is gravel and cobble, with gravel bars exposed during low flow. The 10 sediment samples in the Great Miami River Exposure Area exhibited a range of TOC levels with the lowest level identified just upstream of the Site (0.36% TOC at GMRSD14). As indicated in Figure 9-1, TOC levels were generally between approximately 1% and 2% adjacent to the Site, increasing to 3.3% at GMRSD6.

On June 1, 2007 an approximately 3-hour site inspection was conducted at the AK Steel Former Armco Hamilton Plant, in Hamilton, Ohio. This inspection was attended by the following personnel:

- David Miracle (AK Steel Environmental Manager);
- John A. Bleiler (ENSR, Ecological Risk Assessment Lead);
- Betsy Ruffle (ENSR, Human Health Risk Assessment Lead);
- Brian Tucker (OEPA Risk Assessment); and
- Juanita F. Nordstrom (OEPA Site Coordinator).

The objective of this inspection was to introduce the OEPA risk assessor (Mr. Tucker) to the Site, and for members of the project team, to help determine the pathway(s) forward for completion of ERA activities at the Site. During the course of this site inspection, the attendees observed what appeared to be a tar-like-material on the surface of the floodplain soils. This material was hardened, appeared in small finite areas, and did not appear to be flowable. A separate investigation is currently underway to better understand the nature, extent, fate and transport properties, and potential for risks associated with the floodplain adjacent to the Site.

9.2 Results: SLERA Evaluation of Surface Water

Maximum detected concentrations of constituents in surface water from the Great Miami River Exposure Area were compared to ecological screening values. This evaluation is presented in Table 9-1. Surface water screening values were available for all 12 of the detected inorganic compounds, the one detected SVOC, and the three detected VOCs in surface water from the Great Miami River Exposure Area. No surface water screening value was identified for total PAHs. However, since only a single PAH was detected, the evaluation of the individual constituent (fluoranthene) was sufficient for the PAHs. Calcium and magnesium data collected from the Great Miami River samples indicated that the hardness of the water ranged from 277 to 347 mg/L as $CaCO_3$. The average hardness value (322 mg/L as $CaCO_3$) was used to adjust hardness-dependent criteria.

The maximum detected concentrations of aluminum and barium were the only inorganic compounds that exceeded the respective benchmarks.

Fluoranthene was the only SVOC detected in surface water in the Great Miami River Exposure Area. The maximum detected concentration of fluoranthene did not exceed the associated screening value.

4-Methyl-2-pentanone, acetone, and methylene chloride were the only VOCs detected in surface water in the Great Miami River Exposure Area. The maximum detected concentrations of these VOCs did not exceed the associated screening values. Acetone and methylene chloride are considered to be common laboratory contaminants (U.S. EPA, 1999).

9.3 Results: SLERA Evaluation of Surficial Sediment

Maximum detected concentrations of constituents in surficial sediment from the Great Miami River Exposure Area were compared to ecological screening values. This evaluation is presented in Table 9-2. Sediment screening values were available for 15 of the 16 detected inorganic compounds, 20 of the 21 detected SVOCs (including total PAHs), 9 of the 11 detected VOCs, and total PCBs detected in sediment from the Great Miami River Exposure Area. TOC data collected from all of the Great Miami River samples (including AOC 19) indicated that the TOC of the sediment ranged from 0.15% to 3.3%. The average TOC value (1.6%) was used to adjust organic carbon-dependent screening levels selected from ORNL (Jones, et al, 1997) and U.S. EPA Region 5 ESLs (U.S. EPA, 2003a).

The maximum detected concentrations of 13 of the inorganic compounds with benchmarks exceeded the respective benchmarks. Only the maximum detected concentrations of cobalt and selenium did not exceed the associated screening values.

The maximum detected concentrations of 18 of the individual SVOCs with benchmarks exceeded the respective benchmarks. The maximum total PAH concentration also exceeded the sediment screening value for total PAHs.

The maximum detected concentrations of acetone and carbon disulfide were the only VOCs that exceeded the respective benchmarks. However, acetone is considered to be a common laboratory contaminant (U.S. EPA, 1999).

The maximum detected concentration of total PCBs exceeded the respective screening value.

9.4 Summary

Two inorganic constituents (aluminum and barium) in the Great Miami River Exposure Area surface water were present at concentrations above ecological screening values (Table 9-1) and were retained as SLCOPCs. Mercury was retained as a surface water SLCOPC, even though concentrations were below the benchmark, since it is a bioaccumulative compound and the benchmark does not account for uptake via the food chain.

As presented in Table 9-2, a number of constituents in the Great Miami River Exposure Area sediment were present at concentrations above ecological screening values, or did not have screening values identified. Therefore the SLCOPCs retained in sediment for the Great Miami River Exposure Area include: all of the detected inorganic constituents except cobalt and selenium (vanadium was retained due to lack of a screening value); nearly all of the SVOCs; the VOCs acetone and carbon disulfide; and total PCBs. Carbazole, cyclohexane, and methylcyclohexane were retained due to lack of a screening value.

As discussed in Chapter 11, the naturally occurring inorganic compounds found in the sediment and surface water are generally consistent with upstream samples from the Great Miami River collected during the RI field effort.

Table 9-1
Surface Water Ecological Screening Evaluation - Great Miami River Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	ug/l	5 : 5 : 5	***714***	87	8.2	Yes	GMRSW1	5
7440-39-3	Barium	ug/l	5 : 5 : 5	***101***	4.0	25.3	Yes	GMRSW1	5
7440-70-2	Calcium	ug/l	5 : 5 : 5	83600	1116000	0.075	No	GMRSW2	0
7439-89-6	Iron	ug/l	5 : 5 : 5	773	1000	0.77	No	GMRSW3	0
7439-92-1	Lead	ug/l	5 : 5 : 5	2.8	14.1	0.20	No	GMRSW1, GMRSW2	0
7439-95-4	Magnesium	ug/l	5 : 5 : 5	34400	82000	0.42	No	GMRSW5	0
7439-96-5	Manganese	ug/l	5 : 5 : 5	27.2	120	0.23	No	GMRSW1	0
7439-97-6	Mercury	ug/l	2 : 5 : 5	0.19	0.91	0.210	No	GMRSW5	0
7440-02-0	Nickel	ug/l	5 : 5 : 5	2.5	140.3	0.018	No	GMRSW5	0
7440-09-7	Potassium	ug/l	5 : 5 : 5	4370	53000	0.082	No	GMRSW4	0
7440-23-5	Sodium	ug/l	5 : 5 : 5	29000	680000	0.043	No	GMRSW5	0
7440-62-2	Vanadium	ug/l	5 : 5 : 5	2.7	20.0	0.14	No	GMRSW4, GMRSW5	0
SVOCs									
206-44-0	Fluoranthene	ug/l	1 : 1 : 5	0.05	15.0	0.0033	No	GMRSW1	0
Total PAHs	Total PAHs	ug/l	1 : 1 : 5	0.05	NV	NE	NE	GMRSW1	NE
VOCs									
108-10-1	4-Methyl-2-pentanone	ug/l	1 : 1 : 5	1.8	170	0.011	No	GMRSW2	0
67-64-1	Acetone	ug/l	1 : 1 : 5	4.2	1500	0.0028	No	GMRSW2	0
75-09-2	Methylene chloride	ug/l	2 : 5 : 5	0.66	2200	0.00030	No	GMRSW2	0

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Hardness-dependent criteria adjusted to average hardness of Great Miami River samples - 322 mg/L as $CaCO_3$
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.

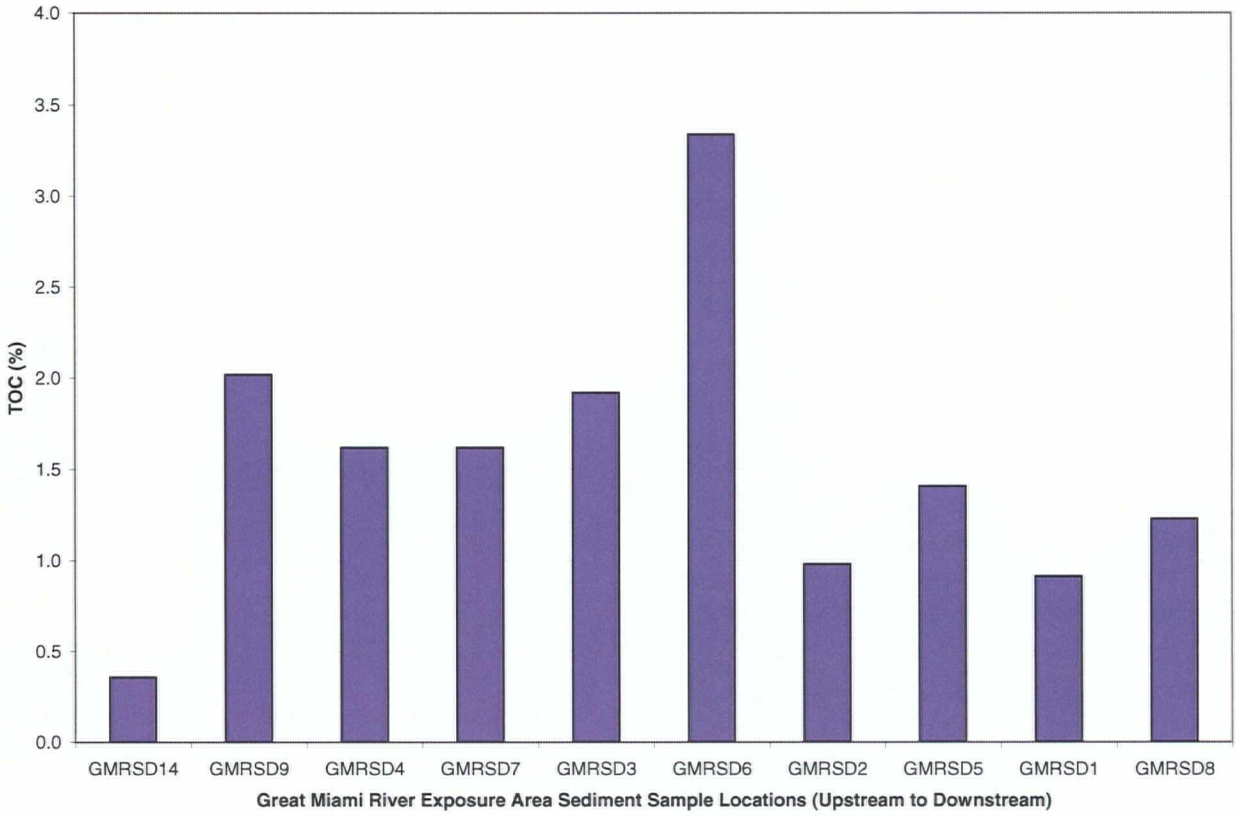
Table 9-2
Surficial Sediment Ecological Screening Evaluation - Great Miami River Exposure Area
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics									
7429-90-5	Aluminum	mg/kg	10 : 10 : 10	***18100***	2600	7.0	Yes	GMRSD9	9
7440-38-2	Arsenic	mg/kg	10 : 10 : 10	***10.8***	9.79	1.1	Yes	GMRSD9	1
7440-39-3	Barium	mg/kg	10 : 10 : 10	***523***	0.7	747	Yes	GMRSD5	10
7440-43-9	Cadmium	mg/kg	4 : 10 : 10	***1.8***	0.99	1.8	Yes	GMRSD5	3
7440-47-3	Chromium (total)	mg/kg	10 : 10 : 10	***63.3***	43.4	1.5	Yes	GMRSD9	1
7440-48-4	Cobalt	mg/kg	2 : 10 : 10	10.6	50	0.21	No	GMRSD14	0
7440-50-8	Copper	mg/kg	10 : 10 : 10	***163***	31.6	5.2	Yes	GMRSD5	3
57-12-5	Cyanide	mg/kg	1 : 10 : 10	***8.86***	0.1	88.6	Yes	GMRSD1	1
7439-89-6	Iron	mg/kg	10 : 10 : 10	***34700***	20000	1.7	Yes	GMRSD9	4
7439-92-1	Lead	mg/kg	10 : 10 : 10	***372***	35.8	10.4	Yes	GMRSD5	3
7439-96-5	Manganese	mg/kg	10 : 10 : 10	***584***	460	1.2	Yes	GMRSD14	2
7439-97-6	Mercury	mg/kg	6 : 10 : 10	***0.18***	0.18	1.1	Yes	GMRSD6	1
7440-02-0	Nickel	mg/kg	10 : 10 : 10	***31.5***	22.7	1.4	Yes	GMRSD9	2
7782-49-2	Selenium	mg/kg	3 : 10 : 10	1.8	2.0	0.9	No	GMRSD6	0
7440-62-2	Vanadium	mg/kg	10 : 10 : 10	39.4	NV	NE	NE	GMRSD9	NE
7440-66-6	Zinc	mg/kg	10 : 10 : 10	***681***	121	5.6	Yes	GMRSD5	3
SVOCs									
83-32-9	Acenaphthene	mg/kg	4 : 10 : 10	***13***	0.15	87	Yes	GMRSD6	4
208-96-8	Acenaphthylene	mg/kg	6 : 10 : 10	***74***	0.00587	12606	Yes	GMRSD6	6
120-12-7	Anthracene	mg/kg	9 : 10 : 10	***130***	0.0572	2273	Yes	GMRSD6	7
56-55-3	Benzo(a)anthracene	mg/kg	9 : 10 : 10	***180***	0.108	1667	Yes	GMRSD6	6
50-32-8	Benzo(a)pyrene	mg/kg	10 : 10 : 10	***170***	0.15	1133	Yes	GMRSD6	7
205-99-2	Benzo(b)fluoranthene	mg/kg	9 : 10 : 10	***130***	16.6	7.8	Yes	GMRSD6	1
191-24-2	Benzo(g,h,i)perylene	mg/kg	6 : 10 : 10	***110***	0.17	647	Yes	GMRSD6	6
207-08-9	Benzo(k)fluoranthene	mg/kg	9 : 10 : 10	***130***	0.24	542	Yes	GMRSD6	5
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	1 : 1 : 10	0.072	1424	0.000051	No	GMRSD4	0
86-74-8	Carbazole	mg/kg	3 : 10 : 10	17	NV	NE	NE	GMRSD6	NE
218-01-9	Chrysene	mg/kg	10 : 10 : 10	***170***	0.166	1024	Yes	GMRSD6	7
53-70-3	Dibenz(a,h)anthracene	mg/kg	7 : 10 : 10	***26***	0.033	788	Yes	GMRSD6	6
132-64-9	Dibenzofuran	mg/kg	1 : 10 : 10	***11***	0.672	16.4	Yes	GMRSD6	1
206-44-0	Fluoranthene	mg/kg	10 : 10 : 10	***430***	0.423	1017	Yes	GMRSD6	7
86-73-7	Fluorene	mg/kg	6 : 10 : 10	***36***	0.0774	465	Yes	GMRSD6	6
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	9 : 10 : 10	***92***	0.2	460	Yes	GMRSD6	6
91-20-3	Naphthalene	mg/kg	2 : 10 : 10	***14***	0.176	79.5	Yes	GMRSD6	1
106-44-5	p-Cresol (4-Methylphenol)	mg/kg	1 : 5 : 10	***0.29***	0.03232	9.0	Yes	GMRSD4	1
85-01-8	Phenanthrene	mg/kg	9 : 10 : 10	***380***	0.204	1863	Yes	GMRSD6	6
129-00-0	Pyrene	mg/kg	10 : 10 : 10	***380***	0.195	1949	Yes	GMRSD6	9
Total PAHs	Total PAHs	mg/kg	10 : 10 : 10	***2466***	1.6	1541	Yes	GMRSD6	6
VOCs									
78-93-3	2-Butanone	mg/kg	4 : 10 : 10	0.033	0.432	0.076	No	GMRSD8	0
67-64-1	Acetone	mg/kg	6 : 10 : 10	***0.17***	0.01392	12.2	Yes	GMRSD8	5
71-43-2	Benzene	mg/kg	8 : 10 : 10	0.0097	0.256	0.038	No	GMRSD6	0
75-15-0	Carbon disulfide	mg/kg	5 : 5 : 10	***0.005***	0.00136	3.7	Yes	GMRSD2	3
110-82-7	Cyclohexane	mg/kg	10 : 10 : 10	0.0057	NV	NE	NE	GMRSD2	NE
100-41-4	Ethylbenzene	mg/kg	3 : 3 : 10	0.002	0.1424	0.014	No	GMRSD2	0
XYLMP	m+p-Xylene	mg/kg	5 : 5 : 10	0.0031	0.040	0.078	No	GMRSD2	0
108-87-2	Methylcyclohexane	mg/kg	10 : 10 : 10	0.013	NV	NE	NE	GMRSD2	NE
95-47-6	o-Xylene	mg/kg	2 : 2 : 10	0.0014	0.040	0.035	No	GMRSD2	0
108-88-3	Toluene	mg/kg	8 : 10 : 10	0.0066	0.080	0.083	No	GMRSD2	0
1330-20-7	Total Xylenes	mg/kg	5 : 5 : 10	0.0045	0.256	0.018	No	GMRSD2	0
PCBs									
Total PCBs	Total PCBs	mg/kg	9 : 10 : 10	***2.355***	0.0598	39.4	Yes	GMRSD6	9

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value

HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Organic carbon-dependent screening values adjusted to average TOC of Great Miami River samples - 1.6%
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
Complete summary statistics presented in Appendix B.

Figure 9-1 Total Organic Carbon Levels in Great Miami River Exposure Area Sediments



10.0 Southern Parcel Exposure Area

This section presents the results of the SLERA conducted for the Southern Parcel Exposure Area. A detailed presentation of the SLERA methodologies is included in Section 2.0. The Southern Parcel Exposure Area SLERA is a screening-level evaluation of potential risks that chemical stressors in environmental media may pose to ecological receptors.

The primary objective of the Southern Parcel Exposure Area SLERA is to evaluate recently collected analytical chemistry to determine whether or not there is current or future exposure of environmental receptors to chemical stressors in this portion of the AHP Site. This evaluation focuses on the potential impacts to ecological receptors potentially exposed to the surface soils in the Southern Parcel Exposure Area. The analytical samples considered in this SLERA are listed in Table 2-3 and sampling locations are displayed on Figure 2-2. Summary statistics for the soils in the Southern Parcel Exposure Area are presented in Appendix B and the soil screening is presented in Table 10-1.

In addition to the soil screening, groundwater data from two areas along the downgradient portion of the Site prior to discharge to the GMR were assessed for the potential to impact the surface water of the Great Miami River (Figure 2-3). Data collected from four shallow monitoring wells located along the southern-most portion of the Southern Parcel Exposure Area (identified as the Southern Parcel Perimeter Wells) and five shallow monitoring wells associated with AOC 13 (identified as the AOC 13 Perimeter Wells) were compared against surface water screening values. The portion of the Site containing AOC 13 (the Former By-Products Area) included various sumps, pits and pipelines which likely held and transported coal by-products (e.g., coal tar, naphthalene). Summary statistics for the groundwater in the Southern Parcel Perimeter Wells and the AOC 13 Perimeter Wells are presented in Appendix B and the screenings are presented in Tables 10-2 and 10-3, respectively.

In accordance with the methodologies presented in Section 2.2, ecological effects were estimated based on literature reported ecotoxicological screening values. These screening values are generally concentrations of chemicals in laboratory or field toxicity tests that are associated with adverse effects on reproduction, growth, or survival of the test population.

10.1 Ecological Characterization

For the purpose of this SLERA, the Southern Parcel has been operationally defined to include all study areas and AOCs located to the south of Augspurger Road. This approximately 70 acre parcel of land formerly contained a number of buildings and structures associated with the former plant site, including the coke plant, two blast furnaces, a sinter plant, and associated coal handling facilities. The Southern Parcel is bordered to the east and south by the Great Miami River, to the west by a railyard operated by CSX Transportation, and to the north by Augspurger Road.

Little evidence of the former industrial operations currently exists at the Southern Parcel, which is primarily open field habitat punctuated by clusters of trees and shrubs, and occasional concrete slabs from historic buildings. A north-south roadway traverses this portion of the Site; the property is slightly more elevated to the west, where the blast furnaces were formerly located.

Much of the Southern Parcel is currently dominated by old field ruderal habitats, with greater than 90% of the surface covered by graminoid and herbaceous materials, the majority of which are non-native. Only occasional relatively small areas in the Southern Parcel are not fully vegetated; these areas (e.g., land near Block F) contain substrate with 1 to 2-inch gravel or coke-like substrate which does not appear to be as readily colonized by the old field forbes.

In addition to a variety of old field grasses such as *Echnichloa crusgalli*, *Setaria* sp., and *Panicum dichotomiflorum*, flora commonly observed in this portion of the Site include clovers (*Trifolium* spp. and *Meliotus alba*), dandelion (*Taraxacum officinale*), cinquefoils (*Potentilla* sp.), queen anne's lace (*Daucus carota*), chickory (*Cichorium intybus*), knapweed (*Centaurea maculosa*), dock (*Rumex acetocella*), vetch (*Vicia* sp.), mullein (*Verbascum thapsus*), goldenrod (*Solidago* spp.), oxeye daisy, ragweed, aster (*Aster pilosus*), fleabane (*Erigeron canadensis*), field pepperweed (*Lepidium campestre)*, ragweed (*Artemisia annua*), evening primrose (*Oenothera biennis*), and bouncing bet (*Saponaria officinalis*). Occasional honeysuckle (likely *Lonicera hirsuta*) and sycamore (*Platanus occidentalis*) saplings were also observed in this area.

10.2 Results: SLERA Evaluation of Surface Soil

Maximum detected concentrations of constituents in soil from the Southern Parcel Exposure Area were compared to ecological screening values. This evaluation is presented in Table 10-1. Soil screening values were available for all 19 of the detected inorganic compounds, 23 of the 25 detected SVOC compounds (including total PAHs), 23 of the 28 detected VOC compounds (including total xylenes), total PCBs, and dioxin/furans in soil from the Southern Parcel Exposure Area.

The maximum detected concentrations of 16 of the inorganic compounds exceeded the respective benchmarks. Soil conditions are expected to limit the potential toxicity of aluminum and iron; therefore these constituents were not retained as SLCOPCs.

The maximum detected concentrations of 8 of the individual SVOCs with benchmarks exceeded the respective benchmarks. The maximum total PAH concentration exceeded the U.S. EPA Region 4 screening value for total PAHs.

The maximum detected concentration of a single VOC (cyclohexane) exceeded the respective benchmark.

The maximum concentration of 2,3,7,8-TCDF did not exceed benchmarks. The maximum concentration of 2,3,7,8-TCDD and the maximum TCDD-TEQ for mammals exceeded the benchmark 2,3,7,8-TCDD.

10.3 Results: SLERA Evaluation of Groundwater in Southern Parcel Perimeter Wells

Maximum detected concentrations of constituents in groundwater from the Southern Parcel Perimeter Wells were compared to ecological screening values for surface water. These wells were selected since they represent groundwater quality in the shallow aquifer immediately prior to discharge to the Great Miami River. This conservative evaluation is presented in Table 10-2. Surface water values were available for all 16 of the detected inorganics and 6 of 7 detected SVOCs (including total PAHs) in groundwater from the Southern Parcel Perimeter Wells. A screening value was not identified for caprolactam, the only detected VOC. PCBs and dioxins were not detected in groundwater. No surface water screening value was identified for total PAHs; however, screening values were available for all of the detected individual PAHs.

Since the Great Miami River represents the point of potential exposure to groundwater for aquatic receptors, the hardness-dependent surface water criteria were adjusted to the average hardness value from the Great Miami River water samples (322 mg/L as $CaCO_3$)

The maximum detected concentrations of 7 of the inorganics with benchmarks exceeded their respective benchmarks. The mean concentrations also exceeded the screening values for the same 7 inorganic compounds. A ten-fold dilution of the mean concentration would be sufficient to bring all groundwater concentrations, except aluminum, below the associated surface water screening value. A ten-fold dilution is likely a conservative estimate of the amount of dilution that the Southern Parcel perimeter groundwater achieves when it is discharged into the Great Miami River. As stated previously, the historical average monthly flow rates recorded in the Great Miami River at the USGS gauging stations upstream and downstream

of the site were 3,636 cubic feet per second (cfs) in Middletown and 3,437 cfs in Hamilton (data available at http://waterdata.usgs.gov/nwis). The flow in the Great Miami River is likely to be much greater than ten times the flow of groundwater into the river at any given point in time. To address this uncertainty, the revised RI will include a more focused evaluation of the groundwater-surface water interaction.

None of the SVOCs with benchmarks exceeded their respective benchmarks.

10.4 Results: SLERA Evaluation of Groundwater in AOC 13 Perimeter Wells

Maximum detected concentrations of constituents in groundwater from the AOC 13 Perimeter Wells were compared to ecological screening values for surface water. This evaluation is presented in Table 10-3. Surface water screening values were available for all 13 of the detected inorganics, 21 of 26 detected SVOCs (including total PAHs), and 9 of the 11 detected VOCs in groundwater from the AOC 13 Perimeter Wells (including total xylenes). No surface water screening value was identified for total PAHs; however, screening values were available for all of the detected individual PAHs.

Since the Great Miami River represents the point of potential exposure to groundwater for aquatic receptors, the hardness-dependent surface water criteria were adjusted to the average hardness value from the Great Miami River water samples (322 mg/L as $CaCO_3$)

The maximum detected concentrations of 7 of the inorganics with benchmarks exceeded their respective benchmarks.

The maximum detected concentrations of 19 of the SVOCs with benchmarks exceeded their respective benchmarks.

The maximum detected concentrations of 8 of the VOCs with benchmarks exceeded their respective benchmarks.

For 82% of the compounds (28 of 34 compounds), the mean concentrations exceeded the screening values when the maximum exceeded the screening value. For approximately 60% of the compounds, the exceedances are based on a single detection from MW-8S. This sampling location contains the maximum concentration for the majority of the compounds. A ten-fold dilution of the mean concentration would be sufficient to bring approximately half of the compounds with exceedances below the associated surface water screening value. Selected metals, several PAHs, and several VOCs (benzene, ethylbenzene, toluene, and xylenes) would require additional dilution to achieve the surface water screening values.

A ten-fold dilution is likely a conservative estimate of the amount of dilution that the AOC 13 perimeter groundwater achieves when it is discharged into the Great Miami River. As stated previously, the historical average monthly flow rates recorded in the Great Miami River at the USGS gauging stations upstream and downstream of the site were 3,636 cubic feet per second (cfs) in Middletown and 3,437 cfs in Hamilton (data available at http://waterdata.usgs.gov/nwis). The flow in the Great Miami River is likely to be much greater than ten times the flow of groundwater into the river at any given point in time. To address this uncertainty, the revised RI will include a more focused evaluation of the groundwater-surface water interaction.

10.5 Summary

As presented in Table 10-1, a number of constituents in the Southern Parcel Exposure Area soils were present at concentrations above ecological screening values or screening values were not identified. The SLCOPCs retained in soil for the Southern Parcel Exposure Area due to benchmark exceedances include: 16 of the detected inorganic constituents; 8 individual SVOCs; total PAHs; cyclohexane; and dioxins/furans.

Although, the VOCs m+p xylene, and o-xylene do not have screening values they are not being retained as SLCOPCs since the total xylenes concentrations (calculated as the sum of the isomers) are below the total xylene screening value. Total PCBs were retained as SLCOPC, even though concentrations were below the associated benchmark, since PCBs are bioaccumulative compounds and the benchmark is based on impacts to lower trophic level receptors (i.e., terrestrial plants). The following soil SLCOPCs were retained due to a lack of benchmarks: carbazole, dibenzofuran, isopropylbenzene, methyl acetate, and methylcyclohexane.

Several inorganic constituents in groundwater in the Southern Parcel Perimeter Wells exceeded screening values for surface water (Table 10-2). The SLCOPCs retained in groundwater for the Southern Parcel Perimeter Wells include: aluminum, barium, cyanide, iron, manganese, selenium, and zinc. No organic compounds were retained as SLCOPC. Caprolactam was retained due to the lack of a screening value.

Several constituents in groundwater in the AOC 13 Perimeter Wells exceeded screening values for surface water (Table 10-3). The SLCOPCs retained in groundwater for the AOC 13 Perimeter Wells include: 6 inorganic compounds (aluminum, barium, cyanide, iron, manganese, and selenium; magnesium was not retained as a SLCOPC because it is an essential nutrient), 20 individual SVOCs, and all of the detected VOCs except acetone.

The following SLCOPCs were retained due to a lack of surface water benchmarks: 1,1-biphenyl, acetophenone, caprolactam, carbazole, chrysene, and isopropylbenzene. Total PAHs did not have a screening value and were retained since most individual PAHs exceeded the respective screening values.

The groundwater evaluation is highly conservative since maximum concentrations are compared directly to surface water screening values without the application of dilution factors. The revised RI will include a more focused evaluation of the groundwater-surface water interaction.

Table 10-1
Surface Soil Ecological Screening Evaluation - Southern Parcel Exposure Area
AK Steel Former ARMCO Hamilton Plant
Near Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics	**Inorganics**								
7429-90-5	Aluminum	mg/kg	133 : 133 : 133	90200	(d)	(d)	(d)	BCSB5	(d)
7440-36-0	Antimony	mg/kg	11 : 120 : 133	108	0.27	399	Yes	BFSB4	11
7440-38-2	Arsenic	mg/kg	126 : 133 : 133	33.6	18	1.9	Yes	BCSB9	6
7440-39-3	Barium	mg/kg	133 : 133 : 133	659	330	2	Yes	BCSB5	8
7440-41-7	Beryllium	mg/kg	79 : 133 : 133	13.5	21	0.64	No	BCSB5	0
7440-43-9	Cadmium	mg/kg	77 : 133 : 133	10.1	0.36	30	Yes	BCSB5	77
7440-47-3	Chromium (total)	mg/kg	133 : 133 : 133	3750	26	143	Yes	BFSB4	54
7440-48-4	Cobalt	mg/kg	50 : 133 : 133	14.8	13	1.1	Yes	AOC8SB4	1
7440-50-8	Copper	mg/kg	132 : 133 : 133	1360	28	49	Yes	AOC15SB1	52
57-12-5	Cyanide	mg/kg	62 : 132 : 132	14.8	1.33	11.1	Yes	BCSB9	52
7439-89-6	Iron	mg/kg	133 : 133 : 133	185000	(e)	(e)	(e)	AOC15SB7	(e)
7439-92-1	Lead	mg/kg	131 : 133 : 133	1320	11	121	Yes	AOC15SB2	117
7439-96-5	Manganese	mg/kg	133 : 133 : 133	20700	500	41.4	Yes	BCSB13	114
7439-97-6	Mercury	mg/kg	66 : 133 : 134	14.4	0.3	48	Yes	BBSB4	19
7440-02-0	Nickel	mg/kg	121 : 133 : 133	72.7	28	2.6	Yes	MW-8S	7
7782-49-2	Selenium	mg/kg	58 : 133 : 133	30.9	1	30	Yes	BFSB4	58
7440-22-4	Silver	mg/kg	17 : 133 : 133	35.8	4.2	8.5	Yes	AOC15SB1	3
7440-62-2	Vanadium	mg/kg	133 : 133 : 133	488	7.8	62	Yes	BFSB4	133
7440-66-6	Zinc	mg/kg	133 : 133 : 133	7240	50	145	Yes	AOC15SB1	102
SVOCs	**SVOCs**								
92-52-4	1,1-Biphenyl	mg/kg	5 : 100 : 130	0.63	60	0.011	No	AOC20CA8	0
91-57-6	2-Methylnaphthalene	mg/kg	52 : 129 : 130	3.46	3.24	1.1	Yes	MW-20S	1
83-32-9	Acenaphthene	mg/kg	23 : 130 : 131	5.35	20	0.27	No	MW-20S	0
208-96-8	Acenaphthylene	mg/kg	77 : 131 : 131	12.65	662	0.019	No	MW-20S	0
120-12-7	Anthracene	mg/kg	90 : 131 : 131	22	1480	0.015	No	MW-20S	0
56-55-3	Benzo(a)anthracene	mg/kg	122 : 131 : 131	46.5	5.21	8.7	Yes	MW-20S	18
50-32-8	Benzo(a)pyrene	mg/kg	123 : 131 : 131	41.36	1.52	27.2	Yes	MW-20S	37
205-99-2	Benzo(b)fluoranthene	mg/kg	122 : 131 : 131	34.8	59.8	0.58	No	MW-20S	0
191-24-2	Benzo(g,h,i)perylene	mg/kg	122 : 131 : 131	27.2	119	0.23	No	MW-20S	0
207-08-9	Benzo(k)fluoranthene	mg/kg	121 : 131 : 131	38.85	148	0.26	No	MW-20S	0
117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	13 : 129 : 130	5.3	0.825	6.7	Yes	BDSB6	1
85-68-7	Butylbenzylphthalate	mg/kg	1 : 124 : 130	1.8	0.289	6.3	Yes	BDSB6	1
86-74-8	Carbazole	mg/kg	49 : 129 : 130	7.205	NV	NE	NE	MW-20S	NE
218-01-9	Chrysene	mg/kg	123 : 131 : 131	46.55	4.73	9.7	Yes	MW-20S	20
53-70-3	Dibenz(a,h)anthracene	mg/kg	91 : 130 : 131	7.45	18.4	0.40	No	MW-20S	0
132-64-9	Dibenzofuran	mg/kg	52 : 128 : 130	7.62	NV	NE	NE	MW-20S	NE
117-84-0	Di-n-octylphthalate	mg/kg	1 : 129 : 130	4.8	709	0.0068	No	AOC13SB1	0
206-44-0	Fluoranthene	mg/kg	126 : 131 : 131	86.5	122	0.71	No	MW-20S	0
86-73-7	Fluorene	mg/kg	45 : 131 : 131	15.72	122	0.13	No	MW-20S	0
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	120 : 131 : 131	24.2	109	0.22	No	MW-20S	0
91-20-3	Naphthalene	mg/kg	68 : 130 : 131	5.795	0.0994	58.5	Yes	MW-20S	48
85-01-8	Phenanthrene	mg/kg	120 : 131 : 131	77.55	45.7	1.7	Yes	MW-20S	2
108-95-2	Phenol	mg/kg	2 : 72 : 130	0.2	70	0.0029	No	MW-1S	0
129-00-0	Pyrene	mg/kg	125 : 131 : 131	78.5	78.5	0.97	No	MW-20S	0
Total PAHs	Total PAHs	mg/kg	127 : 131 : 131	574	1.0	574	Yes	MW-20S	127
VOCs	**VOCs**								
120-82-1	1,2,4-Trichlorobenzene	mg/kg	4 : 4 : 135	0.0015	11.1	0.00014	No	BBSB6	0
95-50-1	1,2-Dichlorobenzene	mg/kg	2 : 2 : 135	0.00052	2.96	0.00016	No	BBSB6	0
541-73-1	1,3-Dichlorobenzene	mg/kg	3 : 3 : 135	0.00047	37.7	0.000012	No	BBSB6	0
106-46-7	1,4-Dichlorobenzene	mg/kg	1 : 1 : 135	0.00037	0.646	0.00058	No	MW-8S	0
78-93-3	2-Butanone	mg/kg	36 : 134 : 136	0.045	89.6	0.00050	No	AOC20CA12SB2	0
591-78-6	2-Hexanone	mg/kg	3 : 3 : 135	0.0018	12.6	0.00014	No	BBSB6	0
108-10-1	4-Methyl-2-pentanone	mg/kg	1 : 98 : 135	0.0063	443	0.000014	No	BCSB10	0
67-64-1	Acetone	mg/kg	93 : 134 : 136	0.17	2.5	0.068	No	20CA12SB2, B0	0
71-43-2	Benzene	mg/kg	98 : 136 : 136	0.084	0.255	0.33	No	AOC20CA8SB2	0
75-15-0	Carbon disulfide	mg/kg	93 : 134 : 136	0.035	0.0941	0.37	No	AOC12SB3	0
108-90-7	Chlorobenzene	mg/kg	2 : 134 : 135	0.023	13.1	0.0018	No	AOC12SB6	0
67-66-3	Chloroform	mg/kg	13 : 13 : 135	0.00056	1.19	0.00047	No	BDSB5	0
74-87-3	Chloromethane	mg/kg	11 : 11 : 135	0.0015	10.4	0.00014	No	BBSB4	0
156-59-2	cis-1,2-Dichloroethene	mg/kg	1 : 1 : 135	0.00037	0.784	0.00047	No	AOC14SB4	0
110-82-7	Cyclohexane	mg/kg	103 : 135 : 135	0.18	0.1	1.8	Yes	AOC20CA9SB2	1
75-71-8	Dichlorodifluoromethane	mg/kg	3 : 3 : 135	0.0006	39.5	0.000015	No	MW-8S	0
100-41-4	Ethylbenzene	mg/kg	50 : 136 : 136	0.23	5.16	0.045	No	AOC20CA9SB2	0
98-82-8	Isopropylbenzene	mg/kg	8 : 135 : 135	0.36	NV	NE	NE	AOC20CA9SB2	NE
XYLMP	m+p-Xylene	mg/kg	47 : 136 : 136	0.65	NV	NE	NE	AOC20CA9SB2	NE
79-20-9	Methyl acetate	mg/kg	2 : 2 : 135	0.0024	NV	NE	NE	AOC12SB1	NE
108-87-2	Methylcyclohexane	mg/kg	110 : 136 : 136	2	NV	NE	NE	AOC20CA9SB2	NE
75-09-2	Methylene chloride	mg/kg	51 : 135 : 135	0.087	4.05	0.021	No	AOC20CA9SB2	0
95-47-6	o-Xylene	mg/kg	43 : 136 : 136	0.21	NV	NE	NE	AOC20CA9SB2	NE
127-18-4	Tetrachloroethene	mg/kg	6 : 127 : 135	0.0042	9.92	0.00042	No	AOC20CA8SB1	0
108-88-3	Toluene	mg/kg	103 : 136 : 136	0.2	200	0.0010	No	AOC20CA8SB2	0
1330-20-7	Total Xylenes	mg/kg	50 : 136 : 136	0.86	10	0.086	No	AOC20CA9SB2	0
79-01-6	Trichloroethene	mg/kg	5 : 5 : 135	0.0013	12.4	0.00010	No	BBSB2	0
75-69-4	Trichlorofluoromethane	mg/kg	13 : 76 : 135	0.0027	16.4	0.00016	No	BCSB7	0
PCBs	**PCBs**								
Total PCBs	Total PCBs	mg/kg	61 : 130 : 130	10.2	40	0.26	No	AOC13SB10	0
Dioxins/Furans	**Dioxins/Furans**								
51207-31-9	2,3,7,8-Tetrachlorodibenzofuran	mg/kg	24 : 49 : 49	0.0000351	0.0000386	0.90	No	BBSB1	0
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin	mg/kg	33 : 50 : 50	0.000000997	0.000000196	27.9	Yes	BBSB1	25
Dioxin TEQ-HH	TCDD-TEQ-mammal	mg/kg	50 : 50 : 50	0.000071859	0.000000196	362	Yes	AOC14SB3	48

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PCBs is the sum of Aroclor 1248, Aroclor 1254 and Aroclor 1260.
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Eco-SSL for aluminum is dependent on soil pH. No risk likely if pH > 5.5. Toxicity due to aluminum is not expected.
(e) Eco-SSL for iron is dependent on site-specific soil conditions (e.g. pH, Eh, soil-water conditions). Toxicity due to iron is not expected.
Complete summary statistics presented in Appendix B.

Table 10-2
Groundwater Ecological Screening Evaluation - Southern Parcel Perimeter Wells
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Mean Concentration (d)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Does Mean Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics											
7429-90-5	Aluminum	ug/l	1:5:5	***7120***	***1436***	87	81.8	Yes	Yes	MW-4S	1
7440-38-2	Arsenic	ug/l	3:5:5	6.5	4.0	150	0.043	No	No	MW-19S	0
7440-39-3	Barium	ug/l	4:5:5	***93.85***	***58.5***	4.0	23.4	Yes	Yes	MW-4S	4
7440-70-2	Calcium	ug/l	5:5:5	211000	150400	1116000	0.19	No	No	MW-2S	0
7440-47-3	Chromium (total)	ug/l	1:5:5	16.75	4.11	225	0.075	No	No	MW-4S	0
57-12-5	Cyanide	ug/L	4:4:4	***38***	***26.2***	5.2	7.3	Yes	Yes	MW-19S	4
7439-89-6	Iron	ug/l	1:5:5	***7060***	***1416***	1000	7.1	Yes	Yes	MW-4S	1
7439-92-1	Lead	ug/l	1:5:5	2.6	1.5	14.1	0.184	No	No	MW-4S	0
7439-95-4	Magnesium	ug/l	5:5:5	72200	62790	82000	0.88	No	No	MW-2S	0
7439-96-5	Manganese	ug/l	5:5:5	***361.5***	***159***	120	3.0	Yes	Yes	MW-4S	3
7439-97-6	Mercury	ug/l	1:5:5	0.03	0.014	0.91	0.033	No	No	MW-4S	0
7440-09-7	Potassium	ug/l	5:5:5	27600	24550	53000	0.52	No	No	MW-19S	0
7782-49-2	Selenium	ug/l	3:5:5	***21.3***	***10.3***	5	4.2	Yes	Yes	MW-2S	3
7440-23-5	Sodium	ug/l	5:5:5	33100	24120	680000	0.049	No	No	MW-19S	0
7440-62-2	Vanadium	ug/l	1:5:5	10.475	2.7	20.0	0.52	No	No	MW-4S	0
7440-66-6	Zinc	ug/l	2:5:5	***469***	***97.7***	323	1.4	Yes	Yes	MW-2S	1
SVOCs											
83-32-9	Acenaphthene	ug/l	1:1:4	0.0805	0.0805	38	0.0016	No	No	MW-4S	0
208-96-8	Acenaphthylene	ug/l	1:1:4	0.065	0.065	4840	0.000013	No	No	MW-4S	0
206-44-0	Fluoranthene	ug/l	1:1:4	0.079	0.079	15.0	0.0053	No	No	MW-4S	0
91-20-3	Naphthalene	ug/l	3:4:4	0.6525	0.301875	12.0	0.054	No	No	MW-4S	0
85-01-8	Phenanthrene	ug/l	1:1:4	0.065	0.065	200	0.00033	No	No	MW-4S	0
129-00-0	Pyrene	ug/l	1:1:4	0.065	0.065	0.3	0.22	No	No	MW-4S	0
Total PAHs	Total PAHs	ug/l	3:4:4	0.987	0.3855	NV	NE	NE	NE	MW-4S	NE
VOCs											
105-60-2	Caprolactam	ug/l	2:4:4	17.5	8.675	NV	NE	NE	NE	MW-4S	NE

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Hardness-dependent criteria adjusted to average hardness of Great Miami River samples - 322 mg/L as $CaCO_3$
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results where half of the sample quantitation limit is greater than the maximum detected concentration have been excluded.
Complete summary statistics presented in Appendix B.

Table 10-3
Groundwater Ecological Screening Evaluation - AOC 13 Perimeter Wells
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

CAS	Chemical (a)	Units	FOD (b)	Maximum Detected Concentration (c)	Mean Concentration (d)	Ecological Screening Value	Maximum HQ	Does Maximum Detection Exceed ESV?	Does Mean Detection Exceed ESV?	Location of Maximum Detection	Number Exceeding the ESV
Inorganics											
7429-90-5	Aluminum	ug/l	4:7:7	***3620***	***1018***	87	41.6	Yes	Yes	MW-9S	3
7440-38-2	Arsenic	ug/l	1:7:7	6.7	3.6	150	0.045	No	No	MW-9S	0
7440-39-3	Barium	ug/l	5:7:7	***444***	***160***	4	111	Yes	Yes	MW-8S	5
7440-70-2	Calcium	ug/l	7:7:7	477000	238571	1116000	0.43	No	No	MW-20S	0
7440-47-3	Chromium (total)	ug/l	1:7:7	6.8	1.8	225	0.030	No	No	MW-8S	0
57-12-5	Cyanide	ug/L	5:5:5	***22900***	***6177***	5.2	4346	Yes	Yes	MW-9S	5
7439-89-6	Iron	ug/l	7:7:7	***11600***	***4972***	1000	11.6	Yes	Yes	MW-9S	5
7439-95-4	Magnesium	ug/l	7:7:7	***113000***	54857	82000	1.4	Yes	No	MW-21S	2
7439-96-5	Manganese	ug/l	7:7:7	***408***	***200***	120	3.4	Yes	Yes	MW-20S	5
7439-97-6	Mercury	ug/l	2:7:7	0.04	0.017	0.91	0.044	No	No	MW-9S	0
7440-09-7	Potassium	ug/l	7:7:7	20500	11283	53000	0.39	No	No	MW-8S	0
7782-49-2	Selenium	ug/l	3:7:7	***16.7***	***8.1***	5	3.1	Yes	Yes	MW-9S	3
7440-23-5	Sodium	ug/l	7:7:7	114000	51837	680000	0.17	No	No	MW-8S	0
SVOCs											
92-52-4	1,1-Biphenyl	ug/l	2:4:5	98	27.6	NV	NE	NE	NE	MW-9S	NE
105-67-9	2,4-Dimethylphenol	ug/l	3:5:5	***3000***	***636***	100	30.0	Yes	Yes	MW-9S	1
91-57-6	2-Methylnaphthalene	ug/l	4:5:5	***760***	164	330	2.3	Yes	No	MW-8S	1
83-32-9	Acenaphthene	ug/l	5:5:5	***430***	***88.3***	38	11.3	Yes	Yes	MW-8S	1
208-96-8	Acenaphthylene	ug/l	4:5:5	34	9.9	4840	0.007	No	No	MW-8S	0
98-86-2	Acetophenone	ug/l	2:4:5	50	15.5	NV	NE	NE	NE	MW-8S	NE
120-12-7	Anthracene	ug/l	4:5:5	120	***34.4***	0.73	164	Yes	Yes	MW-8S	1
56-55-3	Benzo(a)anthracene	ug/l	2:5:5	67	***12.3***	0.027	2259	Yes	Yes	MW-8S	2
50-32-8	Benzo(a)pyrene	ug/l	2:5:5	***46***	***8.3***	0.014	3214	Yes	Yes	MW-8S	2
205-99-2	Benzo(b)fluoranthene	ug/l	1:5:5	41	8.5	9.07	4.5	Yes	No	MW-8S	1
191-24-2	Benzo(g,h,i)perylene	ug/l	1:5:5	17	3.7	7.84	2.2	Yes	No	MW-8S	1
207-08-9	Benzo(k)fluoranthene	ug/l	1:5:5	16	3.5	9.1	1.8	Yes	No	MW-8S	1
86-74-8	Carbazole	ug/l	2:5:5	300	85.0	NV	NE	NE	NE	MW-8S	NE
218-01-9	Chrysene	ug/l	2:5:5	49	10.1	NV	NE	NE	NE	MW-8S	NE
53-70-3	Dibenz(a,h)anthracene	ug/l	1:5:5	***4.9***	***1.3***	0.027	181.48	Yes	Yes	MW-8S	1
132-64-9	Dibenzofuran	ug/l	3:5:5	***210***	***55.0***	3.7	56.8	Yes	Yes	MW-8S	1
206-44-0	Fluoranthene	ug/l	3:5:5	***240***	***48.4***	15.0	16	Yes	Yes	MW-8S	1
86-73-7	Fluorene	ug/l	4:5:5	***290***	***58.4***	3.9	74.4	Yes	Yes	MW-8S	1
193-39-5	Indeno(1,2,3-cd)pyrene	ug/l	1:5:5	***16***	3.5	4.31	3.7	Yes	No	MW-8S	1
91-20-3	Naphthalene	ug/l	4:5:5	***13000***	***3202***	12.0	1083	Yes	Yes	MW-8S	3
95-48-7	o-Cresol (2-Methylphenol)	ug/l	4:5:5	***470***	***163***	13.0	36.2	Yes	Yes	MW-8S	2
106-44-5	p-Cresol (4-Methylphenol)	ug/l	4:5:5	***120***	***32.6***	25	4.8	Yes	Yes	MW-8S	2
85-01-8	Phenanthrene	ug/l	4:5:5	***460***	***98.3***	200	2	Yes	Yes	MW-8S	1
108-95-2	Phenol	ug/l	3:5:5	45	21.2	180	0.25	No	No	MW-8S	0
129-00-0	Pyrene	ug/l	3:5:5	***160***	***32.3***	0.3	533	Yes	Yes	MW-8S	2
Total PAHs	Total PAHs	ug/l	5:5:5	15774	3781	NV	NE	NE	NE	MW-8S	NE
VOCs											
67-64-1	Acetone	ug/l	1:4:5	21	9.0	1500	0.014	No	No	MW-8S	0
71-43-2	Benzene	ug/l	4:5:5	***11000***	***2782***	130	84.6	Yes	Yes	MW-9S	3
105-60-2	Caprolactam	ug/l	1:3:5	36	17.0	NV	NE	NE	NE	MW-7S	NE
75-15-0	Carbon disulfide	ug/l	1:4:5	***16***	***3.4***	0.92	10.57	Yes	Yes	MW-21S	1
100-41-4	Ethylbenzene	ug/l	3:5:5	***630***	***222***	7.3	86.3	Yes	Yes	MW-8S	3
98-82-8	Isopropylbenzene	ug/l	3:5:5	94	25.2	NV	NE	NE	NE	MW-9S	NE
XYLMP	m+p-Xylene	ug/l	4:5:5	***5900***	***1489***	1.8	3278	Yes	Yes	MW-9S	4
95-47-6	o-Xylene	ug/l	4:5:5	***1800***	***474***	1.8	1000	Yes	Yes	MW-9S	3
100-42-5	Styrene	ug/l	3:5:5	***260***	***57.7***	32	8.8	Yes	Yes	MW-9S	1
108-88-3	Toluene	ug/l	4:5:5	***21000***	***4396***	9.8	2142.9	Yes	Yes	MW-9S	3
1330-20-7	Total Xylenes	ug/l	4:5:5	***7700***	***1832***	13.0	592	Yes	Yes	MW-9S	3

Concentrations in boldface italics exceed the ESV.
CAS - Chemical Abstract Service.
ESV - Ecological screening value
HQ - Hazard Quotient (Maximum concentration/ESV)
NV - No value identified
NE - Not evaluated due to lack of screening value
Total Xylenes is the sum of m,p, and o-isomers.
Total PAHs is the sum of the PAHs detected within this exposure area. One-half the individual PAH's quantitation limit was used as a proxy concentration in the sum for those samples in which the individual PAH was reported as undetected.
Hardness-dependent criteria adjusted to average hardness of Great Miami River samples - 322 mg/L as $CaCO_3$
(a) Only chemicals with at least one positively detected result are reported.
(b) Frequency of detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
(c) Maximum detected concentration for each chemical, after duplicates have been averaged.
(d) Arithmetic mean concentration for each chemical, after duplicates have been averaged and any non detected results where half of the sample quantitation limit is greater than the maximum detected concentration have been excluded.
Complete summary statistics presented in Appendix B.

11.0 Uncertainty Discussion

Uncertainty is introduced into the SLERA in several places throughout the process. Every time an assumption is made, some level of uncertainty is introduced into the risk assessment. The major areas of uncertainty include: the adequacy of site characterization, the quality of the analytical data, the level of conservatism, and the availability of the medium-specific screening values. Although the uncertainties may potentially over or under-estimate risk for a site, the AHP SLERA has been designed to serve as an extremely conservative first approximation of the potential for ecological risk, and therefore deliberately over-estimates the potential for risk through use of a number of conservative assumptions.

The emphasis of the uncertainty analysis is to discuss the assumptions and data gaps of the SLERA process that may influence the risk characterization results and assessment conclusions. General uncertainties inherent in the risk assessment process, as well as uncertainties specific to the AHP site, are discussed below.

11.1 Uncertainties Associated with Natural System Variability

Numerous factors may influence the bioavailability of constituents in the environment. In sediment, for example, factors such as pH, redox potential, sediment texture, and dissolved organic carbon concentrations may affect SLCOPC bioavailability. Various biological processes in all media can also affect SLCOPC bioavailability. Although it is likely not the case, in accordance with EPA guidance, SLCOPCs were conservatively assumed to be 100% bioavailable for the purposes of this SLERA analysis. See Section 11.5 for a more detailed discussion of the uncertainty associated with compound bioavailability.

Numerous factors that were not evaluated in this SLERA may also influence the population dynamics of the selected receptors. Factors such as habitat modification, off-site contaminant migration/deposition, temporal and seasonal fluctuations, and natural population fluctuations may influence populations and communities of these ecological receptors. Non-chemical stressors, such as the presence of slag within some AOCs, may also limit populations of ecological receptors. Lastly, the property is zoned industrial and it is assumed that future uses of the terrestrial portions of the Site will be industrial, thereby limiting the potential for complete ecological exposure pathways under future foreseeable conditions.

The analytical results may not be representative of all site conditions across the seasons. This may result in an overestimation or underestimation of the risk. However, given the large number of samples available for evaluation, this uncertainty likely would not alter the SLERA conclusions.

11.2 Uncertainties Associated with Data Evaluation and Reduction

Use of 1/2 the reported sample quantitation limit (SQL) to represent undetected constituents introduces uncertainty into the calculation of EPCs. Depending upon the site-specific distribution of data, this factor may result in an under-estimate (i.e., if the true concentration is less than the SQL but exceeds ½ the SQL) or over-estimate (i.e., if the true concentration is less than ½ the SQL) of potential risks. This uncertainty was generally ameliorated in the AHP SLERA through the use of conservative maximum detected concentrations in the benchmark screening.

It is also possible that detection limits for some chemical are elevated above the ecological screening values. In order to assess the potential impact of these non-detected compounds, detection limits for compounds not detected within an exposure area were also compared to ecological screening values. Non-detected compounds with maximum detection limits above the ecological screening value or without screening values are presented in Tables 11-1 and 11-2, respectively.

11.3 Uncertainties Associated with Benchmark Evaluation

Ecotoxicological screening values were not available for several compounds that were found in AHP surface water and sediment and it was not possible to estimate potential risks from exposure to these constituents. In addition, it is possible that some compounds are present in environmental media at concentrations below detection limits. These factors are likely to result in an under-estimate of potential risks.

The risk screening is based on the assumption that all contaminants are 100% bioavailable and that the most sensitive life stages of all organisms are present. The screening values are very conservative and often based on toxicity tests performed with very sensitive test organisms. These factors are likely to overestimate the actual risk to receptors at the AHP site.

The ecological screening values used in this SLERA do not generally account for possible synergistic, antagonistic, or additive effects of contaminant mixtures. These factors may result in an under-estimate or over-estimate of potential risks.

Many of the ecological screening values used in this SLERA are based on direct or indirect toxicity to lower trophic level receptors. This is appropriate for this SLERA which focused on impacts to lower trophic level receptors such as plants and invertebrates. The exception is that many of the U.S. EPA Eco-SSLs and the Region 5 ESLs, particularly for soil, incorporate impacts to vertebrate wildlife in the derivation of the screening values. This may result in an over-estimate of risks to lower trophic level receptors. In cases where screening values for bioaccumulative compounds were based on impacts to lower trophic level receptors, these compounds were retained, even when concentrations were below the screening values. Concentrations of mercury and total PCBs in soil were below screening levels based on plants, but were retained as bioaccumulative compounds. However, the habitat quality within the soil exposure areas is limited, the land is zoned for future industrial development, and potentially complete ecological exposure pathways are limited. Therefore, risks to higher trophic level receptors in these areas are unlikely.

The simple "hazard quotient" approach used in this SLERA provides a conservative estimate of risk based on a "snapshot" of site conditions by considering maximum site concentrations and conservative screening levels. Tannenbaum, et al. (2003) present five additional limitations of the HQ approach deriving from the nature of the mathematical computation (i.e., the ratio) and general uncertainties associated with describing a receptor's chemical intake and a receptor's chemical sensitivity:

HQ method limitations due to the mathematical computation:

1. The HQ is not a measure of risk
   - HQs are not probabilities in the mathematical sense, an HQ of 0.1 does not mean that there is a one in ten chance that an effect will occur (U.S. EPA, 1989)
2. The HQ is not a population-based measure
   - HQs do not refer to the number of individuals or percentage of the exposed population that is expected to be impacted
3. HQs are not linearly scaled
   - The level of concern for a receptor with an HQ of 10 may not be twice the concern over an HQ of 5

HQ method limitations due to lacking exposure and toxicity information:

4. Extremely low chemical concentrations in environmental media can "trigger" an HQ of >1.0
   - Elevated HQs are often calculated at background levels of naturally occurring inorganic constituents

5. HQs are often generated that are unrealistically high and toxicologically impossible
   - Conservative ecological screening values and exposure assumptions (e.g., 100% bioavailability) may result in compounded conservatism that produces unreasonably elevated HQs not supported by field observations (e.g., HQs indicating that receptors are exposed to toxic levels of constituents, but populations are present on-site)

Several of the sediment screening values were developed using the equilibrium partitioning (EqP) approach. As detailed in U.S. EPA (1993), this approach involves numerous chemical, biological, and toxicological assumptions, all of which have associated uncertainties.

Consistent with the SLERA objectives, it was assumed that receptors would be exposed to a maximum concentration EPC. However, in reality it is unlikely any receptor would be exposed continuously to maximum concentrations of constituents. This results in an over-estimate of potential risks at the Site.

The evaluation of total (not dissolved) metals in groundwater and surface water samples is likely to represent a conservative estimate of metal bioavailability. U.S. EPA guidance indicates that the dissolved fraction of metals is more appropriate for comparison to water quality standards (U.S. EPA, 1995). The use of total recoverable metals for screening purposes would tend to over-estimate potential ecological risk to aquatic receptors. For some analytes, appropriate ecological screening values were not available and these analytes were conservatively carried forward in the risk assessment process.

11.4 Uncertainties Associated with Background Evaluation

A number of compounds (e.g., aluminum and other inorganic constituents) are ubiquitous in the environment or may be present at levels consistent with background. In accordance with U.S. EPA Region 5 guidance, consideration of background levels in soil is not included in the SLERA, but will be an important component in the refinement of COPC which will be presented in the PFS.

The Great Miami River is a large river with an active commercial, industrial, and agricultural watershed. Sediment samples were collected from 19 stations located from just upstream of AOC 19 (GMRSD19) to the tip of the Southern Parcel (GMRSD8). These samples were collected to represent several different potential exposure areas: upstream of potential Site impact (GMRSD19 and GMRSD15); adjacent to AOC 19 (GMRSD16, GMRSD17, and GMRSD18); adjacent to AOC 7 (AOC7SD10, AOC7SD11, AOC7SD12, AOC7SD13); and adjacent to the Southern Parcel (the remaining ten locations). The discussion of upstream (background) concentrations of constituents is intended to identify uncertainties in the evaluation of surface water, sediment, and groundwater data in the risk assessment.

Given the linear nature of this feature relative to the Site AOCs, it is illustrative to consider all of the within river samples from upstream to downstream (since AOC 7 does not represents exposure to the river it is not considered in this assessment). Therefore, for each station, individual sediment HQs were calculated for each inorganic and PAH compound with a screening value. The average HQ was then calculated within each sample for inorganics and for PAHs. A Total PCB HQ was also calculated for each station.

Figures 11-1, 11-2, and 11-3 show the HQs in sediment for inorganics, PAHs, and PCBs, respectively. A review of HQs from upstream to downstream indicates that the Great Miami River upstream of the Site has constituents present at concentrations high enough to pose a potential ecological risk (i.e., the HQs upstream of the AHP Site exceed 1). This indicates that there are likely upstream sources, unrelated to Site influences, which are contributing to sediment contaminant levels within the Great Miami River. These figures demonstrate that there are clearly additional sources of contaminants upstream of the Site, as indicated by HQs exceeding 1 in upstream sediments. This is most notable for the inorganics where the average HQ in the most upstream sample (GMRSD19) is significantly higher than all but one of the potentially Site-related samples.

Great Miami River sediment concentrations were also compared against Ohio-specific Sediment Reference Values (SRVs) which were developed to represent regional background sediment concentrations for lotic (flowing) water bodies. According to OEPA guidance (OEPA, 2003), the SRVs may be used in lieu of site-specific background concentrations for sediments. Table 11-3 presents a comparison of the maximum detected sediment concentrations for the inorganic compounds that were retained in the benchmark comparison in Section 9 against the SRVs for the Eastern Corn Belt Plains eco-region. SRVs were not developed for organic compounds so this comparison is focused on inorganic compounds. This comparison indicates that concentrations of aluminum, arsenic, manganese, nickel, and vanadium in the Great Miami River are below the associated SRVs. Therefore, levels of these inorganic compounds are consistent with levels observed within reference areas within the Eastern Corn Belt Plains eco-region and these compounds do not require further evaluation.

An additional review of the surface water and groundwater data was also conducted. Surface water stations GMRSW9 and GMRSW11 are considered to be upstream locations un-impacted by the Site and three un-impacted groundwater wells were sampled as part of the field program.

Table 11-4 presents a comparison of the upstream locations and the maximum detected surface water concentrations within each exposure area for the five inorganic compounds in surface water that were retained due to benchmark exceedances. This review indicates that levels of aluminum, barium, and iron in surface water are generally consistent with the concentrations observed in un-impacted locations. The concentrations of all of the inorganic constituents were generally low and all the samples represented total recoverable rather than dissolved phase data. Therefore, no further evaluation of these compounds is warranted.

Table 11-5 presents a similar evaluation for the compounds retained in groundwater in the three potential discharge areas. Maximum and mean groundwater concentrations within each groundwater exposure area were evaluated against the upstream surface water locations and the available background groundwater data. The mean groundwater concentration has been included in this evaluation since it is likely a better approximation of potential environmental exposure in the river than is a discrete concentration from a single monitoring well (i.e., the maximum).

Within the AOC 1 Perimeter Wells and the Southern Parcel Perimeter Wells, concentrations of inorganics in groundwater are generally low and consistent with both upstream river concentrations and data from the background monitoring wells. Therefore, it is unlikely that the discharge of inorganic compounds from groundwater in AOC 1 or the southern tip of the Southern Parcel would impact the Great Miami River. This is especially valid if dilution into the river and the total recoverable nature of the analytical data are considered. However, as depicted in Table 11-5, the concentrations of organic compounds in groundwater associated with the AOC 13 Perimeter Wells are higher than concentrations measured in upstream and background locations and therefore warrant additional consideration.

11.5 Uncertainties Associated with Compound Bioavailability

The presence of compounds in environmental matrices (e.g., sediment) at concentrations which exceed benchmark screening values does not necessarily constitute ecological risk. For instance, certain compounds may not be absorbed through direct contact due to the chemical form.

To help identify whether or not inorganic substances are potential stressors of concern in sediments at the Site simultaneously extracted metals (SEM) and acid volatile sulfides (AVS) data were collected. Sulfides play a critical role in the partitioning of metals in sediments. The majority of sulfides in sediments are present as solid phase iron monosulfides and disulfides (pyrite). Monosulfides are considerably more reactive than disulfides. The most labile sulfidic fraction in sediments consists of the AVS. This fraction is associated with the iron and manganese monosulfides. Iron and manganese sulfides readily dissolve in interstitial pore water in the presence of divalent metals. Conversely, many other metal sulfides are quite insoluble. Insoluble metal

sulfide complexes (solid phase) tend to have low bioavailability and therefore low toxicity for aquatic organisms.

When present, AVS bind tightly to divalent metals, rendering them unavailable for uptake by biota. If the sum of the SEM is less than or equal to the amount of AVS, then it can be assumed that metals are not bioavailable. Conversely, in accordance with the U.S. EPA (U.S. EPA, 1994) guidance, if the SEM > AVS, then it can be assumed that metals could potentially be bioavailable, unless other binding phases exist which could modify bioavailability.

SEM and AVS data were measured in AOC 19, AOC 7, and Great Miami River sediments (Table 11-6). In AOC 19 and Great Miami River sediments, the SEM / AVS ratio was less than one, suggesting that metals are not bioavailable in these sediments. The SEM / AVS ratio in AOC 7 is slightly greater than one, indicating potentially bioavailable metals. However given the dry bed nature of this system, it is unclear if the EqP assumptions inherent in the SEM-AVS theory are valid. SEM concentrations across all three exposure areas are similar. AVS concentrations in AOC 7 are lower than in the other two exposure areas. This is likely related to the intermittent nature of the stream in AOC 7. These results indicate that divalent metals present in the sediments of the Great Miami River, including AOC 19, are not likely to be toxic to associated receptors. However, the ongoing BERA field program (as described in the August 2007 Work Plan (ENSR, 2007a) will further evaluate the potential for bioavailability of sediment-associated chemical stressors in the Great Miami River.

Other measurements in this SLERA do not address the bioavailability of SLCOPCs. It is possible that some SLCOPCs, while present at concentrations exceeding benchmarks or otherwise not passing screening measurements, are actually not bioavailable and thus do not pose risk to ecological receptors.

Table 11-1
Summary of Undetected Compounds With Maximum Detection Limits in Excess of the Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Surface Soil	Number of Non-Detects Above ESV: Number of Samples				
AOC 1		**AOC 18 and AOC 21**		**AOC 19**	
1,2-Dichloroethane	20 : 20	1,2-Dichloroethane	14 : 14	1,2,3,7,8,9-Hexachlorodibenzofuran	2 : 8
2,2'-Oxybis(1-Chloropropane)	1 : 19	2,4-Dimethylphenol	14 : 14	Antimony	15 : 15
2,4,5-Trichlorophenol	1 : 19	2,6-Dinitrotoluene	14 : 14	Thallium	15 : 15
2,4,6-Trichlorophenol	1 : 19	2-Chloronaphthalene	14 : 14		
2,4-Dinitrophenol	1 : 19	2-Chlorophenol	14 : 14		
2,4-Dinitrotoluene	1 : 19	4,6-Dinitro-2-methylphenol	14 : 14		
2,6-Dinitrotoluene	19 : 19	Bis(2-Chloroethoxy)methane	14 : 14		
2-Chloronaphthalene	19 : 19	Butylbenzylphthalate	14 : 14		
2-Chlorophenol	19 : 19	Hexachlorobenzene	14 : 14		
2-Nitroaniline	1 : 19	Hexachlorobutadiene	14 : 14		
2-Nitrophenol	1 : 19				
3,3'-Dichlorobenzidine	3 : 19				
3-Nitroaniline	3 : 19				
4,6-Dinitro-2-methylphenol	19 : 19				
4-Chloro-3-methylphenol	1 : 19				
4-Chloroaniline	2 : 19				
4-Nitroaniline	1 : 19				
4-Nitrophenol	3 : 19				
Antimony	19 : 19				
Aroclor 1221	1 : 19				
Bis(2-Chloroethoxy)methane	19 : 19				
Butylbenzylphthalate	19 : 19				
Hexachlorobenzene	19 : 19				
Hexachlorobutadiene	19 : 19				
Hexachlorocyclopentadiene	3 : 19				
Hexachloroethane	3 : 19				
Nitrobenzene	1 : 19				
N-Nitroso-di-n-propylamine	3 : 19				
N-Nitrosodiphenylamine	3 : 19				
Pentachlorophenol	3 : 19				
Thallium	19 : 19				
Block A		**Southern Parcel**		**AOC 2**	
1,1,2,2-Tetrachloroethane	1 : 21	1,1,2,2-Tetrachloroethane	1 : 141	1,2-Dichloroethane	11 : 11
1,1-Dichloroethene	1 : 21	1,2-Dibromo-3-chloropropane	1 : 141	2,4-Dimethylphenol	11 : 11
1,2,4-Trichlorobenzene	1 : 21	1,2-Dichloroethane	141 : 141	2,6-Dinitrotoluene	11 : 11
1,2-Dibromo-3-chloropropane	1 : 21	2,2'-Oxybis(1-Chloropropane)	1 : 137	2-Chloronaphthalene	11 : 11
1,2-Dibromoethane	1 : 21	2,4,5-Trichlorophenol	4 : 137	2-Chlorophenol	11 : 11
1,2-Dichlorobenzene	1 : 21	2,4,6-Trichlorophenol	2 : 137	4,6-Dinitro-2-methylphenol	11 : 11
1,4-Dichlorobenzene	1 : 21	2,4-Dimethylphenol	136 : 137	Bis(2-Chloroethoxy)methane	11 : 11
2,4-Dimethylphenol	17 : 17	2,4-Dinitrophenol	4 : 137	Butylbenzylphthalate	11 : 11
		2,4-Dinitrotoluene	35 : 137	Hexachlorobenzene	11 : 11
2,4-Dinitrotoluene	1 : 17	2,6-Dinitrotoluene	137 : 137	Hexachlorobutadiene	11 : 11
2,6-Dinitrotoluene	17 : 17	2-Chloronaphthalene	137 : 137		
2-Chloronaphthalene	17 : 17	2-Chlorophenol	136 : 137		
2-Chlorophenol	17 : 17	2-Nitroaniline	2 : 137		
2-Hexanone	1 : 21	2-Nitrophenol	4 : 137		
		3,3'-Dichlorobenzidine	54 : 137		
3,3'-Dichlorobenzidine	2 : 17	3-Nitroaniline	54 : 137		
3-Nitroaniline	2 : 17	4,6-Dinitro-2-methylphenol	136 : 137		
4,6-Dinitro-2-methylphenol	16 : 17	4-Chloro-3-methylphenol	2 : 137		
4-Chloroaniline	1 : 17	4-Chloroaniline	38 : 137		
4-Nitrophenol	1 : 17	4-Nitroaniline	4 : 137		
Antimony	15 : 17	4-Nitrophenol	48 : 137		
Bis(2-Chloroethoxy)methane	17 : 17	Bis(2-Chloroethoxy)methane	137 : 137		
Bromodichloromethane	1 : 21	Bis(2-Chloroethyl)ether	1 : 137		
Bromomethane	1 : 21	Bromodichloromethane	1 : 141		
Butylbenzylphthalate	17 : 17	Bromomethane	1 : 141		
Carbon tetrachloride	1 : 21	cis-1,3-Dichloropropene	1 : 141		
Chloroform	1 : 21	Hexachlorobenzene	137 : 137		
cis-1,3-Dichloropropene	1 : 21	Hexachlorobutadiene	137 : 137		
Dibromochloromethane	1 : 21	Hexachlorocyclopentadiene	50 : 137		
Hexachlorobenzene	17 : 17	Hexachloroethane	54 : 137		
Hexachlorobutadiene	17 : 17	Nitrobenzene	35 : 137		
Hexachlorocyclopentadiene	1 : 17	N-Nitroso-di-n-propylamine	54 : 137		
Hexachloroethane	2 : 17	N-Nitrosodiphenylamine	54 : 137		
Nitrobenzene	1 : 17	Pentachlorophenol	54 : 137		
N-Nitroso-di-n-propylamine	2 : 17	Thallium	140 : 140		
N-Nitrosodiphenylamine	2 : 17	trans-1,3-Dichloropropene	1 : 141		
Pentachlorophenol	2 : 17				
Tetrachloroethene	1 : 21				
Thallium	17 : 17				
trans-1,3-Dichloropropene	1 : 21				
Vinyl chloride	1 : 21				

Table 11-1
Summary of Undetected Compounds With Maximum Detection Limits in Excess of the Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Groundwater	Number of Non-Detects Above ESV: Number of Samples				
AOC 1 Perimeter Wells		**AOC 13 Perimeter Wells**		**Southern Parcel Perimeter Wells**	
2,4,6-Trichlorophenol	2 : 2	1,1,1-Trichloroethane	1 : 5	1,2,3,4,6,7,8-Heptachlorodibenzofuran	2 : 2
2,4-Dinitrophenol	2 : 2	1,1-Dichloroethane	1 : 5	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2 : 2
2-Chloronaphthalene	2 : 2	1,1-Dichloroethene	1 : 5	1,2,3,4,7,8,9-Heptachlorodibenzofuran	2 : 2
3,3'-Dichlorobenzidine	2 : 2	1,2,4-Trichlorobenzene	1 : 5	1,2,3,4,7,8-Hexachlorodibenzofuran	2 : 2
4,6-Dinitro-2-methylphenol	2 : 2	1,2-Dichlorobenzene	1 : 5	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2 : 2
4-Bromophenylphenyl ether	2 : 2	1,3-Dichlorobenzene	1 : 5	1,2,3,6,7,8-Hexachlorodibenzofuran	2 : 2
Aroclor 1016	2 : 2	1,4-Dichlorobenzene	1 : 5	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2 : 2
Aroclor 1221	2 : 2	2,4,6-Trichlorophenol	5 : 5	1,2,3,7,8,9-Hexachlorodibenzofuran	2 : 2
Aroclor 1232	2 : 2	2,4-Dichlorophenol	3 : 5	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2 : 2
Aroclor 1242	2 : 2	2,4-Dinitrophenol	5 : 5	1,2,3,7,8-Pentachlorodibenzofuran	2 : 2
Aroclor 1248	2 : 2	2,4-Dinitrotoluene	2 : 5	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2 : 2
Aroclor 1254	2 : 2	2,6-Dinitrotoluene	2 : 5	2,3,4,6,7,8-Hexachlorodibenzofuran	2 : 2
Aroclor 1260	2 : 2	2-Chloronaphthalene	5 : 5	2,3,4,7,8-Pentachlorodibenzofuran	2 : 2
Benzo(a)anthracene	2 : 2	2-Chlorophenol	2 : 5	2,3,7,8-Tetrachlorodibenzofuran	2 : 2
Benzo(a)pyrene	2 : 2	2-Hexanone	1 : 5	2,3,7,8-Tetrachlorodibenzo-p-dioxin	2 : 2
Bis(2-Ethylhexyl)phthalate	2 : 2	3,3'-Dichlorobenzidine	5 : 5	Octachlorodibenzo-p-dioxin	2 : 2
Cadmium	1 : 3	4,6-Dinitro-2-methylphenol	5 : 5	Octachlorodibenzofuran	2 : 2
Dibenz(a,h)anthracene	2 : 2	4-Bromophenylphenyl ether	5 : 5	2,4,6-Trichlorophenol	5 : 5
Dibenzofuran	2 : 2	4-Chloro-3-methylphenol	2 : 5	2,4-Dinitrophenol	5 : 5
Hexachlorobenzene	2 : 2	4-Methyl-2-pentanone	1 : 5	2-Chloronaphthalene	5 : 5
Hexachlorobutadiene	2 : 2	4-Nitrophenol	2 : 5	3,3'-Dichlorobenzidine	5 : 5
Pentachlorophenol	2 : 2	Aroclor 1016	5 : 5	4,6-Dinitro-2-methylphenol	5 : 5
Silver	3 : 3	Aroclor 1221	5 : 5	4-Bromophenylphenyl ether	5 : 5
		Aroclor 1232	5 : 5	Aroclor 1016	5 : 5
		Aroclor 1242	5 : 5	Aroclor 1221	5 : 5
		Aroclor 1248	5 : 5	Aroclor 1232	5 : 5
		Aroclor 1254	5 : 5	Aroclor 1242	5 : 5
		Aroclor 1260	5 : 5	Aroclor 1248	5 : 5
		Bis(2-Ethylhexyl)phthalate	5 : 5	Aroclor 1254	5 : 5
		Bromomethane	1 : 5	Aroclor 1260	5 : 5
		Butylbenzylphthalate	3 : 5	Benzo(a)anthracene	5 : 5
		Cadmium	3 : 7	Benzo(a)pyrene	5 : 5
		Carbon tetrachloride	1 : 5	Bis(2-Ethylhexyl)phthalate	5 : 5
		Chlorobenzene	1 : 5	Cadmium	2 : 7
		Chloroform	1 : 5	Carbon disulfide	5 : 5
		Di-n-butylphthalate	2 : 5	Dibenz(a,h)anthracene	5 : 5
		Hexachlorobenzene	5 : 5	Dibenzofuran	5 : 5
		Hexachlorobutadiene	5 : 5	Hexachlorobenzene	5 : 5
		Hexachlorocyclopentadiene	2 : 5	Hexachlorobutadiene	5 : 5
		Hexachloroethane	3 : 5	Pentachlorophenol	5 : 5
		Pentachlorophenol	5 : 5	Silver	7 : 7
		Silver	7 : 7		
		Tetrachloroethene	1 : 5		
		Trichloroethene	1 : 5		

Sediment	Number of Non-Detects Above ESV: Number of Samples				
AOC 19		**AOC 7**		**Great Miami River**	
2,4,6-Trichlorophenol	4 : 4	2,4,6-Trichlorophenol	5 : 5	2,4,6-Trichlorophenol	10 : 10
2,4-Dichlorophenol	4 : 4	2,4-Dichlorophenol	5 : 5	2,4-Dichlorophenol	10 : 10
2,4-Dimethylphenol	2 : 4	2,4-Dimethylphenol	2 : 5	2,4-Dimethylphenol	7 : 10
2,4-Dinitrophenol	4 : 4	2,4-Dinitrophenol	5 : 5	2,4-Dinitrophenol	10 : 10
2,4-Dinitrotoluene	4 : 4	2,4-Dinitrotoluene	5 : 5	2,4-Dinitrotoluene	10 : 10
2,6-Dinitrotoluene	4 : 4	2,6-Dinitrotoluene	5 : 5	2,6-Dinitrotoluene	10 : 10
2-Chloronaphthalene	2 : 4	2-Chloronaphthalene	2 : 5	2-Chloronaphthalene	5 : 10
2-Chlorophenol	4 : 4	2-Chlorophenol	5 : 5	2-Chlorophenol	10 : 10
2-Methylnaphthalene	4 : 4	2-Nitrophenol	5 : 5	2-Methylnaphthalene	10 : 10
2-Nitrophenol	4 : 4	3,3'-Dichlorobenzidine	5 : 5	2-Nitrophenol	10 : 10
3,3'-Dichlorobenzidine	4 : 4	4,6-Dinitro-2-methylphenol	5 : 5	3,3'-Dichlorobenzidine	10 : 10
4,6-Dinitro-2-methylphenol	4 : 4	4-Chloro-3-methylphenol	2 : 5	4,6-Dinitro-2-methylphenol	10 : 10
4-Chloro-3-methylphenol	2 : 4	4-Chloroaniline	5 : 5	4-Bromophenylphenyl ether	2 : 10
4-Chloroaniline	4 : 4	4-Nitrophenol	5 : 5	4-Chloro-3-methylphenol	5 : 10
4-Nitrophenol	4 : 4	Acenaphthene	3 : 5	4-Chloroaniline	10 : 10
Acenaphthene	2 : 4	Aroclor 1221	5 : 5	4-Nitrophenol	10 : 10
Acenaphthylene	4 : 4	cis-1,3-Dichloropropene	6 : 6	Aroclor 1016	1 : 10
Aroclor 1221	3 : 3	Diethylphthalate	2 : 5	Aroclor 1221	10 : 10
Carbon disulfide	3 : 3	Dimethylphthalate	2 : 5	Aroclor 1232	1 : 10
cis-1,3-Dichloropropene	3 : 3	Di-n-butylphthalate	1 : 5	Aroclor 1242	1 : 10
Cyanide	4 : 4	Hexachlorobenzene	5 : 5	Bis(2-Chloroethyl)ether	1 : 10
Dibenzofuran	2 : 4	Hexachlorobutadiene	5 : 5	Butylbenzylphthalate	1 : 10
Diethylphthalate	2 : 4	Hexachlorocyclopentadiene	1 : 5	cis-1,3-Dichloropropene	10 : 10
Dimethylphthalate	2 : 4	Hexachloroethane	1 : 5	Diethylphthalate	4 : 10
Hexachlorobenzene	4 : 4	Isophorone	3 : 5	Dimethylphthalate	4 : 10
Hexachlorobutadiene	4 : 4	Nitrobenzene	5 : 5	Di-n-butylphthalate	2 : 10
Hexachlorocyclopentadiene	1 : 4	o-Cresol (2-Methylphenol)	5 : 5	Hexachlorobenzene	10 : 10
Isophorone	2 : 4	p-Cresol (4-Methylphenol)	5 : 5	Hexachlorobutadiene	10 : 10
Naphthalene	2 : 4	Phenol	5 : 5	Hexachlorocyclopentadiene	4 : 10
Nitrobenzene	4 : 4	Silver	5 : 5	Hexachloroethane	2 : 10
o-Cresol (2-Methylphenol)	4 : 4	trans-1,3-Dichloropropene	6 : 6	Isophorone	9 : 10
p-Cresol (4-Methylphenol)	4 : 4			Nitrobenzene	10 : 10
Phenol	4 : 4			o-Cresol (2-Methylphenol)	10 : 10
Silver	4 : 4			Pentachlorophenol	1 : 10
trans-1,3-Dichloropropene	3 : 3			Phenol	10 : 10
				Silver	10 : 10
				trans-1,3-Dichloropropene	10 : 10

Table 11-1
Summary of Undetected Compounds With Maximum Detection Limits in Excess of the Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Surface Water	**Number of Non-Detects Above ESV: Number of**				
AOC 19	**Samples**	**AOC 7**		**Great Miami River**	
2,4,6-Trichlorophenol	1 : 1	1,2,3,4,6,7,8-Heptachlorodibenzofuran	1 : 1	2,4,6-Trichlorophenol	5 : 5
2,4-Dinitrophenol	1 : 1	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1 : 1	2,4-Dinitrophenol	5 : 5
2-Chloronaphthalene	1 : 1	1,2,3,4,7,8,9-Heptachlorodibenzofuran	1 : 1	2-Chloronaphthalene	5 : 5
3,3'-Dichlorobenzidine	1 : 1	1,2,3,4,7,8-Hexachlorodibenzofuran	1 : 1	3,3'-Dichlorobenzidine	5 : 5
4,6-Dinitro-2-methylphenol	1 : 1	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1 : 1	4,6-Dinitro-2-methylphenol	5 : 5
4-Bromophenylphenyl ether	1 : 1	1,2,3,6,7,8-Hexachlorodibenzofuran	1 : 1	4-Bromophenylphenyl ether	5 : 5
Aroclor 1016	1 : 1	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1 : 1	Aroclor 1016	5 : 5
Aroclor 1221	1 : 1	1,2,3,7,8,9-Hexachlorodibenzofuran	1 : 1	Aroclor 1221	5 : 5
Aroclor 1232	1 : 1	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1 : 1	Aroclor 1232	5 : 5
Aroclor 1242	1 : 1	1,2,3,7,8-Pentachlorodibenzofuran	1 : 1	Aroclor 1242	5 : 5
Aroclor 1248	1 : 1	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1 : 1	Aroclor 1248	5 : 5
Aroclor 1254	1 : 1	2,3,4,6,7,8-Hexachlorodibenzofuran	1 : 1	Aroclor 1254	5 : 5
Aroclor 1260	1 : 1	2,3,4,7,8-Pentachlorodibenzofuran	1 : 1	Aroclor 1260	5 : 5
Benzo(a)anthracene	1 : 1	2,3,7,8-Tetrachlorodibenzofuran	1 : 1	Benzo(a)anthracene	5 : 5
Benzo(a)pyrene	1 : 1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1 : 1	Benzo(a)pyrene	5 : 5
Bis(2-Ethylhexyl)phthalate	1 : 1	2,4,6-Trichlorophenol	5 : 5	Bis(2-Ethylhexyl)phthalate	5 : 5
Carbon disulfide	1 : 1	2,4-Dinitrophenol	5 : 5	Carbon disulfide	5 : 5
Cyanide	1 : 1	2-Chloronaphthalene	5 : 5	Cyanide	5 : 5
Dibenz(a,h)anthracene	1 : 1	3,3'-Dichlorobenzidine	5 : 5	Dibenz(a,h)anthracene	5 : 5
Dibenzofuran	1 : 1	4,6-Dinitro-2-methylphenol	5 : 5	Dibenzofuran	5 : 5
Hexachlorobenzene	1 : 1	4-Bromophenylphenyl ether	5 : 5	Hexachlorobenzene	5 : 5
Pentachlorophenol	1 : 1	Aroclor 1016	5 : 5	Hexachlorobutadiene	5 : 5
Silver	1 : 1	Aroclor 1221	5 : 5	Pentachlorophenol	5 : 5
		Aroclor 1232	5 : 5	Selenium	2 : 5
		Aroclor 1242	5 : 5	Silver	5 : 5
		Aroclor 1248	5 : 5		
		Aroclor 1254	5 : 5		
		Aroclor 1260	5 : 5		
		Benzo(a)anthracene	5 : 5		
		Benzo(a)pyrene	5 : 5		
		Bis(2-Ethylhexyl)phthalate	5 : 5		
		Cadmium	5 : 5		
		Dibenz(a,h)anthracene	5 : 5		
		Dibenzofuran	5 : 5		
		Hexachlorobenzene	5 : 5		
		Hexachlorobutadiene	5 : 5		
		Octachlorodibenzofuran	1 : 1		
		Octachlorodibenzo-p-dioxin	1 : 1		
		Pentachlorophenol	5 : 5		
		Selenium	4 : 5		
		Silver	5 : 5		

ESV - Ecological screening value
Individual Aroclors were compared against screening levels for Total PCBs
Individual dioxins and furans were compared against screening levels for 2,3,7,8-Tetrachlorodibenzo-p-dioxin

Table 11-2
Summary of Undetected Compounds Without Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Surface Soil

AOC 1	AOC 18 and AOC 21	AOC 19
1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane	All non-detect compounds had screening values
4-Bromophenylphenyl ether	4-Bromophenylphenyl ether	
4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether	
Atrazine	Atrazine	
Caprolactam	Benzaldehyde	
Chloroethane	Caprolactam	
Methyl acetate	Carbazole	
Methyl-tert-butyl-ether	Chloroethane	
	Dibenzofuran	
	Isopropylbenzene	
	Methyl acetate	
	Methyl-tert-butyl-ether	
	Trichlorotrifluoroethane	

Block A	Southern Parcel	AOC 2
1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane
4-Bromophenylphenyl ether	4-Bromophenylphenyl ether	4-Bromophenylphenyl ether
4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether
Atrazine	Atrazine	Atrazine
Benzaldehyde	Benzaldehyde	Benzaldehyde
Caprolactam	Caprolactam	Caprolactam
Chloroethane	Chloroethane	Chloroethane
Methyl acetate	Methyl-tert-butyl-ether	Isopropylbenzene
Methyl-tert-butyl-ether		Methyl acetate
		Methyl-tert-butyl-ether
		Trichlorotrifluoroethane

Groundwater

AOC 1 Perimeter Wells	AOC 13 Perimeter Wells	Southern Parcel Perimeter Wells
1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane
1,1-Biphenyl	1,2-Dibromo-3-chloropropane	1,1-Biphenyl
1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dibromo-3-chloropropane
1,2-Dibromoethane	2,2'-Oxybis(1-Chloropropane)	1,2-Dibromoethane
2,2'-Oxybis(1-Chloropropane)	2,4,5-Trichlorophenol	2,2'-Oxybis(1-Chloropropane)
2,4,5-Trichlorophenol	2-Nitroaniline	2,4,5-Trichlorophenol
2-Nitroaniline	3-Nitroaniline	2-Nitroaniline
3-Nitroaniline	4-Chlorophenylphenyl ether	3-Nitroaniline
4-Chlorophenylphenyl ether	4-Nitroaniline	4-Chlorophenylphenyl ether
4-Nitroaniline	Atrazine	4-Nitroaniline
Acetophenone	Benzaldehyde	Acetophenone
Atrazine	Bis(2-Chloroethoxy)methane	Atrazine
Benzaldehyde	Bromodichloromethane	Benzaldehyde
Bis(2-Chloroethoxy)methane	Chloroethane	Bis(2-Chloroethoxy)methane
Bromodichloromethane	Chloromethane	Bromodichloromethane
Carbazole	cis-1,3-Dichloropropene	Carbazole
Chloroethane	Cyclohexane	Chloroethane
Chloromethane	Dibromochloromethane	Chloromethane
Chrysene	Dichlorodifluoromethane	Chrysene
cis-1,3-Dichloropropene	Methyl acetate	cis-1,3-Dichloropropene
Cyclohexane	Methylcyclohexane	Cyclohexane
Dibromochloromethane	Methyl-tert-butyl-ether	Dibromochloromethane
Dichlorodifluoromethane	N-Nitroso-di-n-propylamine	Dichlorodifluoromethane
Isopropylbenzene	trans-1,3-Dichloropropene	Isopropylbenzene
Methyl acetate	Trichlorofluoromethane	Methyl acetate
Methylcyclohexane		Methylcyclohexane
Methyl-tert-butyl-ether		Methyl-tert-butyl-ether
N-Nitroso-di-n-propylamine		N-Nitroso-di-n-propylamine
trans-1,3-Dichloropropene		trans-1,3-Dichloropropene
Trichlorofluoromethane		Trichlorofluoromethane

Table 11-2
Summary of Undetected Compounds Without Ecological Screening Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Sediment

AOC 19	AOC 7	Great Miami River
1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane
1,1-Biphenyl	1,1-Biphenyl	1,1-Biphenyl
1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane
1,2-Dibromoethane	1,2-Dibromoethane	1,2-Dibromoethane
2,2'-Oxybis(1-Chloropropane)	2,2'-Oxybis(1-Chloropropane)	2,2'-Oxybis(1-Chloropropane)
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	2,4,5-Trichlorophenol
2-Nitroaniline	2-Nitroaniline	2-Nitroaniline
3-Nitroaniline	3-Nitroaniline	3-Nitroaniline
4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether
4-Nitroaniline	4-Nitroaniline	4-Nitroaniline
Acetophenone	Acetophenone	Acetophenone
Antimony	Antimony	Antimony
Atrazine	Atrazine	Atrazine
Benzaldehyde	Bis(2-Chloroethoxy)methane	Benzaldehyde
Beryllium	Bromodichloromethane	Beryllium
Bis(2-Chloroethoxy)methane	Caprolactam	Bis(2-Chloroethoxy)methane
Bromodichloromethane	Chloroethane	Bromodichloromethane
Caprolactam	Chloromethane	Caprolactam
Carbazole	Dibromochloromethane	Chloroethane
Chloroethane	Dichlorodifluoromethane	Chloromethane
Chloromethane	Isopropylbenzene	Dibromochloromethane
Cyclohexane	Methyl acetate	Dichlorodifluoromethane
Dibromochloromethane	Methyl-tert-butyl-ether	Isopropylbenzene
Dichlorodifluoromethane	N-Nitroso-di-n-propylamine	Methyl acetate
Isopropylbenzene	N-Nitrosodiphenylamine	Methyl-tert-butyl-ether
Methyl acetate	Thallium	N-Nitroso-di-n-propylamine
Methylcyclohexane	Trichlorofluoromethane	N-Nitrosodiphenylamine
Methyl-tert-butyl-ether		Thallium
N-Nitroso-di-n-propylamine		Trichlorofluoromethane
N-Nitrosodiphenylamine		
Selenium		
Thallium		
Trichlorofluoromethane		

Surface Water

AOC 19	AOC 7	Great Miami River
1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane	1,1,2-Trichloro-1,2,2-trifluoroethane
1,1-Biphenyl	1,1-Biphenyl	1,1-Biphenyl
1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane
1,2-Dibromoethane	1,2-Dibromoethane	1,2-Dibromoethane
2,2'-Oxybis(1-Chloropropane)	2,2'-Oxybis(1-Chloropropane)	2,2'-Oxybis(1-Chloropropane)
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	2,4,5-Trichlorophenol
2-Nitroaniline	2-Nitroaniline	2-Nitroaniline
3-Nitroaniline	3-Nitroaniline	3-Nitroaniline
4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether	4-Chlorophenylphenyl ether
4-Nitroaniline	4-Nitroaniline	4-Nitroaniline
Acetophenone	Acetophenone	Acetophenone
Atrazine	Atrazine	Atrazine
Benzaldehyde	Benzaldehyde	Benzaldehyde
Bis(2-Chloroethoxy)methane	Bis(2-Chloroethoxy)methane	Bis(2-Chloroethoxy)methane
Bromodichloromethane	Bromodichloromethane	Bromodichloromethane
Caprolactam	Caprolactam	Caprolactam
Carbazole	Carbazole	Carbazole
Chloroethane	Chloroethane	Chloroethane
Chloromethane	Chloromethane	Chloromethane
Chrysene	Chrysene	Chrysene
cis-1,3-Dichloropropene	cis-1,3-Dichloropropene	cis-1,3-Dichloropropene
Cyclohexane	Cyclohexane	Cyclohexane
Dibromochloromethane	Dibromochloromethane	Dibromochloromethane
Dichlorodifluoromethane	Dichlorodifluoromethane	Dichlorodifluoromethane
Isopropylbenzene	Isopropylbenzene	Isopropylbenzene
Methyl acetate	Methyl acetate	Methyl acetate
Methylcyclohexane	Methylcyclohexane	Methylcyclohexane
Methyl-tert-butyl-ether	Methyl-tert-butyl-ether	Methyl-tert-butyl-ether
N-Nitroso-di-n-propylamine	N-Nitroso-di-n-propylamine	N-Nitroso-di-n-propylamine
trans-1,3-Dichloropropene	trans-1,3-Dichloropropene	trans-1,3-Dichloropropene
Trichlorofluoromethane	Trichlorofluoromethane	Trichlorofluoromethane

Table 11-3
Comparison of Great Miami River Sediment Concentrations Against Ohio Sediment Reference Values
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Chemical Retained in Sediment	Units	Maximum Detected Concentration (a)	Ohio Sediment Reference Value (b)	Does Maximum Detection Exceed SRV?
Inorganics				
Aluminum	mg/kg	18100	39000	No
Arsenic	mg/kg	10.6	18.0	No
Barium	mg/kg	***523***	240	Yes
Cadmium	mg/kg	***1.8***	0.90	Yes
Chromium (total)	mg/kg	***63.3***	40.0	Yes
Copper	mg/kg	***163***	34.0	Yes
Cyanide	mg/kg	8.86	NV	NE
Iron	mg/kg	***34700***	33000	Yes
Lead	mg/kg	***372***	47.0	Yes
Manganese	mg/kg	564	780	No
Mercury	mg/kg	***0.19***	0.12	Yes
Nickel	mg/kg	31.5	42.0	No
Vanadium	mg/kg	39.4	40.0	No
Zinc	mg/kg	***681***	160	Yes

Concentrations in boldface italics exceed the SRV.
SRV - Sediment reference value
NV - No value identified
NE - Not evaluated due to lack of screening value

(a) Maximum detected concentration for each chemical, after duplicates have been averaged.
(b) SRVs presented are established for the Eastern Corn Belt Plains eco-region with the exception of the statewide values for lead, mercury, and vanadium.

Table 11-4
Additional Surface Water Assessment
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

		Maximum Detected Concentration			Upstream Locations	
Chemical Retained in Surface Water	Units	AOC 19 Exposure Area	AOC 7 Exposure Area	Great Miami River Exposure Area	GMRSW9	GMRSW11
Inorganics						
Aluminum	ug/l	3410	3790	714	1955	3240
Barium	ug/l	95.5	102	101	101	93.7
Iron	ug/l	2780	2650	--	1870	2770
Mercury [1]	ug/l	0.03	--	0.19	0.02 U	0.02 U
Cyanide	ug/l	--	10.4	--	10 UJ	10 UJ

-- Chemical not retained in specified exposure area (chemical either not detected or concentrations were below ecological screening levels).
U - Not detected. Detection limit presented.
J - Estimated
1 - Retained as a bioaccumulative compound when detected in surface water. Benchmark does not account for uptake via the food chain.

Table 11-5
Additional Groundwater Assessment
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

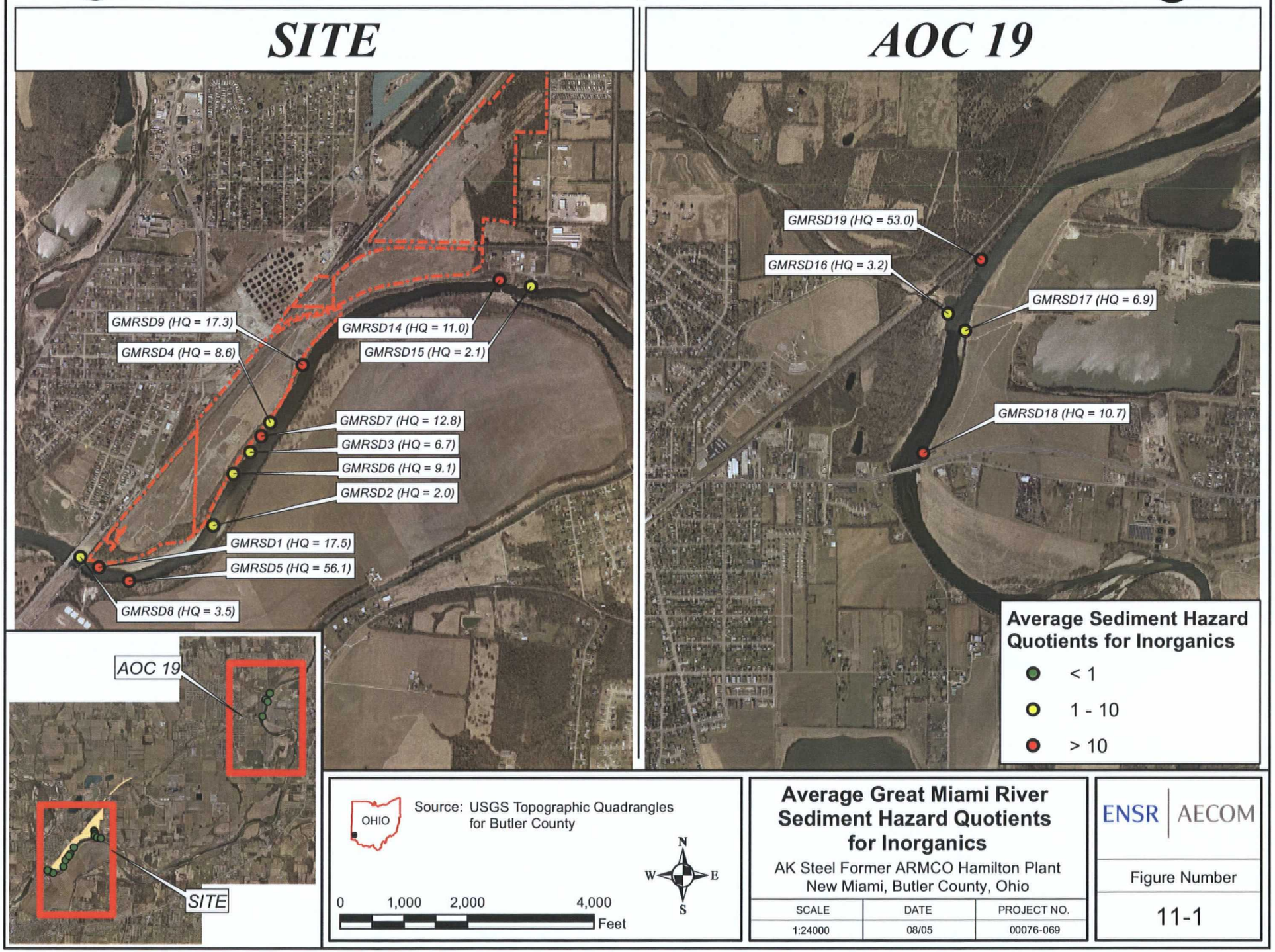
Chemical Retained in Groundwater	Units	AOC 1 Perimeter Wells		Southern Parcel Perimeter Wells		AOC 13 Perimeter Wells		Upstream Surface Water Locations		Range of Background Groundwater Concentrations	
		Maximum	Mean	Maximum	Mean	Maximum	Mean	GMRSW9	GMRSW11	Minimum	Maximum
Aluminum	ug/l	13600	4553	7120	1438	3620	1018	1955	3240	18.1	222
Barium	ug/l	153	96.5	93.6	58.5	444	180	100.5	93.7	50.4	1950
Cyanide	ug/l	13.1	9.1	38	26.2	22600	6177	10 UJ	10 UJ	26.8	26.8
Iron	ug/l	19100	6425	7060	1416	11600	4372	1870	2770	32.1	2070
Manganese	ug/l	793	311	361.5	158	408	200	50.8	49.3	22.3	423
Selenium	ug/l	7.2	7	21.2	10.3	15.7	8.1	4 UJ	4 UJ	4.55	7.7
Vanadium	ug/l	27.5	9.6	–	–	–	–	5.25	8	ND	ND
Zinc	ug/l	–	–	466	97.8	–	–	1.4 UJ	1.4 UJ	8.1	8.1
Mercury[1]	ug/l	0.020	0.013	0.03	0.014	0.04	0.017	0.02 U	0.02 U	ND	ND
Benzene	ug/l	–	–	–	–	11000	2792	1 U	1 U	1.4	1.4
Ethylbenzene	ug/l	–	–	–	–	630	222	1 U	1 U	ND	ND
Isopropylbenzene	ug/l	–	–	–	–	94	25.2	1 U	1 U	ND	ND
m+p-Xylene	ug/l	–	–	–	–	5900	1459	0.38	1 U	3.3	3.3
o-Xylene	ug/l	–	–	–	–	1600	474	1 U	1 U	0.74	0.74
Styrene	ug/l	–	–	–	–	280	57.7	1 U	1 U	ND	ND
Toluene	ug/l	–	–	–	–	21000	43.96	0.53	1 U	5.4	5.4
1,1-Biphenyl	ug/l	–	–	–	–	98	27.6	9.3 U	9.3 U	ND	ND
2,4-Dimethylphenol	ug/l	–	–	–	–	3000	624	9.3 U	9.3 U	ND	ND
2-Methylnaphthalene	ug/l	–	–	–	–	760	164	9.3 U	9.3 U	ND	ND
Acetophenone	ug/l	–	–	–	–	50	15.5	9.3 U	9.3 U	ND	ND
Caprolactam	ug/l	48	26.5	17.5	8.675	36	17	47 UJ	47 UJ	ND	ND
Carbazole	ug/l	–	–	–	–	300	85	9.3 U	9.3 U	ND	ND
Dibenzofuran	ug/l	–	–	–	–	210	65	9.3 U	9.3 U	ND	ND
o-Cresol (2-Methylphenol)	ug/l	–	–	–	–	470	103	9.3 U	9.3 U	ND	ND
p-Cresol (4-Methylphenol)	ug/l	–	–	–	–	120	32.5	9.3 U	9.3 U	ND	ND
Acenaphthene	ug/l	–	–	–	–	430	88.3	0.19 UJ	0.19 U	ND	ND
Anthracene	ug/l	–	–	–	–	120	24.4	0.19 U	0.19 U	ND	ND
Benzo(a)anthracene	ug/l	–	–	–	–	61	12.3	0.093 UJ	0.093 U	ND	ND
Benzo(a)pyrene	ug/l	–	–	–	–	45	9.3	0.19 UJ	0.19 U	ND	ND
Benzo(b)fluoranthene	ug/l	–	–	–	–	41	8.5	0.19 UJ	0.19 U	ND	ND
Benzo(g,h,i)perylene	ug/l	–	–	–	–	17	3.7	0.19 R	0.19 U	ND	ND
Benzo(k)fluoranthene	ug/l	–	–	–	–	16	3.5	0.19 UJ	0.19 U	ND	ND
Chrysene	ug/l	–	–	–	–	49	10.1	0.19 UJ	0.19 U	ND	ND
Dibenz(a,h)anthracene	ug/l	–	–	–	–	4.9	1.3	0.19 R	0.19 U	ND	ND
Fluoranthene	ug/l	–	–	–	–	240	48.4	0.08	0.19 U	ND	ND
Fluorene	ug/l	–	–	–	–	290	59.4	0.19 UJ	0.19 U	ND	ND
Indeno(1,2,3-cd)pyrene	ug/l	–	–	–	–	16	3.5	0.19 R	0.19 U	ND	ND
Naphthalene	ug/l	–	–	–	–	13000	3202	0.0755	0.19 U	0.14	2.8
Phenanthrene	ug/l	–	–	–	–	490	99.3	0.19 U	0.19 U	ND	ND
Pyrene	ug/l	–	–	–	–	160	32.3	0.19 UJ	0.19 U	ND	ND

– Chemical not retained in specified exposure area
(chemical either not detected or concentrations were below ecological screening levels).
U - Not detected. Detection limit presented.
J - Estimated
R - Rejected
ND - Not detected in background groundwater data set.
1 - Retained as a bioaccumulative compound when detected in groundwater.
Benchmark does not account for uptake via the food chain.

Table 11-6
SEM and AVS Analysis in Sediment
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Exposure Area / Sample Location		AOC 19 Exposure Area GMRSD17	AOC 7 Exposure Area AOC7SD10	Great Miami River Exposure Area GMRSD3	Great Miami River Exposure Area GMRSD5	Great Miami River Exposure Area GMRSD8
Acid Volatile Sulfides	umoles/g	1.27 U	1.325 U	2.39	6.96	6.61
Lead	umoles/g	0.0536 J	0.07795	0.0338 J	0.097 J	0.0222 J
Nickel	umoles/g	0.0511 J	0.06045	0.0579 J	0.0988 J	0.0426 J
Cadmium	umoles/g	0.00116 J	0.00142	0.00142 J	0.00596 J	0.000712 J
Copper	umoles/g	0.115	0.1545	0.108	0.252	0.0582
Zinc	umoles/g	0.257 J	0.727	0.367 J	1.4 J	0.216 J
Sum SEM	umoles/g	0.48	1.0	0.57	1.9	0.34
Sum SEM / AVS		0.75	1.5	0.24	0.3	0.05

SEM - Simultaneously Extracted Metals
AVS - Acid Volatile Sulfides
SEM / AVS - Ratio of SEM to AVS > 1 indicates SEM are potentially bioavailable.
SEM / AVS - Ratio of SEM to AVS < 1 indicates SEM are not bioavailable.
U - Not detected. Detection limit presented. One half of detection limit used in calculation.
J - Estimated value.



Average Great Miami River Sediment Hazard Quotients for Inorganics

AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio

SCALE	DATE	PROJECT NO.
1:24000	08/05	00076-069

ENSR | AECOM

Figure Number

11-1

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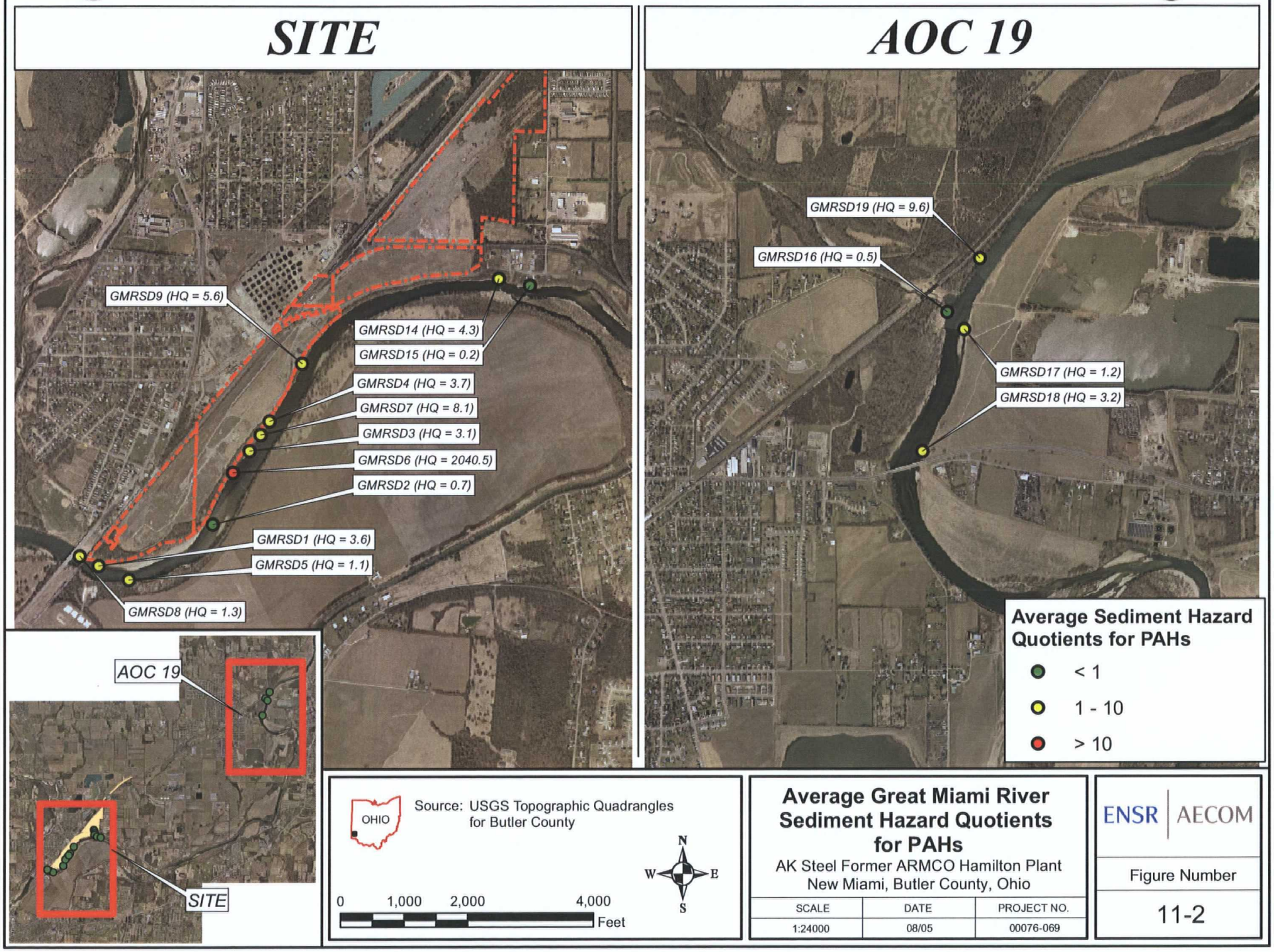

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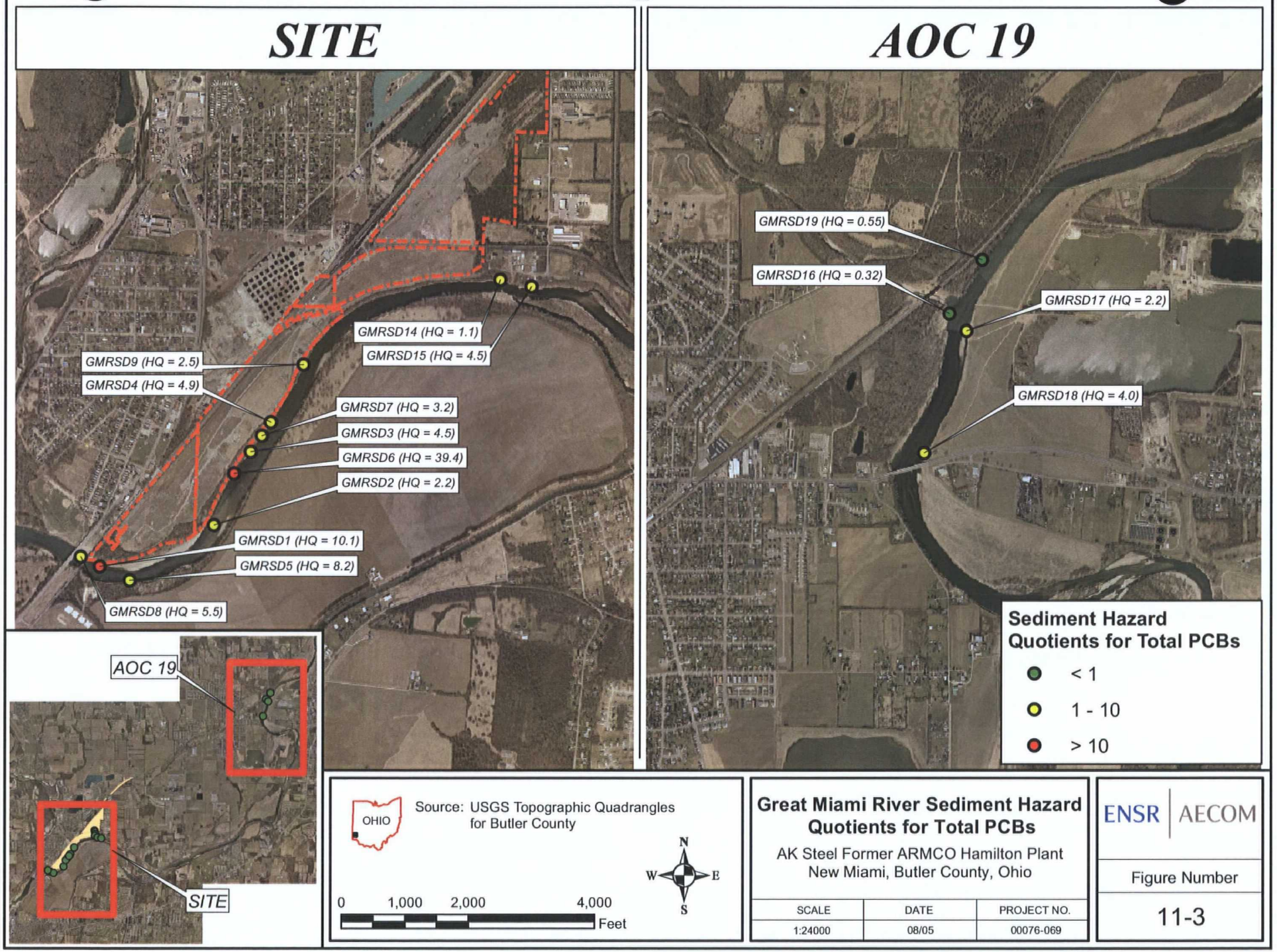

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12.0 Summary and Conclusions

This section presents a summary of the SLERA findings at each of the AK Steel exposure areas and provides recommendations for additional ERA activities at selected study areas. In accordance with U.S. EPA Region 5 guidance, the SLERA is intended to serve as a conservative means to estimate potential ecological risks from chemical stressors at each of the eight exposure areas. The results of this evaluation were used to determine whether or not a decision can be made that ecological exposure pathways pose (or do not pose) a significant potential risk to ecological receptors at each of the individual exposure areas.

In accordance with U.S. EPA Region 5 guidance, the Scientific-Management Decision Point (SMDP) made at the end of the screening-level assessment does not contemplate the need for cleanup goals. Rather, the hazard quotients derived in the SLERA are used to help determine potential risk and to determine if additional risk analysis is warranted. There are three possible SMDPs at this point:

- There is enough information to conclude that ecological risks are very low or nonexistent, and therefore, there is no need to clean up the site on the basis of ecological risk;
- The information is not adequate to make a decision at this point, and the ecological risk assessment process will proceed; or
- The information indicates a potential for adverse ecological effects, and a more thorough study is necessary.

As indicated in the summary table below, the majority of the exposure areas at the Site fall into the first category (i.e., sufficient information exists to conclude that the potential for ecological risk is low to non-existent) and no further evaluation is warranted. This finding is appropriate for the six terrestrial exposure areas evaluated (AOC 1, AOC 2, AOC 18 and AOC 21, AOC 19, Block A and Southern Parcel) as well as the AOC 7 dry bed intermittent stream.

However, the Great Miami River Study area clearly falls into the middle category and additional analysis in the next step of the ERA process (Problem Formulation and Refinement of COPC) is required in order to make informed risk-management decisions. None of the exposure areas evaluated in the SLERA fall into the latter category (i.e., no data were evaluated which indicated a potential for adverse ecological effects). In addition, as discussed in Sections 1 and 9, additional investigation of the riparian floodplain (AOC 22) adjacent to the GMR is also recommended based on observations of tar-like material in small finite portions of the floodplain.

The SMDPs regarding the need for additional risk analysis within the Great Miami River study area and its floodplain, as well as the SMDPs regarding the finding of no significant risk in all terrestrial units and the AOC 7 dry bed intermittent stream, reflect the various data sets considered in this SLERA, as well as the quality and quantity of habitat present in the terrestrial portions of the Site, the uncertainty evaluation, observations made during the June 1, 2007 site visit attended by representatives of OEPA, AK Steel, and ENSR, and the negotiations subsequent to the site visit between OEPA, AK Steel, U.S. EPA, and ENSR. These negotiations resulted in the following conceptual agreement:

- Additional BERA activities are required under the RI program to better understand whether or not a potential for ecological risk exists in the Great Miami River adjacent to the Site;
- Additional investigation of the riparian floodplain (AOC 22) adjacent to the Great Miami River is warranted based on the observation of tar-like material; and
- No additional ecological risk evaluation of the terrestrial AOCs, Block areas, or AOC 7 is warranted, and a finding of no significant risk can be reached for these portions of the Site.

The following table presents a summary of the recommended next ERA steps for the Site:

Exposure Area	Surface Soil	Groundwater	Sediment	Surface Water
Block A (former slag processing area)	O			
AOC 2 (closed landfill)	O			
AOC 21 (wooded area) and AOC 18 (on-site COG pipeline)	O			
AOC 7 (intermittent stream)	O		O	O
AOC 1 (sludge lay down area)	O	O		
AOC 19 (off-site COG pipeline)	O		O	O
Great Miami River			X [(b)]	O
Southern Parcel	O	X [(a)]		

X - Additional evaluation is warranted.
O - The potential for ecological risks is low to non-existent and no further evaluation is warranted.
(a) Additional evaluation of discharge to the river from AOC 13 perimeter wells is warranted and will be conducted in the revised RI.
(b) Additional ERA evaluation of the Great Miami River and riparian floodplain (AOC 22) is warranted.

12.1 Surface Soil Exposure Areas

The SLERA evaluated the potential for ecological risks associated with exposures to SLCOPCs in surface soils at six terrestrial exposure areas (as well as a seventh exposure area, the AOC 7 dry bed intermittent stream channel). Although several SLCOPCs were identified within the surface soil exposure areas, the constituent concentrations were not extremely elevated in the surface soils, the land is destined for future industrial development, the habitat quality and quantity are limited, the potentially complete ecological exposure pathways are limited, and no significant levels of bioaccumulative compounds were observed in the surface soils. Based on these findings, the terrestrial AOCs and surface soil exposure areas have been sufficiently characterized in the SLERA, and a conclusion of no significant ecological risk is the recommended outcome for these areas. Therefore, no further evaluation is warranted for the six surface soil exposure areas or for the AOC 7 dry bed intermittent stream channel.

12.2 Surface Water and Sediment Exposure Areas

The SLERA evaluated the potential for ecological risks associated with exposures to SLCOPCs in surface water and sediment at three exposure areas (the Great Miami River along the Site boundary, the Great Miami River in the vicinity of AOC 19, and AOC 7 (the dry bed intermittent stream channel)). In addition, the potential for ecological risks associated with exposure to groundwater discharging into the Great Miami River were evaluated in the three perimeter well exposure areas along the Site boundary with the river.

12.2.1 Great Miami River Sediment

Based on the results of the Great Miami River SLERA (presented in Section 9), additional risk analysis is recommended to determine whether or not a potential for significant risk exists in the portion of the river immediately adjacent to and downstream of the Site. This evaluation will focus on areas of the river adjacent to and downstream of potential source areas. In addition, the Great Miami River evaluation should develop a better understanding of the regional context of the Site relative to upstream conditions. For instance, it is possible that some of the SLCOPCs found in Great Miami River sediment and evaluated in this SLERA may not be related to the operation of the AHP, but are potentially associated with migration of SLCOPCs from upstream sources. For example, concentrations of inorganics, PAHs, and PCBs occur in sediments upstream

of site operations in the Great Miami River and concentrations of some inorganics are below Ohio-specific reference levels. Based on this information, as presented in Section 11, no additional ecological risk assessment is warranted in the Great Miami River in the vicinity of AOC 19 (off-site COG pipeline) where the pipeline formerly crossed under the river.

However, in the vicinity of the southern portion of the Site, specifically adjacent to AOC 13 (Former By-Products Area), concentrations of several inorganic and organic constituents in sediment exceed ecological screening values and further evaluation of the river sediment in this area is warranted in a PFS and/or BERA.

12.2.2 AOC 7 Sediment

A limited number of sediment SLCOPCs were identified within AOC 7 (relative to the Great Miami River adjacent to the Site). Four inorganic constituents, several SVOCs, and acetone were retained due to benchmark exceedances. As stated previously, concentrations of inorganics and PAHs occur in sediments upstream of site operations in the Great Miami River and acetone is a common laboratory contaminant and may not represent contributions from the Site. Furthermore, the habitat quantity, quality, and resulting potential ecological exposure areas are limited in this dry bed drainage ditch, which is only intermittently flooded following rain events. Therefore, no additional ERA is warranted to assess the potential for ecological risks within AOC 7. None-the-less, at the June 1, 2007 site visit (described in further detail in Section 9), OEPA agreed with AK Steel that the AOC 7 drainage ditch should be viewed as a conveyance to the river and considered as a secondary source area in the evaluation of the Great Miami River, rather than as a study area for future ERA activities. Therefore, as described in the August 2007 work plan describing BERA activities at the Great Miami River adjacent to the Site, additional river sampling and analysis was proposed in the vicinity of the AOC 7 discharge to the Great Miami River.

12.2.3 Great Miami River Surface Water and AOC 7 Surface Water

Several inorganic constituents were detected in surface water from AOC 7 and the Great Miami River, including AOC 19. As discussed in Section 11 (Uncertainty Evaluation), the concentrations of these constituents were generally low, the samples represented total recoverable rather than dissolved phase data, and these compounds were also found in the upstream sampling locations. Therefore, based on the information presented in the SLERA, no additional explicit evaluation of surface water at these ecological exposure areas is warranted. However, it is recognized that the sampling and analysis activities outlined in the August 2007 Great Miami River Work Plan (ENSR, 2007a) include biological sampling that implicitly integrates exposure to surface water as well as sediment in the river.

12.2.4 Groundwater

The SLERA evaluated the potential for ecological risks associated with exposures to SLCOPCs in groundwater (as discharged to Great Miami River surface water) at three exposure areas (AOC 1 Perimeter Wells; Southern Parcel Perimeter Wells; and AOC 13 Perimeter Wells). As discussed in Section 11 (Uncertainty Evaluation) at two of these exposure areas (AOC 1 Perimeter Wells and Southern Parcel Perimeter Wells) the concentrations of these constituents were generally low, the samples represented total recoverable rather than dissolved phase data, the SLERA evaluation did not consider any dilution or attenuation, and the majority of the compounds were also found in the background groundwater monitor wells at similar concentrations. Therefore, based on the information presented in the SLERA, no additional evaluation of groundwater at these two ecological exposure areas is warranted.

At the third groundwater exposure area (AOC 13 Perimeter Wells), the concentrations of organic constituents in the groundwater were elevated and exceeded ecological screening values; therefore, further evaluation of the relationship of groundwater discharge to the river in this portion of the Site may be warranted in the revised RI.

12.3 Summary

The results of this SLERA indicate that:

- The six terrestrial exposure areas (AOC 1, AOC 2, AOC 18 and AOC 21, AOC 19, Block A and Southern Parcel) and the AOC 7 dry bed intermittent stream channel are sufficiently characterized by the SLERA, and a conclusion of no significant ecological risk is the recommended outcome for these areas.
- Elevated levels of constituents may be present in the sediment in the Great Miami River adjacent to the Site. Table 12-1 presents the detected SLCOPCs retained within the Great Miami River sediment and in the groundwater associated with the AOC 13 perimeter wells. Additional BERA activities are recommended for these SLCOPCs in this portion of the Site. As described in the August 2007 Great Miami River Work Plan (ENSR, 2007a), biological and chemical sampling and analysis activities have been approved by the agencies and are currently underway. It is anticipated that a Draft BERA for the Great Miami River portion of the Site will be available for agency review in the summer of 2008.
- Based on the presence of tar like material in small finite portions of the floodplain of the Great Miami River (i.e., AOC 22), a focused investigation of the riparian floodplain adjacent to the river is also recommended. A work plan describing this sampling program was provided to U.S. EPA in September 2007 and based on U.S. EPA comments, revised and re-submitted in January 2008. Once analytical data have been collected to better characterize conditions in the floodplain, these data should be reviewed in a SLERA.

Table 12-1
Summary of Great Miami River SLCOPCs for Evaluation in RI or BERA
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Detected Chemical	CAS	Great Miami River Sediment [6]	Groundwater Associated with AOC 13 Perimeter Wells [7]
Inorganics			
Aluminum [4]	7429-90-5		X
Arsenic [4]	7440-38-2		
Barium	7440-39-3	X	X
Cadmium	7440-43-9	X	
Calcium [1]	7440-70-2		
Chromium (total)	7440-47-3	X	
Cobalt	7440-48-4		
Copper	7440-50-8	X	
Cyanide	57-12-5	X	X
Iron	7439-89-6	X	X
Lead	7439-92-1	X	
Magnesium [1]	7439-95-4		X
Manganese [4]	7439-96-5		X
Mercury [5]	7439-97-6	X	X
Nickel [4]	7440-02-0		
Potassium [1]	7440-09-7		
Selenium	7782-49-2		X
Sodium [1]	7440-23-5		
Vanadium [4]	7440-62-2		
Zinc	7440-66-6	X	
Semivolatile Organic Compounds			
2-Methylnaphthalene	91-57-6		X
Acenaphthene	83-32-9	X	X
Acenaphthylene	208-96-8	X	
Anthracene	120-12-7	X	X
Benzo(a)anthracene	56-55-3	X	X
Benzo(a)pyrene	50-32-8	X	X
Benzo(b)fluoranthene	205-99-2	X	X
Benzo(g,h,i)perylene	191-24-2	X	X
Benzo(k)fluoranthene	207-08-9	X	X
Carbazole	86-74-8	X-No ESV	X-No ESV
Chrysene	218-01-9	X	X-No ESV
Dibenz(a,h)anthracene	53-70-3	X	X
Fluoranthene	206-44-0	X	X
Fluorene	86-73-7	X	X
Indeno(1,2,3-cd)pyrene	193-39-5	X	X
Naphthalene	91-20-3	X	X
Phenanthrene	85-01-8	X	X
Pyrene	129-00-0	X	X
1,1-Biphenyl	92-52-4		X-No ESV
2,4-Dimethylphenol	105-67-9		X
Acetophenone	98-86-2		X-No ESV
Dibenzofuran	132-64-9	X	X
o-Cresol (2-Methylphenol)	95-48-7		X
p-Cresol (4-Methylphenol)	106-44-5	X	X
Phenol	108-95-2		
Total PAHs [3]	Total PAHs	X	X-No ESV
Volatile Organic Compounds			
2-Butanone	78-93-3		
Acetone	67-64-1	X	
Benzene	71-43-2		X
Caprolactam	105-60-2		X-No ESV
Carbon disulfide	75-15-0	X	X
Cyclohexane	110-82-7	X-No ESV	
Ethylbenzene	100-41-4		X
Isopropylbenzene	98-82-8		X-No ESV
m+p Xylene [2]	XYLMP		X
Methylcyclohexane	108-87-2	X-No ESV	
o-Xylene [2]	95-47-6		X
Styrene	100-42-5		X
Toluene	108-88-3		X
Xylenes (total)	1330-20-7		X
Polychlorinated Biphenyls			
Total PCBs	Total PCBs	X	

Chemicals listed if detected at least once in sediment or groundwater.
X indicates that analyte was retained as a SLCOPC
Boldface italics indicate analytes retained due to screening value exceedances (see Tables 9-2 and 10-3 for details).
Analytes were also retained if no screening values existed.
BERA - Baseline Ecological Risk Assessment
ESV - Ecological Screening Value
RI - Remedial Investigation
SLCOPC - Screening Level Constituent of Potential Concern
1 - Calcium, magnesium, potassium, and sodium are considered to be essential nutrients and are not retained as SLCOPC.
2 - Individual xylenes do not have screening values and are only retained as SLCOPCs when Total Xylenes are retained.
3 - Total PAHs do not have a surface water screening value and are only retained as SLCOPCs when individual PAHs are retained in ground water.
4 - Although retained in Table 9-2 benchmark screening, concentrations of these compounds were below Ohio-specific Sediment Reference Values (Table 11-3) and were therefore not retained as SLCOPCs.
5 - Retained as a bioaccumulative compound when detected media concentrations were below benchmarks based on lower trophic level organisms.
6 - Retained for evaluation in the BERA
7 - Retained for evaluation in the revised RI

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Appendix A

Regulatory Interaction

ENSR | AECOM

Appendix A-1

Summary of Key Communications and Activities Regarding the Draft SLERA

March 2008

Summary of Key Communications and Activities Regarding the Draft SLERA

November 16, 2006 - U.S. EPA provided AK Steel with comments on the Draft Remedial Investigation (RI) Report, Draft Ecological Risk Assessment (ERA), and Draft Human Health Risk Assessment (HHRA) for the Former ARMCO Hamilton Plant Site, 401 Augspurger Road, New Miami, Butler County, Ohio.

December 21, 2006 – AK Steel provided U.S. EPA with written "interim responses" (prepared by AK Steel's contractor ENSR) to the November 16, 2006 comment letter on the Draft Ecological Risk Assessment (referred to herein as the Draft Screening Level Ecological Risk Assessment (SLERA)). The interim responses are contained in *Attachment A*.

June 1, 2007 – ENSR participated in a site inspection attended by representatives of Ohio EPA and AK Steel. Based on the results of the site inspection, Ohio EPA indicated that they needed to review the November 16, 2006 comments on the Draft SLERA. At the site inspection OEPA indicated conceptual agreement with 3 findings: (1) no additional ecological risk characterization of terrestrial areas or AOC 7 was warranted and a finding of no significant ecological risk was appropriate for these areas; (2) additional Baseline ERA activities were warranted at the Great Miami River; and (3) a focused floodplain investigation was warranted based on the discovery of hardened tar-like material in a finite portion of the floodplain.

June 12, 2007 – ENSR and AK Steel participated in a conference call with representatives of U.S EPA and Ohio EPA. Although various items were discussed during the conference call, no final decisions were made regarding the next step in the ERA process. AK Steel agreed to investigate and characterize the riparian floodplain adjacent to the Site, and U.S. EPA indicated that AK Steel could proceed with the biocriteria investigation in Great Miami River.

June 18, 2007 – In an email communication to Brian Tucker of Ohio EPA, and as a follow-up to the June 12, 2007 conference call, ENSR asked Ohio EPA whether it had reviewed its comments on the Draft SLERA in the context of the observations and comments made during the June 1, 2007 site inspection.

June 18, 2007 – In an email response to ENSR's June 18, 2007 email, Ohio EPA indicated that it did not have a copy of the Draft SLERA comments dated November 16, 2006, and thus was not in a position to review them at that time. ENSR subsequently provided Ohio EPA with a Word version of the November 16, 2006 SLERA comments.

June 27, 2007 - ENSR and AK Steel participated in a conference call with representatives of U.S EPA and Ohio EPA. The conference call agenda, prepared by ENSR and provided to the agencies, included a summary of AK Steel's proposed approach to finalizing the Draft SLERA. During the call, Brian Tucker at Ohio EPA agreed to review his initial comments on the Draft SLERA and re-issue the comment letter. ENSR indicated that it would provide Ohio EPA (Brian Tucker) with a red-lined version of the agency's November 16, 2006 comments on the Draft SLERA with modified responses (again, prepared within the context of Ohio EPA observations and

comments made during the June 1, 2007 site inspection, and verbal comments relative to the SLERA, made by Ohio EPA during previous conference calls). All parties on the conference call conceptually agreed that additional ecological risk assessment activity was warranted in the Great Miami River and that no additional risk analysis was warranted in the terrestrial AOCs or AOC 7.

July 5, 2007 – In preparation for a July 5, 2007 conference call, ENSR provided the U.S. EPA and Ohio EPA with an email communication that summarized the action items from the June 27, 2007 conference call; including actions to be taken relative to revising the agency's November 16, 2006 comments on the Draft SLERA and finalizing the Draft SLERA.

July 5, 2007 - ENSR and AK Steel participate in a conference call with representatives of Tetra Tech and Ohio EPA. During the call, Ohio EPA again agreed to amend the November 16, 2006 Draft SLERA comments.

August 20, 2007 – In an email communication, AK Steel provided U.S. EPA and Ohio EPA with ENSR's suggested modifications (the red-lined document) to the agency's November 16, 2006 comments on the Draft SLERA (see *Attachment B).*

Attachment A

Responses to U.S. EPA's November 16, 2006 Comments on the Draft SLERA

A

COMMENTS ON THE DRAFT ECOLOGICAL RISK ASSESSMENT

GENERAL COMMENTS:

1) Ecological Risk Assessment Guidance/Methods: Ecological risk assessments conducted for sites under the oversight of the Ohio EPA Division of Emergency and Remedial Response (DERR), Remedial Response Program (RRP), are done in accordance with the ecological risk assessment guidance document (http://www.epa.state.oh.us/derr/rulesfRR-031.pdf). The risk assessment methods described in the guidance are based on U.S. EP A guidance and the State of Ohio Water quality rules. It is recommended that this guidance be followed for the baseline ecological risk assessment to be completed at the former Armco Hamilton site.

SLERA General Comment Response 1: *The remedial investigation, draft RI reports, and draft SLERA report were all performed and prepared in accordance with the Administrative Order on Consent (AOC) and accompanying Statement of Work, the approved Remedial investigation/Feasibility Study Support Sampling Plan (Revision 3), Appendix F (Quality Assurance Project Plan) and the Field Sampling Plan (Revision 3). AK Steel and ENSR also participated in various meetings and conference calls with the agencies during implementation of the remedial investigation activities to clarify questions, present results and discuss the project schedule. As described in the final, approved Work Plan, the SLERA was conducted in accordance with the following federal documents: Framework for Ecological Risk Assessment (U.S. EPA, 1992); Intermittent "ECO Update" Bulletins of U.S. EPA; Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (Interim Final) (U.S. EPA, 1997); and Guidelines for Ecological Risk Assessment (U.S. EPA, 1998).*

Assuming that the responses to the specific comments on the draft SLERA report are satisfactory, and given that the majority of comments do not generally affect the screening level risk assessment outcome, it is AK Steel's preference that the complete SLERA not be re-issued, but that it be considered as a final document in the context of the agreements reached in this comment/response package. Assuming that preparation of a revised or final SLERA is not required, AK Steel is prepared to commence Step 3 of the U.S. EPA eight-step ecological risk assessment process (Problem Formulation Statement). As appropriate, any future required risk assessment deliverables reflect the agreements reached in this comment/response package.

2) In the sections summarizing which Screening Level Contaminants of Potential Concern (SLCOPCs) are retained for further analysis, it would be helpful for the sake of clarity to distinguish in the text between those SLCOPCs that actually exceed ecological screening values (ESVs), which lack ESVs, and which, if any, are retained because they bioaccumulate.

SLERA General Comment Response 2: *The text in any future risk assessment deliverables will be revised to distinguish between those SLCOPCs that exceed ESVs, those SLCOPCs which lack ESVs, and those which were retained because they have the potential to bioaccumulate.*

SPECIFIC COMMENTS:

1) Section 2.1.2 Ecological Characterization: Additional information should be provided on the selection of the various exposure areas. It appears that the areas were selected based on material or other past practices that may have occurred at the site. Please expand this discussion to include a list of possible chemical and non-chemical stressors that may be associated with said activities. In addition, if the areas were not selected based on past practices, then please list the reasons for the selection of the areas of concern. Generally, exposure areas are selected based on the nature and extent of contamination (this is closely related to the first reason stated above). Please provide a detailed discussion with maps (listing concentrations of potential contaminants identified in soil, sediment, surface water and ground water) and other aids that will help the reader understand the nature an extent of contamination throughout the site and the areas of concern. In addition, the information should provide some level of confidence that the nature and extent of contamination is completely understood, or a least well enough to complete the screening level risk assessment and to help guide future sampling events. The information may be redundant with the human health risk assessment. If this is the case, then the information may be provided in only one risk assessment and reference in the other. The nature and extent of contamination is also used in the selection of possible remedies for the site, which should be contemplated at this point in the RI/FS process. Please add the requested information on the determination of the exposure areas and the nature and extent of contamination at the site.

SLERA Specific Comment Response 1: *Additional detail will be provided in future risk assessment deliverables regarding the selection of the ecological exposure areas considered in the SLERA. For the most part, the selected exposure areas are physically discrete parcels, with differing histories and resulting potential environmental impacts. These AOCs were identified prior to commencement of risk assessment activities. The reviewer is directed to the RI report for additional discussion of the nature and extent of contamination (which is beyond the scope of the SLERA*

2) Section 2.1.2, Ecological Characterization, pg. 2-3, first paragraph: Typo: sentence should read: " ... a tributary to the Great Miami River." Delete "e".

SLERA Specific Comment Response 2: *The text will be updated accordingly in future risk assessment deliverables.*

3) Section 2.1.3, Exposure Pathway Identification, pg. 2-3, first paragraph: Add ", including

receptors." to the end of the third sentence.

SLERA Specific Comment Response 3: *The text will be updated accordingly in future risk assessment deliverables.*

4) Section 2.1.6, Data Evaluated in SLERA, pg. 2-5, Table included in text: Were the excluded, upstream sediment and surface water samples applicable as reference samples? Why or why not? The location of the discussion of excluded upstream locations should be noted here.

SLERA Specific Comment Response 4: *The excluded surface water (GMR SW 9 and GMR SW 11) and sediment samples (GMR SD 15 and GMR SD 19) were collected as upstream background or reference samples, as described in the approved Work Plan. In accordance with U.S. EPA guidance, background screening was not conducted in the SLERA. Rather, the Site data were reviewed in the context of these data in the uncertainty evaluation (Section 11), and the relative contribution of upstream sources will be further reviewed in Step 3 of the ERA process (Problem Formulation). The text and in-text table will be reviewed, and if necessary edited, to clarify this matter*

5) Section 2.1.6.1, Calculation of Summary Statistics, pg. 2-6, third paragraph: The World Health Organization has recently (2005) updated toxic equivalency factors (TEFs). Any new numbers should be researched and incorporated into the analysis. (See: http://www.who.int/ipcs/assessment/tef update/en/)

SLERA Specific Comment Response 5: *The most current WHO TEFs will be incorporated into the text and tables of any future risk assessment deliverables, including the Problem Formulation Statement.*

6) Section 2.1.6.1, Calculation of Summary Statistics, pg. 2-6, second to last paragraph, third sentence: Typo: There should be a comma after "Appendix B".

SLERA Specific Comment Response 6: *The text will be updated accordingly in future risk assessment deliverables.*

7) Section 2.1.7; Selection of Screening Level Ecological Chemicals of Potential Concern, pg. 27 (and elsewhere, e.g. Sections 2.2.1, 3.2, 3.3): Bioaccumulative chemicals, such as mercury and some SVOCs, need to be retained for further evaluation as Ecological Chemicals of Potential Concern (ECOPCs) even if they do not exceed screening benchmarks. However, bioaccumulative chemicals that are not detected do not need to be retained.

SLERA Specific Comment Response 7: *The screening values will be reviewed relative to this*

matter, and compounds will be retained for further risk analysis, as appropriate. Several of the screening values employed in this current assessment include bioaccumulation assumptions as part of their derivation. It is therefore assumed that, if COPC concentrations are less than those screening values, that bioaccumulation potential has been addressed and these compounds will not be retained in the subsequent phases of risk analysis. Those bioaccumulative compounds that are retained for further analysis will be reviewed in the Problem Formulation Statement (PFS) and if possible will be evaluated relative to alternative screening values that include bioaccumulation endpoints.

8) Section 2.2.2 Great Miami River Surface Water and AOC 7 Surface Water: Even if the contaminants in the surface water likely do not pose potential ecological risk through direct toxicity, bioaccumulative chemicals that are detected must be retained and further evaluated in the Baseline Ecological Risk Assessment (BERA).

SLERA Specific Comment Response 8: *See response to Specific Comment 7.*

9) Section 2.2.1.3, Surface Soils, pg. 2-8; Table 2-4; (comment applies to each exposure area where soil was evaluated): It is preferred and recommended that the Eco-SSLs (U.S. EPA 2005) are used preferentially over other sources for screening ecological benchmarks. Where available, the Eco-SSLs should replace the U.S. EPA Region 5 ESLs (EPA 2005) and the analysis redone with the updated screening benchmarks. According to the Eco-SSL for aluminum, toxicity of that chemical is not based on total concentration of aluminum, but on soil pH.

SLERA Specific Comment Response 9: *Although it is unlikely to affect the overall screening level risk assessment conclusions, the text and tables in the Problem Formulation Statement can be updated to include preferential selection of Eco-SSLs over USEPA Region 5 screening values.*

10) Table 2-1 and Figure 2-1: Table 2-1 and Figure 2-1 are slightly inconsistent. Table 2-1 indicates which potentially complete ecological exposure pathways will be evaluated in the SLERA and which might be evaluated in the Baseline Ecological Risk Assessment (BERA); whereas Figure 2-1 only shows exposure pathways to be evaluated in the SLERA. However, while the Conceptual Site Model (CSM) in Fig. 2-1 includes a bioaccumulation/ingestion pathway, that pathway is not included in the list of pathways to be evaluated in the SLERA, according to Table 2-1. This inconsistency should be corrected.

SLERA Specific Comment Response 10: *The referenced table and figure will be reviewed for consistency*

11) Table 2-4, all tables summarizing screening evaluations: U.S. EPA Region 3 has the following ecological screening values (ESVs) for several constituents which lacked them in Table 2-4 and

other tables: antimony (sediment): 2 mg/kg (Long and Morgan, 1990); selenium (sediment) 2 mg/kg (Lemley, 2002); atrazine (surface water) 1.8 ug/L (CCME 2003); atrazine (sediment) 0.00662 mg/kg (Karickhoff, S.W. and J.M. Long 1995; U.S. EPA 2004); U.S. EPA Region 4 (U.S. EPA 200la) has the following ESVs: tPAHs (soil) 1.0 mg/kg; atrazine (soil) 0.00005 mg/kg.

SLERA Specific Comment Response 11: *As appropriate, the screening tables can be updated to include screening values from the referenced sources. It should be noted, however, that it is anticipated that the next ecological risk assessment deliverable (Problem Formulation Statement, Step 3 of the U.S. EPA 8-step ecological risk assessment process) will also include refinement of ecological screening values, and that addition of these screening values to SLERA is unlikely to change the SLERA findings.*

12) Section 3.0, Block A (Former Slag Processing Area) Exposure Area: Justification should be provided that indicates how the quantity and locations of soil samples were determined for the approximately 50 acre exposure area. The current number of 32 surface soil samples may be adequate if a description of the site indicates that the materials handed in this area were consistent and uniformly distributed over the site. In addition, this information should be provided for all AOCs. Please provide additional justification for the sample numbers and selected locations.

SLERA Specific Comment Response 12: *The ecological risk assessment will provide reference to the RI report, which provides additional detail regarding the nature and extent sampling program.*

13) Section 3.0, Block A (Former Slag Processing Area) Exposure Area: Please provide a better description of the exposure area. Photographs would also provide some indication to the physical characteristics of the site. Specific information on the physical characteristics of the site and the wastes should be given in the text and evaluated in the ecological risk assessment as appropriate. Ecological risk assessments are required to discuss potential chemical and non-chemical stressors. Non-chemical stressors may include extremes of pH or physical characteristics (such as sandy, gravel like material e.g., slag) that may impact ecological receptors. These non-chemical stressors generally do not have screening values to determine if they may be of concern or excluded from a risk assessment. Please provide a discussion on potential non-chemical stressors for this and all other exposure areas.

SLERA Specific Comment Response 13: *Additional description of the ecological characteristics of this exposure area will be included in future risk assessment deliverables. In addition, the uncertainty evaluation will include a discussion of non-chemical stressors which may affect the risk assessment outcome. It should be noted, however, that this risk assessment is being conducted under CERCLA guidance, and therefore is clearly focused on evaluating the potential*

impact to ecological receptors exposed to potential site-related chemical stressors.

14) Section 9.0, Great Miami River Exposure Area: Additional descriptions of the sample locations and the characteristics of the sediments that were sampled should be included in section 9.0. This information will be needed in completing the next sampling plan for continued evaluation and ecological assessment of the Great Miami River.

SLERA Specific Comment Response 14: *Additional detail regarding the sampling locations and sediment characteristics can be provided in future risk assessment deliverables. If the results of the RI/FS process, including the eight-step ecological risk assessment process, indicate that additional evaluation of the river is warranted, this material may indeed be useful.*

15) Section 6.2 Results: SLERA Evaluation of Surface Water (AOC 7); Section 9.3 Results: SLERA Evaluation of Surficial Sediment (Great Miami River): The statements concerning acetone should be expanded to explain why acetone is likely to be a laboratory artifact.

SLERA Specific Comment Response 15: *Agreed. The text will be updated accordingly in future risk assessment deliverables.*

16) Section 6.3 Results: SLERA Evaluation of Sediment (AOC 7): The results of the soil evaluation should be put into a separate section for the sake of clarity.

SLERA Specific Comment Response 16: *Because of the uncertainty associated with the use of aquatic sediment screening values in the AOC 7 dry bed intermittent stream (drainage ditch), the evaluation was conservatively conducted using both sediment and surface soil screening values. Section 6.3 will be reviewed for clarity and consistency; however given that this conservative approach is evaluating the same matrix with two different sets of screening values, adding a separate section may not be warranted.*

17) Table 6-3: The title of Table 6-3 should be "Soil Ecological Screening Evaluation", not "Surficial Sediment..."

SLERA Specific Comment Response 17: *Please see response to Comment 16. The surficial matrix in the AOC 7 dry bed intermittent stream was classified as sediment in the project database. In order to provide a more ecologically realistic screen of these data, they were compared both to sediment screening values (Table 6-2) and to soil screening values (Table 6-3). The titles of these two tables will be reviewed and edited if needed to accurately reflect the nature of the evaluation.*

18) Section 7.3 Results: SLERA Evaluation of Groundwater (AOC 1 Shoreline): The document

states that a ten-fold dilution will bring all groundwater concentrations, except aluminum and iron, below respective surface water screening values. Any dilution that is great enough will bring concentrations of substances below screening benchmarks. Is a ten-fold dilution realistic for this site? In order to confirm that a ten-fold dilution is applicable, co-located surface water and groundwater samples should be taken and analyzed or literature sources should be sited to support the use of a ten-fold dilution. This comment is also applicable to Section 10-3, except the SLCOPCs in question are aluminum and mercury.

SLERA Specific Comment Response 18: *Future risk assessment deliverables, including the Problem Formulation Statement, will include additional discussion regarding the dilution of groundwater as it discharges to the river. It is AK Steel's opinion that a ten-fold dilution relative to groundwater discharging to the surface of the Great Miami River is an extremely conservative value – additional justification for this assumption will be included in the Problem Formulation Statement. No additional collection of co-located surface water and groundwater samples is currently contemplated.*

19) Section 10.3 (Groundwater results in Southern Parcel) and Section 10.4 (Groundwater results in AOC 13 Shoreline), pg. 10-2: The sentence: "Five of the 8 exceedances are based on a single detection." should be clarified. It should read "Five of the 8 exceedances are based on single detections for each of the five compounds."

SLERA Specific Comment Response 19: *Agreed. The text will be updated accordingly.*

20) Section 11.0, Uncertainty Discussion: One of the topics raised in the uncertainty discussion is the use of background values in the risk assessment. Background values are acceptable to use in a screening level ecological assessment for Ohio EPA and are generally used to determine the likelihood of a release of contamination (often prior to evaluating toxicity-based screening values). Ohio EPA has a specific procedure for evaluating background that should be used if back ground values are going to be used at the former AHP. Please see the DERR-RRP technical decision document on the role and use of back ground concentrations: (http://www.epa.state.oh.us/derr/rules/RR -039_public.pdf)

In addition to describing a methodology for calculating a background value, this document requires also a minimum of 12 samples to generate a site specific background value for a given medium. The Ohio EPA DERR RRP Ecological Risk Assessment guidance contains background sediment values (known as sediment reference values (SRVs)) that maybe used in lieu of deriving site specific values. See attachment H, Ohio Specific Sediment Reference Values for additional details: (http://www.epa.state.oh.us/derr/rules/RR-031.pdf). Given that many of the background values were determined with fewer than 12 samples, conclusions based on "background" conditions given in the screening level ecological risk assessment should be

considered as qualitative only and so noted in the report. Please make the appropriate changes to the document.

SLERA Specific Comment Response 20: *The referenced background discussion is intended to help identify uncertainties in the risk assessment process, not to serve as a quantitative evaluation of site conditions relative to background or reference conditions. It is anticipated that Step 3 (PFS) of the EPA risk assessment process at this Site may include additional quantitative background analysis, if sufficient data are available in a given matrix (at this point, the only matrix of potential ecological concern with a robust background data set is surface soil).*

None-the-less, additional discussion regarding this matter may be warranted at the 2007 meeting. AK Steel, their consultant (ENSR), and the agencies had several conference calls regarding this matter in June of 2006. At that time, AK Steel was directed to use the 2001 federal guidance for Characterizing Background Chemicals in Soil at Superfund Sites, not the above-referenced state guidance.

21) Section 11.3 Uncertainties Associated with Benchmark Evaluation, pg. 11-3, Tables 11-1, 11-2: Rather than preferentially using the U.S. EPA Region 5 ESLs and thus, introducing an alleged degree of uncertainty to the risk evaluation, it is recommended that the U.S. EPA Eco-SSLs are used preferentially for evaluating risk from contamination in soil. In order to screen for aluminum toxicity using the Eco-SSLs, soil pH data will need to be collected (aluminum toxicity in soil is based on soil pH, not aluminum concentrations, toxicity is not likely if soil pH is greater than 5). In addition, the reasons for selecting plant screening values preferentially should be included.

SLERA Specific Comment Response 21: *Please see response to specific Comment 9 and 20. The use of the term "alleged" in the reviewer's comment is puzzling: AK Steel requests that USEPA provide additional clarification regarding this comment.*

22) Section 11.4 Uncertainties Associated with Background Evaluation, pg 11-3 to 11-4, Section 12.2.1 Great Miami River Sediment: In the risk assessment process, U.S. EPA (2002) recommends that background comparisons and discussions are reserved for the risk characterization portion of the baseline risk assessment and not included in the screening level risk assessment. This guidance cautions against eliminating Contaminants of Potential Ecological Concern (COPECs) in the SLERA due to comparisons to background, if levels of those contaminants exceed screening benchmarks. U.S. EPA 2001b further supports this approach towards background comparisons and discussions. Furthermore, while comparable levels of contamination may exist upstream of the site, that does not mean that the site does not contribute to the contamination of the Great Miami River-and thus to the potential for adverse ecological effects. Lastly, the use of averages in the screening level risk assessment portion of the process is not appropriate.

SLERA Specific Comment Response 22: *Please see response to specific Comment 20. The background discussion was incorporated in the uncertainty evaluation in an effort to help identify and evaluate uncertainties in this portion of the risk assessment process. Additional analysis of background conditions, including those conditions in the Great Miami River, will need to be considered in the PFS and any required subsequent ecological risk assessment steps. With regard to the use of average values, the only place they have been considered in this SLERA is relative to diffuse groundwater discharges to surface water bodies. In these situations, in addition to evaluating maximum concentrations, consideration of average (or an upper bound estimate of average) conditions has merit in the SLERA, and is likely a better approximation of potential environmental exposure than is a discrete concentration from one monitoring well.*

23) Section 12.2, Surface Water and Sediment Exposure Areas: Ohio EPA does not concur with the exclusion of surface water evaluations from the baseline ecological risk assessment. Given that screening levels for sediments and ground water that may be in contact with surface water were exceeded, a full evaluation of the surface water using the requirements in Ohio Revised Code 3745-1 and the DERR RRP ecological risk assessment guidance process would be required for all locations (e.g., Great Miami River, AOC 7, AOC 19, adjacent to AOC 13, AOC 1 shoreline, Southern Parcel Shoreline and, AOC 13 shoreline) with potential surface water impacts. The surface water evaluation is one that incorporates a comprehensive evaluation of potential adverse impacts to aquatic biota, and is a requirement of Ohio WQS. These methods evaluate the macro-invertebrate and fish populations while considering up-stream sources of contamination and habitat quality. The evaluation would include a habitat use assessment (this determines the appropriate aquatic life habitat use designation(s) for the water body, additional sampling of sediment and surface water and include macro-invertebrate and fish assays to determine the attainment status of the water bodies. Samples will be taken up-stream adjacent to and down stream of likely contamination sources, including areas that may only act as conveyances to other water bodies.

SLERA Specific Comment Response 23a: *Although it is entirely possible that an evaluation of river-dwelling aquatic and/or benthic biota may ultimately be required, AK Steel believes that it is currently premature to scope a detailed baseline ERA at this site. In accordance with the referenced U.S. EPA guidance (see General Comment No.1), AK Steel is conducting an ERA using the U.S. EPA eight-step process. If the Scientific Management Decision Point (SMDP) following Step 3 (Problem Formulation Statement) indicates that preparation of a Baseline Ecological Risk Assessment Work Plan is warranted, than the scope of work can be defined in the context of the CSM and the PFS.*

With regard to the Great Miami River exposure area, the recommendation to exclude surface water from further evaluation under the CERCLA risk assessment was based on the following

factors:

- *The maximum concentration of all organic compounds detected in the water column were below ecological screening values;*
- *The maximum concentration of 5 of the 8 inorganic constituents detected in the water column were below ecological screening values;*
- *For the remaining three inorganic constituents (aluminum, lead, and mercury), two of the three compounds were consistent with background (upstream concentrations), while the third compound (mercury) was only slightly elevated relative to upstream*
- *All available inorganic data were total recoverable data; no dissolved phase metals data were available and it is likely that the total recoverable data over-estimate concentrations of metals*

None-the-less, as stated in the risk assessment conclusions, it is recognized that additional evaluation of the river is warranted: it is simply recommended, based on the review of data, that this evaluation focus primarily on potential sediment, rather than surface water, exposures.

In addition to a habitat use attainability analysis, an evaluation that included exposures to higher level trophic organisms (e.g., mink and kingfisher) would be required in the baseline risk assessment. This is resulting from the detections of persistent, bioaccumulative and toxic compounds (PBTs, e.g., PCBs) in sediments. Often whole body (and fillets when human health evaluations are also completed) fish tissue sample are collected at the time of habitat use attainability analysis. Fish tissue samples are recommended to be taken at this site for both human and ecological risk assessment purposes. Please see the Ohio EPA DERR ecological risk assessment guidance for additional information on conducting ecological risk assessments.

SLERA Specific Comment Response 23b: *Please see the response to the first half of Comment 23. AK Steel believes that it is currently premature to develop a scope of work for a detailed baseline ERA at this site, and that there are currently insufficient data (and insufficient data analysis) to determine whether or not fish tissue sampling is warranted. In accordance with the referenced U.S. EPA guidance (see General Comment No.1), AK Steel is conducting an ERA using the U.S. EPA eight-step process. If the Scientific Management Decision Point (SMDP) following Step 3 (Problem Formulation Statement) indicates that preparation of a Baseline Ecological Risk Assessment Work Plan is warranted, and that evaluation of potential risks to piscivores is warranted, than the scope of work can be defined in the context of the CSM and the PFS.*

The Table on 12-3 should be revised to include evaluation of surface water as warranted in AOC 1, AOC 7, 19, Great Miami River, and Southern Parcel. This is based on the water quality

standards discussed above and the limited amount of surface water data that have been collected at the site. Please make the appropriate changes in the document.

SLERA Specific Comment Response 23c: *As stated above, and in the risk assessment conclusions, it is recognized that additional evaluation of the river is warranted: it is simply recommended, based on the review of data, that this evaluation focus primarily on potential sediment, rather than surface water, exposures.*

Sediment samples were collected at the surficial depth only (0-6"). The full extent of contamination should be identified by taking samples (cores) to determine how deep the contamination is in the river bed (sediments).

SLERA Specific Comment Response 23d: *All sediment sampling at this site was conducted in accordance with the EPA-approved work plan. It is possible that future phases of work may include sub-surface sediment sampling; however, no such work was included in the SSP (REV 3) or is currently contemplated.*

24) Figures 11-1 to 11-3: It should be pointed out that to readers with red-green color-blindness, the red and green circles on the maps are difficult to distinguish. I would recommend blue instead of red or green; even better would be different shapes for the different hazard quotient categories.

SLERA Specific Comment Response 24: *Although no updates will be made to the SLERA in response to this comment, it will be taken under advisement relative to future deliverables.*

25) State of Ohio Water Quality Standards: The State of Ohio Water Quality Standards (WQS) are used in all ecological risk assessments that involve waters of the state for sites overseen by the Division of Emergency and Remedial Response (DERR.) The WQS are also ARARs at most enforcement (Orders on Consent, State or Federal lead) sites. Thus, the WQS are enforceable at the former AHP site.

The WQS are comprised of two components: 1) chemical specific criteria, and 2) biological criteria. Chemical specific criteria are to be used in the screening level ecological risk assessment. It should be noted that they are not screening criteria but WQS. In addition, if the water body is lotic (which is the case at this site), then the site is to be evaluated to; a) determine if the water body has an aquatic life habitat use designation; b) if the listed designation is correct (this step is added via the DERR RRP ecological risk assessment guidance document), and 3) if the site is in full attainment of the associated biological criteria. Sediment screening benchmarks along with background concentrations and chemical specific WQS are often used to determine whether a release has occurred in the water body. If there has been a release, then the water body is to be evaluated to ensure it is in full attainment of the WQS. This evaluation is generally

the majority of the ecological risk assessment for any aquatic environment. Please identify the State of Ohio WQS (Ohio Revised Code 3745-1) in the screening level risk assessment and (although the screening values do not necessarily have to be changed in the tables, the chemical specific criteria are to be used in the baseline risk assessment) identify there planned used in the baseline ecological risk assessment. Additional information on the WQS can be found at this website: http://www.epa.state.oh.us/dsw/wqs/index.html

SLERA Specific Comment Response 25: *All future risk assessment deliverables will include evaluation of Site data relative to the Ohio WQS.*

Attachment B

Modified Responses to U.S. EPA's November 16, 2006 Comments on the Draft SLERA

COMMENTS ON THE DRAFT ECOLOGICAL RISK ASSESSMENT

GENERAL COMMENTS:

1) Ecological Risk Assessment Guidance/Methods: Ecological risk assessments conducted for sites under the oversight of the Ohio EPA Division of Emergency and Remedial Response (DERR), Remedial Response Program (RRP), are done in accordance with the ecological risk assessment guidance document (http://www.epa.state.oh.us/derr/rulesfRR-031.pdf). The risk assessment methods described in the guidance are based on U.S. EP A guidance and the State of Ohio Water quality rules. It is recommended that this guidance be followed for the baseline ecological risk assessment to be completed at the former Armco Hamilton site.

SLERA General Comment Response 1: *The remedial investigation, draft RI reports, and draft SLERA report were all performed and prepared in accordance with the Administrative Order on Consent (AOC) and accompanying Statement of Work, the approved Remedial investigation/Feasibility Study Support Sampling Plan (Revision 3), Appendix F (Quality Assurance Project Plan) and the Field Sampling Plan (Revision 3). AK Steel and ENSR also participated in various meetings and conference calls with the agencies during implementation of the remedial investigation activities to clarify questions, present results and discuss the project schedule. As described in the final, approved Work Plan, the SLERA was conducted in accordance with the following federal documents: Framework for Ecological Risk Assessment (U.S. EPA, 1992); Intermittent "ECO Update" Bulletins of U.S. EPA; Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (Interim Final) (U.S. EPA, 1997); and Guidelines for Ecological Risk Assessment (U.S. EPA, 1998).*

Assuming that the responses to the specific comments on the draft SLERA report are satisfactory, and given that the majority of comments do not generally affect the screening level risk assessment outcome, it is AK Steel's preference that the complete SLERA not be re-issued, but that it be considered as a final document in the context of the agreements reached in this comment/response package. Assuming that preparation of a revised or final SLERA is not required, AK Steel is prepared to commence Step 3 of the U.S. EPA eight-step ecological risk assessment process (Problem Formulation Statement). As appropriate, any future required risk assessment deliverables reflect the agreements reached in this comment/response package.

RECOMMENDATION: THIS COMMENT SHOULD BE WITHDRAWN OR REVISED. THE WORK AT THIS CERCLA SITE IS BEING CONDUCTED UNDER FEDERAL AUTHORITY, AS DESCRIBED ABOVE.

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2) In the sections summarizing which Screening Level Contaminants of Potential Concern

(SLCOPCs) are retained for further analysis, it would be helpful for the sake of clarity to distinguish in the text between those SLCOPCs that actually exceed ecological screening values (ESVs), which lack ESVs, and which, if any, are retained because they bioaccumulate.

SLERA General Comment Response 2: *The text in any future risk assessment deliverables will be revised to distinguish between those SLCOPCs that exceed ESVs, those SLCOPCs which lack ESVs, and those which were retained because they have the potential to bioaccumulate.*

RECOMMENDATION: AGREED.

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SPECIFIC COMMENTS:

1) Section 2.1.2 Ecological Characterization: Additional information should be provided on the selection of the various exposure areas. It appears that the areas were selected based on material or other past practices that may have occurred at the site. Please expand this discussion to include a list of possible chemical and non-chemical stressors that may be associated with said activities. In addition, if the areas were not selected based on past practices, then please list the reasons for the selection of the areas of concern. Generally, exposure areas are selected based on the nature and extent of contamination (this is closely related to the first reason stated above). Please provide a detailed discussion with maps (listing concentrations of potential contaminants identified in soil, sediment, surface water and ground water) and other aids that will help the reader understand the nature an extent of contamination throughout the site and the areas of concern. In addition, the information should provide some level of confidence that the nature and extent of contamination is completely understood, or a least well enough to complete the screening level risk assessment and to help guide future sampling events. The information may be redundant with the human health risk assessment. If this is the case, then the information may be provided in only one risk assessment and reference in the other. The nature and extent of contamination is also used in the selection of possible remedies for the site, which should be contemplated at this point in the RI/FS process. Please add the requested information on the determination of the exposure areas and the nature and extent of contamination at the site.

SLERA Specific Comment Response 1: *Additional detail will be provided in future risk assessment deliverables regarding the selection of the ecological exposure areas considered in the SLERA. For the most part, the selected exposure areas are physically discrete parcels, with differing histories and resulting potential environmental impacts. These AOCs were identified prior to commencement of risk assessment activities. The reviewer is directed to the RI report for additional discussion of the nature and extent of contamination (which is beyond the scope of the SLERA*

RECOMMENDATION: THIS COMMENT SHOULD BE WITHDRAWN OR REVISED. DURING

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THE SITE INSPECTION, OEPA REPRESENTATIVES INDICATED THAT THE SELECTION OF EXPOSURE AREAS WAS APPROPRIATE, GIVEN THE HABITAT QUALITY, QUANTITY, AND UNIFORMITIY AT THE SITE. ALTHOUGH ADDITIONAL TEXT CAN BE ADDED TO THE FINAL SLERA PER THE OEPA REQUEST, INCLUSION OF "*A DETAILED DISCUSSION WITH MAPS (LISTING CONCENTRATIONS OF POTENTIAL CONTAMINANTS IDENTIFIED IN SOIL, SEDIMENT, SURFACE WATER AND GROUND WATER) AND OTHER AIDS THAT WILL HELP THE READER UNDERSTAND THE NATURE AN EXTENT OF CONTAMINATION THROUGHOUT THE SITE AND THE AREAS OF CONCERN*" IN THE SLERA IS NOT WARRANTED.

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2) Section 2.1.2, Ecological Characterization, pg. 2-3, first paragraph: Typo: sentence should read: " ... a tributary to the Great Miami River." Delete "e".

SLERA Specific Comment Response 2: *The text will be updated accordingly in future risk assessment deliverables.*

RECOMMENDATION: AGREED.

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3) Section 2.1.3, Exposure Pathway Identification, pg. 2-3, first paragraph: Add ", including receptors." to the end of the third sentence.

SLERA Specific Comment Response 3: *The text will be updated accordingly in future risk assessment deliverables.*

RECOMMENDATION: AGREED.

4) Section 2.1.6, Data Evaluated in SLERA, pg. 2-5, Table included in text: Were the excluded, upstream sediment and surface water samples applicable as reference samples? Why or why not? The location of the discussion of excluded upstream locations should be noted here.

SLERA Specific Comment Response 4: *The excluded surface water (GMR SW 9 and GMR SW 11) and sediment samples (GMR SD 15 and GMR SD 19) were collected as upstream background or reference samples, as described in the approved Work Plan. In accordance with U.S. EPA guidance, background screening was not conducted in the SLERA. Rather, the Site data were reviewed in the context of these data in the uncertainty evaluation (Section 11), and the relative contribution of upstream sources will be further reviewed in Step 3 of the ERA process (Problem Formulation). The text and in-text table will be reviewed, and if necessary edited, to clarify this matter*

RECOMMENDATION: AGREED.

5) Section 2.1.6.1, Calculation of Summary Statistics, pg. 2-6, third paragraph: The World Health Organization has recently (2005) updated toxic equivalency factors (TEFs). Any new numbers should be researched and incorporated into the analysis. (See: http://www.who.int/ipcs/assessment/tef update/en/)

SLERA Specific Comment Response 5: *The most current WHO TEFs will be incorporated into the text and tables of any future risk assessment deliverables, including the Problem Formulation Statement.*

RECOMMENDATION: AGREED.

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6) Section 2.1.6.1, Calculation of Summary Statistics, pg. 2-6, second to last paragraph, third sentence: Typo: There should be a comma after "Appendix B".

SLERA Specific Comment Response 6: *The text will be updated accordingly in future risk assessment deliverables.*

RECOMMENDATION: AGREED.

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7) Section 2.1.7; Selection of Screening Level Ecological Chemicals of Potential Concern, pg. 27 (and elsewhere, e.g. Sections 2.2.1, 3.2, 3.3): Bioaccumulative chemicals, such as mercury and some SVOCs, need to be retained for further evaluation as Ecological Chemicals of Potential Concern (ECOPCs) even if they do not exceed screening benchmarks. However, bioaccumulative chemicals that are not detected do not need to be retained.

SLERA Specific Comment Response 7: *The screening values will be reviewed relative to this matter, and compounds will be retained for further risk analysis, as appropriate. Several of the screening values employed in this current assessment include bioaccumulation assumptions as part of their derivation. It is therefore assumed that, if COPC concentrations are less than those screening values, that bioaccumulation potential has been addressed and these compounds will not be retained in the subsequent phases of risk analysis. Those bioaccumulative compounds that are retained for further analysis will be reviewed in the Problem Formulation Statement (PFS) and if possible will be evaluated relative to alternative screening values that include bioaccumulation endpoints.*

RECOMMENDATION: AGREED.

8) Section 2.2.2 Great Miami River Surface Water and AOC 7 Surface Water: Even if the contaminants in the surface water likely do not pose potential ecological risk through direct toxicity, bioaccumulative chemicals that are detected must be retained and further evaluated in the Baseline Ecological Risk Assessment (BERA).

SLERA Specific Comment Response 8: *See response to Specific Comment 7.*

RECOMMENDATION: AGREED.

9) Section 2.2.1.3, Surface Soils, pg. 2-8; Table 2-4; (comment applies to each exposure area where soil was evaluated): It is preferred and recommended that the Eco-SSLs (U.S. EPA 2005) are used preferentially over other sources for screening ecological benchmarks. Where available, the Eco-SSLs should replace the U.S. EPA Region 5 ESLs (EPA 2005) and the analysis redone with the updated screening benchmarks. According to the Eco-SSL for aluminum, toxicity of that chemical is not based on total concentration of aluminum, but on soil pH.

SLERA Specific Comment Response 9: *Although it is unlikely to affect the overall screening level risk assessment conclusions, the text and tables in the Problem Formulation Statement can be updated to include preferential selection of Eco-SSLs over USEPA Region 5 screening values.*

RECOMMENDATION: AGREED.

10) Table 2-1 and Figure 2-1: Table 2-1 and Figure 2-1 are slightly inconsistent. Table 2-1 indicates which potentially complete ecological exposure pathways will be evaluated in the SLERA and which might be evaluated in the Baseline Ecological Risk Assessment (BERA); whereas Figure 2-1 only shows exposure pathways to be evaluated in the SLERA. However, while the Conceptual Site Model (CSM) in Fig. 2-1 includes a bioaccumulation/ingestion pathway, that pathway is not included in the list of pathways to be evaluated in the SLERA, according to Table 2-1. This inconsistency should be corrected.

SLERA Specific Comment Response 10: *The referenced table and figure will be reviewed for consistency*

RECOMMENDATION: AGREED.

11) Table 2-4, all tables summarizing screening evaluations: U.S. EPA Region 3 has the following

ecological screening values (ESVs) for several constituents which lacked them in Table 2-4 and other tables: antimony (sediment): 2 mg/kg (Long and Morgan, 1990); selenium (sediment) 2 mg/kg (Lemley, 2002); atrazine (surface water) 1.8 ug/L (CCME 2003); atrazine (sediment) 0.00662 mg/kg (Karickhoff, S.W. and J.M. Long 1995; U.S. EPA 2004); U.S. EPA Region 4 (U.S. EPA 200la) has the following ESVs: tPAHs (soil) 1.0 mg/kg; atrazine (soil) 0.00005 mg/kg.

SLERA Specific Comment Response 11: *As appropriate, the screening tables can be updated to include screening values from the referenced sources. It should be noted, however, that it is anticipated that the next ecological risk assessment deliverable (Problem Formulation Statement, Step 3 of the U.S. EPA 8-step ecological risk assessment process) will also include refinement of ecological screening values, and that addition of these screening values to SLERA is unlikely to change the SLERA findings.*

RECOMMENDATION: AGREED.

12) Section 3.0, Block A (Former Slag Processing Area) Exposure Area: Justification should be provided that indicates how the quantity and locations of soil samples were determined for the approximately 50 acre exposure area. The current number of 32 surface soil samples may be adequate if a description of the site indicates that the materials handed in this area were consistent and uniformly distributed over the site. In addition, this information should be provided for all AOCs. Please provide additional justification for the sample numbers and selected locations.

SLERA Specific Comment Response 12: *The ecological risk assessment will provide reference to the RI report, which provides additional detail regarding the nature and extent sampling program.*

RECOMMENDATION: THIS COMMENT SHOULD BE WITHDRAWN OR REVISED TO INDICATE THAT CROSS-REFERENCING THE REQUESTED INFORMATION IN THE RI IS APPROPRIATE. THIS LEVEL OF DETAIL IS NOT WARRANTED IN THE SLERA

13) Section 3.0, Block A (Former Slag Processing Area) Exposure Area: Please provide a better description of the exposure area. Photographs would also provide some indication to the physical characteristics of the site. Specific information on the physical characteristics of the site and the wastes should be given in the text and evaluated in the ecological risk assessment as appropriate. Ecological risk assessments are required to discuss potential chemical and non-chemical stressors. Non-chemical stressors may include extremes of pH or physical characteristics (such as sandy, gravel like material e.g., slag) that may impact ecological receptors. These non-chemical stressors generally do not have screening values to determine if

they may be of concern or excluded from a risk assessment. Please provide a discussion on potential non-chemical stressors for this and all other exposure areas.

SLERA Specific Comment Response 13: *Additional description of the ecological characteristics of this exposure area will be included in future risk assessment deliverables. In addition, the uncertainty evaluation will include a discussion of non-chemical stressors which may affect the risk assessment outcome. It should be noted, however, that this risk assessment is being conducted under CERCLA guidance, and therefore is clearly focused on evaluating the potential impact to ecological receptors exposed to potential site-related chemical stressors.*

RECOMMENDATION: AGREED.

14) Section 9.0, Great Miami River Exposure Area: Additional descriptions of the sample locations and the characteristics of the sediments that were sampled should be included in section 9.0. This information will be needed in completing the next sampling plan for continued evaluation and ecological assessment of the Great Miami River.

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SLERA Specific Comment Response 14: *Additional detail regarding the sampling locations and sediment characteristics can be provided in future risk assessment deliverables. If the results of the RI/FS process, including the eight-step ecological risk assessment process, indicate that additional evaluation of the river is warranted, this material may indeed be useful.*

RECOMMENDATION: AGREED.

15) Section 6.2 Results: SLERA Evaluation of Surface Water (AOC 7); Section 9.3 Results: SLERA Evaluation of Surficial Sediment (Great Miami River): The statements concerning acetone should be expanded to explain why acetone is likely to be a laboratory artifact.

SLERA Specific Comment Response 15: *Agreed. The text will be updated accordingly in future risk assessment deliverables.*

RECOMMENDATION: AGREED.

16) Section 6.3 Results: SLERA Evaluation of Sediment (AOC 7): The results of the soil evaluation should be put into a separate section for the sake of clarity.

SLERA Specific Comment Response 16: *Because of the uncertainty associated with the use of aquatic sediment screening values in the AOC 7 dry bed intermittent stream (drainage ditch),*

the evaluation was conservatively conducted using both sediment and surface soil screening values. Section 6.3 will be reviewed for clarity and consistency; however given that this conservative approach is evaluating the same matrix with two different sets of screening values, adding a separate section may not be warranted.

RECOMMENDATION: NO NEW SECTION OR COMMENT REVISION WARRANTED.

17) Table 6-3: The title of Table 6-3 should be "Soil Ecological Screening Evaluation", not "Surficial Sediment..."

SLERA Specific Comment Response 17: *Please see response to Comment 16. The surficial matrix in the AOC 7 dry bed intermittent stream was classified as sediment in the project database. In order to provide a more ecologically realistic screen of these data, they were compared both to sediment screening values (Table 6-2) and to soil screening values (Table 6-3). The titles of these two tables will be reviewed and edited if needed to accurately reflect the nature of the evaluation.*

RECOMMENDATION: AGREED.

18) Section 7.3 Results: SLERA Evaluation of Groundwater (AOC 1 Shoreline): The document states that a ten-fold dilution will bring all groundwater concentrations, except aluminum and iron, below respective surface water screening values. Any dilution that is great enough will bring concentrations of substances below screening benchmarks. Is a ten-fold dilution realistic for this site? In order to confirm that a ten-fold dilution is applicable, co-located surface water and groundwater samples should be taken and analyzed or literature sources should be sited to support the use of a ten-fold dilution. This comment is also applicable to Section 10-3, except the SLCOPCs in question are aluminum and mercury.

SLERA Specific Comment Response 18: *Future risk assessment deliverables, including the Problem Formulation Statement, will include additional discussion regarding the dilution of groundwater as it discharges to the river. It is AK Steel's opinion that a ten-fold dilution relative to groundwater discharging to the surface of the Great Miami River is an extremely conservative value – additional justification for this assumption will be included in the Problem Formulation Statement. No additional collection of co-located surface water and groundwater samples is currently contemplated.*

RECOMMENDATION: COMMENT SHOULD BE REVISED OR WITHDRAWN. COLLECTION OF CO-LOCATED SURFACE WATER AND GROUNDWATER SAMPLES IS NOT CURRENTLY UNDER CONSIDERATION.

19) Section 10.3 (Groundwater results in Southern Parcel) and Section 10.4 (Groundwater results in AOC 13 Shoreline), pg. 10-2: The sentence: "Five of the 8 exceedances are based on a single detection." should be clarified. It should read "Five of the 8 exceedances are based on single detections for each of the five compounds."

SLERA Specific Comment Response 19: *Agreed. The text will be updated accordingly.*

RECOMMENDATION: AGREED.

20) Section 11.0, Uncertainty Discussion: One of the topics raised in the uncertainty discussion is the use of background values in the risk assessment. Background values are acceptable to use in a screening level ecological assessment for Ohio EPA and are generally used to determine the likelihood of a release of contamination (often prior to evaluating toxicity-based screening values). Ohio EPA has a specific procedure for evaluating background that should be used if back ground values are going to be used at the former AHP. Please see the DERR-RRP technical decision document on the role and use of back ground concentrations: (http://www.epa.state.oh.us/derr/rules/RR -039_public.pdf)

In addition to describing a methodology for calculating a background value, this document requires also a minimum of 12 samples to generate a site specific background value for a given medium. The Ohio EPA DERR RRP Ecological Risk Assessment guidance contains background sediment values (known as sediment reference values (SRVs)) that maybe used in lieu of deriving site specific values. See attachment H, Ohio Specific Sediment Reference Values for additional details: (http://www.epa.state.oh.us/derr/rules/RR-031.pdf). Given that many of the background values were determined with fewer than 12 samples, conclusions based on "background" conditions given in the screening level ecological risk assessment should be considered as qualitative only and so noted in the report. Please make the appropriate changes to the document.

SLERA Specific Comment Response 20: *The referenced background discussion is intended to help identify uncertainties in the risk assessment process, not to serve as a quantitative evaluation of site conditions relative to background or reference conditions. It is anticipated that Step 3 (PFS) of the EPA risk assessment process at this Site may include additional quantitative background analysis, if sufficient data are available in a given matrix (at this point, the only matrix of potential ecological concern with a robust background data set is surface soil).*

None-the-less, additional discussion regarding this matter may be warranted at the 2007 meeting.

AK Steel, their consultant (ENSR), and the agencies had several conference calls regarding this matter in June of 2006. At that time, AK Steel was directed to use the 2001 federal guidance for Characterizing Background Chemicals in Soil at Superfund Sites, not the above-referenced state guidance.

RECOMMENDATION: COMMENT SHOULD BE WITHDRAWN OR REVISED TO INDICATE THAT NO ADDITIONAL BACKGROUND SCREENING OF THE TERRESTRIAL UNITS IS WARRANTED; HOWEVER, ADDITIONAL EVALUATION OF NEAR-SITE GREAT MIAMI RIVER DATA RELATVIE TO UPSTREAM CONDITIONS MAY BE WARRANTED.

21) Section 11.3 Uncertainties Associated with Benchmark Evaluation, pg. 11-3, Tables 11-1, 11-2: Rather than preferentially using the U.S. EPA Region 5 ESLs and thus, introducing an alleged degree of uncertainty to the risk evaluation, it is recommended that the U.S. EPA Eco-SSLs are used preferentially for evaluating risk from contamination in soil. In order to screen for aluminum toxicity using the Eco-SSLs, soil pH data will need to be collected (aluminum toxicity in soil is based on soil pH, not aluminum concentrations, toxicity is not likely if soil pH is greater than 5). In addition, the reasons for selecting plant screening values preferentially should be included.

SLERA Specific Comment Response 21: *Please see response to specific Comment 9 and 20. The use of the term "alleged" in the reviewer's comment is puzzling: AK Steel requests that USEPA provide additional clarification regarding this comment.*

RECOMMENDATION: COMMENT SHOULD BE REVISED OR WITHDRAWN. COMMENT 9 ALREADY ADDRESSES THE USE OF ECO-SSLS.

22) Section 11.4 Uncertainties Associated with Background Evaluation, pg 11-3 to 11-4, Section 12.2.1 Great Miami River Sediment: In the risk assessment process, U.S. EPA (2002) recommends that background comparisons and discussions are reserved for the risk characterization portion of the baseline risk assessment and not included in the screening level risk assessment. This guidance cautions against eliminating Contaminants of Potential Ecological Concern (COPECs) in the SLERA due to comparisons to background, if levels of those contaminants exceed screening benchmarks. U.S. EPA 2001b further supports this approach towards background comparisons and discussions. Furthermore, while comparable levels of contamination may exist upstream of the site, that does not mean that the site does not contribute to the contamination of the Great Miami River-and thus to the potential for adverse ecological effects. Lastly, the use of averages in the screening level risk assessment portion of the process is not appropriate.

SLERA Specific Comment Response 22: *Please see response to specific Comment 20. The background discussion was incorporated in the uncertainty evaluation in an effort to help identify and evaluate uncertainties in this portion of the risk assessment process. Additional analysis of background conditions, including those conditions in the Great Miami River, will need to be considered in the PFS and any required subsequent ecological risk assessment steps. With regard to the use of average values, the only place they have been considered in this SLERA is relative to diffuse groundwater discharges to surface water bodies. In these situations, in addition to evaluating maximum concentrations, consideration of average (or an upper bound estimate of average) conditions has merit in the SLERA, and is likely a better approximation of potential environmental exposure than is a discrete concentration from one monitoring well.*

RECOMMENDATION: COMMENT SHOULD BE REVISED OR RE-WORDED. THIS COMMENT, WHICH CAUTIONS AGAINST BACKGROUND SCREENING, APPEARS TO CONFLICT WITH COMMENT 20, WHICH ENCOURGES BACKGROUND SCREENING.

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23) Section 12.2, Surface Water and Sediment Exposure Areas: Ohio EPA does not concur with the exclusion of surface water evaluations from the baseline ecological risk assessment. Given that screening levels for sediments and ground water that may be in contact with surface water were exceeded, a full evaluation of the surface water using the requirements in Ohio Revised Code 3745-1 and the DERR RRP ecological risk assessment guidance process would be required for all locations (e.g., Great Miami River, AOC 7, AOC 19, adjacent to AOC 13, AOC 1 shoreline, Southern Parcel Shoreline and, AOC 13 shoreline) with potential surface water impacts. The surface water evaluation is one that incorporates a comprehensive evaluation of potential adverse impacts to aquatic biota, and is a requirement of Ohio WQS. These methods evaluate the macro-invertebrate and fish populations while considering up-stream sources of contamination and habitat quality. The evaluation would include a habitat use assessment (this determines the appropriate aquatic life habitat use designation(s) for the water body, additional sampling of sediment and surface water and include macro-invertebrate and fish assays to determine the attainment status of the water bodies. Samples will be taken up-stream adjacent to and down stream of likely contamination sources, including areas that may only act as conveyances to other water bodies.

SLERA Specific Comment Response 23a: *Although it is entirely possible that an evaluation of river-dwelling aquatic and/or benthic biota may ultimately be required, AK Steel believes that it is currently premature to scope a detailed baseline ERA at this site. In accordance with the referenced U.S. EPA guidance (see General Comment No.1), AK Steel is conducting an ERA using the U.S. EPA eight-step process. If the Scientific Management Decision Point (SMDP) following Step 3 (Problem Formulation Statement) indicates that preparation of a Baseline Ecological Risk Assessment Work Plan is warranted, than the scope of work can be defined in the context of the CSM and the PFS.*

With regard to the Great Miami River exposure area, the recommendation to exclude surface water from further evaluation under the CERCLA risk assessment was based on the following factors:

- *The maximum concentration of all organic compounds detected in the water column were below ecological screening values;*
- *The maximum concentration of 5 of the 8 inorganic constituents detected in the water column were below ecological screening values;*
- *For the remaining three inorganic constituents (aluminum, lead, and mercury), two of the three compounds were consistent with background (upstream concentrations), while the third compound (mercury) was only slightly elevated relative to upstream*
- *All available inorganic data were total recoverable data; no dissolved phase metals data were available and it is likely that the total recoverable data over-estimate concentrations of metals*

None-the-less, as stated in the risk assessment conclusions, it is recognized that additional evaluation of the river is warranted: it is simply recommended, based on the review of data, that this evaluation focus primarily on potential sediment, rather than surface water, exposures.

RECOMMENDATION: COMMENT SHOULD BE REVISED OR RE-WORDED. BASED ON THE JULY 27 CONFERENCE CALL, THE SOLE EXPOSURE AREA WHICH WILL REQUIRE ADDITIONAL RISK ANALYSIS IS THE GREAT MIAMI RIVER. REFERENCE TO THE NEED FOR ADDITIONAL ECOLOGICAL RISK ASSESSMENT AT OTHER POTENTIAL EXPOSURE AREAS SHOULD BE DELETED.

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In addition to a habitat use attainability analysis, an evaluation that included exposures to higher level trophic organisms (e.g., mink and kingfisher) would be required in the baseline risk assessment. This is resulting from the detections of persistent, bioaccumulative and toxic compounds (PBTs, e.g., PCBs) in sediments. Often whole body (and fillets when human health evaluations are also completed) fish tissue sample are collected at the time of habitat use attainability analysis. Fish tissue samples are recommended to be taken at this site for both human and ecological risk assessment purposes. Please see the Ohio EPA DERR ecological risk assessment guidance for additional information on conducting ecological risk assessments.

SLERA Specific Comment Response 23b: *Please see the response to the first half of Comment 23. AK Steel believes that it is currently premature to develop a scope of work for a detailed baseline ERA at this site, and that there are currently insufficient data (and insufficient data analysis) to determine whether or not fish tissue sampling is warranted. In accordance with*

the referenced U.S. EPA guidance (see General Comment No.1), AK Steel is conducting an ERA using the U.S. EPA eight-step process. If the Scientific Management Decision Point (SMDP) following Step 3 (Problem Formulation Statement) indicates that preparation of a Baseline Ecological Risk Assessment Work Plan is warranted, and that evaluation of potential risks to piscivores is warranted, than the scope of work can be defined in the context of the CSM and the PFS.

RECOMMENDATION: COMMENT SHOULD BE REVISED OR WITHDRAWN. AS DISCUSSED DURING THE SITE INSPECTION AND SUBSEQUENT MEETINGS AND CONFERENCE CALLS, FISH TISSUE SAMPLING IS NOT WARRANTED, AND FUTURE RISK ASSESSMENT ACTIVITES WILL FOCUS ON FISH AND BENTHIC RECEPTORS IN THE GREAT MIAMI RIVER, NOT ON HIGHER TROPHIC LEVEL CONSUMERS OF FISH.

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The Table on 12-3 should be revised to include evaluation of surface water as warranted in AOC 1, AOC 7, 19, Great Miami River, and Southern Parcel. This is based on the water quality standards discussed above and the limited amount of surface water data that have been collected at the site. Please make the appropriate changes in the document.

SLERA Specific Comment Response 23c: *As stated above, and in the risk assessment conclusions, it is recognized that additional evaluation of the river is warranted: it is simply recommended, based on the review of data, that this evaluation focus primarily on potential sediment, rather than surface water, exposures.*

Sediment samples were collected at the surficial depth only (0-6"). The full extent of contamination should be identified by taking samples (cores) to determine how deep the contamination is in the river bed (sediments).

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SLERA Specific Comment Response 23d: *All sediment sampling at this site was conducted in accordance with the EPA-approved work plan. It is possible that future phases of work may include sub-surface sediment sampling; however, no such work was included in the SSP (REV 3) or is currently contemplated.*

RECOMMENDATION: COMMENT SHOULD BE WITHDRAWN OR RE-WORDED. AS DISCUSSED DURING THE SITE INSPECTION, SUB-SURFACE SEDIMENT CORING IS NOT CURRENTLY WARRANTED AT THIS SITE

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24) Figures 11-1 to 11-3: It should be pointed out that to readers with red-green color-blindness, the red and green circles on the maps are difficult to distinguish. I would recommend blue instead of red or green; even better would be different shapes for the different hazard quotient categories.

SLERA Specific Comment Response 24: *Although no updates will be made to the SLERA in response to this comment, it will be taken under advisement relative to future deliverables.*

RECOMMENDATION: AGREED.

25) State of Ohio Water Quality Standards: The State of Ohio Water Quality Standards (WQS) are used in all ecological risk assessments that involve waters of the state for sites overseen by the Division of Emergency and Remedial Response (DERR.) The WQS are also ARARs at most enforcement (Orders on Consent, State or Federal lead) sites. Thus, the WQS are enforceable at the former AHP site.

The WQS are comprised of two components: 1) chemical specific criteria, and 2) biological criteria. Chemical specific criteria are to be used in the screening level ecological risk assessment. It should be noted that they are not screening criteria but WQS. In addition, if the water body is lotic (which is the case at this site), then the site is to be evaluated to; a) determine if the water body has an aquatic life habitat use designation; b) if the listed designation is correct (this step is added via the DERR RRP ecological risk assessment guidance document), and 3) if the site is in full attainment of the associated biological criteria. Sediment screening benchmarks along with background concentrations and chemical specific WQS are often used to determine whether a release has occurred in the water body. If there has been a release, then the water body is to be evaluated to ensure it is in full attainment of the WQS. This evaluation is generally the majority of the ecological risk assessment for any aquatic environment. Please identify the State of Ohio WQS (Ohio Revised Code 3745-1) in the screening level risk assessment and (although the screening values do not necessarily have to be changed in the tables, the chemical specific criteria are to be used in the baseline risk assessment) identify there planned used in the baseline ecological risk assessment. Additional information on the WQS can be found at this website: http://www.epa.state.oh.us/dsw/wqs/index.html

SLERA Specific Comment Response 25: *All future risk assessment deliverables will include evaluation of Site data relative to the Ohio WQS.*

RECOMMENDATION: AGREED

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Appendix A-2

Letters from Ohio DNR and USFWS on Threatened and Endangered Species

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR | SAMUEL W. SPECK, DIRECTOR

Division of Natural Areas and Preserves
Tom Linkous, Chief
2045 Morse Rd., Bldg. F-1
Columbus, OH 43229-6693
Phone: (614) 265-6453; Fax: (614) 267-3096

November 17, 2005

Christine Archer
ENSR International
2 Technology Park Dr.
Westford, MA 01886

Dear Ms. Archer:

I have reviewed our Natural Heritage maps and files for the AK Steel Former Armco Hamilton Plant project area, including a one mile radius, in New Miami and St. Clair Township, Butler County, Ohio, and on the Hamilton Quad. We have no records for rare or endangered species or other significant natural features within the project area. However we have one record within the one mile radius of the project site. The location for the Carolina Willow (*Salix carolniana*), potentially threatened, is shown in red on the attached map.

There are no existing or proposed state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, breeding or non-breeding animal concentrations or state parks, forests or wildlife areas in the project vicinity.

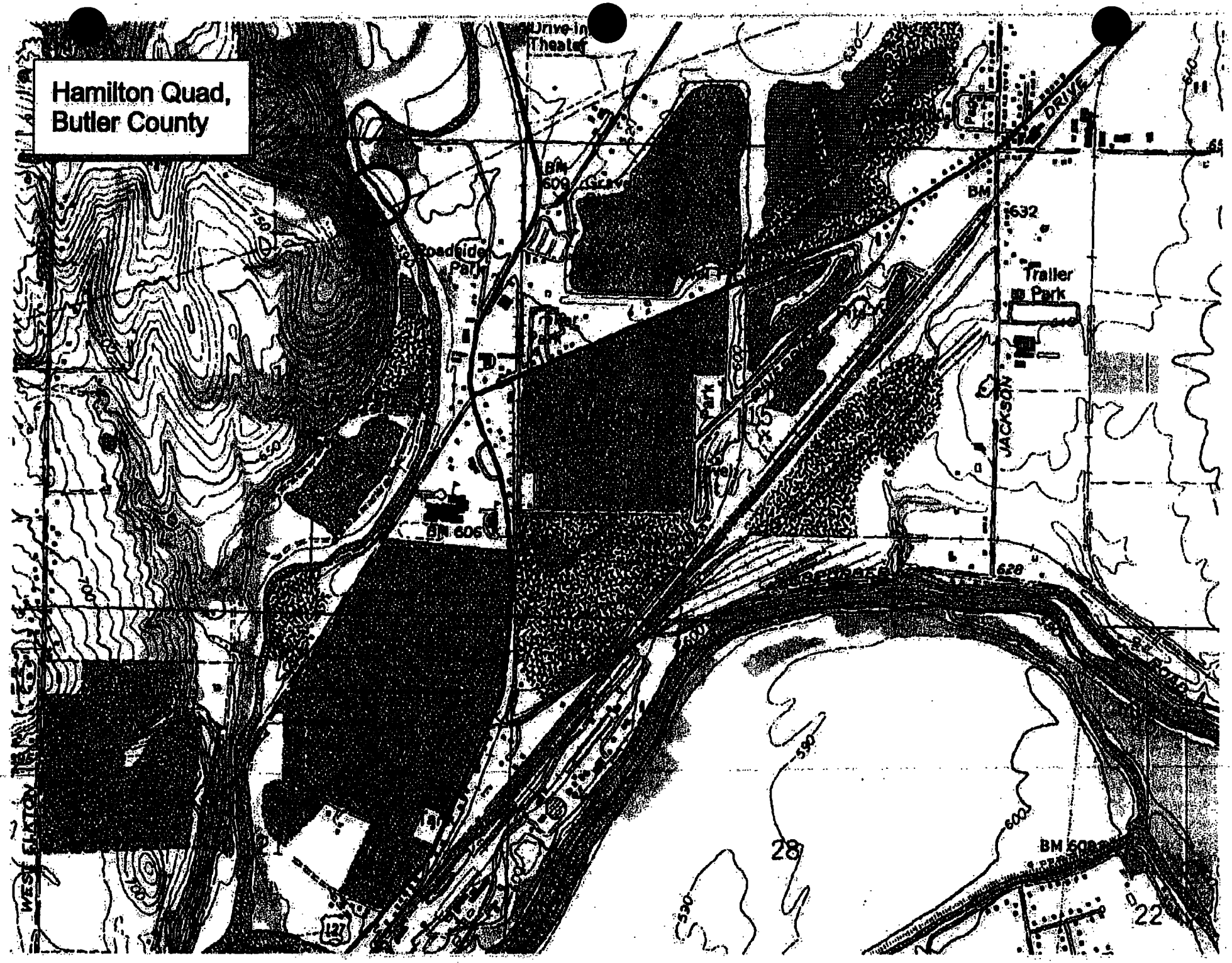
Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke

Debbie Woischke, Ecological Analyst
Natural Heritage Program


Hamilton Quad,
Butler County
Drive-in
Theater
BM
609
Roadside
Park
BM
632
Trailer
Park
JACKSON
DRIVE
BM 606
628
28
22
WEST ELKTON
127

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923
Fax: (614) 469-6919

November 29, 2005

Christine Archer
ENSR International
2 Technology Park Drive
Westford, MA 01886

Dear Ms. Archer:

This responds to your letter of November 11, 2005 requesting information about Federally-listed endangered and threatened species that might occur in the vicinity of the former Armco Hamilton Plant in New Miami, Ohio (Butler County). No information was provided regarding the presence of trees on the project site.

There are no Federal wilderness areas, wildlife refuges, or designated Critical Habitat within the vicinity of the proposed site.

ENDANGERED SPECIES COMMENTS: The proposed project lies within the range of the Indiana bat (*Myotis sodalis*), a Federally-listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Summer habitat requirements for the species are not well defined but the following are considered important:

(1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;
(2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;
(3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should the proposed site contain trees or associated habitats exhibiting any of the characteristics listed above, we recommend that the habitat and surrounding trees be saved wherever possible. If the trees must be cut, further coordination with this office is requested to determine if surveys are warranted. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator for this office.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C.661 et seq.), the Endangered Species Act of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Bill Kurey at extension 14 in this office.

Sincerely,

Angela L Zimmerman

for Mary Knapp, Ph.D.
Supervisor

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Appendix B

Summary Statistics

Appendix B-1 Surface Soil Summary Statistics

Appendix B-2 Surface Water Summary Statistics

Appendix B-3 Surficial Sediment Summary Statistics

Appendix B-4 Groundwater Summary Statistics

Appendix B-5 Background Summary Statistics

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 1	SO	1,1-Biphenyl	mg/kg	0.041	0.11	0.055833333	MW-16S	6 : 6 : 17
AOC 1	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000002996	0.000027236	7.9107E-06	AOC1CA3	4 : 5 : 5
AOC 1	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000015209	0.000059021	2.37119E-05	AOC1CA4	4 : 5 : 5
AOC 1	SO	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000344	0.000000684	4.741E-07	AOC1CA10	4 : 5 : 5
AOC 1	SO	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000477	0.000001868	7.522E-07	AOC1CA3	3 : 5 : 5
AOC 1	SO	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.00000016	0.000000545	2.736E-07	AOC1CA3	4 : 5 : 5
AOC 1	SO	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000282	0.000001269	5.893E-07	AOC1CA3	4 : 5 : 5
AOC 1	SO	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000001061	0.000002097	1.3823E-06	AOC1CA10	4 : 5 : 5
AOC 1	SO	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	mg/kg	0.000000283	0.000000288	1.258E-07	AOC1CA3	2 : 5 : 5
AOC 1	SO	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.00000078	0.000001463	0.000000937	AOC1CA3	4 : 5 : 5
AOC 1	SO	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000236	0.00000114	5.149E-07	AOC1CA3	4 : 5 : 5
AOC 1	SO	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000213	0.000001653	7.096E-07	AOC1CA10	4 : 5 : 5
AOC 1	SO	1,2,4-Trichlorobenzene	mg/kg	0.0015	0.0015	0.0015	AOC1CA8SB3	1 : 1 : 18
AOC 1	SO	1,2-Dichlorobenzene	mg/kg	0.0004	0.0004	0.0004	AOC1CA8SB3	1 : 1 : 18
AOC 1	SO	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000035	0.000000891	3.866E-07	AOC1CA3	5 : 5 : 5
AOC 1	SO	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000348	0.000001455	7.074E-07	AOC1CA10	4 : 5 : 5
AOC 1	SO	2,3,7,8-TETRACHLORODIBENZOFURAN	mg/kg	0.00000058	0.000003567	1.3008E-06	AOC1CA10	4 : 5 : 5
AOC 1	SO	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000109	0.000000718	3.008E-07	AOC1CA3	4 : 5 : 5
AOC 1	SO	2,4-Dimethylphenol	mg/kg	0.057	0.057	0.057	AOC1CA4	1 : 1 : 17
AOC 1	SO	2-Butanone	mg/kg	0.0029	0.018	0.008040278	AOC1CA10SB3	4 : 18 : 18
AOC 1	SO	2-Hexanone	mg/kg	0.0016	0.0017	0.00165	AOC1CA8SB3	2 : 2 : 18
AOC 1	SO	2-Methylnaphthalene	mg/kg	0.071	0.34	0.15753125	AOC1CA4	13 : 16 : 17
AOC 1	SO	Acenaphthene	mg/kg	0.048	0.14	0.094	MW-12S	2 : 2 : 17
AOC 1	SO	Acenaphthylene	mg/kg	0.038	0.91	0.1814375	MW-12S	13 : 16 : 17
AOC 1	SO	Acetone	mg/kg	0.0053	0.056	0.027136111	AOC1CA10SB3	15 : 18 : 18
AOC 1	SO	Aluminum	mg/kg	4900	32150	16579.41176	MW-11S	17 : 17 : 17
AOC 1	SO	Anthracene	mg/kg	0.093	0.93	0.24878125	MW-12S	13 : 16 : 17
AOC 1	SO	Aroclor 1248	mg/kg	0.034	0.84	0.126828125	AOC1CA5	5 : 16 : 17
AOC 1	SO	Aroclor 1254	mg/kg	0.05	110	6.828279412	AOC1CA9	7 : 17 : 17
AOC 1	SO	Aroclor 1260	mg/kg	0.033	0.052	0.024326923	AOC1CA4	2 : 13 : 17
AOC 1	SO	Arsenic	mg/kg	5.4	18	8.854411765	AOC1CA11	14 : 17 : 17
AOC 1	SO	Barium	mg/kg	62.1	299.5	155.0284706	MW-11S	17 : 17 : 17
AOC 1	SO	Benzaldehyde	mg/kg	0.038	1.7	0.915866667	MW-12S	3 : 15 : 17
AOC 1	SO	Benzene	mg/kg	0.00029	0.021	0.002726111	AOC1CA2SB5	15 : 18 : 18
AOC 1	SO	Benzo(a)anthracene	mg/kg	0.11	1.3	0.4995625	AOC1CA11, MW-12S	15 : 16 : 17
AOC 1	SO	Benzo(a)pyrene	mg/kg	0.12	1.4	0.509125	MW-12S	15 : 16 : 17
AOC 1	SO	Benzo(b)fluoranthene	mg/kg	0.052	1.4	0.53565625	MW-12S	16 : 16 : 17
AOC 1	SO	Benzo(g,h,i)perylene	mg/kg	0.055	1	0.4285625	MW-12S	16 : 16 : 17
AOC 1	SO	Benzo(k)fluoranthene	mg/kg	0.056	1.3	0.4553125	MW-12S	16 : 16 : 17
AOC 1	SO	Beryllium	mg/kg	1.16	7.3	2.738823529	MW-11S	17 : 17 : 17
AOC 1	SO	Bis(2-Ethylhexyl)phthalate	mg/kg	0.045	0.15	0.08	MW-12S	3 : 3 : 17
AOC 1	SO	Cadmium	mg/kg	0.61	10.1	2.571176471	MW-16S	15 : 17 : 17
AOC 1	SO	Calcium	mg/kg	24000	216500	106529.4118	MW-11S	17 : 17 : 17
AOC 1	SO	Carbazole	mg/kg	0.04	0.24	0.12753125	MW-12S	10 : 16 : 17
AOC 1	SO	Carbon disulfide	mg/kg	0.00034	0.036	0.008491111	AOC1CA2SB5	10 : 18 : 18
AOC 1	SO	Chloromethane	mg/kg	0.00048	0.00048	0.00048	MW-17S	1 : 1 : 18
AOC 1	SO	Chromium (total)	mg/kg	7.4	88.6	39.85588235	AOC1CA8	17 : 17 : 17
AOC 1	SO	Chrysene	mg/kg	0.06	1.7	0.6199375	MW-12S	16 : 16 : 17
AOC 1	SO	Cobalt	mg/kg	4.5	14.5	5.305882353	MW-16S	9 : 17 : 17
AOC 1	SO	Copper	mg/kg	8.6	93.7	32.51470588	AOC1CA8	17 : 17 : 17
AOC 1	SO	CYANIDE	mg/kg	0.855	10.8	2.438911765	AOC1CA9	11 : 17 : 17
AOC 1	SO	Cyclohexane	mg/kg	0.00033	0.0041	0.00174	AOC1CA2SB5	13 : 18 : 18
AOC 1	SO	Dibenz(a,h)anthracene	mg/kg	0.071	0.35	0.15884375	MW-12S	14 : 16 : 17
AOC 1	SO	Dibenzofuran	mg/kg	0.056	0.25	0.12784375	AOC1CA11	12 : 16 : 17
AOC 1	SO	Dioxin TEQ-HH	mg/kg	1.43743E-07	4.14755E-06	2.30477E-06	AOC1CA3	5 : 5 : 5
AOC 1	SO	Ethylbenzene	mg/kg	0.00031	0.0027	0.001547143	AOC1CA2SB5	9 : 14 : 18
AOC 1	SO	Fluoranthene	mg/kg	0.059	3	0.80259375	AOC1CA11	16 : 16 : 17
AOC 1	SO	Fluorene	mg/kg	0.041	0.34	0.144866667	AOC1CA11	8 : 15 : 17
AOC 1	SO	Indeno(1,2,3-cd)pyrene	mg/kg	0.042	0.9	0.3485	MW-12S	16 : 16 : 17
AOC 1	SO	Iron	mg/kg	14400	190000	90050	AOC1CA8	17 : 17 : 17
AOC 1	SO	Isopropylbenzene	mg/kg	0.0005	0.0042	0.002486176	AOC1CA8SB3	3 : 17 : 18
AOC 1	SO	Lead	mg/kg	4.5	3430	292.4029412	AOC1CA9	17 : 17 : 17
AOC 1	SO	m+p-Xylene	mg/kg	0.0005	0.0016	0.001076667	AOC1CA12SB4	6 : 6 : 18
AOC 1	SO	Magnesium	mg/kg	5870	46400	23839.41176	MW-11S	17 : 17 : 17
AOC 1	SO	Manganese	mg/kg	717	5230	2970.705882	MW-16S	17 : 17 : 17
AOC 1	SO	Mercury	mg/kg	0.03	0.19	0.052941176	AOC1CA11	9 : 17 : 17
AOC 1	SO	Methylcyclohexane	mg/kg	0.00062	0.0033	0.001690588	AOC1CA8SB3	13 : 17 : 18
AOC 1	SO	Methylene chloride	mg/kg	0.00036	0.0011	0.000722	AOC1CA2SB5	5 : 5 : 18
AOC 1	SO	Naphthalene	mg/kg	0.059	2.2	0.32478125	MW-16S	13 : 16 : 17
AOC 1	SO	Nickel	mg/kg	5	38.7	18.97941176	AOC1CA8	17 : 17 : 17
AOC 1	SO	OCTACHLORODIBENZOFURAN	mg/kg	0.000012094	0.000031684	1.22668E-05	AOC1CA4	3 : 5 : 5
AOC 1	SO	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000067322	0.000556219	0.000179529	AOC1CA4	4 : 5 : 5
AOC 1	SO	o-Xylene	mg/kg	0.00028	0.001	0.000644	AOC1CA2SB5	5 : 5 : 18
AOC 1	SO	p-Cresol (4-Methylphenol)	mg/kg	0.068	0.17	0.119	MW-12S	2 : 2 : 17
AOC 1	SO	Phenanthrene	mg/kg	0.0615	2.5	0.72134375	AOC1CA11	14 : 16 : 17
AOC 1	SO	Potassium	mg/kg	440	2465	1586.705882	AOC1CA13	17 : 17 : 17
AOC 1	SO	Pyrene	mg/kg	0.054	2.4	0.7225625	AOC1CA11	16 : 16 : 17
AOC 1	SO	Selenium	mg/kg	2.9	6.9	3.45625	AOC1CA9	8 : 16 : 17
AOC 1	SO	Silver	mg/kg	1.5	4.7	1.548529412	AOC1CA8	5 : 17 : 17
AOC 1	SO	Sodium	mg/kg	140	1260	565.1764706	MW-11S	17 : 17 : 17
AOC 1	SO	Tetrachloroethene	mg/kg	0.00039	0.00039	0.00039	MW-17S	1 : 1 : 18
AOC 1	SO	Toluene	mg/kg	0.00027	0.012	0.002097778	AOC1CA2SB5	15 : 18 : 18
AOC 1	SO	TOTAL PAHs	mg/kg	2.123	17.74	6.8901875	AOC1CA11	16 : 16 : 17
AOC 1	SO	TOTAL PCBs	mg/kg	0.073	110	6.76425	AOC1CA9	12 : 17 : 17
AOC 1	SO	Total Solids	%	78.4	92	85.85645161	AOC1CA9SB3	31 : 31 : 31
AOC 1	SO	TOTAL XYLENES	mg/kg	0.0005	0.0025	0.001613333	AOC1CA2SB5	6 : 6 : 18
AOC 1	SO	Trichloroethane	mg/kg	0.00043	0.00043	0.00043	MW-17S	1 : 1 : 18
AOC 1	SO	Trichlorofluoromethane	mg/kg	0.00065	0.00065	0.00065	MW-17S	1 : 1 : 18
AOC 1	SO	Vanadium	mg/kg	7.1	47.9	29.73235294	MW-16S	17 : 17 : 17
AOC 1	SO	Zinc	mg/kg	13.7	4810	708.3147059	AOC1CA9	17 : 17 : 17

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 18 and AOC 21	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000118	0.00000137	4.17714E-07	AOC21SB1	4 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000005161	0.000005507	1.94907E-06	AOC18SB3	2 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000174	0.000000346	1.15357E-07	AOC18SB5	3 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000061	0.000000292	1.21857E-07	AOC18SB3	3 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.00000005	0.000000118	3.63571E-08	AOC21SB1	2 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.0000001	0.000000281	1.42143E-07	AOC18SB5	5 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.00000007	0.000000213	6.13571E-08	AOC21SB1	3 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000105	0.000000299	0.000000134	AOC21SB1	5 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000068	0.000000282	5.82143E-08	AOC21SB1	2 : 7 : 7
AOC 18 and AOC 21	SO	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000059	0.000000102	4.22143E-08	AOC21SB1	3 : 7 : 7
AOC 18 and AOC 21	SO	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000068	0.000000312	9.59286E-08	AOC21SB1	3 : 7 : 7
AOC 18 and AOC 21	SO	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000054	0.000000311	0.000000081	AOC21SB1	3 : 7 : 7
AOC 18 and AOC 21	SO	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000049	0.000000472	8.87857E-08	AOC18SB5	3 : 7 : 7
AOC 18 and AOC 21	SO	2-Butanone	mg/kg	0.006	0.006	0.005257692	AOC21SB12	1 : 13 : 14
AOC 18 and AOC 21	SO	Acenaphthylene	mg/kg	0.66	2.4	0.34	AOC18SB3	2 : 20 : 20
AOC 18 and AOC 21	SO	Acetone	mg/kg	0.0032	0.095	0.037564286	AOC21SB12	7 : 14 : 14
AOC 18 and AOC 21	SO	Aluminum	mg/kg	3810	50100	21303	AOC18SB2	20 : 20 : 20
AOC 18 and AOC 21	SO	Anthracene	mg/kg	0.59	0.88	0.2495	AOC18SB3	2 : 20 : 20
AOC 18 and AOC 21	SO	Antimony	mg/kg	0.322	0.557	0.460888867	AOC21SB1	3 : 3 : 20
AOC 18 and AOC 21	SO	Aroclor 1248	mg/kg	0.076	0.3	0.049772727	AOC18SB1	2 : 11 : 11
AOC 18 and AOC 21	SO	Aroclor 1254	mg/kg	1	1	0.108181818	AOC18SB1	1 : 11 : 11
AOC 18 and AOC 21	SO	Arsenic	mg/kg	3	18.4	7.7455	AOC21SB1	19 : 20 : 20
AOC 18 and AOC 21	SO	Barium	mg/kg	23.6	399	145.18	AOC18SB2	20 : 20 : 20
AOC 18 and AOC 21	SO	Benzene	mg/kg	0.00065	0.0035	0.00238	AOC18SB2	4 : 20 : 20
AOC 18 and AOC 21	SO	Benzo(a)anthracene	mg/kg	0.015	7.5	0.61375	AOC18SB3	6 : 20 : 20
AOC 18 and AOC 21	SO	Benzo(a)pyrene	mg/kg	0.047	6.8	0.5926	AOC18SB3	4 : 20 : 20
AOC 18 and AOC 21	SO	Benzo(b)fluoranthene	mg/kg	0.04	7.4	0.64765	AOC18SB3	5 : 20 : 20
AOC 18 and AOC 21	SO	Benzo(g,h,i)perylene	mg/kg	0.037	5.9	0.58475	AOC18SB3	5 : 20 : 20
AOC 18 and AOC 21	SO	Benzo(k)fluoranthene	mg/kg	0.032	7.7	0.64665	AOC18SB3	5 : 20 : 20
AOC 18 and AOC 21	SO	Beryllium	mg/kg	0.547	8.2	1.80975	AOC18SB4	15 : 20 : 20
AOC 18 and AOC 21	SO	Bis(2-Ethylhexyl)phthalate	mg/kg	0.04	0.04	0.04	AOC21SB10	1 : 1 : 14
AOC 18 and AOC 21	SO	Cadmium	mg/kg	0.255	1.7	0.4955	AOC18SB1	9 : 20 : 20
AOC 18 and AOC 21	SO	Calcium	mg/kg	1780	272000	76301	AOC18SB3	20 : 20 : 20
AOC 18 and AOC 21	SO	Carbon disulfide	mg/kg	0.00044	0.0033	0.00124	AOC21SB10	4 : 4 : 14
AOC 18 and AOC 21	SO	Chloroform	mg/kg	0.0014	0.0014	0.0014	AOC21SB1	1 : 1 : 14
AOC 18 and AOC 21	SO	Chromium (total)	mg/kg	6.9	51	22.405	AOC18SB5	20 : 20 : 20
AOC 18 and AOC 21	SO	Chrysene	mg/kg	0.032	9.1	0.70595	AOC18SB3	8 : 20 : 20
AOC 18 and AOC 21	SO	Cobalt	mg/kg	5.9	13.5	7.725	AOC21SB1	14 : 20 : 20
AOC 18 and AOC 21	SO	Copper	mg/kg	4.1	34.1	13.4805	AOC18SB1	16 : 20 : 20
AOC 18 and AOC 21	SO	CYANIDE	mg/kg	1.58	6.7	0.915	AOC18SB1	3 : 20 : 20
AOC 18 and AOC 21	SO	Cyclohexane	mg/kg	0.00048	0.0027	0.002066	AOC21SB10	2 : 5 : 14
AOC 18 and AOC 21	SO	Dibenz(a,h)anthracene	mg/kg	0.051	1.9	0.2958	AOC18SB3	3 : 20 : 20
AOC 18 and AOC 21	SO	Dioxin TEQ-HH	mg/kg	5.41247E-08	6.40916E-07	2.59331E-07	AOC18SB5	7 : 7 : 7
AOC 18 and AOC 21	SO	Ethylbenzene	mg/kg	0.00047	0.0014	0.000803333	AOC18SB2	3 : 3 : 20
AOC 18 and AOC 21	SO	Fluoranthene	mg/kg	0.032	11	0.858	AOC18SB3	9 : 20 : 20
AOC 18 and AOC 21	SO	Fluorene	mg/kg	0.16	0.16	0.16	AOC18SB1	1 : 1 : 20
AOC 18 and AOC 21	SO	Indeno(1,2,3-cd)pyrene	mg/kg	0.13	5.4	0.55325	AOC18SB3	3 : 20 : 20
AOC 18 and AOC 21	SO	Iron	mg/kg	6350	47700	22599.5	AOC18SB1	20 : 20 : 20
AOC 18 and AOC 21	SO	Lead	mg/kg	3.6	93.5	16.2625	AOC18SB1	18 : 20 : 20
AOC 18 and AOC 21	SO	m+p-Xylene	mg/kg	0.00069	0.0065	0.004002	AOC18SB6	3 : 20 : 20
AOC 18 and AOC 21	SO	Magnesium	mg/kg	1790	46900	18760	AOC18SB1	20 : 20 : 20
AOC 18 and AOC 21	SO	Manganese	mg/kg	332	7570	2112.65	AOC18SB3	20 : 20 : 20
AOC 18 and AOC 21	SO	Mercury	mg/kg	0.026	0.16	0.023975	AOC18SB1	3 : 20 : 20
AOC 18 and AOC 21	SO	Methylcyclohexane	mg/kg	0.00039	0.004	0.001912	AOC21SB10	3 : 5 : 14
AOC 18 and AOC 21	SO	Methylene chloride	mg/kg	0.00031	0.00088	0.000595	MW-15S	2 : 2 : 14
AOC 18 and AOC 21	SO	Naphthalene	mg/kg	0.065	0.49	0.204473684	AOC18SB1	2 : 19 : 20
AOC 18 and AOC 21	SO	Nickel	mg/kg	4.6	36.5	13.4975	AOC21SB1	18 : 20 : 20
AOC 18 and AOC 21	SO	OCTACHLORODIBENZOFURAN	mg/kg	0.000002044	0.000002044	7.40714E-07	AOC18SB3	1 : 7 : 7
AOC 18 and AOC 21	SO	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000020636	0.000024885	8.60086E-06	AOC18SB3	2 : 7 : 7
AOC 18 and AOC 21	SO	o-Xylene	mg/kg	0.00029	0.00068	0.000536667	AOC18SB2	3 : 3 : 20
AOC 18 and AOC 21	SO	Phenanthrene	mg/kg	0.02	3.5	0.41185	AOC18SB3	7 : 20 : 20
AOC 18 and AOC 21	SO	Potassium	mg/kg	544	2910	1557.1455	AOC21SB1	18 : 20 : 20
AOC 18 and AOC 21	SO	Pyrene	mg/kg	0.031	14	0.969	AOC18SB3	9 : 20 : 20
AOC 18 and AOC 21	SO	Selenium	mg/kg	1.1	7.7	2.5695	AOC18SB2	12 : 20 : 20
AOC 18 and AOC 21	SO	Sodium	mg/kg	24.6	1940	448.955	AOC18SB4	17 : 20 : 20
AOC 18 and AOC 21	SO	Thallium	mg/kg	0.258	1.14	0.623222222	AOC21SB1	4 : 9 : 20
AOC 18 and AOC 21	SO	Toluene	mg/kg	0.00061	0.0035	0.002341	AOC18SB2	5 : 20 : 20
AOC 18 and AOC 21	SO	TOTAL PAHs	mg/kg	1.364	83.28	7.673	AOC18SB3	11 : 20 : 20
AOC 18 and AOC 21	SO	TOTAL PCBs	mg/kg	0.0945	1.3	0.157954545	AOC18SB1	2 : 11 : 11
AOC 18 and AOC 21	SO	Total Solids	%	81.4	91.8	87.11818182	AOC18SB6	11 : 11 : 11
AOC 18 and AOC 21	SO	TOTAL XYLENES	mg/kg	0.00098	0.00714	0.0040625	AOC18SB6	3 : 20 : 20
AOC 18 and AOC 21	SO	Trichlorofluoromethane	mg/kg	0.00067	0.00067	0.00067	MW-15S	1 : 1 : 14
AOC 18 and AOC 21	SO	Vanadium	mg/kg	12.2	63.1	30.5175	AOC21SB1	19 : 20 : 20
AOC 18 and AOC 21	SO	Zinc	mg/kg	5.4	386	63.92	AOC18SB1	20 : 20 : 20

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 19	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000002239	0.000049787	1.87658E-05	AOC19SB12	5 : 7 : 7
AOC 19	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000006201	0.000356005	8.72821E-05	AOC19SB1	5 : 7 : 7
AOC 19	SO	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	0.000001606	0.000005696	1.68618E-06	AOC19SB12	3 : 7 : 7
AOC 19	SO	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000206	0.000006092	0.000001777	AOC19SB12	4 : 7 : 7
AOC 19	SO	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000144	0.000002844	7.05571E-07	AOC19SB1	4 : 7 : 7
AOC 19	SO	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000151	0.00000352	1.02179E-06	AOC19SB12	4 : 7 : 7
AOC 19	SO	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000321	0.000007492	2.55814E-06	AOC19SB12	4 : 7 : 7
AOC 19	SO	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000435	0.000003941	1.50614E-06	AOC19SB12	4 : 7 : 7
AOC 19	SO	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	6.7125E-07	0.000001224	4.13036E-07	AOC19SB12	3 : 7 : 7
AOC 19	SO	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000678	0.000001054	4.30786E-07	AOC19SB1	3 : 7 : 7
AOC 19	SO	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.00000019	0.000003268	1.13714E-06	AOC19SB12	4 : 7 : 7
AOC 19	SO	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000518	0.000001622	6.15821E-07	AOC19SB12	4 : 7 : 7
AOC 19	SO	2,3,7,8-TETRACHLORODIBENZOFURAN	mg/kg	0.000000894	0.000001892	5.17643E-07	AOC19SB11	2 : 7 : 7
AOC 19	SO	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	2.2125E-07	0.000001452	3.4275E-07	AOC19SB6	3 : 7 : 7
AOC 19	SO	Acenaphthene	mg/kg	1	1	0.359230769	AOC19SB1	1 : 13 : 13
AOC 19	SO	Acenaphthylene	mg/kg	0.059	0.37	0.198063333	AOC19SB9	6 : 12 : 13
AOC 19	SO	Aluminum	mg/kg	5170	21300	11786.15385	AOC19SB13	13 : 13 : 13
AOC 19	SO	Anthracene	mg/kg	0.067	2.15	0.353576923	AOC19SB1	7 : 13 : 13
AOC 19	SO	Aroclor 1248	mg/kg	0.093	0.093	0.025576923	AOC19SB10	1 : 13 : 13
AOC 19	SO	Aroclor 1254	mg/kg	0.091	0.091	0.025423077	AOC19SB10	1 : 13 : 13
AOC 19	SO	Arsenic	mg/kg	5.15	101	17.90384615	AOC19SB8	13 : 13 : 13
AOC 19	SO	Barium	mg/kg	49.3	287	112.6269231	AOC19SB9	13 : 13 : 13
AOC 19	SO	Benzene	mg/kg	0.00039	0.0022	0.001031667	AOC19SB11	6 : 6 : 13
AOC 19	SO	Benzo(a)anthracene	mg/kg	0.089	4.25	0.769923077	AOC19SB1	8 : 13 : 13
AOC 19	SO	Benzo(a)pyrene	mg/kg	0.092	3.05	0.699769231	AOC19SB1	8 : 13 : 13
AOC 19	SO	Benzo(b)fluoranthene	mg/kg	0.067	2.95	0.659	AOC19SB1	7 : 13 : 13
AOC 19	SO	Benzo(g,h,i)perylene	mg/kg	0.07	1.7	0.485192308	AOC19SB9	6 : 13 : 13
AOC 19	SO	Benzo(k)fluoranthene	mg/kg	0.1	3	0.684230769	AOC19SB1	8 : 13 : 13
AOC 19	SO	Beryllium	mg/kg	0.57	1.45	0.949230769	AOC19SB1	12 : 13 : 13
AOC 19	SO	Cadmium	mg/kg	0.455	7.4	1.044615385	AOC19SB9	5 : 13 : 13
AOC 19	SO	Calcium	mg/kg	2120	92500	40541.15385	AOC19SB2	13 : 13 : 13
AOC 19	SO	Chromium (total)	mg/kg	13.8	34.2	21.22307692	AOC19SB9	13 : 13 : 13
AOC 19	SO	Chrysene	mg/kg	0.12	4.15	0.798076923	AOC19SB1	8 : 13 : 13
AOC 19	SO	Cobalt	mg/kg	5.5	10.8	7.830769231	AOC19SB13	11 : 13 : 13
AOC 19	SO	Copper	mg/kg	14.25	540	69.41923077	AOC19SB9	13 : 13 : 13
AOC 19	SO	CYANIDE	mg/kg	11.2	11.2	1.422307692	AOC19SB11	1 : 13 : 13
AOC 19	SO	Dibenz(a,h)anthracene	mg/kg	0.1	0.57	0.271538462	AOC19SB1	3 : 13 : 13
AOC 19	SO	Dioxin TEQ-HH	mg/kg	3.03545E-07	8.53852E-06	3.16437E-06	AOC19SB1	5 : 7 : 7
AOC 19	SO	Ethylbenzene	mg/kg	0.00042	0.00065	0.000546667	AOC19SB13	3 : 3 : 13
AOC 19	SO	Fluoranthene	mg/kg	0.14	9.1	1.465	AOC19SB1	12 : 13 : 13
AOC 19	SO	Fluorene	mg/kg	0.065	0.95	0.329346154	AOC19SB1	4 : 13 : 13
AOC 19	SO	Indeno(1,2,3-cd)pyrene	mg/kg	0.063	1.5	0.451576923	AOC19SB9	6 : 13 : 13
AOC 19	SO	Iron	mg/kg	12700	37300	21834.61538	AOC19SB13	13 : 13 : 13
AOC 19	SO	Lead	mg/kg	12.5	435	60.38461538	AOC19SB9	13 : 13 : 13
AOC 19	SO	m+p-Xylene	mg/kg	0.00089	0.00097	0.00093	AOC19SB11	2 : 2 : 13
AOC 19	SO	Magnesium	mg/kg	2000	36100	18715.38462	AOC19SB9	13 : 13 : 13
AOC 19	SO	Manganese	mg/kg	329.5	1119.5	748.1538462	AOC19SB1	13 : 13 : 13
AOC 19	SO	Mercury	mg/kg	0.04	2.7	0.332692308	AOC19SB11	10 : 13 : 13
AOC 19	SO	Naphthalene	mg/kg	0.083	0.89	0.309583333	AOC19SB12	6 : 12 : 13
AOC 19	SO	Nickel	mg/kg	10.05	28.4	16.93846154	AOC19SB9	13 : 13 : 13
AOC 19	SO	OCTACHLORODIBENZOFURAN	mg/kg	0.000004858	0.000157736	4.31129E-05	AOC19SB1	4 : 7 : 7
AOC 19	SO	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000062137	0.002359601	0.000582807	AOC19SB1	5 : 7 : 7
AOC 19	SO	o-Xylene	mg/kg	0.00041	0.00041	0.00041	AOC19SB11	1 : 1 : 13
AOC 19	SO	Phenanthrene	mg/kg	0.093	8.1	1.054076923	AOC19SB1	11 : 13 : 13
AOC 19	SO	Potassium	mg/kg	1000	2815	1596.134615	AOC19SB1	11 : 13 : 13
AOC 19	SO	Pyrene	mg/kg	0.13	8.6	1.341153846	AOC19SB1	12 : 13 : 13
AOC 19	SO	Selenium	mg/kg	1.325	4.6	2.253846154	AOC19SB5	7 : 13 : 13
AOC 19	SO	Sodium	mg/kg	59.8	506	142.7384615	AOC19SB2	11 : 13 : 13
AOC 19	SO	Toluene	mg/kg	0.0004	0.0022	0.000861	AOC19SB11	10 : 10 : 13
AOC 19	SO	TOTAL PAHs	mg/kg	2.221	51.285	10.19030769	AOC19SB1	12 : 13 : 13
AOC 19	SO	TOTAL PCBs	mg/kg	0.184	0.184	0.051	AOC19SB10	1 : 13 : 13
AOC 19	SO	Total Solids	%	76.5	89.4	82.98461538	AOC19SB8	13 : 13 : 13
AOC 19	SO	TOTAL XYLENES	mg/kg	0.00089	0.00138	0.001135	AOC19SB11	2 : 2 : 13
AOC 19	SO	Vanadium	mg/kg	17.4	56.2	30.84230769	AOC19SB13	13 : 13 : 13
AOC 19	SO	Zinc	mg/kg	42.4	942	151.8115385	AOC19SB9	13 : 13 : 13

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 2 - RA	SO	1,1-Biphenyl	mg/kg	0.29	0.29	0.20575	AOC2SB2	1 : 10 : 12
AOC 2 - RA	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000001878	0.000004911	3.53067E-06	AOC2SB8	3 : 3 : 3
AOC 2 - RA	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000005203	0.000024347	0.000015095	AOC2SB2	3 : 3 : 3
AOC 2 - RA	SO	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000609	0.000000703	4.73333E-07	AOC2SB2	2 : 3 : 3
AOC 2 - RA	SO	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000456	0.000002882	0.000001426	AOC2SB2	3 : 3 : 3
AOC 2 - RA	SO	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000257	0.000000509	2.66667E-07	AOC2SB2	2 : 3 : 3
AOC 2 - RA	SO	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000534	0.000001318	6.33167E-07	AOC2SB2	2 : 3 : 3
AOC 2 - RA	SO	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000269	0.000001799	0.000001015	AOC2SB2	3 : 3 : 3
AOC 2 - RA	SO	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	mg/kg	0.000000104	0.000000104	7.61667E-08	AOC2SB2	1 : 3 : 3
AOC 2 - RA	SO	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000196	0.000002413	8.81167E-07	AOC2SB2	2 : 3 : 3
AOC 2 - RA	SO	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000002043	0.000002043	6.98333E-07	AOC2SB2	1 : 3 : 3
AOC 2 - RA	SO	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000001176	0.000001176	4.185E-07	AOC2SB2	1 : 3 : 3
AOC 2 - RA	SO	1,2,4-Trichlorobenzene	mg/kg	0.033	0.033	0.00726	AOC2SB1	1 : 10 : 10
AOC 2 - RA	SO	1,2-Dichlorobenzene	mg/kg	0.0015	0.0015	0.0015	AOC2SB1	1 : 1 : 10
AOC 2 - RA	SO	1,3-Dichlorobenzene	mg/kg	0.0018	0.0018	0.0018	AOC2SB1	1 : 1 : 10
AOC 2 - RA	SO	1,4-Dichlorobenzene	mg/kg	0.0025	0.0025	0.00247	AOC2SB1	1 : 5 : 10
AOC 2 - RA	SO	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000442	0.000000847	0.000000578	AOC2SB2	3 : 3 : 3
AOC 2 - RA	SO	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.00000046	0.000003263	1.25083E-06	AOC2SB2	2 : 3 : 3
AOC 2 - RA	SO	2,3,7,8-TETRACHLORODIBENZOFURAN	mg/kg	0.000001514	0.000006124	2.55667E-06	AOC2SB2	2 : 3 : 3
AOC 2 - RA	SO	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	0.00000061	0.00000061	2.18667E-07	AOC2SB2	1 : 3 : 3
AOC 2 - RA	SO	2-Butanone	mg/kg	0.0016	0.0029	0.002133333	AOC2SB4	3 : 3 : 10
AOC 2 - RA	SO	2-Hexanone	mg/kg	0.016	0.016	0.006516667	AOC2SB2	1 : 9 : 10
AOC 2 - RA	SO	2-Methylnaphthalene	mg/kg	0.078	0.35	0.20205	AOC2SB2	3 : 10 : 12
AOC 2 - RA	SO	Acenaphthene	mg/kg	0.47	0.5	0.249772727	AOC2SB4	2 : 11 : 12
AOC 2 - RA	SO	Acenaphthylene	mg/kg	0.037	0.83	0.22795	AOC2SB1	4 : 10 : 12
AOC 2 - RA	SO	Acetone	mg/kg	0.0037	0.048	0.01698	AOC2SB4	5 : 5 : 10
AOC 2 - RA	SO	Aluminum	mg/kg	5110	31200	16437	AOC2SB5	10 : 10 : 10
AOC 2 - RA	SO	Anthracene	mg/kg	0.41	1.21	0.430227273	AOC2SB1	5 : 11 : 12
AOC 2 - RA	SO	Antimony	mg/kg	0.333	3.61	1.27225	AOC2SB5	4 : 4 : 10
AOC 2 - RA	SO	Aroclor 1260	mg/kg	0.0037	0.017	0.0067	AOC2SB3	4 : 4 : 10
AOC 2 - RA	SO	Arsenic	mg/kg	0.515	23.7	7.94	AOC2SB2	9 : 10 : 10
AOC 2 - RA	SO	Barium	mg/kg	27	303	134.285	AOC2SB5	10 : 10 : 10
AOC 2 - RA	SO	Benzene	mg/kg	0.0014	0.0016	0.0015	AOC2SB4	2 : 2 : 10
AOC 2 - RA	SO	Benzo(a)anthracene	mg/kg	0.054	3.7	1.038	AOC2SB1	9 : 11 : 12
AOC 2 - RA	SO	Benzo(a)pyrene	mg/kg	0.058	5.75	1.344409091	AOC2SB1	8 : 11 : 12
AOC 2 - RA	SO	Benzo(b)fluoranthene	mg/kg	0.053	9.05	1.523045455	AOC2SB1	8 : 11 : 12
AOC 2 - RA	SO	Benzo(g,h,i)perylene	mg/kg	0.063	4.4	1.000227273	AOC2SB1	9 : 11 : 12
AOC 2 - RA	SO	Benzo(k)fluoranthene	mg/kg	0.072	4.1	0.965772727	AOC2SB1	9 : 11 : 12
AOC 2 - RA	SO	Beryllium	mg/kg	0.433	6.74	2.3328	AOC2SB3	8 : 10 : 10
AOC 2 - RA	SO	Cadmium	mg/kg	0.1915	5.84	0.93805	AOC2SB2	5 : 10 : 10
AOC 2 - RA	SO	Calcium	mg/kg	7695	244000	92599.5	AOC2SB5	10 : 10 : 10
AOC 2 - RA	SO	Carbazole	mg/kg	0.048	0.36	0.19505	AOC2SB1	4 : 10 : 12
AOC 2 - RA	SO	Carbon disulfide	mg/kg	0.00072	0.01	0.004988889	AOC2SB5	3 : 9 : 10
AOC 2 - RA	SO	Chromium (total)	mg/kg	12.4	33.2	16.252	AOC2SB2	9 : 10 : 10
AOC 2 - RA	SO	Chrysene	mg/kg	0.067	5.5	1.216318182	AOC2SB1	8 : 11 : 12
AOC 2 - RA	SO	Cobalt	mg/kg	0.736	9.17	5.1621	AOC2SB8	10 : 10 : 10
AOC 2 - RA	SO	Copper	mg/kg	4.55	49.1	18.871	AOC2SB2	10 : 10 : 10
AOC 2 - RA	SO	CYANIDE	mg/kg	0.125	9.5	1.6315	AOC2SB2	9 : 10 : 10
AOC 2 - RA	SO	Cyclohexane	mg/kg	0.0041	0.0041	0.003333333	AOC2SB4	1 : 3 : 10
AOC 2 - RA	SO	Dibenz(a,h)anthracene	mg/kg	0.033	1.85	0.455863636	AOC2SB1	7 : 11 : 12
AOC 2 - RA	SO	Dibenzofuran	mg/kg	0.031	0.25	0.16375	AOC2SB2	4 : 10 : 12
AOC 2 - RA	SO	Dioxin TEQ-HH	mg/kg	2.83257E-07	5.41901E-06	2.24081E-06	AOC2SB2	3 : 3 : 3
AOC 2 - RA	SO	Ethylbenzene	mg/kg	0.002	0.002	0.002	AOC2SB4	1 : 1 : 10
AOC 2 - RA	SO	Fluoranthene	mg/kg	0.12	3.7	1.435681818	AOC2SB4, AOC2SB4	8 : 11 : 12
AOC 2 - RA	SO	Fluorene	mg/kg	0.13	0.24	0.18625	AOC2SB4	3 : 10 : 12
AOC 2 - RA	SO	Indeno(1,2,3-cd)pyrene	mg/kg	0.053	3.85	0.917681818	AOC2SB1	8 : 11 : 12
AOC 2 - RA	SO	Iron	mg/kg	10300	213000	40615	AOC2SB2	10 : 10 : 10
AOC 2 - RA	SO	Lead	mg/kg	1.34	338	56.456	AOC2SB2	10 : 10 : 10
AOC 2 - RA	SO	m+p-Xylene	mg/kg	0.0028	0.0028	0.0028	AOC2SB4	1 : 1 : 10
AOC 2 - RA	SO	Magnesium	mg/kg	4185	77600	30612.5	AOC2SB5	10 : 10 : 10
AOC 2 - RA	SO	Manganese	mg/kg	402	3430	1662.6	AOC2SB5	10 : 10 : 10
AOC 2 - RA	SO	Mercury	mg/kg	0.019	0.117	0.04105	AOC2SB4	7 : 10 : 10
AOC 2 - RA	SO	Methylcyclohexane	mg/kg	0.0047	0.0047	0.003533333	AOC2SB4	1 : 3 : 10
AOC 2 - RA	SO	Methylene chloride	mg/kg	0.0003	0.085	0.015988	AOC2SB1	7 : 10 : 10
AOC 2 - RA	SO	Naphthalene	mg/kg	0.094	0.41	0.19615	AOC2SB2	4 : 10 : 12
AOC 2 - RA	SO	Nickel	mg/kg	4.72	25.1	13.735	AOC2SB2	10 : 10 : 10
AOC 2 - RA	SO	OCTACHLORODIBENZOFURAN	mg/kg	0.000007247	0.000007247	0.000004033	AOC2SB8	1 : 3 : 3
AOC 2 - RA	SO	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000043398	0.000109968	0.000067299	AOC2SB2	3 : 3 : 3
AOC 2 - RA	SO	o-Xylene	mg/kg	0.0013	0.0013	0.0013	AOC2SB4	1 : 1 : 10
AOC 2 - RA	SO	p-Cresol (4-Methylphenol)	mg/kg	0.034	0.034	0.034	AOC2SB1	1 : 1 : 12
AOC 2 - RA	SO	Phenanthrene	mg/kg	0.033	2.4	0.885272727	AOC2SB4	8 : 11 : 12
AOC 2 - RA	SO	Potassium	mg/kg	714	3130	1455.943	AOC2SB1	6 : 10 : 10
AOC 2 - RA	SO	Pyrene	mg/kg	0.11	4.6	1.541909091	AOC2SB1	9 : 11 : 12
AOC 2 - RA	SO	Selenium	mg/kg	1.19	5.04	1.647	AOC2SB3	4 : 10 : 10
AOC 2 - RA	SO	Silver	mg/kg	1.03	1.03	0.23175	AOC2SB2	1 : 10 : 10
AOC 2 - RA	SO	Sodium	mg/kg	46.5	2400	648.985	AOC2SB5	6 : 10 : 10
AOC 2 - RA	SO	Thallium	mg/kg	0.3	2.47	0.6961	AOC2SB2	5 : 10 : 10
AOC 2 - RA	SO	Toluene	mg/kg	0.0047	0.0047	0.002861111	AOC2SB4	1 : 9 : 10
AOC 2 - RA	SO	TOTAL PAHs	mg/kg	2.09	49.117	13.74272727	AOC2SB1	9 : 11 : 11
AOC 2 - RA	SO	TOTAL PCBs	mg/kg	0.0037	0.017	0.0067	AOC2SB3	4 : 4 : 10
AOC 2 - RA	SO	Total Solids	%	83.7	86	85.16666667	AOC2SB5	3 : 3 : 3
AOC 2 - RA	SO	TOTAL XYLENES	mg/kg	0.0041	0.0041	0.0041	AOC2SB4	1 : 1 : 10
AOC 2 - RA	SO	Vanadium	mg/kg	10.7	46.3	24.715	AOC2SB8	10 : 10 : 10
AOC 2 - RA	SO	Zinc	mg/kg	7.86	1390	247.021	AOC2SB2	10 : 10 : 10

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Block A	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000454	0.000205312	3.50819E-05	MW-13S	5:6:6
Block A	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000004466	0.000556526	0.000102284	MW-13S	6:6:6
Block A	SO	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	1.895E-07	0.000011199	2.00133E-06	MW-13S	4:6:6
Block A	SO	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000158	0.000000797	0.000000353	BACA7	5:5:6
Block A	SO	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000041	0.000003969	8.01292E-07	MW-13S	6:6:6
Block A	SO	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000109	0.000004372	8.94833E-07	MW-13S	6:6:6
Block A	SO	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	2.455E-07	0.000014533	3.19992E-06	MW-13S	6:6:6
Block A	SO	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	mg/kg	0.00000005	0.000000185	6.31667E-08	BACA1	2:6:6
Block A	SO	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000232	0.000006048	0.000001855	MW-13S	6:6:6
Block A	SO	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.00000009	0.000001123	2.7375E-07	MW-13S	4:6:6
Block A	SO	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000088	0.000001677	4.32833E-07	MW-13S	5:6:6
Block A	SO	1,2-Dichloroethane	mg/kg	0.00046	0.00046	0.00046	BACA2SB1	1:1:19
Block A	SO	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000083	0.00000407	8.49917E-07	MW-13S	6:6:6
Block A	SO	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000152	0.000001507	3.54833E-07	MW-13S	4:6:6
Block A	SO	2,3,7,8-TETRACHLORODIBENZOFURAN	mg/kg	1.7875E-07	0.000001539	4.98292E-07	MW-13S	2:6:6
Block A	SO	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	8.725E-08	8.725E-08	2.6125E-08	MW-18S	1:6:6
Block A	SO	2-Butanone	mg/kg	0.005	0.041	0.007844444	BACA8SB2	4:18:19
Block A	SO	2-Methylnaphthalene	mg/kg	0.043	0.1	0.063666667	BACA8	3:3:15
Block A	SO	4-Methyl-2-pentanone	mg/kg	0.0011	0.0011	0.0011	MW-18S	1:1:19
Block A	SO	Acenaphthylene	mg/kg	0.064	2	0.280933333	MW-13S	7:15:15
Block A	SO	Acetone	mg/kg	0.0064	0.081	0.018888889	BACA8SB1	13:18:19
Block A	SO	Aluminum	mg/kg	7020	36400	28884.66667	BACA1	15:15:15
Block A	SO	Anthracene	mg/kg	0.053	2	0.276033333	MW-13S	8:15:15
Block A	SO	Aroclor 1248	mg/kg	0.12	0.12	0.0257	BACA12	1:15:16
Block A	SO	Aroclor 1260	mg/kg	0.031	0.031	0.019833333	BACA8	1:15:16
Block A	SO	Arsenic	mg/kg	1.1	9.4	3.105	BACA10	11:15:15
Block A	SO	Barium	mg/kg	108	389	272.3666667	BACA9	15:15:15
Block A	SO	Benzene	mg/kg	0.00039	25	1.31855	BACA7SB4	13:19:19
Block A	SO	Benzo(a)anthracene	mg/kg	0.074	3.1	0.465433333	MW-13S	13:15:15
Block A	SO	Benzo(a)pyrene	mg/kg	0.086	9.1	0.8819	MW-13S	13:15:15
Block A	SO	Benzo(b)fluoranthene	mg/kg	0.075	11	1.030833333	MW-13S	13:15:15
Block A	SO	Benzo(g,h,i)perylene	mg/kg	0.066	8.6	0.816233333	MW-13S	13:15:15
Block A	SO	Benzo(k)fluoranthene	mg/kg	0.083	7.7	0.7847	MW-13S	13:15:15
Block A	SO	Beryllium	mg/kg	1.1	8.4	5.182666667	BACA8	15:15:15
Block A	SO	Bis(2-Ethylhexyl)phthalate	mg/kg	0.044	0.07	0.061	BACA7	3:3:15
Block A	SO	Cadmium	mg/kg	0.4575	11.95	2.167833333	BACA13	10:15:15
Block A	SO	Calcium	mg/kg	10720	274000	186601.3333	BACA2	15:15:15
Block A	SO	Carbazole	mg/kg	0.096	0.35	0.196142857	MW-13S	2:14:15
Block A	SO	Carbon disulfide	mg/kg	0.00047	1.2	0.069211579	BACA7SB4	15:19:19
Block A	SO	Chloromethane	mg/kg	0.00033	0.0012	0.00084875	BACA7SB2	4:4:19
Block A	SO	Chromium (total)	mg/kg	9.5	170	39.03333333	BACA5	15:15:15
Block A	SO	Chrysene	mg/kg	0.089	5.1	0.691433333	MW-13S	13:15:15
Block A	SO	cis-1,2-Dichloroethene	mg/kg	0.033825	0.033825	0.004443056	MW-18S	1:18:19
Block A	SO	Cobalt	mg/kg	6.4	30.55	5.491666667	BACA13	4:15:15
Block A	SO	Copper	mg/kg	2.6	45.3	16.39	BACA12	14:15:15
Block A	SO	CYANIDE	mg/kg	1.28	2.86	1.580166667	MW-18S	10:15:15
Block A	SO	Cyclohexane	mg/kg	0.00061	0.0078	0.002547222	BACA9SB4	5:18:19
Block A	SO	Dibenz(a,h)anthracene	mg/kg	0.044	2	0.2681	MW-13S	9:15:15
Block A	SO	Dibenzofuran	mg/kg	0.046	0.046	0.046	MW-18S	1:1:15
Block A	SO	Dichlorodifluoromethane	mg/kg	0.00061	0.00061	0.00061	BACA3SB2	1:1:19
Block A	SO	Dioxin TEQ-HH	mg/kg	2.85173E-07	1.42377E-05	2.94561E-06	MW-13S	6:6:6
Block A	SO	Ethylbenzene	mg/kg	0.00033	56	2.949680526	BACA7SB4	6:19:19
Block A	SO	Fluoranthene	mg/kg	0.12	3.5	0.649833333	MW-13S	13:15:15
Block A	SO	Fluorene	mg/kg	0.046	0.046	0.046	MW-18S	1:1:15
Block A	SO	Indeno(1,2,3-cd)pyrene	mg/kg	0.058	6.9	0.669133333	MW-13S	13:15:15
Block A	SO	Iron	mg/kg	8200	231500	54046.66667	BACA13	15:15:15
Block A	SO	Isopropylbenzene	mg/kg	0.00034	0.00035	0.000345	BACA2SB1	2:2:19
Block A	SO	Lead	mg/kg	2.6	34.3	15.83	BACA12	15:15:15
Block A	SO	m+p-Xylene	mg/kg	0.002	280	14.73947632	BACA7SB4	3:19:19
Block A	SO	Magnesium	mg/kg	2500	68700	42920	BACA7	15:15:15
Block A	SO	Manganese	mg/kg	1910	7650	4733.333333	BACA13	15:15:15
Block A	SO	Mercury	mg/kg	0.065	0.08	0.03	BACA7	3:15:15
Block A	SO	Methylcyclohexane	mg/kg	0.00041	0.013	0.002489444	BACA9SB4	8:18:19
Block A	SO	Methylene chloride	mg/kg	0.00099	0.0015	0.001183333	BACA9SB4	3:3:19
Block A	SO	Naphthalene	mg/kg	0.04	0.096	0.074666667	BACA8	3:3:15
Block A	SO	Nickel	mg/kg	5.2	24.9	7.336666667	BACA5	8:15:15
Block A	SO	OCTACHLORODIBENZOFURAN	mg/kg	0.000007182	0.000828118	0.000139533	MW-13S	2:6:6
Block A	SO	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	2.97125E-05	0.002369964	0.000424572	MW-13S	3:6:6
Block A	SO	o-Xylene	mg/kg	0.0011	160	8.423513158	BACA7SB4	3:19:19
Block A	SO	Phenanthrene	mg/kg	0.057	0.75	0.235133333	BACA8	13:15:15
Block A	SO	Potassium	mg/kg	674.5	2380	1841.966667	BACA4	15:15:15
Block A	SO	Pyrene	mg/kg	0.11	5.6	0.7815	MW-13S	13:15:15
Block A	SO	Selenium	mg/kg	2.8	10.6	6.95	BACA5	11:13:15
Block A	SO	Sodium	mg/kg	117.2	2090	1374.88	BACA3	15:15:15
Block A	SO	Styrene	mg/kg	120	120	6.318347368	BACA7SB4	1:19:19
Block A	SO	Toluene	mg/kg	0.00038	190	10.00263053	BACA7SB4	13:19:19
Block A	SO	TOTAL PAHs	mg/kg	1.418	67.14	7.863933333	MW-13S	13:15:15
Block A	SO	TOTAL PCBs	mg/kg	0.05	0.14	0.045833333	BACA12	2:15:15
Block A	SO	Total Solids	%	75.9	91.9	87.21451613	BACA7SB2	31:31:32
Block A	SO	TOTAL XYLENES	mg/kg	0.0031	440	23.16296947	BACA7SB4	3:19:19
Block A	SO	trans-1,2-Dichloroethene	mg/kg	0.00092	0.00092	0.00092	MW-18S	1:1:19
Block A	SO	Trichloroethene	mg/kg	0.00045	0.0017	0.001075	MW-18S	2:2:19
Block A	SO	Trichlorofluoromethane	mg/kg	0.00041	0.00047	0.000436667	MW-18S	3:3:19
Block A	SO	Vanadium	mg/kg	14.8	85.2	29.28	BACA5	15:15:15
Block A	SO	Zinc	mg/kg	6.2	140	31.04333333	BACA8	14:15:15

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Southern Parcel Exp. Area	SO	1,1-Biphenyl	mg/kg	0.039	0.63	0.24799	AOC20CA8	5 : 100 : 130
Southern Parcel Exp. Area	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000429	0.000296081	2.1892E-05	BDSB8	41 : 49 : 49
Southern Parcel Exp. Area	SO	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000002486	0.000343385	4.47676E-05	AOC14SB3	46 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000126	0.000042781	2.34669E-06	AOC14SB3	36 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000085	0.000318806	1.24139E-05	AOC14SB3	47 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000039	0.00000688	7.028E-07	BBSB8	39 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000069	0.000082939	3.58426E-06	AOC14SB3	44 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	9.875E-08	0.000028998	2.89474E-06	AOC20CA1	48 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	mg/kg	0.00000005	0.000006386	2.89395E-07	BBSB8	20 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	9.45E-08	0.000012819	1.85966E-06	AOC20CA1	48 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000056	0.000045567	2.7203E-06	AOC14SB3	41 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000084	0.000012031	1.17297E-06	BBSB1	37 : 50 : 50
Southern Parcel Exp. Area	SO	1,2,4-Trichlorobenzene	mg/kg	0.00038	0.0015	0.0009425	BBSB6	4 : 4 : 134
Southern Parcel Exp. Area	SO	1,2-Dichlorobenzene	mg/kg	0.0003	0.00052	0.00041	BBSB6	2 : 2 : 134
Southern Parcel Exp. Area	SO	1,3-Dichlorobenzene	mg/kg	0.0004	0.00047	0.000426667	BBSB6	3 : 3 : 134
Southern Parcel Exp. Area	SO	1,4-Dichlorobenzene	mg/kg	0.00037	0.00037	0.00037	MW-8S	1 : 1 : 134
Southern Parcel Exp. Area	SO	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000081	0.000007372	1.27323E-06	AOC14SB3	40 : 50 : 50
Southern Parcel Exp. Area	SO	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000068	0.000030234	2.47423E-06	AOC14SB3	42 : 50 : 50
Southern Parcel Exp. Area	SO	2,3,7,8-TETRACHLORODIBENZOFURAN	mg/kg	0.000000813	0.000036132	2.84965E-06	BBSB1	24 : 49 : 49
Southern Parcel Exp. Area	SO	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000077	0.000005561	5.0855E-07	BBSB1	33 : 50 : 50
Southern Parcel Exp. Area	SO	2-Butanone	mg/kg	0.0016	0.045	0.005878383	AOC20CA12SB2	35 : 133 : 134
Southern Parcel Exp. Area	SO	2-Hexanone	mg/kg	0.0012	0.0018	0.0014	BBSB6	3 : 3 : 134
Southern Parcel Exp. Area	SO	2-Methylnaphthalene	mg/kg	0.042	3.45	0.425387597	MW-20S	52 : 129 : 130
Southern Parcel Exp. Area	SO	4-Methyl-2-pentanone	mg/kg	0.0063	0.0063	0.005133418	BCSB10	1 : 96 : 134
Southern Parcel Exp. Area	SO	Acenaphthene	mg/kg	0.04	5.35	0.530892308	MW-20S	23 : 130 : 131
Southern Parcel Exp. Area	SO	Acenaphthylene	mg/kg	0.037	12.65	0.895938931	MW-20S	77 : 131 : 131
Southern Parcel Exp. Area	SO	Acetone	mg/kg	0.0029	0.17	0.022603008	AOC20CA12SB2, BDSB8	93 : 133 : 134
Southern Parcel Exp. Area	SO	Aluminum	mg/kg	4260	90200	18062.93233	BCSB5	133 : 133 : 133
Southern Parcel Exp. Area	SO	Anthracene	mg/kg	0.039	22	1.17171374	MW-20S	90 : 131 : 131
Southern Parcel Exp. Area	SO	Antimony	mg/kg	6.2	105	4.685	BFSB4	11 : 120 : 133
Southern Parcel Exp. Area	SO	Aroclor 1248	mg/kg	0.023	3.6	0.074867308	BBSB1	17 : 130 : 130
Southern Parcel Exp. Area	SO	Aroclor 1254	mg/kg	0.034	3.3	0.077255769	BBSB1	9 : 130 : 130
Southern Parcel Exp. Area	SO	Aroclor 1260	mg/kg	0.021	8.2	0.285082692	AOC13SB10	70 : 130 : 130
Southern Parcel Exp. Area	SO	Arsenic	mg/kg	1.1	33.6	8.480075188	BCSB9	126 : 133 : 133
Southern Parcel Exp. Area	SO	Barium	mg/kg	44.5	689	168.9233083	BCSB5	133 : 133 : 133
Southern Parcel Exp. Area	SO	Benzene	mg/kg	0.00029	0.084	0.002679967	AOC20CA9SB2	98 : 135 : 135
Southern Parcel Exp. Area	SO	Benzo(a)anthracene	mg/kg	0.043	45.5	2.805694656	MW-20S	122 : 131 : 131
Southern Parcel Exp. Area	SO	Benzo(a)pyrene	mg/kg	0.043	41.35	2.633923664	MW-20S	123 : 131 : 131
Southern Parcel Exp. Area	SO	Benzo(b)fluoranthene	mg/kg	0.04	34.8	2.409034351	MW-20S	122 : 131 : 131
Southern Parcel Exp. Area	SO	Benzo(g,h,i)perylene	mg/kg	0.045	27.2	1.906209924	MW-20S	122 : 131 : 131
Southern Parcel Exp. Area	SO	Benzo(k)fluoranthene	mg/kg	0.043	38.85	2.447664122	MW-20S	121 : 131 : 131
Southern Parcel Exp. Area	SO	Beryllium	mg/kg	0.4875	13.5	2.124605263	BCSB5	79 : 133 : 133
Southern Parcel Exp. Area	SO	Bis(2-Ethylhexyl)phthalate	mg/kg	0.068	5.3	0.50905814	BDSB8	13 : 129 : 130
Southern Parcel Exp. Area	SO	Butylbenzylphthalate	mg/kg	1.5	1.5	0.408064516	BDSB8	1 : 124 : 130
Southern Parcel Exp. Area	SO	Cadmium	mg/kg	0.58	10.8	1.511842105	BCSB5	77 : 133 : 133
Southern Parcel Exp. Area	SO	Calcium	mg/kg	2450	267000	111316.4662	AOC14SB3	133 : 133 : 133
Southern Parcel Exp. Area	SO	Carbazole	mg/kg	0.043	7.205	0.487034884	MW-20S	49 : 129 : 130
Southern Parcel Exp. Area	SO	Carbon disulfide	mg/kg	0.00029	0.035	0.003862594	AOC12SB3	92 : 133 : 134
Southern Parcel Exp. Area	SO	Chlorobenzene	mg/kg	0.00046	0.023	0.003015301	AOC12SB6	2 : 133 : 134
Southern Parcel Exp. Area	SO	Chloroform	mg/kg	0.00032	0.00056	0.000395	BDSB5	13 : 13 : 134
Southern Parcel Exp. Area	SO	Chloromethane	mg/kg	0.00046	0.0015	0.001009091	BBSB4	11 : 11 : 134
Southern Parcel Exp. Area	SO	Chromium (total)	mg/kg	9	3730	66.41278195	BFSB4	133 : 133 : 133
Southern Parcel Exp. Area	SO	Chrysene	mg/kg	0.043	46.05	2.908534351	MW-20S	123 : 131 : 131
Southern Parcel Exp. Area	SO	cis-1,2-Dichloroethene	mg/kg	0.00037	0.00037	0.00037	AOC14SB4	1 : 1 : 134
Southern Parcel Exp. Area	SO	Cobalt	mg/kg	4.5	14.9	4.882481203	AOC8SB4	50 : 133 : 133
Southern Parcel Exp. Area	SO	Copper	mg/kg	2.9	1360	59.54774436	AOC15SB1	132 : 133 : 133
Southern Parcel Exp. Area	SO	CYANIDE	mg/kg	1.0775	14.8	1.758503788	BCSB9	62 : 132 : 132
Southern Parcel Exp. Area	SO	Cyclohexane	mg/kg	0.00032	0.16	0.003705784	AOC20CA9SB2	103 : 134 : 134
Southern Parcel Exp. Area	SO	Dibenz(a,h)anthracene	mg/kg	0.039	7.45	0.596776923	MW-20S	91 : 130 : 131
Southern Parcel Exp. Area	SO	Dibenzofuran	mg/kg	0.043	7.62	0.477507752	MW-20S	52 : 129 : 130
Southern Parcel Exp. Area	SO	Dichlorodifluoromethane	mg/kg	0.00042	0.0006	0.000533333	MW-8S	3 : 3 : 134
Southern Parcel Exp. Area	SO	Di-n-octylphthalate	mg/kg	4.8	4.8	0.51744186	AOC13SB1	1 : 129 : 130
Southern Parcel Exp. Area	SO	Dioxin TEQ-HH	mg/kg	6.07965E-08	7.12868E-05	6.34517E-06	AOC14SB3	50 : 50 : 50
Southern Parcel Exp. Area	SO	Ethylbenzene	mg/kg	0.0003	0.23	0.004155407	AOC20CA9SB2	50 : 135 : 135
Southern Parcel Exp. Area	SO	Fluoranthene	mg/kg	0.044	86.5	5.380877863	MW-20S	126 : 131 : 131
Southern Parcel Exp. Area	SO	Fluorene	mg/kg	0.038	15.72	0.815610687	MW-20S	45 : 131 : 131
Southern Parcel Exp. Area	SO	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	mg/kg	0.000002818	0.000146443	3.51256E-05	AOC8SB1	8 : 7 : 7
Southern Parcel Exp. Area	SO	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	mg/kg	0.000009437	0.000493276	0.000120132	AOC8SB1	6 : 7 : 7
Southern Parcel Exp. Area	SO	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	mg/kg	0.000003903	0.000039968	1.17223E-05	AOC8SB1	7 : 7 : 7
Southern Parcel Exp. Area	SO	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	mg/kg	0.000000437	0.000040769	1.21673E-05	BGSB8	7 : 7 : 7
Southern Parcel Exp. Area	SO	Indeno(1,2,3-cd)pyrene	mg/kg	0.041	24.2	1.76178626	MW-20S	120 : 131 : 131
Southern Parcel Exp. Area	SO	Iron	mg/kg	6050	185000	43322.18045	AOC13SB7	133 : 133 : 133
Southern Parcel Exp. Area	SO	Isopropylbenzene	mg/kg	0.00035	0.36	0.005477164	AOC20CA9SB2	8 : 134 : 134
Southern Parcel Exp. Area	SO	Lead	mg/kg	3.2	1330	71.13306271	AOC15SB2	131 : 133 : 133
Southern Parcel Exp. Area	SO	m+p-Xylene	mg/kg	0.00053	0.65	0.007588074	AOC20CA9SB2	47 : 135 : 135
Southern Parcel Exp. Area	SO	Magnesium	mg/kg	2260	74800	27706.01504	AOC14SB1	133 : 133 : 133
Southern Parcel Exp. Area	SO	Manganese	mg/kg	318	20700	2710.567669	BCSB13	133 : 133 : 133
Southern Parcel Exp. Area	SO	Mercury	mg/kg	0.04	14.4	0.307857143	BBSB4	86 : 133 : 134
Southern Parcel Exp. Area	SO	Methyl acetate	mg/kg	0.0015	0.0024	0.00195	AOC12SB1	2 : 2 : 134
Southern Parcel Exp. Area	SO	Methylcyclohexane	mg/kg	0.00034	2	0.017994179	AOC20CA9SB2	110 : 134 : 134
Southern Parcel Exp. Area	SO	Methylene chloride	mg/kg	0.00029	0.087	0.002880336	AOC20CA9SB2	51 : 134 : 134
Southern Parcel Exp. Area	SO	Naphthalene	mg/kg	0.038	8.795	0.485084615	MW-20S	68 : 130 : 131
Southern Parcel Exp. Area	SO	Nickel	mg/kg	4.8	72.7	15.2518797	MW-6S	121 : 133 : 133
Southern Parcel Exp. Area	SO	OCTACHLORODIBENZOFURAN	mg/kg	0.000001101	0.000401017	3.78676E-05	BDSB8	35 : 49 : 49
Southern Parcel Exp. Area	SO	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000015882	0.001762954	0.000244743	AOC8SB1	44 : 49 : 49
Southern Parcel Exp. Area	SO	o-Xylene	mg/kg	0.00032	0.21	0.003866222	AOC20CA9SB2	43 : 135 : 135
Southern Parcel Exp. Area	SO	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	mg/kg	0.000000459	0.000025821	5.39557E-06	BGSB8	6 : 7 : 7
Southern Parcel Exp. Area	SO	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	mg/kg	0.000000264	0.000004105	1.15414E-06	AOC8SB1	3 : 7 : 7
Southern Parcel Exp. Area	SO	Phenanthrene	mg/kg	0.043	77.55	3.490423664	MW-20S	120 : 131 : 131
Southern Parcel Exp. Area	SO	Phenol	mg/kg	0.04	0.2	0.188333333	MW-1S	2 : 72 : 130
Southern Parcel Exp. Area	SO	Potassium	mg/kg	273	3400	1523.184211	AOC20CA5	129 : 133 : 133
Southern Parcel Exp. Area	SO	Pyrene	mg/kg	0.04	78.5	4.452977099	MW-20S	125 : 131 : 131
Southern Parcel Exp. Area	SO	Selenium	mg/kg	1.175	38.9	3.058834586	BFSB4	58 : 133 : 133
Southern Parcel Exp. Area	SO	Silver	mg/kg	1.1	35.8	1.119360902	AOC15SB1	17 : 133 : 133

Appendix B-1
Surface Soil Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Southern Parcel Exp. Area	SO	Sodium	mg/kg	63.4	2090	564.4865414	BFSB4	120 : 133 : 133
Southern Parcel Exp. Area	SO	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	mg/kg	0.000000306	0.0000434	6.81121E-06	BGSB8	4 : 7 : 7
Southern Parcel Exp. Area	SO	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	mg/kg	0.000000096	0.000002968	0.000000802	BGSB8	3 : 7 : 7
Southern Parcel Exp. Area	SO	Tetrachloroethene	mg/kg	0.00029	0.0042	0.002701885	AOC20CA6SB1	6 : 126 : 134
Southern Parcel Exp. Area	SO	Toluene	mg/kg	0.00031	0.2	0.003871593	AOC20CA9SB2	103 : 135 : 135
Southern Parcel Exp. Area	SO	TOTAL PAHs	mg/kg	2.032	573.915	35.09972519	MW-20S	127 : 131 : 131
Southern Parcel Exp. Area	SO	TOTAL PCBs	mg/kg	0.06	10.2	0.437205789	AOC13SB10	81 : 130 : 130
Southern Parcel Exp. Area	SO	Total Solids	%	78.5	92.5	86.09137931	AOC20CA4, BBSB7	145 : 145 : 147
Southern Parcel Exp. Area	SO	TOTAL XYLENES	mg/kg	0.0011	0.86	0.011454298	AOC20CA9SB2	50 : 135 : 135
Southern Parcel Exp. Area	SO	Trichloroethene	mg/kg	0.00036	0.0013	0.000618	BBSB2	5 : 5 : 134
Southern Parcel Exp. Area	SO	Trichlorofluoromethane	mg/kg	0.00037	0.0027	0.002143487	BCSB7	13 : 76 : 134
Southern Parcel Exp. Area	SO	Vanadium	mg/kg	8.4	485	33.02781955	BFSB4	133 : 133 : 133
Southern Parcel Exp. Area	SO	Zinc	mg/kg	4.9	7240	286.7744361	AOC15SB1	133 : 133 : 133

1. FOD: Frequency of Detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.

Appendix B-2
Surface Water Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 7	WS	67-64-1	Acetone	ug/l	2.4	2.4	2.4	AOC7SW8	1 : 1 : 4
AOC 7	WS	7429-90-5	Aluminum	ug/l	866	3790	1926.5	AOC7SW7	4 : 4 : 4
AOC 7	WS	7440-39-3	Barium	ug/l	102	102	45.66875	AOC7SW8	1 : 4 : 4
AOC 7	WS	7440-70-2	Calcium	ug/l	54900	77400	67750	AOC7SW8	4 : 4 : 4
AOC 7	WS	7440-48-4	Cobalt	ug/l	1.5	1.5	1.5	AOC7SW8	1 : 1 : 4
AOC 7	WS	57-12-5	CYANIDE	ug/L	10.4	10.4	6.35	AOC7SW7	1 : 4 : 4
AOC 7	WS	206-44-0	Fluoranthene	ug/l	0.056	0.056	0.056	AOC7SW8	1 : 1 : 4
AOC 7	WS	7439-89-6	Iron	ug/l	616	2650	1477.125	AOC7SW7	4 : 4 : 4
AOC 7	WS	7439-92-1	Lead	ug/l	2.4	3.3	2.025	AOC7SW8	2 : 4 : 4
AOC 7	WS	7439-95-4	Magnesium	ug/l	17400	30500	23100	AOC7SW8	4 : 4 : 4
AOC 7	WS	7439-96-5	Manganese	ug/l	17.15	49.5	29.4125	AOC7SW8	4 : 4 : 4
AOC 7	WS	91-20-3	Naphthalene	ug/l	0.75	0.75	0.26	AOC7SW9	1 : 4 : 4
AOC 7	WS	7440-02-0	Nickel	ug/l	3.7	3.7	2.16875	AOC7SW8	1 : 4 : 4
AOC 7	WS	7440-09-7	Potassium	ug/l	1320	4880	2460	AOC7SW8	4 : 4 : 4
AOC 7	WS	7440-23-5	Sodium	ug/l	12600	25400	17712.5	AOC7SW8	4 : 4 : 4
AOC 7	WS	Total PAHs	TOTAL PAHs	ug/l	0.151	0.75	0.274	AOC7SW9	2 : 4 : 4
AOC 7	WS	7440-62-2	Vanadium	ug/l	4.7	4.7	2.7875	AOC7SW8	1 : 4 : 4
AOC 7	WS	7440-66-6	Zinc	ug/l	5.8	14.1	10.3625	AOC7SW7	4 : 4 : 4
AOC 19	WS	7429-90-5	Aluminum	ug/l	3410	3410	3410	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-39-3	Barium	ug/l	95.5	95.5	95.5	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-70-2	Calcium	ug/l	67500	67500	67500	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-47-3	Chromium (total)	ug/l	4.7	4.7	4.7	GMRSW10	1 : 1 : 1
AOC 19	WS	7439-89-6	Iron	ug/l	2780	2780	2780	GMRSW10	1 : 1 : 1
AOC 19	WS	7439-92-1	Lead	ug/l	3.8	3.8	3.8	GMRSW10	1 : 1 : 1
AOC 19	WS	7439-95-4	Magnesium	ug/l	27000	27000	27000	GMRSW10	1 : 1 : 1
AOC 19	WS	7439-96-5	Manganese	ug/l	53.6	53.6	53.6	GMRSW10	1 : 1 : 1
AOC 19	WS	7439-97-6	Mercury	ug/l	0.03	0.03	0.03	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-02-0	Nickel	ug/l	4.1	4.1	4.1	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-09-7	Potassium	ug/l	5760	5760	5760	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-23-5	Sodium	ug/l	19000	19000	19000	GMRSW10	1 : 1 : 1
AOC 19	WS	7440-62-2	Vanadium	ug/l	8.6	8.6	8.6	GMRSW10	1 : 1 : 1
Great Miami River	WS	108-10-1	4-Methyl-2-pentanone	ug/l	1.8	1.8	1.8	GMRSW2	1 : 1 : 6
Great Miami River	WS	67-64-1	Acetone	ug/l	4.2	4.2	4.2	GMRSW2	1 : 1 : 6
Great Miami River	WS	7429-90-5	Aluminum	ug/l	616	1955	892.8333333	GMRSW9	6 : 6 : 6
Great Miami River	WS	7440-39-3	Barium	ug/l	93.4	101	97.46666667	GMRSW1	6 : 6 : 6
Great Miami River	WS	7440-70-2	Calcium	ug/l	79500	83600	81516.66667	GMRSW2	6 : 6 : 6
Great Miami River	WS	7440-47-3	Chromium (total)	ug/l	3.5	3.5	1.441666667	GMRSW9	1 : 6 : 6
Great Miami River	WS	206-44-0	Fluoranthene	ug/l	0.05	0.065	0.0575	GMRSW9	2 : 2 : 6
Great Miami River	WS	7439-89-6	Iron	ug/l	686	1870	918.1666667	GMRSW9	6 : 6 : 6
Great Miami River	WS	7439-92-1	Lead	ug/l	2.3	3.2	2.65	GMRSW9	6 : 6 : 6
Great Miami River	WS	XYLMP	m+p-Xylene	ug/l	0.38	0.38	0.38	GMRSW9	1 : 1 : 6
Great Miami River	WS	7439-95-4	Magnesium	ug/l	31000	34400	32458.33333	GMRSW5	6 : 6 : 6
Great Miami River	WS	7439-96-5	Manganese	ug/l	23.6	50.8	29.4	GMRSW9	6 : 6 : 6
Great Miami River	WS	7439-97-6	Mercury	ug/l	0.09	0.19	0.053333333	GMRSW5	2 : 6 : 6
Great Miami River	WS	75-09-2	Methylene chloride	ug/l	0.3	0.66	0.493333333	GMRSW2	2 : 6 : 6
Great Miami River	WS	91-20-3	Naphthalene	ug/l	0.056	0.056	0.056	GMRSW9	1 : 1 : 6
Great Miami River	WS	7440-02-0	Nickel	ug/l	1.7	2.9	2.3	GMRSW9	6 : 6 : 6
Great Miami River	WS	7440-09-7	Potassium	ug/l	3880	4990	4263.333333	GMRSW9	6 : 6 : 6
Great Miami River	WS	7440-23-5	Sodium	ug/l	25750	29000	28191.66667	GMRSW5	6 : 6 : 6
Great Miami River	WS	108-88-3	Toluene	ug/l	0.53	0.53	0.505	GMRSW9	1 : 6 : 6
Great Miami River	WS	Total PAHs	TOTAL PAHs	ug/l	0.05	0.121	0.0855	GMRSW9	2 : 2 : 6
Great Miami River	WS	TOTAL XYLENES	TOTAL XYLENES	ug/l	0.38	0.38	0.38	GMRSW9	1 : 1 : 6
Great Miami River	WS	7440-62-2	Vanadium	ug/l	2.4	5.25	3.041666667	GMRSW9	6 : 6 : 6

1. FOD: Frequency of Detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.

Appendix B-3
Surficial Sediment Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 19	SE	7429-90-5	Aluminum	mg/kg	2495	5230	3985	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-38-2	Arsenic	mg/kg	2.6	3.5	3.1	GMRSD17	3 : 3 : 3
AOC 19	SE	7440-39-3	Barium	mg/kg	20.1	70.7	45.2	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-43-9	Cadmium	umoles/g	0.00116	0.00116	0.00116	GMRSD17	1 : 1 : 1
AOC 19	SE	7440-70-2	Calcium	mg/kg	86700	134000	107333.3333	GMRSD17	3 : 3 : 3
AOC 19	SE	7440-47-3	Chromium (total)	mg/kg	5.7	12.1	8.9	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-50-8	Copper	mg/kg	5.35	21.8	12.75	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-50-8	Copper	umoles/g	0.115	0.115	0.115	GMRSD17	1 : 1 : 1
AOC 19	SE	7439-89-6	Iron	mg/kg	7435	12700	10311.66667	GMRSD18	3 : 3 : 3
AOC 19	SE	7439-92-1	Lead	mg/kg	5	15.1	9.733333333	GMRSD18	3 : 3 : 3
AOC 19	SE	7439-92-1	Lead	umoles/g	0.0536	0.0536	0.0536	GMRSD17	1 : 1 : 1
AOC 19	SE	7439-95-4	Magnesium	mg/kg	25900	46000	35550	GMRSD17	3 : 3 : 3
AOC 19	SE	7439-96-5	Manganese	mg/kg	279	481	364.6666667	GMRSD17	3 : 3 : 3
AOC 19	SE	7440-02-0	Nickel	umoles/g	0.0511	0.0511	0.0511	GMRSD17	1 : 1 : 1
AOC 19	SE	7440-02-0	Nickel	mg/kg	9.2	9.9	7.158333333	GMRSD18	2 : 3 : 3
AOC 19	SE	7440-09-7	Potassium	mg/kg	573.5	904	713.5	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-23-5	Sodium	mg/kg	139	166	156	GMRSD17	3 : 3 : 3
AOC 19	SE	7440-62-2	Vanadium	mg/kg	10.15	15.5	11.98333333	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-66-6	Zinc	umoles/g	0.257	0.257	0.257	GMRSD17	1 : 1 : 1
AOC 19	SE	7440-66-6	Zinc	mg/kg	17.5	59.3	38.66666667	GMRSD18	3 : 3 : 3
AOC 19	SE	Total PAHs	TOTAL PAHs	mg/kg	0.636	7.42	3.525333333	GMRSD18	3 : 3 : 3
AOC 19	SE	12672-29-6	Aroclor 1248	mg/kg	0.13	0.24	0.129666667	GMRSD18	2 : 3 : 3
AOC 19	SE	Total PCBs	TOTAL PCBs	mg/kg	0.13	0.24	0.129666667	GMRSD18	2 : 3 : 3
AOC 19	SE	120-12-7	Anthracene	mg/kg	0.02125	0.14	0.08375	GMRSD18	2 : 3 : 3
AOC 19	SE	56-55-3	Benzo(a)anthracene	mg/kg	0.0395	0.52	0.239833333	GMRSD18	3 : 3 : 3
AOC 19	SE	50-32-8	Benzo(a)pyrene	mg/kg	0.072	0.85	0.400666667	GMRSD18	3 : 3 : 3
AOC 19	SE	205-99-2	Benzo(b)fluoranthene	mg/kg	0.0695	0.77	0.363166667	GMRSD18	3 : 3 : 3
AOC 19	SE	191-24-2	Benzo(g,h,i)perylene	mg/kg	0.0435	0.48	0.2245	GMRSD18	3 : 3 : 3
AOC 19	SE	207-08-9	Benzo(k)fluoranthene	mg/kg	0.0955	0.56	0.261833333	GMRSD18	3 : 3 : 3
AOC 19	SE	218-01-9	Chrysene	mg/kg	0.055	0.66	0.315	GMRSD18	3 : 3 : 3
AOC 19	SE	53-70-3	Dibenz(a,h)anthracene	mg/kg	0.012	0.012	0.012	GMRSD16	1 : 1 : 3
AOC 19	SE	84-74-2	Di-n-butylphthalate	mg/kg	0.063	0.063	0.063	GMRSD16	1 : 1 : 3
AOC 19	SE	206-44-0	Fluoranthene	mg/kg	0.1095	1.4	0.6465	GMRSD18	3 : 3 : 3
AOC 19	SE	86-73-7	Fluorene	mg/kg	0.019	0.019	0.019	GMRSD16	1 : 1 : 3
AOC 19	SE	193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.038	0.4	0.196	GMRSD18	3 : 3 : 3
AOC 19	SE	85-01-8	Phenanthrene	mg/kg	0.03475	0.58	0.28825	GMRSD18	3 : 3 : 3
AOC 19	SE	129-00-0	Pyrene	mg/kg	0.0885	1.1	0.5155	GMRSD18	3 : 3 : 3
AOC 19	SE	67-64-1	Acetone	mg/kg	0.009	0.009	0.009	GMRSD18	1 : 1 : 3
AOC 19	SE	75-09-2	Methylene chloride	mg/kg	0.00057	0.0051	0.002756667	GMRSD17	3 : 3 : 3
AOC 19	SE	108-88-3	Toluene	mg/kg	0.00047	0.00072	0.000586667	GMRSD18	3 : 3 : 3
AOC 19	SE	7440-44-0	TOTAL CARBON	mg/kg	9820	26000	18240	GMRSD16	3 : 3 : 3
AOC 19	SE	TSOLIDS	Total Solids	%	63.45	83.975	75.36875	GMRSD16	4 : 4 : 7
AOC 7	SE	7429-90-5	Aluminum	mg/kg	6030	17500	10455	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-38-2	Arsenic	mg/kg	6.1	7.3	6.825	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-39-3	Barium	mg/kg	63.6	193.5	109.15	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-41-7	Beryllium	mg/kg	1.05	1.05	0.5	AOC7SD10	1 : 4 : 4
AOC 7	SE	7440-43-9	Cadmium	umoles/g	0.00142	0.00142	0.00142	AOC7SD10	1 : 1 : 1
AOC 7	SE	7440-70-2	Calcium	mg/kg	16500	56650	30562.5	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-47-3	Chromium (total)	mg/kg	14	22.35	16.5125	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-48-4	Cobalt	mg/kg	5.025	6.2	4.43125	AOC7SD12	2 : 4 : 4
AOC 7	SE	7440-50-8	Copper	mg/kg	12.9	21.75	16.8375	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-50-8	Copper	umoles/g	0.1545	0.1545	0.1545	AOC7SD10	1 : 1 : 1
AOC 7	SE	7439-89-6	Iron	mg/kg	12200	19200	16275	AOC7SD13	4 : 4 : 4
AOC 7	SE	7439-92-1	Lead	mg/kg	16.2	33.25	23.3875	AOC7SD10	4 : 4 : 4
AOC 7	SE	7439-92-1	Lead	umoles/g	0.07795	0.07795	0.07795	AOC7SD10	1 : 1 : 1
AOC 7	SE	7439-95-4	Magnesium	mg/kg	7040	16600	10462.5	AOC7SD10	4 : 4 : 4
AOC 7	SE	7439-96-5	Manganese	mg/kg	541	2565	1138.75	AOC7SD10	4 : 4 : 4
AOC 7	SE	7439-97-6	Mercury	mg/kg	0.04	0.115	0.05	AOC7SD10	2 : 4 : 4
AOC 7	SE	7439-97-6	Mercury	umoles/g	0.0000498	0.0000498	0.0000498	AOC7SD10	1 : 1 : 1
AOC 7	SE	7440-02-0	Nickel	mg/kg	13.7	15.4	14.575	AOC7SD13	4 : 4 : 4
AOC 7	SE	7440-02-0	Nickel	umoles/g	0.08045	0.08045	0.08045	AOC7SD10	1 : 1 : 1
AOC 7	SE	7440-09-7	Potassium	mg/kg	837	1815	1264.75	AOC7SD10	4 : 4 : 4
AOC 7	SE	7782-49-2	Selenium	mg/kg	1.4	1.4	0.825	AOC7SD10	1 : 4 : 4
AOC 7	SE	7440-23-5	Sodium	mg/kg	70.4	214	124.4	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-62-2	Vanadium	mg/kg	18.4	27.8	22.85	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-66-6	Zinc	mg/kg	66.4	95.5	83.1	AOC7SD10	4 : 4 : 4
AOC 7	SE	7440-66-6	Zinc	umoles/g	0.727	0.727	0.727	AOC7SD10	1 : 1 : 1
AOC 7	SE	Total PAHs	TOTAL PAHs	mg/kg	1.6595	216.29	55.842375	AOC7SD13	4 : 4 : 4
AOC 7	SE	11096-82-5	Aroclor 1260	mg/kg	0.026	0.026	0.022375	AOC7SD10	1 : 4 : 4
AOC 7	SE	Total PCBs	TOTAL PCBs	mg/kg	0.026	0.026	0.022375	AOC7SD10	1 : 4 : 4
AOC 7	SE	91-57-6	2-Methylnaphthalene	mg/kg	0.31	0.31	0.2425	AOC7SD13	1 : 3 : 4
AOC 7	SE	208-96-8	Acenaphthylene	mg/kg	0.021	4.5	1.153875	AOC7SD13	4 : 4 : 4
AOC 7	SE	120-12-7	Anthracene	mg/kg	0.025	15	3.77725	AOC7SD13	4 : 4 : 4
AOC 7	SE	100-52-7	Benzaldehyde	mg/kg	0.06	0.06	0.06	AOC7SD10	1 : 1 : 4
AOC 7	SE	56-55-3	Benzo(a)anthracene	mg/kg	0.11	17	4.36125	AOC7SD13	4 : 4 : 4
AOC 7	SE	50-32-8	Benzo(a)pyrene	mg/kg	0.12	14	3.6275	AOC7SD13	4 : 4 : 4

Appendix B-3
Surficial Sediment Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 7	SE	205-99-2	Benzo(b)fluoranthene	mg/kg	0.13	12	3.12875	AOC7SD13	4 : 4 : 4
AOC 7	SE	191-24-2	Benzo(g,h,i)perylene	mg/kg	0.065	9	2.34	AOC7SD13	4 : 4 : 4
AOC 7	SE	207-08-9	Benzo(k)fluoranthene	mg/kg	0.11	13	3.36625	AOC7SD13	4 : 4 : 4
AOC 7	SE	117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	0.17	0.17	0.17	AOC7SD11	1 : 1 : 4
AOC 7	SE	86-74-8	Carbazole	mg/kg	3.1	3.1	1.029375	AOC7SD13	1 : 4 : 4
AOC 7	SE	218-01-9	Chrysene	mg/kg	0.14	17	4.39625	AOC7SD13	4 : 4 : 4
AOC 7	SE	53-70-3	Dibenz(a,h)anthracene	mg/kg	0.018	2.6	0.67325	AOC7SD13	4 : 4 : 4
AOC 7	SE	132-64-9	Dibenzofuran	mg/kg	1.5	1.5	0.629375	AOC7SD13	1 : 4 : 4
AOC 7	SE	206-44-0	Fluoranthene	mg/kg	0.23	38	9.7825	AOC7SD13	4 : 4 : 4
AOC 7	SE	86-73-7	Fluorene	mg/kg	5	5	1.31425	AOC7SD13	1 : 4 : 4
AOC 7	SE	193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.054	8.3	2.1545	AOC7SD13	4 : 4 : 4
AOC 7	SE	91-20-3	Naphthalene	mg/kg	0.024	0.58	0.188625	AOC7SD13	3 : 4 : 4
AOC 7	SE	85-01-8	Phenanthrene	mg/kg	0.11	29	7.42625	AOC7SD13	4 : 4 : 4
AOC 7	SE	129-00-0	Pyrene	mg/kg	0.17	31	7.97	AOC7SD13	4 : 4 : 4
AOC 7	SE	67-64-1	Acetone	mg/kg	0.01	0.0205	0.013625	AOC7SD13	2 : 4 : 4
AOC 7	SE	71-43-2	Benzene	mg/kg	0.00052	0.001	0.00076	AOC7SD13	2 : 2 : 4
AOC 7	SE	75-15-0	Carbon disulfide	mg/kg	0.0007	0.00076	0.00073	AOC7SD10	2 : 2 : 4
AOC 7	SE	110-82-7	Cyclohexane	mg/kg	0.0012	0.00485	0.002855	AOC7SD13	4 : 4 : 4
AOC 7	SE	100-41-4	Ethylbenzene	mg/kg	0.00046	0.00066	0.00056	AOC7SD13	2 : 2 : 4
AOC 7	SE	XYLMP	m+p-Xylene	mg/kg	0.00093	0.00093	0.00093	AOC7SD13	1 : 1 : 4
AOC 7	SE	108-87-2	Methylcyclohexane	mg/kg	0.0013	0.00415	0.002615	AOC7SD13	4 : 4 : 4
AOC 7	SE	75-09-2	Methylene chloride	mg/kg	0.00042	0.00042	0.00042	AOC7SD10	1 : 1 : 4
AOC 7	SE	95-47-6	o-Xylene	mg/kg	0.00039	0.00042	0.000405	AOC7SD13	2 : 2 : 4
AOC 7	SE	108-88-3	Toluene	mg/kg	0.00052	0.0019	0.001206667	AOC7SD13	3 : 3 : 4
AOC 7	SE	TOTAL XYLENES	TOTAL XYLENES	mg/kg	0.00039	0.00135	0.00087	AOC7SD13	2 : 2 : 4
AOC 7	SE	57-12-5	CYANIDE	mg/kg	1.2025	1.2025	0.783125	AOC7SD10	1 : 4 : 4
AOC 7	SE	7440-44-0	TOTAL CARBON	mg/kg	8810	33700	20327.5	AOC7SD10	4 : 4 : 4
AOC 7	SE	TSOLIDS	Total Solids	%	68.6	83.55	77.48	AOC7SD11	5 : 5 : 7
Great Miami River	SE	7429-90-5	Aluminum	mg/kg	2460	18100	7962	GMRSD9	10 : 10 : 10
Great Miami River	SE	7440-38-2	Arsenic	mg/kg	1.3	10.6	4.67	GMRSD9	10 : 10 : 10
Great Miami River	SE	7440-39-3	Barium	mg/kg	13.5	523	122.36	GMRSD5	10 : 10 : 10
Great Miami River	SE	7440-43-9	Cadmium	mg/kg	0.76	1.8	0.8995	GMRSD5	4 : 10 : 10
Great Miami River	SE	7440-43-9	Cadmium	umoles/g	0.000712	0.00696	0.002697333	GMRSD5	3 : 3 : 3
Great Miami River	SE	7440-70-2	Calcium	mg/kg	63100	182000	101280	GMRSD2	10 : 10 : 10
Great Miami River	SE	7440-47-3	Chromium (total)	mg/kg	5.9	63.3	24.41	GMRSD9	10 : 10 : 10
Great Miami River	SE	7440-48-4	Cobalt	mg/kg	9.2	10.6	4.83	GMRSD14	2 : 10 : 10
Great Miami River	SE	7440-50-8	Copper	umoles/g	0.0582	0.252	0.1394	GMRSD5	3 : 3 : 3
Great Miami River	SE	7440-50-8	Copper	mg/kg	4.8	163	38.48	GMRSD5	10 : 10 : 10
Great Miami River	SE	7439-89-6	Iron	mg/kg	6800	34700	18528	GMRSD9	10 : 10 : 10
Great Miami River	SE	7439-92-1	Lead	mg/kg	3.8	372	76.36	GMRSD5	10 : 10 : 10
Great Miami River	SE	7439-92-1	Lead	umoles/g	0.0222	0.097	0.051	GMRSD5	3 : 3 : 3
Great Miami River	SE	7439-95-4	Magnesium	mg/kg	20200	36700	28210	GMRSD2	10 : 10 : 10
Great Miami River	SE	7439-96-5	Manganese	mg/kg	191	564	350.6	GMRSD14	10 : 10 : 10
Great Miami River	SE	7439-97-6	Mercury	mg/kg	0.05	0.19	0.0725	GMRSD6	6 : 10 : 10
Great Miami River	SE	7439-97-6	Mercury	umoles/g	0.0000299	0.0000299	0.00001329	GMRSD5	1 : 3 : 3
Great Miami River	SE	7440-02-0	Nickel	mg/kg	5	31.5	15.08	GMRSD9	10 : 10 : 10
Great Miami River	SE	7440-02-0	Nickel	umoles/g	0.0426	0.0988	0.066433333	GMRSD5	3 : 3 : 3
Great Miami River	SE	7440-09-7	Potassium	mg/kg	361	2820	1287.7	GMRSD9	10 : 10 : 10
Great Miami River	SE	7782-49-2	Selenium	mg/kg	1.7	1.8	1.01	GMRSD6	3 : 10 : 10
Great Miami River	SE	7440-23-5	Sodium	mg/kg	166	318	201.4	GMRSD5	10 : 10 : 10
Great Miami River	SE	7440-62-2	Vanadium	mg/kg	8.3	39.4	18.95	GMRSD9	10 : 10 : 10
Great Miami River	SE	7440-66-6	Zinc	mg/kg	16.8	681	147.87	GMRSD5	10 : 10 : 10
Great Miami River	SE	7440-66-6	Zinc	umoles/g	0.216	1.4	0.661	GMRSD5	3 : 3 : 3
Great Miami River	SE	Total PAHs	TOTAL PAHs	mg/kg	0.4275	2465	251.26625	GMRSD6	10 : 10 : 10
Great Miami River	SE	12672-29-6	Aroclor 1248	mg/kg	0.066	1.3	0.31135	GMRSD6	9 : 10 : 10
Great Miami River	SE	11097-69-1	Aroclor 1254	mg/kg	0.26	0.26	0.05705	GMRSD1	1 : 10 : 10
Great Miami River	SE	11096-82-5	Aroclor 1260	mg/kg	0.025	0.94	0.12005	GMRSD6	4 : 10 : 10
Great Miami River	SE	Total PCBs	TOTAL PCBs	mg/kg	0.134	2.355	0.48845	GMRSD6	9 : 10 : 10
Great Miami River	SE	83-32-9	Acenaphthene	mg/kg	0.069	13	1.36195	GMRSD6	4 : 10 : 10
Great Miami River	SE	208-96-8	Acenaphthylene	mg/kg	0.042	74	7.46735	GMRSD6	6 : 10 : 10
Great Miami River	SE	120-12-7	Anthracene	mg/kg	0.019	130	13.1423	GMRSD6	9 : 10 : 10
Great Miami River	SE	56-55-3	Benzo(a)anthracene	mg/kg	0.1	180	18.37395	GMRSD6	9 : 10 : 10
Great Miami River	SE	50-32-8	Benzo(a)pyrene	mg/kg	0.038	170	17.3918	GMRSD6	10 : 10 : 10
Great Miami River	SE	205-99-2	Benzo(b)fluoranthene	mg/kg	0.13	130	13.4529	GMRSD6	9 : 10 : 10
Great Miami River	SE	191-24-2	Benzo(g,h,i)perylene	mg/kg	0.073	110	11.2552	GMRSD6	8 : 10 : 10
Great Miami River	SE	207-08-9	Benzo(k)fluoranthene	mg/kg	0.045	130	13.2194	GMRSD6	9 : 10 : 10
Great Miami River	SE	117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	0.072	0.072	0.072	GMRSD4	1 : 1 : 10
Great Miami River	SE	86-74-8	Carbazole	mg/kg	0.064	17	2.0954	GMRSD6	3 : 10 : 10
Great Miami River	SE	218-01-9	Chrysene	mg/kg	0.015	170	17.3895	GMRSD6	10 : 10 : 10
Great Miami River	SE	53-70-3	Dibenz(a,h)anthracene	mg/kg	0.016	26	2.6718	GMRSD6	7 : 10 : 10
Great Miami River	SE	132-64-9	Dibenzofuran	mg/kg	11	11	1.537	GMRSD6	1 : 10 : 10
Great Miami River	SE	206-44-0	Fluoranthene	mg/kg	0.069	430	43.8839	GMRSD6	10 : 10 : 10
Great Miami River	SE	86-73-7	Fluorene	mg/kg	0.019	36	3.65965	GMRSD6	8 : 10 : 10
Great Miami River	SE	193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.065	92	9.433	GMRSD6	9 : 10 : 10
Great Miami River	SE	91-20-3	Naphthalene	mg/kg	0.095	14	1.45895	GMRSD6	2 : 10 : 10
Great Miami River	SE	106-44-5	p-Cresol (4-Methylphenol)	mg/kg	0.29	0.29	0.248	GMRSD4	1 : 5 : 10

Appendix B-3
Surficial Sediment Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Great Miami River	SE	85-01-8	Phenanthrene	mg/kg	0.042	380	38.4102	GMRSD6	9 : 10 : 10
Great Miami River	SE	129-00-0	Pyrene	mg/kg	0.066	380	38.6946	GMRSD6	10 : 10 : 10
Great Miami River	SE	78-93-3	2-Butanone	mg/kg	0.013	0.033	0.01205	GMRSD8	4 : 10 : 10
Great Miami River	SE	67-64-1	Acetone	mg/kg	0.0064	0.17	0.04959	GMRSD8	8 : 10 : 10
Great Miami River	SE	71-43-2	Benzene	mg/kg	0.00047	0.0097	0.00262	GMRSD6	8 : 10 : 10
Great Miami River	SE	75-15-0	Carbon disulfide	mg/kg	0.00097	0.005	0.003054	GMRSD2	5 : 5 : 10
Great Miami River	SE	110-82-7	Cyclohexane	mg/kg	0.00064	0.0087	0.002744	GMRSD2	10 : 10 : 10
Great Miami River	SE	100-41-4	Ethylbenzene	mg/kg	0.0005	0.002	0.001098667	GMRSD2	3 : 3 : 10
Great Miami River	SE	XYLMP	m+p-Xylene	mg/kg	0.00091	0.0031	0.001542	GMRSD2	5 : 5 : 10
Great Miami River	SE	108-87-2	Methylcyclohexane	mg/kg	0.001	0.013	0.00376	GMRSD2	10 : 10 : 10
Great Miami River	SE	95-47-6	o-Xylene	mg/kg	0.00061	0.0014	0.001005	GMRSD2	2 : 2 : 10
Great Miami River	SE	108-88-3	Toluene	mg/kg	0.00084	0.0066	0.002784	GMRSD2	8 : 10 : 10
Great Miami River	SE	TOTAL XYLENES	TOTAL XYLENES	mg/kg	0.00091	0.0045	0.001944	GMRSD2	5 : 5 : 10
Great Miami River	SE	57-12-5	CYANIDE	mg/kg	8.86	8.86	1.548	GMRSD1	1 : 10 : 10
Great Miami River	SE	SULFIDE-AV	Sulfide, acid-volatile	umoles/g	2.39	6.96	5.32	GMRSD5	3 : 3 : 3
Great Miami River	SE	7440-44-0	TOTAL CARBON	mg/kg	3590	33400	15413	GMRSD6	10 : 10 : 10
Great Miami River	SE	TSOLIDS	Total Solids	%	61.95	85.25	71.26538462	GMRSD2	13 : 13 : 22

Appendix B-4 Groundwater Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
AOC 1 Perimeter Wells	WG	7429-90-5	Aluminum	ug/l	13600	13600	4553.15	MW-12S	1:3:3
AOC 1 Perimeter Wells	WG	7440-39-3	Barium	ug/l	60.8	153	96.5	MW-12S	3:3:3
AOC 1 Perimeter Wells	WG	7440-70-2	Calcium	ug/l	138000	220000	171333.3333	MW-12S	3:3:3
AOC 1 Perimeter Wells	WG	105-60-2	Caprolactam	ug/l	48	48	26.5	MW-12S	1:2:2
AOC 1 Perimeter Wells	WG	7440-47-3	Chromium (total)	ug/l	22.6	22.6	8.933333333	MW-12S	1:3:3
AOC 1 Perimeter Wells	WG	57-12-5	CYANIDE	ug/L	13.1	13.1	9.05	MW-11S	1:2:2
AOC 1 Perimeter Wells	WG	206-44-0	Fluoranthene	ug/l	0.05	0.05	0.05	MW-12S	1:1:2
AOC 1 Perimeter Wells	WG	7439-89-6	Iron	ug/l	41.1	19100	6425.366667	MW-12S	3:3:3
AOC 1 Perimeter Wells	WG	7439-92-1	Lead	ug/l	12.7	12.7	5.033333333	MW-12S	1:3:3
AOC 1 Perimeter Wells	WG	7439-95-4	Magnesium	ug/l	44800	75400	58466.66667	MW-12S	3:3:3
AOC 1 Perimeter Wells	WG	7439-96-5	Manganese	ug/l	62.2	793	310.9	MW-12S	3:3:3
AOC 1 Perimeter Wells	WG	7439-97-6	Mercury	ug/l	0.02	0.02	0.013333333	MW-12S	1:3:3
AOC 1 Perimeter Wells	WG	85-01-8	Phenanthrene	ug/l	0.11	0.11	0.1025	MW-12S	1:2:2
AOC 1 Perimeter Wells	WG	7440-09-7	Potassium	ug/l	9010	31100	18203.33333	MW-11S	3:3:3
AOC 1 Perimeter Wells	WG	129-00-0	Pyrene	ug/l	0.06	0.06	0.06	MW-12S	1:1:2
AOC 1 Perimeter Wells	WG	7782-49-2	Selenium	ug/l	6.8	7.2	7.033333333	MW-11S	3:3:3
AOC 1 Perimeter Wells	WG	7440-23-5	Sodium	ug/l	29400	35400	31733.33333	MW-11S	3:3:3
AOC 1 Perimeter Wells	WG	108-88-3	Toluene	ug/l	0.36	0.5	0.43	MW-11S	2:2:2
AOC 1 Perimeter Wells	WG	Total PAHs	TOTAL PAHs	ug/l	0.22	0.22	0.1575	MW-12S	1:2:2
AOC 1 Perimeter Wells	WG	7440-62-2	Vanadium	ug/l	27.5	27.5	9.633333333	MW-12S	1:3:3
AOC 1 Perimeter Wells	WG	7440-66-6	Zinc	ug/l	63.4	63.4	22.53333333	MW-12S	1:3:3
AOC 13 Perimeter Wells	WG	92-52-4	1,1-Biphenyl	ug/l	2.4	96	27.575	MW-8S	2:4:5
AOC 13 Perimeter Wells	WG	105-67-9	2,4-Dimethylphenol	ug/l	2.4	3000	623.68	MW-8S	3:5:5
AOC 13 Perimeter Wells	WG	91-57-6	2-Methylnaphthalene	ug/l	1	760	164.2	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	83-32-9	Acenaphthene	ug/l	0.48	430	88.268	MW-8S	5:5:5
AOC 13 Perimeter Wells	WG	208-96-8	Acenaphthylene	ug/l	2.9	34	9.919	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	67-64-1	Acetone	ug/l	21	21	9	MW-8S	1:4:5
AOC 13 Perimeter Wells	WG	98-86-2	Acetophenone	ug/l	2	50	15.475	MW-8S	2:4:5
AOC 13 Perimeter Wells	WG	7429-90-5	Aluminum	ug/l	83.3	3620	1018.128571	MW-8S	4:7:7
AOC 13 Perimeter Wells	WG	120-12-7	Anthracene	ug/l	0.16	120	24.436	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	7440-38-2	Arsenic	ug/l	6.7	6.7	3.564285714	MW-9S	1:7:7
AOC 13 Perimeter Wells	WG	7440-39-3	Barium	ug/l	49.7	444	160.1214286	MW-8S	5:7:7
AOC 13 Perimeter Wells	WG	71-43-2	Benzene	ug/l	9.7	11000	2792.04	MW-9S	4:5:5
AOC 13 Perimeter Wells	WG	56-55-3	Benzo(a)anthracene	ug/l	0.063	61	12.3433	MW-8S	2:5:5
AOC 13 Perimeter Wells	WG	50-32-8	Benzo(a)pyrene	ug/l	0.18	45	9.286	MW-8S	2:5:5
AOC 13 Perimeter Wells	WG	205-99-2	Benzo(b)fluoranthene	ug/l	41	41	8.471	MW-8S	1:5:5
AOC 13 Perimeter Wells	WG	191-24-2	Benzo(g,h,i)perylene	ug/l	17	17	3.671	MW-8S	1:5:5
AOC 13 Perimeter Wells	WG	207-08-9	Benzo(k)fluoranthene	ug/l	16	16	3.471	MW-8S	1:5:5
AOC 13 Perimeter Wells	WG	7440-70-2	Calcium	ug/l	121000	477000	236571.4286	MW-20S	7:7:7
AOC 13 Perimeter Wells	WG	105-60-2	Caprolactam	ug/l	36	36	16.96666667	MW-7S	1:3:5
AOC 13 Perimeter Wells	WG	86-74-8	Carbazole	ug/l	5.2	300	85.04	MW-8S	2:5:5
AOC 13 Perimeter Wells	WG	75-15-0	Carbon disulfide	ug/l	10	10	3.375	MW-21S	1:4:5
AOC 13 Perimeter Wells	WG	7440-47-3	Chromium (total)	ug/l	6.8	6.8	1.825714286	MW-8S	1:7:7
AOC 13 Perimeter Wells	WG	218-01-9	Chrysene	ug/l	0.063	49	10.0626	MW-8S	2:5:5
AOC 13 Perimeter Wells	WG	57-12-5	CYANIDE	ug/L	31.6	22600	6177.32	MW-9S	5:5:5
AOC 13 Perimeter Wells	WG	53-70-3	Dibenz(a,h)anthracene	ug/l	4.9	4.9	1.251	MW-8S	1:5:5
AOC 13 Perimeter Wells	WG	132-64-9	Dibenzofuran	ug/l	2.4	210	65	MW-8S	3:5:5
AOC 13 Perimeter Wells	WG	100-41-4	Ethylbenzene	ug/l	7.7	630	221.74	MW-8S	3:5:5
AOC 13 Perimeter Wells	WG	206-44-0	Fluoranthene	ug/l	0.19	240	48.391	MW-8S	3:5:5
AOC 13 Perimeter Wells	WG	86-73-7	Fluorene	ug/l	0.97	290	59.433	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	193-39-5	Indeno(1,2,3-cd)pyrene	ug/l	16	16	3.471	MW-8S	1:5:5
AOC 13 Perimeter Wells	WG	7439-89-6	Iron	ug/l	174	11600	4372	MW-9S	7:7:7
AOC 13 Perimeter Wells	WG	98-82-8	Isopropylbenzene	ug/l	9	94	25.2	MW-9S	3:5:5
AOC 13 Perimeter Wells	WG	XYLMP	m+p-Xylene	ug/l	2.9	5900	1458.68	MW-9S	4:5:5
AOC 13 Perimeter Wells	WG	7439-95-4	Magnesium	ug/l	18900	113000	54857.14286	MW-21S	7:7:7
AOC 13 Perimeter Wells	WG	7439-96-5	Manganese	ug/l	39.9	408	200.3714286	MW-20S	7:7:7
AOC 13 Perimeter Wells	WG	7439-97-6	Mercury	ug/l	0.03	0.04	0.017142857	MW-9S	2:7:7
AOC 13 Perimeter Wells	WG	91-20-3	Naphthalene	ug/l	1.4	13000	3202.299	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	95-48-7	o-Cresol (2-Methylphenol)	ug/l	3.2	470	102.8	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	95-47-6	o-Xylene	ug/l	1.5	1800	473.8	MW-9S	4:5:5
AOC 13 Perimeter Wells	WG	106-44-5	p-Cresol (4-Methylphenol)	ug/l	2.5	120	32.5	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	85-01-8	Phenanthrene	ug/l	0.068	490	99.3236	MW-8S	4:5:5
AOC 13 Perimeter Wells	WG	108-95-2	Phenol	ug/l	13	45	21.18	MW-8S	3:5:5
AOC 13 Perimeter Wells	WG	7440-09-7	Potassium	ug/l	3660	20500	11282.85714	MW-8S	7:7:7
AOC 13 Perimeter Wells	WG	129-00-0	Pyrene	ug/l	0.12	160	32.329	MW-8S	3:5:5
AOC 13 Perimeter Wells	WG	7782-49-2	Selenium	ug/l	14.2	15.7	8.071428571	MW-9S	3:7:7
AOC 13 Perimeter Wells	WG	7440-23-5	Sodium	ug/l	9560	114000	51837.14286	MW-8S	7:7:7
AOC 13 Perimeter Wells	WG	100-42-5	Styrene	ug/l	0.48	280	57.696	MW-9S	3:5:5
AOC 13 Perimeter Wells	WG	108-88-3	Toluene	ug/l	5.3	21000	4396.36	MW-9S	4:5:5
AOC 13 Perimeter Wells	WG	Total PAHs	TOTAL PAHs	ug/l	10.6165	15773.9	3780.6255	MW-8S	5:5:5
AOC 13 Perimeter Wells	WG	TOTAL XYLENES	TOTAL XYLENES	ug/l	4.4	7700	1932.48	MW-9S	4:5:5
Southern Parcel Perimeter Wells	WG	83-32-9	Acenaphthene	ug/l	0.0605	0.0605	0.0605	MW-4S	1:1:4
Southern Parcel Perimeter Wells	WG	208-96-8	Acenaphthylene	ug/l	0.065	0.065	0.065	MW-4S	1:1:4
Southern Parcel Perimeter Wells	WG	7429-90-5	Aluminum	ug/l	7120	7120	1438	MW-4S	1:5:5
Southern Parcel Perimeter Wells	WG	7440-38-2	Arsenic	ug/l	4.175	6.5	3.99	MW-19S	3:5:5
Southern Parcel Perimeter Wells	WG	7440-39-3	Barium	ug/l	50.2	93.55	58.46	MW-4S	4:5:5

Appendix B-4 Groundwater Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Southern Parcel Perimeter Wells	WG	7440-70-2	Calcium	ug/l	152000	211000	180400	MW-2S	5 : 5 : 5
Southern Parcel Perimeter Wells	WG	105-60-2	Caprolactam	ug/l	7.2	17.5	8.675	MW-4S	2 : 4 : 4
Southern Parcel Perimeter Wells	WG	7440-47-3	Chromium (total)	ug/l	16.75	16.75	4.11	MW-4S	1 : 5 : 5
Southern Parcel Perimeter Wells	WG	57-12-5	CYANIDE	ug/L	11.3	38	26.1625	MW-19S	4 : 4 : 4
Southern Parcel Perimeter Wells	WG	206-44-0	Fluoranthene	ug/l	0.079	0.079	0.079	MW-4S	1 : 1 : 4
Southern Parcel Perimeter Wells	WG	7439-89-6	Iron	ug/l	7060	7060	1415.8	MW-4S	1 : 5 : 5
Southern Parcel Perimeter Wells	WG	7439-92-1	Lead	ug/l	2.6	2.6	1.48	MW-4S	1 : 5 : 5
Southern Parcel Perimeter Wells	WG	7439-95-4	Magnesium	ug/l	47300	72200	62780	MW-2S	5 : 5 : 5
Southern Parcel Perimeter Wells	WG	7439-96-5	Manganese	ug/l	27.5	361.5	157.6	MW-4S	5 : 5 : 5
Southern Parcel Perimeter Wells	WG	7439-97-6	Mercury	ug/l	0.03	0.03	0.014	MW-4S	1 : 5 : 5
Southern Parcel Perimeter Wells	WG	91-20-3	Naphthalene	ug/l	0.19	0.6525	0.301875	MW-4S	3 : 4 : 4
Southern Parcel Perimeter Wells	WG	85-01-8	Phenanthrene	ug/l	0.065	0.065	0.065	MW-4S	1 : 1 : 4
Southern Parcel Perimeter Wells	WG	7440-09-7	Potassium	ug/l	22300	27600	24550	MW-19S	5 : 5 : 5
Southern Parcel Perimeter Wells	WG	129-00-0	Pyrene	ug/l	0.065	0.065	0.065	MW-4S	1 : 1 : 4
Southern Parcel Perimeter Wells	WG	7782-49-2	Selenium	ug/l	11.9	21.2	10.26	MW-2S	3 : 5 : 5
Southern Parcel Perimeter Wells	WG	7440-23-5	Sodium	ug/l	12900	33100	24120	MW-19S	5 : 5 : 5
Southern Parcel Perimeter Wells	WG	Total PAHs	TOTAL PAHs	ug/l	0.19	0.987	0.3855	MW-4S	3 : 4 : 4
Southern Parcel Perimeter Wells	WG	7440-62-2	Vanadium	ug/l	10.475	10.475	2.655	MW-4S	1 : 5 : 5
Southern Parcel Perimeter Wells	WG	7440-66-6	Zinc	ug/l	16	466	97.66	MW-2S	2 : 5 : 5

1. FOD: Frequency of Detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.

Appendix B-5 Background Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Background	SO	67562-39-4	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	mg/kg	0.000001334	0.000083908	2.07936E-05	BGRR2	8 : 9 : 9
Background	SO	35822-46-9	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000003474	0.000100321	4.07994E-05	BGRR2	8 : 9 : 9
Background	SO	55673-89-7	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	mg/kg	0.000000124	0.00000773	2.80761E-06	BGCOG1	7 : 9 : 9
Background	SO	70648-26-9	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	mg/kg	2.0375E-07	0.000030545	5.75086E-06	BGRR2	9 : 9 : 9
Background	SO	39227-28-6	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000092	0.000010211	1.81972E-06	BGCOG1	9 : 9 : 9
Background	SO	57117-44-9	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	0.000000133	0.000012526	3.85569E-06	BGRR2	6 : 9 : 9
Background	SO	57653-85-7	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000331	0.000012022	3.44961E-06	BGCOG1	9 : 9 : 9
Background	SO	72918-21-9	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	mg/kg	0.000000659	0.000007515	9.52167E-07	BGCOG1	2 : 9 : 9
Background	SO	19408-74-3	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000343	0.000007312	2.13006E-06	BGCOG1	9 : 9 : 9
Background	SO	57117-41-6	1,2,3,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000186	0.000013672	3.2165E-06	BGRR2	5 : 9 : 9
Background	SO	40321-76-4	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000234	0.0000524	6.70917E-06	BGCOG1	7 : 9 : 9
Background	SO	60851-34-5	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	mg/kg	2.6825E-07	0.000033418	6.76597E-06	BGRR3	6 : 9 : 9
Background	SO	57117-31-4	2,3,4,7,8-PENTACHLORODIBENZOFURAN	mg/kg	0.000000208	0.00001888	4.35164E-06	BGRR2	6 : 9 : 9
Background	SO	51207-31-9	2,3,7,8-TETRACHLORODIBENZOFURAN	mg/kg	0.00000361	0.000018015	3.15981E-06	BGRR2	3 : 9 : 9
Background	SO	1746-01-6	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	mg/kg	0.000000106	0.000031527	4.21628E-06	BGCOG1	8 : 9 : 9
Background	SO	78-93-3	2-Butanone	mg/kg	0.021	0.021	0.01075	MW-14S	1 : 3 : 3
Background	SO	91-57-6	2-Methylnaphthalene	mg/kg	0.19	0.27	0.218333333	MW-10S	2 : 3 : 3
Background	SO	83-32-9	Acenaphthene	mg/kg	0.18	0.3	0.204444444	BGRR2	2 : 9 : 11
Background	SO	208-96-8	Acenaphthylene	mg/kg	0.046	1.8	0.485272727	MW-10S	7 : 11 : 11
Background	SO	67-64-1	Acetone	mg/kg	0.016	0.15	0.061666667	MW-14S	3 : 3 : 3
Background	SO	7429-90-5	Aluminum	mg/kg	4390	26350	11080	MW-6S	12 : 12 : 12
Background	SO	120-12-7	Anthracene	mg/kg	0.1205	3.8	0.645045455	BGRR2	6 : 11 : 11
Background	SO	11097-69-1	Aroclor 1254	mg/kg	0.04	0.04	0.028833333	MW-10S	1 : 3 : 3
Background	SO	11096-82-5	Aroclor 1260	mg/kg	0.304	0.304	0.114	MW-6S	1 : 3 : 3
Background	SO	7440-38-2	Arsenic	mg/kg	5.9	68.5	19.30833333	BGCOG1	12 : 12 : 12
Background	SO	7440-39-3	Barium	mg/kg	50.4	425	125.6625	MW-6S	12 : 12 : 12
Background	SO	71-43-2	Benzene	mg/kg	0.00038	0.00038	0.00038	MW-14S	1 : 1 : 3
Background	SO	56-55-3	Benzo(a)anthracene	mg/kg	0.052	8.6	1.795636364	BGRR2	9 : 11 : 11
Background	SO	50-32-8	Benzo(a)pyrene	mg/kg	0.053	10	2.007090909	MW-10S	9 : 11 : 11
Background	SO	205-99-2	Benzo(b)fluoranthene	mg/kg	0.055	7.6	1.719681818	MW-10S	9 : 11 : 11
Background	SO	191-24-2	Benzo(g,h,i)perylene	mg/kg	0.04	7.6	1.392954545	MW-10S	9 : 11 : 11
Background	SO	207-08-9	Benzo(k)fluoranthene	mg/kg	0.053	7.9	1.735409091	MW-10S	9 : 11 : 11
Background	SO	7440-41-7	Beryllium	mg/kg	0.64	4.4	1.15625	MW-10S	6 : 12 : 12
Background	SO	117-81-7	Bis(2-Ethylhexyl)phthalate	mg/kg	0.15	0.15	0.15	MW-6S	1 : 1 : 3
Background	SO	74-83-9	Bromomethane	mg/kg	0.00038	0.00038	0.00038	MW-14S	1 : 1 : 3
Background	SO	7440-43-9	Cadmium	mg/kg	0.985	3	0.636666667	BGRR2	3 : 12 : 12
Background	SO	7440-70-2	Calcium	mg/kg	4140	181500	65266.66667	MW-6S	12 : 12 : 12
Background	SO	75-15-0	Carbon disulfide	mg/kg	0.00079	0.0062	0.003946667	MW-6S	2 : 3 : 3
Background	SO	7440-47-3	Chromium (total)	mg/kg	8.5	81.8	22.15416667	MW-6S	12 : 12 : 12
Background	SO	218-01-9	Chrysene	mg/kg	0.07	7.5	1.601954545	BGRR2	9 : 11 : 11
Background	SO	7440-48-4	Cobalt	mg/kg	5.8	21.65	7.75	BGRR4	8 : 12 : 12
Background	SO	7440-50-8	Copper	mg/kg	10.9	122	39.95833333	BGCOG1	12 : 12 : 12
Background	SO	57-12-5	CYANIDE	mg/kg	1.0775	1.57	1.060833333	MW-10S	2 : 3 : 3
Background	SO	110-82-7	Cyclohexane	mg/kg	0.00048	0.00068	0.00058	MW-10S	2 : 2 : 3
Background	SO	53-70-3	Dibenz(a,h)anthracene	mg/kg	0.044	1.7	0.441409091	MW-10S	7 : 11 : 11
Background	SO	132-64-9	Dibenzofuran	mg/kg	0.14	0.23	0.188333333	MW-10S	2 : 3 : 3
Background	SO	Dioxin TEQ-HH	Dioxin TEQ-HH	mg/kg	5.22326E-07	9.81907E-05	1.67241E-05	BGCOG1	9 : 9 : 9
Background	SO	206-44-0	Fluoranthene	mg/kg	0.13	16	3.104545455	BGRR2	9 : 11 : 11
Background	SO	86-73-7	Fluorene	mg/kg	0.096	1.2	0.283454545	BGRR2	4 : 11 : 11
Background	SO	193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.13	6.7	1.287045455	MW-10S	8 : 11 : 11
Background	SO	7439-89-6	Iron	mg/kg	14300	132000	32066.66667	BGRR2	12 : 12 : 12
Background	SO	7439-92-1	Lead	mg/kg	13.25	227	55.66666667	BGRR2	12 : 12 : 12
Background	SO	XYLMP	m+p-Xylene	mg/kg	0.00037	0.00037	0.00037	MW-10S	1 : 1 : 3
Background	SO	7439-95-4	Magnesium	mg/kg	1630	52500	20246.66667	MW-10S	12 : 12 : 12
Background	SO	7439-96-5	Manganese	mg/kg	278	9195	1709.125	MW-6S	12 : 12 : 12
Background	SO	7439-97-6	Mercury	mg/kg	0.04	0.4	0.101111111	BGCOG1	5 : 9 : 12
Background	SO	108-87-2	Methylcyclohexane	mg/kg	0.00069	0.0011	0.000995	MW-10S	2 : 2 : 3
Background	SO	75-09-2	Methylene chloride	mg/kg	0.0015	0.0015	0.0015	MW-10S	1 : 1 : 3
Background	SO	91-20-3	Naphthalene	mg/kg	0.11	1.5	0.392772727	BGRR2	7 : 11 : 11
Background	SO	7440-02-0	Nickel	mg/kg	5.7	72.7	19.49791667	MW-6S	11 : 12 : 12
Background	SO	39001-02-0	OCTACHLORODIBENZOFURAN	mg/kg	6.93525E-06	0.00012358	3.86126E-05	BGPRK5	6 : 9 : 9
Background	SO	3268-87-9	OCTACHLORODIBENZO-P-DIOXIN	mg/kg	0.000006567	0.000631858	0.000257141	BGRR2	9 : 9 : 9
Background	SO	85-01-8	Phenanthrene	mg/kg	0.083	11	1.737863636	BGRR2	9 : 11 : 11
Background	SO	7440-09-7	Potassium	mg/kg	637	2080	1222.25	BGRR4	12 : 12 : 12
Background	SO	129-00-0	Pyrene	mg/kg	0.12	12	2.624090909	BGRR2	9 : 11 : 11
Background	SO	7782-49-2	Selenium	mg/kg	2	14.8	3.510416667	BGRR2	10 : 12 : 12
Background	SO	7440-23-5	Sodium	mg/kg	118	1652	325.9166667	MW-6S	6 : 12 : 12
Background	SO	108-88-3	Toluene	mg/kg	0.00038	0.00038	0.00038	MW-14S	1 : 1 : 3
Background	SO	Total PAHs	TOTAL PAHs	mg/kg	1.986	92.2	21.68104545	BGRR2	9 : 11 : 11
Background	SO	Total PCBs	TOTAL PCBs	mg/kg	0.0585	0.331	0.142833333	MW-6S	2 : 3 : 3
Background	SO	TSOLIDS	Total Solids	%	76.9	92.6	85.80833333	BGRR3	12 : 12 : 12
Background	SO	TOTAL XYLENES	TOTAL XYLENES	mg/kg	0.00037	0.00037	0.00037	MW-10S	1 : 1 : 3
Background	SO	7440-62-2	Vanadium	mg/kg	10.7	30.8	21.90416667	BG-1	12 : 12 : 12
Background	SO	7440-66-6	Zinc	mg/kg	37.3	903	162.05	BGRR2	12 : 12 : 12
Background	WG	71-55-6	1,1,1-Trichloroethane	ug/l	6	6	1.416666667	MW-6S	1 : 6 : 6
Background	WG	67-64-1	Acetone	ug/l	3.2	16	6.258333333	MW-6M	3 : 6 : 6
Background	WG	7429-90-5	Aluminum	ug/l	18.1	222	72.93333333	MW-14M	4 : 6 : 6
Background	WG	7440-38-2	Arsenic	ug/l	4.8	4.8	2.933333333	MW-6S	1 : 6 : 6
Background	WG	7440-39-3	Barium	ug/l	50.4	1950	419.25	MW-14M	6 : 6 : 6
Background	WG	71-43-2	Benzene	ug/l	1.4	1.4	0.65	MW-10S	1 : 6 : 6
Background	WG	7440-70-2	Calcium	ug/l	92800	271000	152933.3333	MW-14M	6 : 6 : 6
Background	WG	7440-47-3	Chromium (total)	ug/l	1.3	2.57	1.135	MW-10M	2 : 6 : 6
Background	WG	57-12-5	CYANIDE	ug/L	26.8	26.8	9.36	MW-6S	1 : 5 : 6
Background	WG	7439-89-6	Iron	ug/l	32.1	2070	473.6083333	MW-14M	5 : 6 : 6
Background	WG	XYLMP	m+p-Xylene	ug/l	3.3	3.3	0.966666667	MW-10S	1 : 6 : 6
Background	WG	7439-95-4	Magnesium	ug/l	31000	117000	51408.33333	MW-14M	6 : 6 : 6
Background	WG	7439-96-5	Manganese	ug/l	22.3	423	215.375	MW-6S	5 : 6 : 6
Background	WG	91-20-3	Naphthalene	ug/l	0.14	2.8	0.64375	MW-10S	3 : 6 : 6

Appendix B-5 Background Summary Statistics
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

AREA	MEDIUM	CAS No.	Chemical	units	Minimum	Maximum	Mean	Location of Maximum Detection	FOD[1]
Background	WG	95-47-6	o-Xylene	ug/l	0.74	0.74	0.54	MW-10S	1:6:6
Background	WG	7440-09-7	Potassium	ug/l	1640	30100	8613.333333	MW-14M	6:6:6
Background	WG	7782-49-2	Selenium	ug/l	4.55	7.7	3.808333333	MW-10S	2:6:6
Background	WG	7440-23-5	Sodium	ug/l	8040	623000	129218.3333	MW-14M	6:6:6
Background	WG	108-88-3	Toluene	ug/l	5.4	5.4	1.316666667	MW-10S	1:6:6
Background	WG	Total PAHs	TOTAL PAHs	ug/l	0.14	2.8	0.64375	MW-10S	3:6:6
Background	WG	TOTAL XYLENES	TOTAL XYLENES	ug/l	4.04	4.04	1.506666667	MW-10S	1:6:6
Background	WG	7440-66-6	Zinc	ug/l	8.1	8.1	3.133333333	MW-14M	1:6:6
Background	WS	7429-90-5	Aluminum	ug/l	1955	3240	2597.5	GMRSW11	2:2:2
Background	WS	7440-39-3	Barium	ug/l	93.7	100.5	97.1	GMRSW9	2:2:2
Background	WS	7440-70-2	Calcium	ug/l	67800	79500	73650	GMRSW9	2:2:2
Background	WS	7440-47-3	Chromium (total)	ug/l	3.5	4.3	3.9	GMRSW11	2:2:2
Background	WS	206-44-0	Fluoranthene	ug/l	0.065	0.065	0.065	GMRSW9	1:1:2
Background	WS	7439-89-6	Iron	ug/l	1870	2770	2320	GMRSW11	2:2:2
Background	WS	7439-92-1	Lead	ug/l	3.2	3.6	3.4	GMRSW11	2:2:2
Background	WS	XYLMP	m+p-Xylene	ug/l	0.38	0.38	0.38	GMRSW9	1:1:2
Background	WS	7439-95-4	Magnesium	ug/l	26300	31250	28775	GMRSW9	2:2:2
Background	WS	7439-96-5	Manganese	ug/l	49.3	50.8	50.05	GMRSW9	2:2:2
Background	WS	75-09-2	Methylene chloride	ug/l	0.44	0.44	0.44	GMRSW11	1:1:2
Background	WS	91-20-3	Naphthalene	ug/l	0.056	0.056	0.056	GMRSW9	1:1:2
Background	WS	7440-02-0	Nickel	ug/l	2.9	3.9	3.4	GMRSW11	2:2:2
Background	WS	7440-09-7	Potassium	ug/l	4990	5710	5350	GMRSW11	2:2:2
Background	WS	7440-23-5	Sodium	ug/l	18500	25750	22125	GMRSW9	2:2:2
Background	WS	108-88-3	Toluene	ug/l	0.53	0.53	0.515	GMRSW9	1:2:2
Background	WS	Total PAHs	TOTAL PAHs	ug/l	0.121	0.121	0.121	GMRSW9	1:1:2
Background	WS	TOTAL XYLENES	TOTAL XYLENES	ug/l	0.38	0.38	0.38	GMRSW9	1:1:2
Background	WS	7440-62-2	Vanadium	ug/l	5.25	8	6.625	GMRSW11	2:2:2
Background	SE	78-93-3	2-Butanone	mg/kg	0.015	0.015	0.01	GMRSD19	1:2:2
Background	SE	67-64-1	Acetone	mg/kg	0.096	0.096	0.053	GMRSD19	1:2:2
Background	SE	7429-90-5	Aluminum	mg/kg	2330	22200	12265	GMRSD19	2:2:2
Background	SE	120-12-7	Anthracene	mg/kg	0.014	0.53	0.272	GMRSD19	2:2:2
Background	SE	12672-29-6	Aroclor 1248	mg/kg	0.23	0.23	0.1315	GMRSD15	1:2:2
Background	SE	7440-38-2	Arsenic	mg/kg	1.7	15.4	8.55	GMRSD19	2:2:2
Background	SE	7440-39-3	Barium	mg/kg	13.9	446	229.95	GMRSD19	2:2:2
Background	SE	71-43-2	Benzene	mg/kg	0.0012	0.0012	0.0012	GMRSD15	1:1:2
Background	SE	56-55-3	Benzo(a)anthracene	mg/kg	0.025	0.91	0.4675	GMRSD19	2:2:2
Background	SE	50-32-8	Benzo(a)pyrene	mg/kg	0.042	1.6	0.821	GMRSD19	2:2:2
Background	SE	205-99-2	Benzo(b)fluoranthene	mg/kg	0.033	1.2	0.6165	GMRSD19	2:2:2
Background	SE	191-24-2	Benzo(g,h,i)perylene	mg/kg	0.02	0.62	0.32	GMRSD19	2:2:2
Background	SE	207-08-9	Benzo(k)fluoranthene	mg/kg	0.011	0.68	0.3455	GMRSD19	2:2:2
Background	SE	7440-43-9	Cadmium	mg/kg	4.9	4.9	2.5975	GMRSD19	1:2:2
Background	SE	7440-70-2	Calcium	mg/kg	46400	90900	68650	GMRSD15	2:2:2
Background	SE	75-15-0	Carbon disulfide	mg/kg	0.001	0.0022	0.0016	GMRSD19	2:2:2
Background	SE	7440-47-3	Chromium (total)	mg/kg	7.1	224	115.55	GMRSD19	2:2:2
Background	SE	218-01-9	Chrysene	mg/kg	0.047	1.7	0.8735	GMRSD19	2:2:2
Background	SE	7440-48-4	Cobalt	mg/kg	11.9	11.9	7.425	GMRSD19	1:2:2
Background	SE	7440-50-8	Copper	mg/kg	6.9	275	140.95	GMRSD19	2:2:2
Background	SE	110-82-7	Cyclohexane	mg/kg	0.0044	0.0044	0.0044	GMRSD15	1:1:2
Background	SE	100-41-4	Ethylbenzene	mg/kg	0.00069	0.00069	0.00069	GMRSD15	1:1:2
Background	SE	206-44-0	Fluoranthene	mg/kg	0.096	2.5	1.298	GMRSD19	2:2:2
Background	SE	86-73-7	Fluorene	mg/kg	0.0077	0.33	0.16885	GMRSD19	2:2:2
Background	SE	193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	0.018	0.58	0.299	GMRSD19	2:2:2
Background	SE	7439-89-6	Iron	mg/kg	13400	57700	35550	GMRSD19	2:2:2
Background	SE	7439-92-1	Lead	mg/kg	4.2	224	114.1	GMRSD19	2:2:2
Background	SE	XYLMP	m+p-Xylene	mg/kg	0.0012	0.0012	0.0012	GMRSD15	1:1:2
Background	SE	7439-95-4	Magnesium	mg/kg	13700	27600	20650	GMRSD15	2:2:2
Background	SE	7439-96-5	Manganese	mg/kg	217	488	352.5	GMRSD19	2:2:2
Background	SE	7439-97-6	Mercury	mg/kg	0.63	0.63	0.325	GMRSD19	1:2:2
Background	SE	108-87-2	Methylcyclohexane	mg/kg	0.0012	0.0062	0.0037	GMRSD15	2:2:2
Background	SE	75-09-2	Methylene chloride	mg/kg	0.0064	0.0064	0.00445	GMRSD19	1:2:2
Background	SE	7440-02-0	Nickel	mg/kg	6.3	73.7	40	GMRSD19	2:2:2
Background	SE	95-47-6	o-Xylene	mg/kg	0.00047	0.00047	0.00047	GMRSD15	1:1:2
Background	SE	85-01-8	Phenanthrene	mg/kg	0.047	1.1	0.5735	GMRSD19	2:2:2
Background	SE	7440-09-7	Potassium	mg/kg	373	2580	1476.5	GMRSD19	2:2:2
Background	SE	129-00-0	Pyrene	mg/kg	0.084	2.5	1.292	GMRSD19	2:2:2
Background	SE	7440-23-5	Sodium	mg/kg	156	184	170	GMRSD19	2:2:2
Background	SE	108-88-3	Toluene	mg/kg	0.00082	0.0025	0.00166	GMRSD15	2:2:2
Background	SE	7440-44-0	TOTAL CARBON	mg/kg	1470	30500	15985	GMRSD19	2:2:2
Background	SE	Total PAHs	TOTAL PAHs	mg/kg	0.4447	14.25	7.34735	GMRSD19	2:2:2
Background	SE	Total PCBs	TOTAL PCBs	mg/kg	0.23	0.23	0.1315	GMRSD15	1:2:2
Background	SE	TSOLIDS	Total Solids	%	52.6	79.6	66.1	GMRSD15	2:2:4
Background	SE	TOTAL XYLENES	TOTAL XYLENES	mg/kg	0.00167	0.00167	0.00167	GMRSD15	1:1:2
Background	SE	7440-62-2	Vanadium	mg/kg	12.9	44.1	28.5	GMRSD19	2:2:2
Background	SE	7440-66-6	Zinc	mg/kg	19.4	686	352.7	GMRSD19	2:2:2

1. FOD: Frequency of Detection - Number of detected samples: Number of samples used to calculate statistics: Number of total samples.
SO - Surface Soil, SE - Surficial Sediment, WS - Surface Water, WG - Groundwater

C

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Appendix C

Analytical Data Considered in the SLERA

Appendix C

Analytical Data Considered in the SLERA

Appendix C-1 Surface Soil Analytical Data

Appendix C-2 Surface Water Analytical Data

Appendix C-3 Surficial Sediment Analytical Data

Appendix C-4 Groundwater Analytical Data

Appendix C-5 Background Surface Soil Analytical Data

Appendix C-6 Background Surface Water Analytical Data

Appendix C-7 Background Surficial Sediment Analytical Data

Appendix C-8 Background Groundwater Analytical Data

Description of Data Qualifiers
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

Qualifier	Description for organics data	Description for inorganics data
*		Duplicate analysis not within control limits.
+		Correlation coefficient for the MSA < 0.995.
-		Biased high, when combined with J
<	Reported value less than noted detection limit.	Reported value less than noted detection limit.
A	TIC is a suspected aldol-condensation product.	
B	Analyte found in associated blank.	< CRDL but >= Instrument Detection Limit (IDL).
C	ID of pesticides results confirmed by GC/MS.	
D	Compounds at secondary dilution factor.	
E	Exceed calibration range of GC/MS instrument.	Estimated because of the presence of interference.
G		
H		
J	Estimated value.	Estimated value.
K	Estimated maximum possible concentration.	
L		
M		Duplicate injection precision not met.
N	Presumptive evidence of a compound.	Sample recovery not within control limits.
P	Diff. for detected Aroclor > 25% between 2 GC col.	
R	Rejected.	Rejected.
S		Value determined by the Method of Standard Addtn.
U	Compound was analyzed but not detected.	Compound was analyzed but not detected.
W		Post-digestion spike out of control limits, etc.
Y	Internal standard nonconformance.	

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC10SB1			AOC10SB2			AOC10SB3			AOC10SB4			AOC10SB4			AOC12SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.6			0.9			1.7			1			1.9			0.4		
			sys_sample_code:	AOC10SB1AA			AOC10SB2AA			AOC10SB3AA			AOC10SB4AA			AOC10SB4AAR			AOC12SB1AA		
			sample_date:	12/13/2005 12:13:00 PM			10/31/2005 3:33:00 PM			12/13/2005 9:27:00 AM			10/31/2005 3:11:00 PM			12/13/2005 1:38:00 PM			12/14/2005 7:58:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	90			87.7			81.4			82.9		1.21				86.8		
SW6010	Aluminum	7429-90-5	mg/kg	31000	J	10.9	14800		11.4	19400	J	12.3	18600		11.8				14600		11.6
SW6010	Antimony	7440-36-0	mg/kg	6.5	UJ	6.5	6.8	UJ	6.8	7.4	UJ	7.4	7.1	UJ	7.1					R	7.2
SW6010	Arsenic	7440-38-2	mg/kg	2.6		1.1	8.8		1.1	7		1.2	7.7		1.2				9.1		1.2
SW6010	Barium	7440-39-3	mg/kg	291		2.2	114		2.3	154		2.5	144		2.4				84.2		2.4
SW6010	Beryllium	7440-41-7	mg/kg	7.7		0.54	0.57	U	0.57	2.5		0.61	0.59	U	0.59				0.71	J-	0.6
SW6010	Cadmium	7440-43-9	mg/kg	0.99		0.54	0.57	U	0.57	0.61	U	0.61	0.59	U	0.59				0.6	U	0.6
SW6010	Calcium	7440-70-2	mg/kg	206000		545	33500	J	57	74000		614	56400	J	59.1				73000		580
SW6010	Chromium (total)	7440-47-3	mg/kg	23.7		1.1	18.2	J	1.1	16.7		1.2	18.9	J	1.2				14.7		1.2
SW6010	Cobalt	7440-48-4	mg/kg	5.4	U	5.4	11		5.7	7.6		6.1	9.1		5.9				6	U	6
SW6010	Copper	7440-50-8	mg/kg	20.2		2.2	19.4		2.3	14.3		2.5	15.9		2.4				24.2		2.4
SW6010	Iron	7439-89-6	mg/kg	25300	J	109	20700		11.4	20400	J	123	19100		11.8				27600		11.6
SW6010	Lead	7439-92-1	mg/kg	39	J+	0.54	25.8	J	0.57	18.6	J+	0.61	20.4	J	0.59				25.6		0.6
SW6010	Magnesium	7439-95-4	mg/kg	44300	J	54.5	8420	J	57	17000	J	61.4	18500	J	59.1				22300		59.7
SW6010	Manganese	7439-96-5	mg/kg	4190		10.9	806		1.1	1600		12.3	1420		11.8				999		1.2
SW6010	Nickel	7440-02-0	mg/kg	5.7		4.4	17.5		4.6	13.7		4.9	15		4.7				13.4		4.8
SW6010	Potassium	7440-09-7	mg/kg	2170		218	1910		228	1590		246	2010		237				1450		116
SW6010	Selenium	7782-49-2	mg/kg	5.5		1.1	1.1	U	1.1	1.3		1.2	1.2	U	1.2				1.2	UJ	1.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.2	U	1.2				1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	1310		54.5	84.9		57	401		61.4	297		59.1				238		58
SW6010	Thallium	7440-28-0	mg/kg	27.2	U	27.2	5.7	U	5.7	6.1	U	6.1	5.9	U	5.9				6	U	6
SW6010	Vanadium	7440-62-2	mg/kg	22.5		5.4	36.6		5.7	27		6.1	37.3		5.9				19.2		6
SW6010	Zinc	7440-66-6	mg/kg	74.5	J+	2.2	62.5		2.3	47	J+	2.5	54.3		2.4				84.6	J	2.3
SW7470	Mercury	7439-97-6	mg/kg	2.5	J	0.18	0.04	J	0.04	0.04	UJ	0.04	0.04	UJ	0.04				0.04		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	39	U	39	41	U	41	40	U	40				38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	74	U	74	79	U	79	82	U	82	81	U	81				77	U	77
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	39	U	39	41	U	41	40	U	40				38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	39	U	39	41	U	41	40	U	40				38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	39	U	39	41	U	41	40	U	40				150		38
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	39	U	39	41	U	41	40	U	40				38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	37	U	37	39	U	39	41	U	41	40	U	40				200		38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	2-Butanone	78-93-3	ug/kg	14	U	14	10	U	10	17	U	17	11	U	11				4.2	J	14
SW8260	2-Hexanone	591-78-6	ug/kg	14	U	14	10	U	10	17	U	17	11	U	11				14	U	14
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	14	U	14	10	U	10	17	U	17	11	U	11				14	U	14
SW8260	Acetone	67-64-1	ug/kg	6.2	J	27	31		21	8.6	J	34	35		21				31		28
SW8260	Benzene	71-43-2	ug/kg	6.8	U	6.8	1	J	5.2	8.5	U	8.5	0.71	J	5.3				1.2	J	7
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Bromoform	75-25-2	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Bromomethane	74-83-9	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Carbon disulfide	75-15-0	ug/kg	2.1	J	14	0.57	J	10	5.7	J	17	4.7	J	11				6	J	14
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Chlorobenzene	108-90-7	ug/kg	0.46	J	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Chloroethane	75-00-3	ug/kg	14	U	14	10	U	10	17	U	17	11	U	11				14	U	14
SW8260	Chloroform	67-66-3	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Chloromethane	74-87-3	ug/kg	0.7	J	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				1.1	J	7
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Cyclohexane	110-82-7	ug/kg	6.8	U	6.8	5.9	J	5.2	8.5	U	8.5	4.3	J	5.3				0.97	J	7
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Ethylbenzene	100-41-4	ug/kg	6.8	U	6.8	0.62	J	5.2	8.5	U	8.5	0.49	J	5.3				1.1	J	7
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC10SB1			AOC10SB2			AOC10SB3			AOC10SB4			AOC10SB4			AOC12SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.6			0.9			1.7			1			1.9			0.4		
			sys_sample_code:	AOC10SB1AA			AOC10SB2AA			AOC10SB3AA			AOC10SB4AA			AOC10SB4AAR			AOC12SB1AA		
			sample_date:	12/13/2005 12:13:00 PM			10/31/2005 3:33:00 PM			12/13/2005 9:27:00 AM			10/31/2005 3:11:00 PM			12/13/2005 1:38:00 PM			12/14/2005 7:58:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.8	U	6.8	0.79	J	5.2	8.5	U	8.5	0.58	J	5.3				1.9	J	7
SW8260	Methyl acetate	79-20-9	ug/kg	14	U	14	10	U	10	17	U	17	11	U	11				2.4	J	14
SW8260	Methylcyclohexane	108-87-2	ug/kg	6.8	U	6.8	6.4		5.2	8.5	U	8.5	4.3	J	5.3				1.6	J	7
SW8260	Methylene chloride	75-09-2	ug/kg	6.8	UB	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				0.69	J	7
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	o-Xylene	95-47-6	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				0.93	J	7
SW8260	Styrene	100-42-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Toluene	108-88-3	ug/kg	6.8	U	6.8	2.1	J	5.2	8.5	U	8.5	1.7	J	5.3				2.5	J	7
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Trichloroethene	79-01-6	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8260	Vinyl chloride	75-01-4	ug/kg	6.8	U	6.8	5.2	U	5.2	8.5	U	8.5	5.3	U	5.3				7	U	7
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2-Chlorophenol	95-57-8	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	160	J	1100	2000	U	2000	810	U	810	400	U	400				370	J	1900
SW8270	2-Nitroaniline	88-74-4	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	2-Nitrophenol	88-75-5	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1100	U	1100	2000	UJ	2000	810	U	810	400	UJ	400				1900	U	1900
SW8270	3-Nitroaniline	99-09-2	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	4-Chloroaniline	106-47-8	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	4-Nitroaniline	100-01-6	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	4-Nitrophenol	100-02-7	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	Acenaphthene	83-32-9	ug/kg	140	J	1100	2000	U	2000	120	J	810	400	U	400				1900	U	1900
SW8270	Acenaphthylene	208-96-8	ug/kg	1200		1100	2000	U	2000	810	U	810	400	U	400				3600		1900
SW8270	Acetophenone	98-86-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Anthracene	120-12-7	ug/kg	1200		1100	2000	U	2000	160	J	810	400	U	400				5100		1900
SW8270	Atrazine	1912-24-9	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Benzaldehyde	100-52-7	ug/kg	5700	U	1100	10000	UJ	10000	4200	U	810	2100	UJ	2100				9800	U	1900
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	4700		1100	270	J	2000	490	J	810	70	J	400				8800		1900
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	4100		1100	320	J	2000	540	J	810	86	J	400				8400		1900
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	3900		1100	280	J	2000	500	J	810	88	J	400				7000		1900
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	2800		1100	250	J	2000	420	J	810	81	J	400				5000		1900
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	3600		1100	280	J	2000	450	J	810	74	J	400				7000		1900
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Caprolactam	105-60-2	ug/kg	1100	U	1100	10000	U	10000	810	U	810	2100	U	2100				1900	U	1900
SW8270	Carbazole	86-74-8	ug/kg	300	J	1100	2000	U	2000	160	J	810	400	U	400				1400	J	1900
SW8270	Chrysene	218-01-9	ug/kg	4600		1100	370	J	2000	640	J	810	100	J	400				8800		1900
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	880	J	1100	2000	U	2000	150	J	810	400	U	400				1500	J	1900
SW8270	Dibenzofuran	132-64-9	ug/kg	240	J	1100	2000	U	2000	84	J	810	400	U	400				1200	J	1900
SW8270	Diethylphthalate	84-66-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Dimethylphthalate	131-11-3	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Fluoranthene	206-44-0	ug/kg	8300		1100	630	J	2000	1500		810	160	J	400				18000		1900
SW8270	Fluorene	86-73-7	ug/kg	420	J	1100	2000	U	2000	170	J	810	400	U	400				2200		1900
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC10SB1			AOC10SB2			AOC10SB3			AOC10SB4			AOC10SB4			AOC12SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.6			0.9			1.7			1			1.9			0.4		
			sys_sample_code:	AOC10SB1AA			AOC10SB2AA			AOC10SB3AA			AOC10SB4AA			AOC10SB4AAR			AOC12SB1AA		
			sample_date:	12/13/2005 12:13:00 PM			10/31/2005 3:33:00 PM			12/13/2005 9:27:00 AM			10/31/2005 3:11:00 PM			12/13/2005 1:38:00 PM			12/14/2005 7:58:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	2600		1100	210	J	2000	370	J	810	66	J	400				4700		1900
SW8270	Isophorone	78-59-1	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Naphthalene	91-20-3	ug/kg	400	J	1100	2000	U	2000	810	U	810	400	U	400				1300	J	1900
SW8270	Nitrobenzene	98-95-3	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Pentachlorophenol	87-86-5	ug/kg	5700	U	5700	10000	U	10000	4200	U	4200	2100	U	2100				9800	U	9800
SW8270	Phenanthrene	85-01-8	ug/kg	4000		1100	230	J	2000	1400		810	59	J	400				14000		1900
SW8270	Phenol	108-95-2	ug/kg	1100	U	1100	2000	U	2000	810	U	810	400	U	400				1900	U	1900
SW8270	Pyrene	129-00-0	ug/kg	6800		1100	490	J	2000	1100		810	130	J	400				15000		1900
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										2.681	B	0.053	0.475	J	0.029	8.008	B	0.133
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										16.981	B	0.074	2.647	UB	0.023	5.829	B	0.178
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										0.075	U	0.075	0.04	U	0.04	0.187	U	0.187
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										0.304	J	0.036	0.148	JK	0.016	2.353	J	0.107
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										0.046	U	0.046	0.064	J	0.011	0.146	J	0.057
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										0.206	J	0.037	0.069	JK	0.017	0.662	J	0.112
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										0.45	JK	0.044	0.158	JK	0.01	0.323	JK	0.055
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.046	U	0.046	0.021	U	0.021	0.138	U	0.138
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										0.583	J	0.044	0.307	JK	0.01	0.294	J	0.054
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										0.034	U	0.034	0.016	U	0.016	0.362	J	0.045
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										0.036	U	0.036	0.023	U	0.023	0.082	U	0.082
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										0.04	U	0.04	0.087	J	0.018	0.591	J	0.12
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										0.033	U	0.033	0.015	U	0.015	0.497	J	0.044
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										0.447	U	0.447	0.334	U	0.334	0.973	U	0.973
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										1.059		0.048	0.01	U	0.01	0.038	U	0.038
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										8.229	B	0.151	0.706	UB	0.027	7.995	UB	0.368
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										312.826	B	0.127	27.121	UB	0.027	26.54	UB	0.426
SW9012A	CYANIDE	57-12-5	mg/kg	1.81	J+	1.11	1.19	U	1.19	1.23	U	1.23	1.21	U	1.21				2.54		1.19

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC12SB2			AOC12SB3			AOC12SB4			AOC12SB5			AOC12SB6			AOC13SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.3			0.9			1.9			1.8			1.6			2		
			sys_sample_code:	AOC12SB2AA			AOC12SB3AA			AOC12SB4AA			AOC12SB5AA			AOC12SB6AA			AOC13SB1AA		
			sample_date:	12/14/2005 2:06:00 PM			12/14/2005 1:00:00 PM			12/13/2005 2:44:00 PM			12/14/2005 9:00:00 AM			12/14/2005 9:56:00 AM			1/5/2006 12:50:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	85			85.8			90.3			87.8			87.7			87.3		
SW6010	Aluminum	7429-90-5	mg/kg	28300		11.2	12500		11.1	11900		10.5	16100		11.3	12400		11	17700		11.2
SW6010	Antimony	7440-36-0	mg/kg		R	6.7		R	7		R	6.5		R	6.8		R	6.8	6.7	U	6.7
SW6010	Arsenic	7440-38-2	mg/kg	6.2		1.1	12.9		1.2	15.5		1.1	5.8		1.1	11.5		1.1	13.9	J	1.1
SW6010	Barium	7440-39-3	mg/kg	209		2.2	84.9		2.3	125		2.2	300		2.3	76.8		2.3	274	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	2.7	J-	0.56	0.61	J-	0.58	1.3	J-	0.54	2	J-	0.57	0.59	J-	0.56	3.5		0.56
SW6010	Cadmium	7440-43-9	mg/kg	0.56	U	0.56	0.58	U	0.58	2.4		0.54	0.57	U	0.57	0.56	U	0.56	2.1		0.56
SW6010	Calcium	7440-70-2	mg/kg	181000		560	66700		555	91100		527	134000		564	89600		548	99600	J	562
SW6010	Chromium (total)	7440-47-3	mg/kg	13.8		1.1	54.9		1.2	40.5		1.1	14.7		1.1	14.8		1.1	32.5	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.6	U	5.6	5.8	U	5.8	5.6		5.4	5.7	U	5.7	5.6	U	5.6	5.6	U	5.6
SW6010	Copper	7440-50-8	mg/kg	96.9		2.2	31		2.3	128		2.2	363		2.3	24.3		2.3	48.2	J	2.2
SW6010	Iron	7439-89-6	mg/kg	16000		11.2	38600		111	90400		105	20100		11.3	47200		110	30300	J	11.2
SW6010	Lead	7439-92-1	mg/kg	58.2		0.56	37		0.58	256		0.54	137		0.57	31.2		0.56	626	J	5.6
SW6010	Magnesium	7439-95-4	mg/kg	45600		560	34600		58.3	26500		54.3	52500		56.9	28400		56.4	26800	J	112
SW6010	Manganese	7439-96-5	mg/kg	1460		11.2	917		1.1	1950		10.5	1530		11.3	1200		11	2400	J	11.2
SW6010	Nickel	7440-02-0	mg/kg	7.6		4.5	24.5		4.7	22.3		4.3	8.1		4.6	12.1		4.5	16.2		4.5
SW6010	Potassium	7440-09-7	mg/kg	2150		112	1280		111	1230		105	1150		113	1220		110	1480		225
SW6010	Selenium	7782-49-2	mg/kg	2.7	J	1.1	5	J	2.3	6.4	J	5.4	2.6	J	1.1	1.1	UJ	1.1	2.6		2.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.8		1.1
SW6010	Sodium	7440-23-5	mg/kg	1240		56	203		55.5	357		52.7	678		56.4	265		54.8	499		56.2
SW6010	Thallium	7440-28-0	mg/kg	5.6	U	5.6	5.8	U	5.8	5.4	U	5.4	5.7	U	5.7	5.6	U	5.6	1.1	U	1.1
SW6010	Vanadium	7440-62-2	mg/kg	14.8		5.6	64.4		5.8	24.8		5.4	15.9		5.7	17.7		5.6	18.9	J	5.6
SW6010	Zinc	7440-66-6	mg/kg	108	J	2.2	177	J	2.2	926	J	21.1	357	J	22.6	97.5	J	2.2	636	J	22.5
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.05		0.04	0.24		0.04	0.08		0.04	0.04		0.03	4.3	J	0.18
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	38	U	38	37	U	37	38	U	38	38	U	38	380	U	380
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	78	U	78	74	U	74	76	U	76	76	U	76	770	U	770
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	38	U	38	37	U	37	38	U	38	38	U	38	380	U	380
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	38	U	38	37	U	37	38	U	38	38	U	38	380	U	380
SW8082	Aroclor 1248	12672-29-6	ug/kg	140		39	38	U	38	37	U	37	38	U	38	23	J	38	380	U	380
SW8082	Aroclor 1254	11097-69-1	ug/kg	39	U	39	38	U	38	37	U	37	38	U	38	38	U	38	380	U	380
SW8082	Aroclor 1260	11096-82-5	ug/kg	96		39	47		38	360		37	50		38	82		38	2200		380
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	2-Butanone	78-93-3	ug/kg	2.5	J	16	11	J	14	2.7	J	12	3.8	J	12	5.1	J	11	10	U	10
SW8260	2-Hexanone	591-78-6	ug/kg	16	U	16	14	U	14	12	U	12	12	U	12	11	U	11	10	U	10
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	16	U	16	14	U	14	12	U	12	12	U	12	11	U	11	10	U	10
SW8260	Acetone	67-64-1	ug/kg	11	J	32	78		27	11	J	24	35		23	25		21	26	J	20
SW8260	Benzene	71-43-2	ug/kg	3.2	J	7.9	6.4	J	6.8	1.2	J	5.9	1.3	J	5.8	1.6	J	5.3	4	J	5
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Bromoform	75-25-2	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Bromomethane	74-83-9	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Carbon disulfide	75-15-0	ug/kg	2.6	J	16	35		14	12	U	12	3	J	12	4	J	11	1.3	J	10
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Chlorobenzene	108-90-7	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	23		5.3	5	U	5
SW8260	Chloroethane	75-00-3	ug/kg	16	U	16	14	U	14	12	U	12	12	U	12	11	U	11	10	U	10
SW8260	Chloroform	67-66-3	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Chloromethane	74-87-3	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Cyclohexane	110-82-7	ug/kg	1.6	J	7.9	6.8	U	6.8	0.63	J	5.9	0.92	J	5.8	2.1	J	5.3	11	J	5
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Ethylbenzene	100-41-4	ug/kg	7.9	U	7.9	4.2	J	6.8	5.9	U	5.9	0.43	J	5.8	0.41	J	5.3	3.4	J	5
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.9	U	7.9	0.68	J	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	0.49	J	5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC12SB2			AOC12SB3			AOC12SB4			AOC12SB5			AOC12SB6			AOC13SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.3			0.9			1.9			1.8			1.6			2		
			sys_sample_code:	AOC12SB2AA			AOC12SB3AA			AOC12SB4AA			AOC12SB5AA			AOC12SB6AA			AOC13SB1AA		
			sample_date:	12/14/2005 2:06:00 PM			12/14/2005 1:00:00 PM			12/13/2005 2:44:00 PM			12/14/2005 9:00:00 AM			12/14/2005 9:56:00 AM			1/5/2006 12:50:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	7.9	U	7.9	4	J	6.8	5.9	U	5.9	5.8	U	5.8	1.1	J	5.3	4.7	J	5
SW8260	Methyl acetate	79-20-9	ug/kg	16	U	16	14	U	14	12	U	12	1.5	J	12	11	U	11	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/kg	1.9	J	7.9	8.7		6.8	0.74	J	5.9	1.5	J	5.8	3.1	J	5.3	19	J	5
SW8260	Methylene chloride	75-09-2	ug/kg	0.85	J	7.9	6.8	U	6.8	5.9	U	5.9	0.97	J	5.8	0.57	J	5.3	5	U	5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	o-Xylene	95-47-6	ug/kg	0.49	J	7.9	2	J	6.8	5.9	U	5.9	0.35	J	5.8	0.57	J	5.3	2.4	J	5
SW8260	Styrene	100-42-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Toluene	108-88-3	ug/kg	1.9	J	7.9	9.3		6.8	5.9	U	5.9	1.4	J	5.8	1.6	J	5.3	9.9	J	5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Trichloroethene	79-01-6	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8260	Vinyl chloride	75-01-4	ug/kg	7.9	U	7.9	6.8	U	6.8	5.9	U	5.9	5.8	U	5.8	5.3	U	5.3	5	U	5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1900	U	1900	380	U	380	39	J	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2-Chlorophenol	95-57-8	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	260	J	1900	64	J	380	210	J	370	1100	U	1100	130	J	380	2300	U	2300
SW8270	2-Nitroaniline	88-74-4	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	2-Nitrophenol	88-75-5	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	3-Nitroaniline	99-09-2	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	4-Chloroaniline	106-47-8	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	4-Nitroaniline	100-01-6	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	4-Nitrophenol	100-02-7	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	Acenaphthene	83-32-9	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Acenaphthylene	208-96-8	ug/kg	4500		1900	190	J	380	640		370	400	J	1100	110	J	380	3200		2300
SW8270	Acetophenone	98-86-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Anthracene	120-12-7	ug/kg	4700		1900	140	J	380	470		370	310	J	1100	110	J	380	4000	J	2300
SW8270	Atrazine	1912-24-9	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Benzaldehyde	100-52-7	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	UJ	12000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	10000		1900	510		380	1700		370	5400		1100	390		380	13000	J	2300
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	10000		1900	540		380	1900		370	3300		1100	420		380	17000	J	2300
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	8200		1900	440		380	1700		370	4200		1100	490		380	15000	J	2300
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	6000		1900	330	J	380	1300		370	1400		1100	330	J	380	14000	J	2300
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	8400		1900	500		380	1600		370	3900		1100	440		380	13000	J	2300
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Caprolactam	105-60-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Carbazole	86-74-8	ug/kg	890	J	1900	380	U	380	130	J	370	160	J	1100	380	U	380	780	J	2300
SW8270	Chrysene	218-01-9	ug/kg	10000		1900	490		380	1900		370	6400		1100	440		380	13000	J	2300
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	1900	J	1900	98	J	380	410		370	590	J	1100	100	J	380	3700	J	2300
SW8270	Dibenzofuran	132-64-9	ug/kg	780	J	1900	380	U	380	120	J	370	1100	U	1100	43	J	380	480	J	2300
SW8270	Diethylphthalate	84-66-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Dimethylphthalate	131-11-3	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	7200	J	2300
SW8270	Fluoranthene	206-44-0	ug/kg	20000		1900	960		380	2900		370	11000		1100	640		380	25000	J	2300
SW8270	Fluorene	86-73-7	ug/kg	1600	J	1900	380	U	380	110	J	370	1100	U	1100	380	U	380	810	J	2300
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC12SB2			AOC12SB3			AOC12SB4			AOC12SB5			AOC12SB6			AOC13SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.3			0.9			1.9			1.8			1.6			2		
			sys_sample_code:	AOC12SB2AA			AOC12SB3AA			AOC12SB4AA			AOC12SB5AA			AOC12SB6AA			AOC13SB1AA		
			sample_date:	12/14/2005 2:06:00 PM			12/14/2005 1:00:00 PM			12/13/2005 2:44:00 PM			12/14/2005 9:00:00 AM			12/14/2005 9:56:00 AM			1/5/2006 12:50:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	5600		1900	300	J	380	1200		370	1600		1100	300	J	380	13000	J	2300
SW8270	Isophorone	78-59-1	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Naphthalene	91-20-3	ug/kg	840	J	1900	70	J	380	830	U	370	1100	U	1100	110	J	380	2300	U	2300
SW8270	Nitrobenzene	98-95-3	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Pentachlorophenol	87-86-5	ug/kg	10000	U	10000	2000	U	2000	1900	U	1900	5800	U	5800	1900	U	1900	12000	U	12000
SW8270	Phenanthrene	85-01-8	ug/kg	12000		1900	340	J	380	1300		370	430	J	1100	300	J	380	11000	J	2300
SW8270	Phenol	108-95-2	ug/kg	1900	U	1900	380	U	380	370	U	370	1100	U	1100	380	U	380	2300	U	2300
SW8270	Pyrene	129-00-0	ug/kg	16000		1900	780		380	2300		370	10000		1100	570		380	19000	J	2300
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										12.515		0.044						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										13.647	B	0.043						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										0.713	J	0.062						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										3.097		0.044						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										0.246	J	0.035						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										1.293	J	0.046						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										0.882	J	0.033						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.079	J	0.057						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										0.833	J	0.033						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										1.225	J	0.03						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										0.407	J	0.039						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										1.154	J	0.049						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										1.572	J	0.029						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										1.578		0.377						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										0.214	JK	0.025						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										12.853	B	0.057						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										88.96	B	0.047						
SW9012A	CYANIDE	57-12-5	mg/kg	1.18	U	1.18	2.42		1.17	4.63		1.11	1.14	U	1.14	3.1		1.14	1.15	UJ	1.15

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB1			AOC13SB10			AOC13SB11			AOC13SB12			AOC13SB13			AOC13SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			1.9			1.5			2			1			0.6		
			sys_sample_code:	AOC13SB1AB			AOC13SB10AA			AOC13SB11AA			AOC13SB12AA			AOC13SB13AA			AOC13SB2AA		
			sample_date:	1/5/2006 12:50:00 PM			1/12/2006 3:35:00 PM			1/18/2006 8:45:00 AM			1/19/2006 10:47:00 AM			1/19/2006 8:55:00 AM			1/12/2006 2:17:00 PM		
			sample_type_code:	FD			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	87.5			81.4			85.1			85.4			86.7			84.5		
SW6010	Aluminum	7429-90-5	mg/kg	13700		10.9	7490		11.9	6800		11.2	8370		11.3	6860		11.4	14200		11.4
SW6010	Antimony	7440-36-0	mg/kg	6.5	U	6.5	7.2	UJ	7.2	6.8	U	6.8	6.8	U	6.8	6.9	U	6.9	6.8	UJ	6.8
SW6010	Arsenic	7440-38-2	mg/kg	9	J	1.1	6.3		1.2	5.8	J-	1.1	6.9		1.1	6.4		1.1	7.4		1.1
SW6010	Barium	7440-39-3	mg/kg	85.9	J	2.2	66.5		2.4	65.6	J	2.2	64.6		2.3	58.2		2.3	83.1		2.3
SW6010	Beryllium	7440-41-7	mg/kg	1.1		0.54	0.6	U	0.6	0.56	U	0.56	0.56	U	0.56	0.57	U	0.57	1.4		0.57
SW6010	Cadmium	7440-43-9	mg/kg	0.7		0.54	0.8		0.6	0.56	U	0.56	0.63		0.56	0.57	U	0.57	0.64		0.57
SW6010	Calcium	7440-70-2	mg/kg	54200	J	54.4	89700		596	85900	J	560	79300		563	81600		571	52700		569
SW6010	Chromium (total)	7440-47-3	mg/kg	20.7	J	1.1	18.5		1.2	19.6		1.1	12	J	1.1	9	J	1.1	24.9		1.1
SW6010	Cobalt	7440-48-4	mg/kg	6.4		5.4	6	U	6	5.6	U	5.6	5.6	U	5.6	5.7	U	5.7	7.7		5.7
SW6010	Copper	7440-50-8	mg/kg	25.4	J	2.2	17.5		2.4	16.3		2.2	16.4		2.3	17.1		2.3	15.2		2.3
SW6010	Iron	7439-89-6	mg/kg	19000	J	10.9	15000		119	14000	J	11.2	14600		113	12600		114	26400		114
SW6010	Lead	7439-92-1	mg/kg	69	J	5.4	20.3		6	24		5.6	14		5.6	11.2		5.7	43.2		5.7
SW6010	Magnesium	7439-95-4	mg/kg	29300		109	28500		59.6	25600	J	114	28000		56.3	27500		57.1	19700		56.9
SW6010	Manganese	7439-96-5	mg/kg	907	J	1.1	414		1.2	419	J	1.1	435		1.1	392		1.1	816		1.1
SW6010	Nickel	7440-02-0	mg/kg	18.7		4.4	14.1		4.8	13.5		4.5	13.5		4.5	27.1		4.6	21.8		4.6
SW6010	Potassium	7440-09-7	mg/kg	1850		218	1180		239	1220	J	224	1170		225	921		228	1300		228
SW6010	Selenium	7782-49-2	mg/kg	2.2	U	2.2	2.4	U	2.4	1.1	U	1.1	2.3	U	2.3	2.3	U	2.3	2.3	U	2.3
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.2	U	1.2	1.1	UJ	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	138		54.4	173		59.6	148		56	140		56.3	146		57.1	136		56.9
SW6010	Thallium	7440-28-0	mg/kg	1.1	U	1.1	17.9	U	17.9	5.6	U	5.6	11.3	U	11.3	11.4	U	11.4	17.1	U	17.1
SW6010	Vanadium	7440-62-2	mg/kg	26.1	J	5.4	20.5		6	17.9		5.6	21.2		5.6	17.4		5.7	29.2		5.7
SW6010	Zinc	7440-66-6	mg/kg	108	J	2.2	69.7		2.4	95.2		2.2	54.2		2.3	42.1		2.3	75.7	J	2.3
SW7470	Mercury	7439-97-6	mg/kg	0.63	J	0.04	0.1	J-	0.04	0.08		0.04	0.04		0.04	0.17		0.04	0.04	UJ	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	380	U	380	2000	U	2000	39	U	39	39	U	39	38	U	38	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	770	U	770	4100	U	4100	79	U	79	78	U	78	77	U	77	79	U	79
SW8082	Aroclor 1232	11141-16-5	ug/kg	380	U	380	2000	U	2000	39	U	39	39	U	39	38	U	38	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	380	U	380	2000	U	2000	39	U	39	39	U	39	38	U	38	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	380	U	380	2000	U	2000	39	U	39	39	U	39	38	U	38	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	380	U	380	2000	U	2000	39	U	39	39	U	39	38	U	38	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	1800		380	8200		2000	39	U	39	39	U	39	38	U	38	150		39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.6	UJ	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	2-Butanone	78-93-3	ug/kg	9.1	U	9.1	10	U	10	9.5	U	9.5	12	U	12	12	U	12	12	U	12
SW8260	2-Hexanone	591-78-6	ug/kg	9.1	U	9.1	10	U	10	9.5	U	9.5	12	U	12	12	U	12	12	U	12
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.1	U	9.1	10	U	10	9.5	U	9.5	12	U	12	12	U	12	12	U	12
SW8260	Acetone	67-64-1	ug/kg	11	J	18	20	UJ	20	19	U	19	160		25	44		24	24	U	24
SW8260	Benzene	71-43-2	ug/kg	0.7	J	4.6	5	U	5	0.55	J	4.7	5.4	J	6.1	3.9	J	6.1	0.46	J	6
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Bromoform	75-25-2	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Bromomethane	74-83-9	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Carbon disulfide	75-15-0	ug/kg	0.48	J	9.1	10	U	10	9.5	U	9.5	1.1	J	12	1.5	J	12	0.52	J	12
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Chlorobenzene	108-90-7	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Chloroethane	75-00-3	ug/kg	9.1	U	9.1	10	U	10	9.5	U	9.5	12	U	12	12	U	12	12	U	12
SW8260	Chloroform	67-66-3	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Chloromethane	74-87-3	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Cyclohexane	110-82-7	ug/kg	1.3	J	4.6	0.74	J	5	0.38	J	4.7	6.2		6.1	2	J	6.1	0.62	J	6
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Ethylbenzene	100-41-4	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	2.2	J	6.1	0.72	J	6.1	6	U	6
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB1			AOC13SB10			AOC13SB11			AOC13SB12			AOC13SB13			AOC13SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			1.9			1.5			2			1			0.6		
			sys_sample_code:	AOC13SB1AB			AOC13SB10AA			AOC13SB11AA			AOC13SB12AA			AOC13SB13AA			AOC13SB2AA		
			sample_date:	1/5/2006 12:50:00 PM			1/12/2006 3:35:00 PM			1/18/2006 8:45:00 AM			1/19/2006 10:47:00 AM			1/19/2006 8:55:00 AM			1/12/2006 2:17:00 PM		
			sample_type_code:	FD			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	4.1	J	6.1	2.1	J	6.1	6	U	6
SW8260	Methyl acetate	79-20-9	ug/kg	9.1	U	9.1	10	U	10	9.5	U	9.5	12	U	12	12	U	12	12	U	12
SW8260	Methylcyclohexane	108-87-2	ug/kg	2.4	J	4.6	0.92	J	5	0.34	J	4.7	8.5		6.1	3.5	J	6.1	0.98	J	6
SW8260	Methylene chloride	75-09-2	ug/kg	0.3	J	4.6	0.37	J	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	UB	6
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	o-Xylene	95-47-6	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	1.8	J	6.1	1.1	J	6.1	6	U	6
SW8260	Styrene	100-42-5	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Toluene	108-88-3	ug/kg	0.62	J	4.6	5	U	5	0.52	J	4.7	7.5		6.1	4.4	J	6.1	0.51	J	6
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.6	U	4.6	5	UJ	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Trichloroethene	79-01-6	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	0.4	J	6.1	6.1	U	6.1	6	U	6
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8260	Vinyl chloride	75-01-4	ug/kg	4.6	U	4.6	5	U	5	4.7	U	4.7	6.1	U	6.1	6.1	U	6.1	6	U	6
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2-Chlorophenol	95-57-8	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	60	J	380	460	J	2000
SW8270	2-Nitroaniline	88-74-4	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	2-Nitrophenol	88-75-5	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	3-Nitroaniline	99-09-2	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	4-Chloroaniline	106-47-8	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	4-Nitroaniline	100-01-6	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	4-Nitrophenol	100-02-7	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	Acenaphthene	83-32-9	ug/kg	1900	U	1900	1600	U	1600	45	J	390	390	U	390	380	U	380	330	J	2000
SW8270	Acenaphthylene	208-96-8	ug/kg	1900	U	1900	1500	J	1600	390	U	390	390	U	390	90	J	380	3100		2000
SW8270	Acetophenone	98-86-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Anthracene	120-12-7	ug/kg	1300	J	1900	1100	J	1600	160	J	390	390	U	390	93	J	380	3000		2000
SW8270	Atrazine	1912-24-9	ug/kg	1900	U	1900	1600	U	1600	390	UJ	390	390	U	390	380	U	380	2000	U	2000
SW8270	Benzaldehyde	100-52-7	ug/kg	9700	UJ	9700	8400	U	1600	2000	UJ	390	2000	U	390	2000	U	380	10000	U	2000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	4500	J	1900	3700	J	1600	390	J	390	76	J	390	300	J	380	7200		2000
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	5100	J	1900	4100	J	1600	320	J	390	71	J	390	330	J	380	7500		2000
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	4300	J	1900	3700	J	1600	290	J	390	66	J	390	320	J	380	6300		2000
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	5100	J	1900	3300	J	1600	210	J	390	53	J	390	280	J	380	5000		2000
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	3800	J	1900	3300	J	1600	290	J	390	66	J	390	300	J	380	6600		2000
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1900	U	1900	1600	U	1600	390	U	390	68	J	390	380	U	380	2000	U	2000
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Caprolactam	105-60-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Carbazole	86-74-8	ug/kg	340	J	1900	860	J	1600	390	U	390	390	U	390	380	U	380	1900	J	2000
SW8270	Chrysene	218-01-9	ug/kg	4500	J	1900	3700	J	1600	390	J	390	80	J	390	310	J	380	7200		2000
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	1100	J	1900	840	J	1600	75	J	390	390	U	390	80	J	380	1400	J	2000
SW8270	Dibenzofuran	132-64-9	ug/kg	230	J	1900	260	J	1600	390	U	390	390	U	390	380	U	380	990	J	2000
SW8270	Diethylphthalate	84-66-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Dimethylphthalate	131-11-3	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	2400	J	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Fluoranthene	206-44-0	ug/kg	8800	J	1900	9200	J	1600	960		390	160	J	390	520		380	17000		2000
SW8270	Fluorene	86-73-7	ug/kg	370	J	1900	370	J	1600	53	J	390	390	U	390	380	U	380	2100		2000
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1900	U	1900	1600	U	1600	390	UJ	390	390	U	390	380	U	380	2000	U	2000

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB1			AOC13SB10			AOC13SB11			AOC13SB12			AOC13SB13			AOC13SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			1.9			1.5			2			1			0.6		
			sys_sample_code:	AOC13SB1AB			AOC13SB10AA			AOC13SB11AA			AOC13SB12AA			AOC13SB13AA			AOC13SB2AA		
			sample_date:	1/5/2006 12:50:00 PM			1/12/2006 3:35:00 PM			1/18/2006 8:45:00 AM			1/19/2006 10:47:00 AM			1/19/2006 8:55:00 AM			1/12/2006 2:17:00 PM		
			sample_type_code:	FD			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	4000	J	1900	2800	J	1600	190	J	390	41	J	390	230	J	380	4500		2000
SW8270	Isophorone	78-59-1	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Naphthalene	91-20-3	ug/kg	300	J	1900	330	J	1600	390	U	390	250	J	390	1100		380	2600		2000
SW8270	Nitrobenzene	98-95-3	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Pentachlorophenol	87-86-5	ug/kg	9700	U	9700	8400	U	8400	2000	U	2000	2000	U	2000	2000	U	2000	10000	U	10000
SW8270	Phenanthrene	85-01-8	ug/kg	4000	J	1900	5500	J	1600	620		390	110	J	390	270	J	380	13000		2000
SW8270	Phenol	108-95-2	ug/kg	1900	U	1900	1600	U	1600	390	U	390	390	U	390	380	U	380	2000	U	2000
SW8270	Pyrene	129-00-0	ug/kg	7500	J	1900	7600	J	1600	760		390	140	J	390	500		380	13000		2000
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg													4.927	JB	0.058			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg													18.128	B	0.033			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg													0.272	J	0.076			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg													0.784	J	0.028			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg													0.198	J	0.031			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg													0.33	J	0.028			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg													0.62	J	0.028			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg													0.034	U	0.034			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg													0.579	J	0.029			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg													0.385	JK	0.027			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg													0.182	J	0.028			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg													0.321	J	0.03			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg													0.332	J	0.025			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg													0.817	UJ	0.817			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg													0.295	JK	0.018			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg													7.409	J	0.058			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg													190.864	B	0.062			
SW9012A	CYANIDE	57-12-5	mg/kg	1.14	UJ	1.14	3.99	J-	1.23	1.18	UJ	1.18	1.21		1.17	1.15	U	1.15	1.18	UJ	1.18

			sys_loc_code:	AOC13SB3			AOC13SB4			AOC13SB5			AOC13SB52			AOC13SB53			AOC13SB54		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1.5			0.9			2			1.7			1.6		
			sys_sample_code:	AOC13SB3AA			AOC13SB4AA			AOC13SB5AA			AOC13SB52AA			AOC13SB53AA			AOC13SB54AA		
			sample_date:	1/12/2006 11:00:00 AM			1/12/2006 1:20:00 PM			1/10/2006 1:41:00 PM			1/11/2006 2:45:00 PM			1/12/2006 8:55:00 AM			1/17/2006 1:10:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	84.9			85.2			80.8			88.3			87.7			89.6		
SW6010	Aluminum	7429-90-5	mg/kg	12600		11.5	6170		11.6	16800	J	12.3	5530	J	10.8	18400		10.9	4930		10.7
SW6010	Antimony	7440-36-0	mg/kg	6.9	UJ	6.9	7	UJ	7	7.4	UJ	7.4	6.5	UJ	6.5	6.5	UJ	6.5	6.5	U	6.5
SW6010	Arsenic	7440-38-2	mg/kg	7.6		1.2	9.9		1.2	11.3	J	1.2	5.3	J	1.1	7		1.1	4.9	J-	1.1
SW6010	Barium	7440-39-3	mg/kg	56.1		2.3	44.5		2.3	95.7	J	2.5	49.6	J	2.2	162		2.2	44.8	J	2.1
SW6010	Beryllium	7440-41-7	mg/kg	0.66		0.58	0.64		0.58	1		0.61	0.54	U	0.54	3.7		0.54	0.54	U	0.54
SW6010	Cadmium	7440-43-9	mg/kg	0.58	U	0.58	0.58	U	0.58	0.61	U	0.61	0.72		0.54	0.54	U	0.54	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	133000		577	141000		581	35400	J	61.3	78700	J	1079	102000		543	93200	J	537
SW6010	Chromium (total)	7440-47-3	mg/kg	15.9		1.2	28.1		1.2	24.4	J	1.2	15.8	J	1.1	16.2		1.1	13.2	J+	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.8	U	5.8	5.8	U	5.8	7.3		6.1	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	11.5		2.3	18.3		2.3	21.2	J+	2.5	14.7	J+	2.2	14.9		2.2	10.9		2.1
SW6010	Iron	7439-89-6	mg/kg	16200		115	12500		116	21900	J	12.3	10800	J	10.8	16100		109	10400	J	10.7
SW6010	Lead	7439-92-1	mg/kg	8.9		5.8	55		5.8	18.1	J	6.1	15.3	J	5.4	34		5.4	14		5.4
SW6010	Magnesium	7439-95-4	mg/kg	48900		57.7	53800		58.1	20800	J	61.3	23800	J	53.9	21700		54.3	26300	J	108
SW6010	Manganese	7439-96-5	mg/kg	472		1.2	526		1.2	755	J	1.2	318	J	1.1	1600		10.9	337	J	1.1
SW6010	Nickel	7440-02-0	mg/kg	13.9		4.6	10.3		4.6	20.1		4.9	11.3		4.3	10.2		4.3	10.5		4.3
SW6010	Potassium	7440-09-7	mg/kg	1140		231	1060		232	1720		245	899		216	1190		217	946	J	215
SW6010	Selenium	7782-49-2	mg/kg	2.3	U	2.3	2.3	U	2.3	1.6		1.2	1.1	U	1.1	2.3		2.2	1.1	U	1.1
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	U	1.2	1.2	UJ-	1.2	1.1	UJ-	1.1	1.1	U	1.1	1.1	UJ	1.1
SW6010	Sodium	7440-23-5	mg/kg	147		57.7	236		58.1	74.1		61.3	129		53.9	456		54.3	166		53.7
SW6010	Thallium	7440-28-0	mg/kg	17.3	U	17.3	17.4	U	17.4	1.2	U	1.2	1.1	U	1.1	16.3	U	16.3	5.4	U	5.4
SW6010	Vanadium	7440-62-2	mg/kg	30		5.8	14.8		5.8	44.1		6.1	16.4		5.4	16.3		5.4	14.7		5.4
SW6010	Zinc	7440-66-6	mg/kg	34.8	J	2.3	48.8	J	2.3	63.9	J	2.5	56.7	J	2.2	61.7	J	2.2	55.1		2.1
SW7470	Mercury	7439-97-6	mg/kg	0.04	UJ	0.04	0.04	UJ	0.04	0.04		0.04	0.07		0.04	0.1	J-	0.04	0.04		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	39	U	39	41	U	41	37	U	37	380	U	380	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	79	U	79	83	U	83	76	U	76	760	U	760	75	U	75
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	39	U	39	41	U	41	37	U	37	380	U	380	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	39	U	39	41	U	41	37	U	37	380	U	380	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	39	U	39	41	U	41	59		37	380	U	380	68		37
SW8082	Aroclor 1254	11097-69-1	ug/kg	39	U	39	39	U	39	41	U	41	37	U	37	380	U	380	93		37
SW8082	Aroclor 1260	11096-82-5	ug/kg	39	U	39	39	U	39	41	U	41	110		37	1000		380	37	U	37
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	2-Butanone	78-93-3	ug/kg	9.4	U	9.4	9.3	U	9.3	5.8	J	12	8.8	U	8.8	9	U	9	8.5	U	8.5
SW8260	2-Hexanone	591-78-6	ug/kg	9.4	U	9.4	9.3	U	9.3	12	U	12	8.8	U	8.8	9	U	9	8.5	U	8.5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.4	U	9.4	9.3	U	9.3	12	U	12	8.8	U	8.8	9	U	9	8.5	U	8.5
SW8260	Acetone	67-64-1	ug/kg	7.4	J	19	19	U	19	100		23	18	U	18	18	U	18	17	U	17
SW8260	Benzene	71-43-2	ug/kg	0.46	J	4.7	0.5	J	4.6	3	J	5.8	4.4	U	4.4	0.35	J	4.5	4.3	U	4.3
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Bromoform	75-25-2	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Bromomethane	74-83-9	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Carbon disulfide	75-15-0	ug/kg	0.48	J	9.4	9.3	U	9.3	0.63	J	12	8.8	U	8.8	0.33	J	9	8.5	U	8.5
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Chlorobenzene	108-90-7	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Chloroethane	75-00-3	ug/kg	9.4	U	9.4	9.3	U	9.3	12	U	12	8.8	U	8.8	9	U	9	8.5	U	8.5
SW8260	Chloroform	67-66-3	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Chloromethane	74-87-3	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Cyclohexane	110-82-7	ug/kg	0.78	J	4.7	1	J	4.6	6.2		5.8	4.4	U	4.4	4.5	U	4.5	0.32	J	4.3
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Ethylbenzene	100-41-4	ug/kg	0.58	J	4.7	0.46	J	4.6	2.4	J	5.8	4.4	U	4.4	0.35	J	4.5	4.3	U	4.3
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3

			sys_loc_code:	AOC13SB3			AOC13SB4			AOC13SB5			AOC13SB52			AOC13SB53			AOC13SB54		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1.5			0.9			2			1.7			1.6		
			sys_sample_code:	AOC13SB3AA			AOC13SB4AA			AOC13SB5AA			AOC13SB52AA			AOC13SB53AA			AOC13SB54AA		
			sample_date:	1/12/2006 11:00:00 AM			1/12/2006 1:20:00 PM			1/10/2006 1:41:00 PM			1/11/2006 2:45:00 PM			1/12/2006 8:55:00 AM			1/17/2006 1:10:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	0.53	J	4.7	0.85	J	4.6	3	J	5.8	4.4	U	4.4	1	J	4.5	4.3	U	4.3
SW8260	Methyl acetate	79-20-9	ug/kg	9.4	U	9.4	9.3	U	9.3	12	U	12	8.8	U	8.8	9	U	9	8.5	U	8.5
SW8260	Methylcyclohexane	108-87-2	ug/kg	1.4	J	4.7	2	J	4.6	12		5.8	4.4	U	4.4	3	J	4.5	0.49	J	4.3
SW8260	Methylene chloride	75-09-2	ug/kg	4.7	UB	4.7	4.6	U	4.6	0.74	J	5.8	0.32	J	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	o-Xylene	95-47-6	ug/kg	4.7	U	4.7	0.42	J	4.6	1.5	J	5.8	4.4	U	4.4	0.32	J	4.5	4.3	U	4.3
SW8260	Styrene	100-42-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Toluene	108-88-3	ug/kg	1.4	J	4.7	1	J	4.6	7.2		5.8	4.4	U	4.4	4.8	J	4.5	0.4	J	4.3
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Trichloroethene	79-01-6	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8260	Vinyl chloride	75-01-4	ug/kg	4.7	U	4.7	4.6	U	4.6	5.8	U	5.8	4.4	U	4.4	4.5	U	4.5	4.3	U	4.3
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	700	J	3800	370	U	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	390	U	390	410	UJ	410	370	UJ	370	3800	U	3800	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	960	J	3800	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	57	J	390	390	U	390	410	U	410	40	J	370	5100		3800	370	U	370
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	44	J	390	390	U	390	410	U	410	63	J	370	7400		3800	370	U	370
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	390	2000	U	390	2100	UJ	410	1900	UJ	370	19000	U	3800	1900	UJ	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	160	J	390	390	U	390	410	U	410	220	J	370	22000		3800	150	J	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	180	J	390	390	U	390	410	U	410	220	J	370	19000		3800	170	J	370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	160	J	390	390	U	390	410	U	410	200	J	370	18000		3800	150	J	370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	150	J	390	390	U	390	410	U	410	120	J	370	14000		3800	120	J	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	180	J	390	390	U	390	410	U	410	190	J	370	18000		3800	160	J	370
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	1800	J	3800	370	U	370
SW8270	Chrysene	218-01-9	ug/kg	180	J	390	390	U	390	410	U	410	230	J	370	22000		3800	160	J	370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	42	J	390	390	U	390	410	U	410	45	J	370	4100		3800	39	J	370
SW8270	Dibenzofuran	132-64-9	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	1900	J	3800	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	380	J	390	390	U	390	410	U	410	510		370	48000		3800	330	J	370
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3100	J	3800	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	UJ	370

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB3			AOC13SB4			AOC13SB5			AOC13SB52			AOC13SB53			AOC13SB54		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1.5			0.9			2			1.7			1.6		
			sys_sample_code:	AOC13SB3AA			AOC13SB4AA			AOC13SB5AA			AOC13SB52AA			AOC13SB53AA			AOC13SB54AA		
			sample_date:	1/12/2006 11:00:00 AM			1/12/2006 1:20:00 PM			1/10/2006 1:41:00 PM			1/11/2006 2:45:00 PM			1/12/2006 8:55:00 AM			1/17/2006 1:10:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	130	J	390	390	U	390	410	U	410	120	J	370	13000		3800	100	J	370
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	390	U	390	390	U	390	410	UJ	410	110	J	370	1700	J	3800	370	U	370
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	1900	U	1900	19000	U	19000	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	210	J	390	390	U	390	410	U	410	270	J	370	27000		3800	160	J	370
SW8270	Phenol	108-95-2	ug/kg	390	U	390	390	U	390	410	U	410	370	U	370	3800	U	3800	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	320	J	390	390	U	390	410	U	410	400		370	35000		3800	280	J	370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	2.698	B	0.075							37.185	B	0.057						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	8.982	UB	0.085							67.321	B	0.067						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.105	U	0.105							2.412	J	0.08						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.408	J	0.04							6.38		0.1						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.052	U	0.052							0.473	J	0.025						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.321	J	0.042							2.685		0.104						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.382	J	0.05							2.009	J	0.024						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.052	U	0.052							0.128	U	0.128						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.51	J	0.05							1.402	J	0.024						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.053	U	0.053							1.284	JK	0.051						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.154	JK	0.058							0.359	JK	0.027						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.203	J	0.045							1.192	J	0.111						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.051	U	0.051							1.314	J	0.049						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.458	UJ	0.458							1.614	U	0.151						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.05	U	0.05							0.344	JK	0.032						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	6.372	UB	0.118							50.055	B	0.06						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	51.136	B	0.116							508.719	B	0.047						
SW9012A	CYANIDE	57-12-5	mg/kg	1.18	UJ	1.18	1.17	UJ	1.17	1.24	U	1.24	1.13	U	1.13	1.14	UJ	1.14	1.12	UJ	1.12

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB55			AOC13SB56			AOC13SB6			AOC13SB7			AOC13SB8			AOC13SB9		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			1.1			1			1.4			1.4		
			sys_sample_code:	AOC13SB55AA			AOC13SB56AA			AOC13SB6AA			AOC13SB7AA			AOC13SB8AA			AOC13SB9AA		
			sample_date:	1/18/2006 1:48:00 PM			1/18/2006 2:40:00 PM			1/18/2006 8:55:00 AM			1/5/2006 10:25:00 AM			1/5/2006 2:10:00 PM			1/12/2006 10:00:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	84.9			89.4			82			88.9			83.7			87.6		
SW6010	Aluminum	7429-90-5	mg/kg	6940		11.4	12600		11	15300		11.7	9490		11.2	16500		11.4	5850		10.9
SW6010	Antimony	7440-36-0	mg/kg	6.9	U	6.9	6.5	U	6.5	3.5	U	3.5	6.7	U	6.7	6.8	U	6.8	6.5	UJ	6.5
SW6010	Arsenic	7440-38-2	mg/kg	5.9	J-	1.1	4.8	J-	1.1	10.7		1.2	6.4	J	1.1	9.4	J	1.1	5.6		1.1
SW6010	Barium	7440-39-3	mg/kg	60.2	J	2.3	117	J	2.2	86.5	J	2.3	96.8	J	2.2	75.7	J	2.3	56.8		2.2
SW6010	Beryllium	7440-41-7	mg/kg	0.57	U	0.57	1.6		0.55	0.59	U	0.59	1.6		0.56	1		0.57	0.54	U	0.54
SW6010	Cadmium	7440-43-9	mg/kg	0.57	U	0.57	0.55	U	0.55	0.59	U	0.59	4.1		0.56	0.57	U	0.57	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	81000	J	572	131000	J	548	31400	J	58.6	28800	J	56.2	27600	J	56.9	88000		544
SW6010	Chromium (total)	7440-47-3	mg/kg	13.6	J+	1.1	15.2	J+	1.1	17.2		1.2	19.8	J	1.1	20.8	J	1.1	13.6		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.7	U	5.7	5.5	U	5.5	8.8		5.9	8.6		5.6	7		5.7	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	13.2		2.3	29.4		2.2	24.1		2.3	56.6	J	2.2	22.5	J	2.3	14.7		2.2
SW6010	Iron	7439-89-6	mg/kg	12700	J	11.4	13300	J	11	21800	J	11.7	185000	J	112	22900	J	11.4	12200		109
SW6010	Lead	7439-92-1	mg/kg	13.3		5.7	35.1		5.5	23.4		5.9	30.3	J	5.6	16.3	J	5.7	12		5.4
SW6010	Magnesium	7439-95-4	mg/kg	24900	J	115	30700	J	108	13700	J	58.6	6670	J	112	12900	J	114	28800		54.4
SW6010	Manganese	7439-96-5	mg/kg	416	J	1.1	1590	J	11	873	J	1.2	2280	J	11.2	767	J	1.1	371		1.1
SW6010	Nickel	7440-02-0	mg/kg	11.6		4.6	12.5		4.4	15		4.7	21.1		4.5	19.5		4.6	11.1		4.3
SW6010	Potassium	7440-09-7	mg/kg	1250	J	229	1530	J	219	1210	J	235	1180		225	1410		228	889		217
SW6010	Selenium	7782-49-2	mg/kg	1.1	U	1.1	2.1		1.1	1.2	U	1.2	22.5	U	22.5	2.3	U	2.3	2.2	U	2.2
SW6010	Silver	7440-22-4	mg/kg	1.1	UJ	1.1	1.1	UJ	1.1	1.2	UJ	1.2	5.3		1.1	1.2		1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	137		57.2	503		54.8	174	U	58.6	233	J	56.2	74.5	J	56.9	176		54.4
SW6010	Thallium	7440-28-0	mg/kg	5.7	U	5.7	5.5	U	5.5	5.9	U	5.9	1.1	U	1.1	1.1	U	1.1	16.3	U	16.3
SW6010	Vanadium	7440-62-2	mg/kg	18.1		5.7	17.1		5.5	35.3		5.9	35.9	J	5.6	37.7	J	5.7	17.3		5.4
SW6010	Zinc	7440-66-6	mg/kg	53.2		2.3	78.9		2.2	68.3		2.3	75.6	J	2.2	60.9	J	2.3	46.8	J	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.06		0.04	0.5		0.04	2.2		0.2	0.04	U	0.04	0.06	J	0.04	0.05	J-	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	37	U	37	40	U	40	37	U	37	39	U	39	38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	75	U	75	82	U	82	75	U	75	80	U	80	76	U	76
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	37	U	37	40	U	40	37	U	37	39	U	39	38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	37	U	37	40	U	40	37	U	37	39	U	39	38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	37	U	37	40	U	40	37	U	37	39	U	39	38	U	38
SW8082	Aroclor 1254	11097-69-1	ug/kg	34	J	39	37	U	37	40	U	40	37	U	37	39	U	39	38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	39	U	39	100		37	99		40	37	U	37	350		39	38	U	38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	UJ	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	2-Butanone	78-93-3	ug/kg	13	U	13	14	U	14	9.6	U	9.6	4.4	J	9.4	2.4	J	9.8	8.8	U	8.8
SW8260	2-Hexanone	591-78-6	ug/kg	13	U	13	14	U	14	9.6	U	9.6	9.4	U	9.4	9.8	U	9.8	8.8	U	8.8
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	13	U	13	14	U	14	9.6	U	9.6	9.4	U	9.4	9.8	U	9.8	8.8	U	8.8
SW8260	Acetone	67-64-1	ug/kg	25	U	25	55		27	7	J	19	19	J	19	42		20	18	U	18
SW8260	Benzene	71-43-2	ug/kg	6.4	U	6.4	1.8	J	6.8	0.3	J	4.8	2.2	J	4.7	1.4	J	4.9	4.4	U	4.4
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Bromoform	75-25-2	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Bromomethane	74-83-9	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Carbon disulfide	75-15-0	ug/kg	13	U	13	14	U	14	9.6	U	9.6	3.4	J	9.4	1.9	J	9.8	8.8	U	8.8
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Chlorobenzene	108-90-7	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Chloroethane	75-00-3	ug/kg	13	U	13	14	U	14	9.6	U	9.6	9.4	U	9.4	9.8	U	9.8	8.8	U	8.8
SW8260	Chloroform	67-66-3	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Chloromethane	74-87-3	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Cyclohexane	110-82-7	ug/kg	0.9	J	6.4	6.8	U	6.8	0.73	J	4.8	6		4.7	2.2	J	4.9	0.45	J	4.4
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Ethylbenzene	100-41-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	1.9	J	4.7	0.63	J	4.9	4.4	U	4.4
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	0.35	J	4.7	4.9	U	4.9	4.4	U	4.4

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB55			AOC13SB56			AOC13SB6			AOC13SB7			AOC13SB8			AOC13SB9		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			1.1			1			1.4			1.4		
			sys_sample_code:	AOC13SB55AA			AOC13SB56AA			AOC13SB6AA			AOC13SB7AA			AOC13SB8AA			AOC13SB9AA		
			sample_date:	1/18/2006 1:48:00 PM			1/18/2006 2:40:00 PM			1/18/2006 8:55:00 AM			1/5/2006 10:25:00 AM			1/5/2006 2:10:00 PM			1/12/2006 10:00:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.4	U	6.4	1.3	J	6.8	4.8	U	4.8	2.5	J	4.7	0.99	J	4.9	4.4	U	4.4
SW8260	Methyl acetate	79-20-9	ug/kg	13	U	13	14	U	14	9.6	U	9.6	9.4	U	9.4	9.8	U	9.8	8.8	U	8.8
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.99	J	6.4	6.8	U	6.8	0.9	J	4.8	12		4.7	3.2	J	4.9	4.4	U	4.4
SW8260	Methylene chloride	75-09-2	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	0.53	J	4.7	0.35	JB	4.9	4.4	U	4.4
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	o-Xylene	95-47-6	ug/kg	6.4	U	6.4	0.45	J	6.8	4.8	U	4.8	1.1	J	4.7	0.66	J	4.9	4.4	U	4.4
SW8260	Styrene	100-42-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Toluene	108-88-3	ug/kg	0.48	J	6.4	1.8	J	6.8	0.77	J	4.8	4.3	J	4.7	2.2	J	4.9	4.4	U	4.4
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Trichloroethene	79-01-6	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8260	Vinyl chloride	75-01-4	ug/kg	6.4	U	6.4	6.8	U	6.8	4.8	U	4.8	4.7	U	4.7	4.9	U	4.9	4.4	U	4.4
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	UJ	1900	20000	U	20000	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	390	U	390	1100	U	1100	120	J	400	150	J	370	3900	U	3900	380	U	380
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	U	1900	20000	U	20000	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	U	1900	20000	U	20000	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	U	1900	20000	U	20000	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	U	1900	20000	U	20000	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	U	1900	20000	U	20000	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	1100	U	1100	400	U	400	110	J	370	3900	U	3900	380	U	380
SW8270	Acenaphthylene	208-96-8	ug/kg	390	U	390	1300		1100	230	J	400	370	U	370	6000		3900	380	U	380
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Anthracene	120-12-7	ug/kg	390	UJ	390	1700		1100	79	J	400	220	J	370	6300		3900	56	J	380
SW8270	Atrazine	1912-24-9	ug/kg	2000	UJ	390	1100	UJ	1100	400	UJ	400	370	U	370	3900	U	3900	380	U	380
SW8270	Benzaldehyde	100-52-7	ug/kg	390	U	390	5700	UJ	1100	2100	UJ	400	1900	UJ	1900	20000	UJ	20000	1900	U	380
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	85	J	390	5300		1100	430		400	1000		370	26000		3900	180	J	380
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	94	J	390	5000		1100	500		400	1100		370	22000		3900	170	J	380
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	77	J	390	4500		1100	510		400	1000		370	20000		3900	160	J	380
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	60	J	390	2300		1100	450		400	960		370	18000		3900	110	J	380
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	90	J	390	4600		1100	560		400	1000		370	22000		3900	170	J	380
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Caprolactam	105-60-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	480	J	1100	400	U	400	110	J	370	930	J	3900	380	U	380
SW8270	Chrysene	218-01-9	ug/kg	93	J	390	5100		1100	480		400	1100		370	25000		3900	210	J	380
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	390	U	390	750	J	1100	150	J	400	200	J	370	4500		3900	40	J	380
SW8270	Dibenzofuran	132-64-9	ug/kg	390	U	390	280	J	1100	55	J	400	88	J	370	730	J	3900	380	U	380
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Fluoranthene	206-44-0	ug/kg	150	J	390	12000		1100	660		400	2600		370	57000		3900	420		380
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	660	J	1100	400	U	400	150	J	370	800	J	3900	380	U	380
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	UJ	390	1100	UJ	1100	400	UJ	400	370	U	370	3900	U	3900	380	U	380

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC13SB55			AOC13SB56			AOC13SB6			AOC13SB7			AOC13SB8			AOC13SB9		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			1.1			1			1.4			1.4		
			sys_sample_code:	AOC13SB55AA			AOC13SB56AA			AOC13SB6AA			AOC13SB7AA			AOC13SB8AA			AOC13SB9AA		
			sample_date:	1/18/2006 1:48:00 PM			1/18/2006 2:40:00 PM			1/18/2006 8:55:00 AM			1/5/2006 10:25:00 AM			1/5/2006 2:10:00 PM			1/12/2006 10:00:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	53	J	390	2300		1100	410		400	750		370	16000		3900	110	J	380
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Naphthalene	91-20-3	ug/kg	540		390	680	J	1100	450		400	120	J	370	590	J	3900	380	U	380
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	5700	U	5700	2100	U	2100	1900	U	1900	20000	U	20000	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	64	J	390	6300		1100	380	J	400	1600		370	19000		3900	210	J	380
SW8270	Phenol	108-95-2	ug/kg	390	U	390	1100	U	1100	400	U	400	370	U	370	3900	U	3900	380	U	380
SW8270	Pyrene	129-00-0	ug/kg	130	J	390	8800		1100	500		400	2400		370	45000		3900	340	J	380
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg													2.386	J	0.044			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg													8.616	B	0.055			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg													0.062	U	0.062			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg													0.576	JK	0.046			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg													0.024	U	0.024			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg													0.197	JK	0.048			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg													0.353	J	0.023			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg													0.059	U	0.059			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg													0.248	JK	0.023			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg													0.095	JK	0.021			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg													0.123	JK	0.05			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg													0.051	U	0.051			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg													0.303	J	0.021			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg													0.06	U	0.06			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg													0.126	JK	0.04			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg													4.458	UB	0.103			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg													53.882	B	0.09			
SW9012A	CYANIDE	57-12-5	mg/kg	1.18	UJ	1.18	1.12	UJ	1.12	3.39	J	1.22	1.12	UJ	1.12	1.19	UJ	1.19	1.14	UJ	1.14

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AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC14SB1			AOC14SB2			AOC14SB3			AOC14SB4			AOC15SB1			AOC15SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.8			1.5			1.6			1.4			0.5			1.2		
			sys_sample_code:	AOC14SB1AA			AOC14SB2AA			AOC14SB3AA			AOC14SB4AA			AOC15SB1AA			AOC15SB1AAR		
			sample_date:	12/15/2005 3:02:00 PM			12/15/2005 1:29:00 PM			12/16/2005 8:18:00 AM			12/15/2005 12:17:00 PM			10/31/2005 12:16:00 PM			12/19/2005 1:28:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	76.5			91.1			85.1			85.6			84		1.19			
SW6010	Aluminum	7429-90-5	mg/kg	18400		12.4	18800		10.7	47100		11.8	14800		11.1	24800		11.7			
SW6010	Antimony	7440-36-0	mg/kg	7.5	UJ-	7.5	6.4	UJ-	6.4	7.1	UJ-	7.1	6.7	UJ-	6.7	7	UJ	7			
SW6010	Arsenic	7440-38-2	mg/kg	6.2		1.2	4		1.1	1.3		1.2	7.5		1.1	10.8		1.2			
SW6010	Barium	7440-39-3	mg/kg	175		2.5	192		2.1	476		2.4	83.5		2.2	237		2.3			
SW6010	Beryllium	7440-41-7	mg/kg	2.7		0.62	2.7		0.53	7.3		0.59	0.82		0.56	0.58	U	0.58			
SW6010	Cadmium	7440-43-9	mg/kg	1.9		0.62	1.3		0.53	0.59	U	0.59	0.69		0.56	4.9		0.58			
SW6010	Calcium	7440-70-2	mg/kg	206000		622	169000		533	267000		588	55300		556	197000	J	584			
SW6010	Chromium (total)	7440-47-3	mg/kg	14.9		1.2	57.4		1.1	13.9		1.2	15.2		1.1	48.7	J	1.2			
SW6010	Cobalt	7440-48-4	mg/kg	6.2	U	6.2	5.3	U	5.3	5.9	U	5.9	5.6	U	5.6	5.8	U	5.8			
SW6010	Copper	7440-50-8	mg/kg	30.9	J	2.5	22.6	J	2.1	13	J	2.4	15.2	J	2.2	1360		23.3			
SW6010	Iron	7439-89-6	mg/kg	24700		12.4	29700		107	6860		11.8	15400		11.1	16500		11.7			
SW6010	Lead	7439-92-1	mg/kg	66.8		0.62	61.9		0.53	16.5		0.59	13.5		0.56	88.5	J	0.58			
SW6010	Magnesium	7439-95-4	mg/kg	74800		622	40300		53.3	46600		58.8	22700		55.6	36900	J	58.4			
SW6010	Manganese	7439-96-5	mg/kg	2310	J	12.4	3330	J	10.7	6670	J	11.8	1020	J	11.1	4610		58.4			
SW6010	Nickel	7440-02-0	mg/kg	7		5	7.8		4.3	4.7	U	4.7	13.1		4.5	11		4.7			
SW6010	Potassium	7440-09-7	mg/kg	1120		249	1500		213	2000		235	1070		223	2010		233			
SW6010	Selenium	7782-49-2	mg/kg	3.1		1.2	2.6		1.1	7		1.2	1.2		1.1	2.8		1.2			
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1	35.8		1.2			
SW6010	Sodium	7440-23-5	mg/kg	682		62.2	822		53.3	1460		58.8	192		55.6	980		58.4			
SW6010	Thallium	7440-28-0	mg/kg	12.4	U	12.4	10.7	U	10.7	11.8	U	11.8	11.1	U	11.1	5.8	U	5.8			
SW6010	Vanadium	7440-62-2	mg/kg	13.5		6.2	60.2		5.3	8.4		5.9	27.9		5.6	27.7		5.8			
SW6010	Zinc	7440-66-6	mg/kg	117		2.5	67.2		2.1	47.3		2.4	40.6		2.2	7240		117			
SW7470	Mercury	7439-97-6	mg/kg	0.34	J+	0.04	0.88	J+	0.03	0.19	J+	0.04	0.04	J+	0.04	0.24	J	0.04			
SW8082	Aroclor 1016	12674-11-2	ug/kg	43	U	43	36	U	36	39	U	39	39	U	39	200	U	200			
SW8082	Aroclor 1221	11104-28-2	ug/kg	88	U	88	74	U	74	79	U	79	78	U	78	400	U	400			
SW8082	Aroclor 1232	11141-16-5	ug/kg	43	U	43	36	U	36	39	U	39	39	U	39	200	U	200			
SW8082	Aroclor 1242	53469-21-9	ug/kg	43	U	43	36	U	36	39	U	39	39	U	39	200	U	200			
SW8082	Aroclor 1248	12672-29-6	ug/kg	43	U	43	36	U	36	39	U	39	39	U	39	200	U	200			
SW8082	Aroclor 1254	11097-69-1	ug/kg	43	U	43	36	U	36	39	U	39	39	U	39	200	U	200			
SW8082	Aroclor 1260	11096-82-5	ug/kg	67		43	360		36	120		39	21	J	39	1200		200			
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	2-Butanone	78-93-3	ug/kg	11	U	11	4.3	J	10	13	U	13	9.7	U	9.7	12	U	12			
SW8260	2-Hexanone	591-78-6	ug/kg	11	U	11	10	U	10	13	U	13	9.7	U	9.7	12	U	12			
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	11	U	11	10	U	10	13	U	13	9.7	U	9.7	12	U	12			
SW8260	Acetone	67-64-1	ug/kg	8.4	J	22	26		20	7.8	J	26	18	J	19	48		25			
SW8260	Benzene	71-43-2	ug/kg	0.41	J	5.4	0.46	J	5.1	2	J	6.4	0.64	J	4.8	1.3	J	6.2			
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Bromoform	75-25-2	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Bromomethane	74-83-9	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Carbon disulfide	75-15-0	ug/kg	0.86	J	11	2.5	J	10	2.7	J	13	0.42	J	9.7	0.39	J	12			
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Chlorobenzene	108-90-7	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Chloroethane	75-00-3	ug/kg	11	U	11	10	U	10	13	U	13	9.7	U	9.7	12	U	12			
SW8260	Chloroform	67-66-3	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Chloromethane	74-87-3	ug/kg	5.4	U	5.4	1.1	J	5.1	6.4	U	6.4	1.4	J	4.8	6.2	U	6.2			
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	0.37	J	4.8	6.2	U	6.2			
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Cyclohexane	110-82-7	ug/kg	1.3	J	5.4	0.79	J	5.1	0.61	J	6.4	0.96	J	4.8	0.89	J	6.2			
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Ethylbenzene	100-41-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	0.83	J	4.8	6.2	U	6.2			
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC14SB1			AOC14SB2			AOC14SB3			AOC14SB4			AOC15SB1			AOC15SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.8			1.5			1.6			1.4			0.5			1.2		
			sys_sample_code:	AOC14SB1AA			AOC14SB2AA			AOC14SB3AA			AOC14SB4AA			AOC15SB1AA			AOC15SB1AAR		
			sample_date:	12/15/2005 3:02:00 PM			12/15/2005 1:29:00 PM			12/16/2005 8:18:00 AM			12/15/2005 12:17:00 PM			10/31/2005 12:16:00 PM			12/19/2005 1:28:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	1.3	J	4.8	6.2	U	6.2			
SW8260	Methyl acetate	79-20-9	ug/kg	11	U	11	10	U	10	13	U	13	9.7	U	9.7	12	U	12			
SW8260	Methylcyclohexane	108-87-2	ug/kg	2	J	5.4	0.94	J	5.1	0.61	J	6.4	1.2	J	4.8	0.92	J	6.2			
SW8260	Methylene chloride	75-09-2	ug/kg	5.4	U	5.4	0.37	J	5.1	6.4	U	6.4	0.79	J	4.8	6.2	U	6.2			
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	o-Xylene	95-47-6	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	0.56	J	4.8	6.2	U	6.2			
SW8260	Styrene	100-42-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Toluene	108-88-3	ug/kg	0.41	J	5.4	0.77	J	5.1	6.4	U	6.4	2.1	J	4.8	0.4	J	6.2			
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8260	Trichloroethene	79-01-6	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	0.37	J	4.8	6.2	U	6.2			
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.4	U	5.4	0.74	J	5.1	6.4	U	6.4	1.1	J	4.8	6.2	U	6.2			
SW8260	Vinyl chloride	75-01-4	ug/kg	5.4	U	5.4	5.1	U	5.1	6.4	U	6.4	4.8	U	4.8	6.2	U	6.2			
SW8270	1,1-Biphenyl	92-52-4	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2-Chlorophenol	95-57-8	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	2-Nitroaniline	88-74-4	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	2-Nitrophenol	88-75-5	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	UJ	2000			
SW8270	3-Nitroaniline	99-09-2	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	4-Chloroaniline	106-47-8	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	4-Nitroaniline	100-01-6	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	4-Nitrophenol	100-02-7	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	Acenaphthene	83-32-9	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Acenaphthylene	208-96-8	ug/kg	880		430	7200	U	7200	580	J	780	97	J	390	860	J	2000			
SW8270	Acetophenone	98-86-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Anthracene	120-12-7	ug/kg	240	J	430	7200	U	7200	520	J	780	140	J	390	750	J	2000			
SW8270	Atrazine	1912-24-9	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Benzaldehyde	100-52-7	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	UJ	10000			
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	1800		430	1100	J	7200	3200		780	430		390	3500		2000			
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	2100		430	1400	J	7200	3200		780	350	J	390	3700		2000			
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	1800		430	1200	J	7200	3100		780	320	J	390	3500		2000			
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	1300		430	1200	J	7200	2500		780	260	J	390	3500		2000			
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	1800		430	1300	J	7200	3200		780	390	J	390	3600		2000			
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	430	U	430	7200	U	7200	92	J	780	77	J	390	2000	U	2000			
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Caprolactam	105-60-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	10000	U	10000			
SW8270	Carbazole	86-74-8	ug/kg	430	U	430	7200	U	7200	200	J	780	390	U	390	240	J	2000			
SW8270	Chrysene	218-01-9	ug/kg	1800		430	1400	J	7200	3400		780	430		390	3800		2000			
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	350	J	430	7200	U	7200	670	J	780	82	J	390	850	J	2000			
SW8270	Dibenzofuran	132-64-9	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Diethylphthalate	84-66-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Dimethylphthalate	131-11-3	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Fluoranthene	206-44-0	ug/kg	3000		430	1900	J	7200	6500		780	990		390	6500		2000			
SW8270	Fluorene	86-73-7	ug/kg	430	U	430	7200	U	7200	82	J	780	42	J	390	2000	U	2000			
SW8270	Hexachlorobenzene	118-74-1	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC14SB1			AOC14SB2			AOC14SB3			AOC14SB4			AOC15SB1			AOC15SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.8			1.5			1.6			1.4			0.5			1.2		
			sys_sample_code:	AOC14SB1AA			AOC14SB2AA			AOC14SB3AA			AOC14SB4AA			AOC15SB1AA			AOC15SB1AAR		
			sample_date:	12/15/2005 3:02:00 PM			12/15/2005 1:29:00 PM			12/16/2005 8:18:00 AM			12/15/2005 12:17:00 PM			10/31/2005 12:16:00 PM			12/19/2005 1:28:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	1200		430	1200	J	7200	2200		780	230	J	390	2900		2000			
SW8270	Isophorone	78-59-1	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Naphthalene	91-20-3	ug/kg	71	J	430	7200	U	7200	130	J	780	390	U	390	2000	U	2000			
SW8270	Nitrobenzene	98-95-3	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Pentachlorophenol	87-86-5	ug/kg	2200	U	2200	37000	U	37000	4000	U	4000	2000	U	2000	10000	U	10000			
SW8270	Phenanthrene	85-01-8	ug/kg	350	J	430	7200	U	7200	2100		780	500		390	2100		2000			
SW8270	Phenol	108-95-2	ug/kg	430	U	430	7200	U	7200	780	U	780	390	U	390	2000	U	2000			
SW8270	Pyrene	129-00-0	ug/kg	2400		430	1500	J	7200	5800		780	750		390	6100		2000			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	108.756	J	0.192				688.833	B	0.424	6	B	0.059	29.767	B	0.082	17.341	B	0.064
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	83.322	JB	0.143				343.385	B	0.178	7.312	B	0.07	164.298	B	0.121	80.757	B	0.185
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	4.948	J	0.27				42.781		0.637	0.432	J	0.082	3.222		0.106	0.918	J	0.09
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	24.019	J	0.163				318.806		0.147	1.613	J	0.038	3.639		0.074	1.595	J	0.081
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.786	JK	0.134				5.518		0.028	0.093	JK	0.033	2.145	J	0.062	0.503	J	0.047
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	7.13	JK	0.171				82.939		0.154	0.462	J	0.04	1.759	J	0.073	0.644	J	0.084
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	2.652	J	0.129				11.223		0.027	0.273	JK	0.032	5.355		0.055	2.23	B	0.046
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.222	JK	0.21				0.803	J	0.189	0.049	U	0.049	0.087	U	0.087	0.104	U	0.104
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	2.114	JK	0.127				8.857		0.027	0.335	J	0.031	5.427		0.057	1.347	J	0.045
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	4.193	J	0.158				45.567		0.2	0.261	JK	0.028	1.17	J	0.126	0.641	JK	0.046
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.968	J	0.158				4.926		0.031	0.036	U	0.036	1.592	J	0.073	0.319	JK	0.044
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	3.075	J	0.182				7.372		0.165	0.22	JK	0.043	1.205	J	0.078	0.518	J	0.09
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	3.653	JK	0.153				30.234		0.192	0.268	JK	0.027	1.808	J	0.118	0.639	JK	0.044
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	7.625	UJ	7.625							0.405	U	0.405	2.921		0.669	1.377		0.544
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.115	UJ	0.115				1.552		0.03	0.016	U	0.016	0.31	JK	0.058	0.359	JK	0.036
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	164.033	JB	0.267				929.071	B	0.528	12.318	B	0.062	87.952	B	0.105	26.272	B	0.068
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	596.006	JB	0.238				1541.259	B	0.781	57.606	B	0.052	869.753	B	0.091	574.221	B	0.054
SW9012A	CYANIDE	57-12-5	mg/kg	1.31	U	1.31	1.1	U	1.1	1.2		1.18	1.17	U	1.17	4.49		1.19			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC15SB2			AOC15SB2			AOC15SB3			AOC15SB4			AOC18SB1			AOC18SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.8			0.8			0.5			1			1			1		
			sys_sample_code:	AOC15SB2AA			AOC15SB2AB			AOC15SB3AA			AOC15SB4AA			AOC18SB1AA			AOC18SB2AA		
			sample_date:	10/31/2005 11:56:00 AM			10/31/2005 11:56:00 AM			10/31/2005 12:32:00 PM			10/31/2005 11:39:00 AM			1/17/2006 11:01:00 AM			1/17/2006 11:35:00 AM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	85.6		1.17	85.2		1.17	82		1.22	77.9		1.28	88.6			91.2		
SW6010	Aluminum	7429-90-5	mg/kg	27800		11.6	29000		11.5	26200		12	16200		12.5	29100		111	50100		107
SW6010	Antimony	7440-36-0	mg/kg	6.9	UJ	6.9	6.9	UJ	6.9	7.2	UJ	7.2	7.5	UJ	7.5	6.6	UJ	6.6	6.4	UJ	6.4
SW6010	Arsenic	7440-38-2	mg/kg	11.8		1.2	9.2		1.2	9.6		1.2	4.5		1.2	6.4		1.1	3		1.1
SW6010	Barium	7440-39-3	mg/kg	262		2.3	276		2.3	242		2.4	170		2.5	312		2.2	399		2.1
SW6010	Beryllium	7440-41-7	mg/kg	0.58	U	0.58	2.1		0.58	1.5		0.6	0.62	U	0.62	4.2		0.55	6.5		0.54
SW6010	Cadmium	7440-43-9	mg/kg	0.71		0.58	0.65		0.58	2.4		0.6	0.62	U	0.62	1.7		0.55	0.88		0.54
SW6010	Calcium	7440-70-2	mg/kg	194000	J	578	216000	J	575	190000	J	598	144000	J	623	195000	J	553	264000	J	537
SW6010	Chromium (total)	7440-47-3	mg/kg	280	J	1.2	76.1	J	1.2	57.5	J	1.2	13	J	1.2	24.3		1.1	34.1		1.1
SW6010	Cobalt	7440-48-4	mg/kg	6.2		5.8	5.8	U	5.8	6	U	6	6.2	U	6.2	5.9		5.5	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	44.6		2.3	35.3		2.3	339		2.4	12.5		2.5	34.1		2.2	14.4		2.1
SW6010	Iron	7439-89-6	mg/kg	30600		11.6	23600		11.5	15400		12	10900		12.5	47700		111	21600		10.7
SW6010	Lead	7439-92-1	mg/kg	2620	J	11.6	40	J	0.58	65.5	J	0.6	14.6	J	0.62	93.5		5.5	6.8		5.4
SW6010	Magnesium	7439-95-4	mg/kg	37300	J	57.8	34900	J	57.5	33700	J	59.8	29200	J	62.3	46900	J	55.3	43200	J	53.7
SW6010	Manganese	7439-96-5	mg/kg	5210		11.6	5870		11.5	4900		12	1700		12.5	3600		11.1	6070		10.7
SW6010	Nickel	7440-02-0	mg/kg	10.5		4.6	6.2		4.6	7.2		4.8	8.6		5	8.3		4.4	6.8		4.3
SW6010	Potassium	7440-09-7	mg/kg	1810		231	2020		230	1930		239	1420		249	2420		221	2830		215
SW6010	Selenium	7782-49-2	mg/kg	3.1		1.2	3.9		1.2	2.6		1.2	1.2	U	1.2	5.4		1.1	7.7		1.1
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	U	1.2	17.7		1.2	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	984		57.8	1080		57.5	1080		59.8	401		62.3	1680		55.3	1560		53.7
SW6010	Thallium	7440-28-0	mg/kg	5.8	U	5.8	5.8	U	5.8	6	U	6	6.2	U	6.2	16.6	U	16.6	16.1	U	16.1
SW6010	Vanadium	7440-62-2	mg/kg	27.7		5.8	33.5		5.8	29.7		6	15.1		6.2	15.7		5.5	12.2		5.4
SW6010	Zinc	7440-66-6	mg/kg	539		23.1	468		23	2900		23.9	51.9		2.5	386		22.1	20.9		2.1
SW7470	Mercury	7439-97-6	mg/kg	0.14		0.04	0.14		0.04	0.98	J	0.04	0.08	J	0.04	0.16		0.04	0.03	U	0.03
SW8082	Aroclor 1016	12674-11-2	ug/kg	190	U	190	190	U	190	200	U	200	42	U	42	190	U	190	36	U	36
SW8082	Aroclor 1221	11104-28-2	ug/kg	390	U	390	390	U	390	410	U	410	86	U	86	380	U	380	73	U	73
SW8082	Aroclor 1232	11141-16-5	ug/kg	190	U	190	190	U	190	200	U	200	42	U	42	190	U	190	36	U	36
SW8082	Aroclor 1242	53469-21-9	ug/kg	190	U	190	190	U	190	200	U	200	42	U	42	190	U	190	36	U	36
SW8082	Aroclor 1248	12672-29-6	ug/kg	190	U	190	190	U	190	200	U	200	83		42	300		190	36	U	36
SW8082	Aroclor 1254	11097-69-1	ug/kg	190	U	190	190	U	190	200	U	200	42	U	42	1000		190	36	U	36
SW8082	Aroclor 1260	11096-82-5	ug/kg	1100	J	190	770	J	190	550		200	67	J	42	190	U	190	36	U	36
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	2-Butanone	78-93-3	ug/kg	14	U	14	14	U	14	12	UJ	12	11	U	11						
SW8260	2-Hexanone	591-78-6	ug/kg	14	U	14	14	U	14	12	UJ	12	11	U	11						
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	14	U	14	14	U	14	12	UJ	12	11	U	11						
SW8260	Acetone	67-64-1	ug/kg	13	J	28	22	J	27	27	J	25	21	U	21						
SW8260	Benzene	71-43-2	ug/kg	0.78	J	7	0.74	J	6.8	1.2	J	6.2	1.2	J	5.3	5	U	5	3.5	J	5.6
SW8260	Bromodichloromethane	75-27-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Bromoform	75-25-2	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Bromomethane	74-83-9	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Carbon disulfide	75-15-0	ug/kg	0.49	J	14	14	U	14	12	UJ	12	0.32	J	11						
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Chlorobenzene	108-90-7	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Chloroethane	75-00-3	ug/kg	14	U	14	14	U	14	12	UJ	12	11	U	11						
SW8260	Chloroform	67-66-3	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Chloromethane	74-87-3	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Cyclohexane	110-82-7	ug/kg	0.62	J	7	6.8	U	6.8	0.4	J	6.2	4.2	J	5.3						
SW8260	Dibromochloromethane	124-48-1	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Ethylbenzene	100-41-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	0.5	J	5.3	5	U	5	1.4	J	5.6
SW8260	Isopropylbenzene	98-82-8	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC15SB2			AOC15SB2			AOC15SB3			AOC15SB4			AOC18SB1			AOC18SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.8			0.8			0.5			1			1			1		
			sys_sample_code:	AOC15SB2AA			AOC15SB2AB			AOC15SB3AA			AOC15SB4AA			AOC18SB1AA			AOC18SB2AA		
			sample_date:	10/31/2005 11:56:00 AM			10/31/2005 11:56:00 AM			10/31/2005 12:32:00 PM			10/31/2005 11:39:00 AM			1/17/2006 11:01:00 AM			1/17/2006 11:35:00 AM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	0.78	J	5.3	5	U	5	1.1	J	5.6
SW8260	Methyl acetate	79-20-9	ug/kg	14	U	14	14	U	14	12	UJ	12	11	U	11						
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.71	J	7	0.87	J	6.8	0.66	J	6.2	6.3	J	5.3						
SW8260	Methylene chloride	75-09-2	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	o-Xylene	95-47-6	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3	5	U	5	0.68	J	5.6
SW8260	Styrene	100-42-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Tetrachloroethene	127-18-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Toluene	108-88-3	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	2.1	J	5.3	5	U	5	3.5	J	5.6
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Trichloroethene	79-01-6	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8260	Vinyl chloride	75-01-4	ug/kg	7	U	7	6.8	U	6.8	6.2	UJ	6.2	5.3	U	5.3						
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	110	J	390	120	J	390	150	J	400	420	U	420						
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	UJ	390	390	UJ	390	400	UJ	400	420	UJ	420						
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420	1100	U	1100	360	U	360
SW8270	Acenaphthylene	208-96-8	ug/kg	190	J	390	230	J	390	210	J	400	420	U	420	880	J	1100	360	U	360
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Anthracene	120-12-7	ug/kg	110	J	390	140	J	390	160	J	400	94	J	420	590	J	1100	360	U	360
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	UJ	2000	2000	UJ	2000	2100	UJ	2100	2200	UJ	2200						
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	620		390	750		390	790		400	310	J	420	1800		1100	360	U	360
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	760		390	920		390	950		400	260	J	420	1900		1100	360	U	360
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	720		390	880		390	930		400	230	J	420	2300		1100	40	J	360
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	820		390	990		390	960		400	220	J	420	2600		1100	37	J	360
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	690		390	850		390	850		400	260	J	420	2100		1100	360	U	360
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Caprolactam	105-60-2	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	Carbazole	86-74-8	ug/kg	71	J	390	100	J	390	100	J	400	420	U	420						
SW8270	Chrysene	218-01-9	ug/kg	770		390	940		390	1000		400	350	J	420	2200		1100	52	J	360
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	160	J	390	210	J	390	220	J	400	58	J	420	630	J	1100	360	U	360
SW8270	Dibenzofuran	132-64-9	ug/kg	56	J	390	63	J	390	78	J	400	420	U	420						
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Fluoranthene	206-44-0	ug/kg	1300		390	1600		390	1700		400	600		420	3400		1100	58	J	360
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420	160	J	1100	360	U	360
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						

Appendix C-1 Surface Soil Analytical Data
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			sys_loc_code:	AOC15SB2			AOC15SB2			AOC15SB3			AOC15SB4			AOC18SB1			AOC18SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.8			0.8			0.5			1			1			1		
			sys_sample_code:	AOC15SB2AA			AOC15SB2AB			AOC15SB3AA			AOC15SB4AA			AOC18SB1AA			AOC18SB2AA		
			sample_date:	10/31/2005 11:56:00 AM			10/31/2005 11:56:00 AM			10/31/2005 12:32:00 PM			10/31/2005 11:39:00 AM			1/17/2006 11:01:00 AM			1/17/2006 11:35:00 AM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	630		390	770		390	760		400	190	J	420	2200		1100	360	U	360
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Naphthalene	91-20-3	ug/kg	220	J	390	270	J	390	410		400	420	U	420	490	J	1100	360	U	360
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	2200	U	2200						
SW8270	Phenanthrene	85-01-8	ug/kg	570		390	760		390	800		400	420		420	1900		1100	360	U	360
SW8270	Phenol	108-95-2	ug/kg	390	U	390	390	U	390	400	U	400	420	U	420						
SW8270	Pyrene	129-00-0	ug/kg	1100		390	1400		390	1300		400	530		420	2600		1100	45	J	360
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg																		
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg																		
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg																		
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg																		
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg																		
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	3.63		1.17	2.57		1.17	3.46		1.22	1.28	U	1.28	6.7		1.13	1.58		1.1

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
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			sys_loc_code:	AOC18SB3			AOC18SB4			AOC18SB5			AOC18SB6			AOC19SB1			AOC19SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.5			1			1			1			1			1		
			sys_sample_code:	AOC18SB3AA			AOC18SB4AA			AOC18SB5AA			AOC18SB6AA			AOC19SB1AA			AOC19SB1AB		
			sample_date:	1/17/2006 2:00:00 PM			1/17/2006 2:34:00 PM			1/25/2006 12:28:00 PM			1/25/2006 12:05:00 PM			2/7/2006 9:55:00 AM			2/7/2006 9:55:00 AM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	86.4			88.6			86.8			91.8			82.8			86.1		
SW6010	Aluminum	7429-90-5	mg/kg	42200		115	41800		107	28700		11.3	3810		10.9	18600		11.5	14500		11.2
SW6010	Antimony	7440-36-0	mg/kg	6.9	UJ	6.9	6.4	UJ	6.4	6.8	U	6.8	6.5	U	6.5	6.9	UJ	6.9	6.7	UJ	6.7
SW6010	Arsenic	7440-38-2	mg/kg	1.1	U	1.1	3.5		1.1	4		1.1	6.1		1.1	10.7		1.2	8.3		1.1
SW6010	Barium	7440-39-3	mg/kg	343		2.3	298		2.1	268		2.3	23.6		2.2	167	J	2.3	114	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	4.6		0.57	8.2		0.54	2.6		0.56	0.54	U	0.54	1.9		0.58	1		0.56
SW6010	Cadmium	7440-43-9	mg/kg	0.57	U	0.57	1.1		0.54	0.82		0.56	0.54	U	0.54	0.63		0.58	0.56	U	0.56
SW6010	Calcium	7440-70-2	mg/kg	272000	J	573	270000	J	537	212000		565	106000		545	23200	J	57.5	8710	J	55.8
SW6010	Chromium (total)	7440-47-3	mg/kg	50.6		1.1	34.5		1.1	51		1.1	6.9		1.1	28.3	J	1.2	21.3	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.7	U	5.7	5.4	U	5.4	5.6	U	5.6	5.4	U	5.4	10.2		5.8	9.2		5.6
SW6010	Copper	7440-50-8	mg/kg	6.4		2.3	4.1		2.1	9.3		2.3	10		2.2	21.5	J	2.3	18.7	J	2.2
SW6010	Iron	7439-89-6	mg/kg	6350		11.5	31500		10.7	16600		11.3	8260		10.9	27600		11.5	24700		11.2
SW6010	Lead	7439-92-1	mg/kg	5.7	U	5.7	5.4	U	5.4	8.4		0.56	3.6		0.54	19.8		5.8	14.5		5.6
SW6010	Magnesium	7439-95-4	mg/kg	43600	J	57.3	45800	J	53.7	43700		56.5	43000		54.5	9600	J	57.5	5880	J	55.8
SW6010	Manganese	7439-96-5	mg/kg	7570		11.5	5830		10.7	5310		11.3	332		1.1	1490	J	11.5	749	J	1.1
SW6010	Nickel	7440-02-0	mg/kg	4.6	U	4.6	4.3	U	4.3	4.6		4.5	8.5		4.4	21.4		4.6	19.7		4.5
SW6010	Potassium	7440-09-7	mg/kg	2900		229	2350		215	2000		226	544		218	3150	J	230	2480	J	223
SW6010	Selenium	7782-49-2	mg/kg	6.4		1.1	6.6		1.1	5.6		1.1	1.1	U	1.1	2.3	U	2.3	2.2	U	2.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	1540		57.3	1940		53.7	1090		56.5	188		54.5	184		57.5	64.8		55.8
SW6010	Thallium	7440-28-0	mg/kg	17.2	U	17.2	16.1	U	16.1	16.9	U	16.9	16.3	U	16.3	1.2	U	1.2	1.1	U	1.1
SW6010	Vanadium	7440-62-2	mg/kg	17.1		5.7	36		5.4	22.5		5.6	12.7		5.4	39.2		5.8	32.1		5.6
SW6010	Zinc	7440-66-6	mg/kg	5.4		2.3	8.7		2.1	20.2		2.3	19.8		2.2	76.2	J-	2.3	67.2	J-	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.03	U	0.03	0.04	U	0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	38	UJ	38	37	UJ	37	38	U	38	36	U	36	40	U	40	38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	78	UJ	78	76	UJ	76	77	U	77	73	U	73	81	U	81	78	U	78
SW8082	Aroclor 1232	11141-16-5	ug/kg	38	UJ	38	37	UJ	37	38	U	38	36	U	36	40	U	40	38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	38	UJ	38	37	UJ	37	38	U	38	36	U	36	40	U	40	38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	38	UJ	38	76	J	37	38	U	38	36	U	36	40	U	40	38	U	38
SW8082	Aroclor 1254	11097-69-1	ug/kg	38	UJ	38	37	UJ	37	38	U	38	36	U	36	40	U	40	38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	38	UJ	38	37	UJ	37	38	U	38	36	U	36	40	U	40	38	U	38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg																		
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg																		
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg																		
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg																		
SW8260	1,1-Dichloroethane	75-34-3	ug/kg																		
SW8260	1,1-Dichloroethene	75-35-4	ug/kg																		
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg																		
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg																		
SW8260	1,2-Dibromoethane	106-93-4	ug/kg																		
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg																		
SW8260	1,2-Dichloroethane	107-06-2	ug/kg																		
SW8260	1,2-Dichloropropane	78-87-5	ug/kg																		
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg																		
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg																		
SW8260	2-Butanone	78-93-3	ug/kg																		
SW8260	2-Hexanone	591-78-6	ug/kg																		
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg																		
SW8260	Acetone	67-64-1	ug/kg																		
SW8260	Benzene	71-43-2	ug/kg	0.65	J	6.3	5.4	U	5.4	0.82	J	7.3	5.1	U	5.1	5.6	U	5.6	6	U	6
SW8260	Bromodichloromethane	75-27-4	ug/kg																		
SW8260	Bromoform	75-25-2	ug/kg																		
SW8260	Bromomethane	74-83-9	ug/kg																		
SW8260	Carbon disulfide	75-15-0	ug/kg																		
SW8260	Carbon tetrachloride	56-23-5	ug/kg																		
SW8260	Chlorobenzene	108-90-7	ug/kg																		
SW8260	Chloroethane	75-00-3	ug/kg																		
SW8260	Chloroform	67-66-3	ug/kg																		
SW8260	Chloromethane	74-87-3	ug/kg																		
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg																		
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg																		
SW8260	Cyclohexane	110-82-7	ug/kg																		
SW8260	Dibromochloromethane	124-48-1	ug/kg																		
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg																		
SW8260	Ethylbenzene	100-41-4	ug/kg	6.3	U	6.3	5.4	U	5.4	7.3	U	7.3	0.47	J	5.1	5.6	U	5.6	6	U	6
SW8260	Isopropylbenzene	98-82-8	ug/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC18SB3			AOC18SB4			AOC18SB5			AOC18SB6			AOC19SB1			AOC19SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.5			1			1			1			1			1		
			sys_sample_code:	AOC18SB3AA			AOC18SB4AA			AOC18SB5AA			AOC18SB6AA			AOC19SB1AA			AOC19SB1AB		
			sample_date:	1/17/2006 2:00:00 PM			1/17/2006 2:34:00 PM			1/25/2006 12:28:00 PM			1/25/2006 12:05:00 PM			2/7/2006 9:55:00 AM			2/7/2006 9:55:00 AM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.3	U	6.3	5.4	U	5.4	7.3	U	7.3	6.5		5.1	5.6	U	5.6	6	U	6
SW8260	Methyl acetate	79-20-9	ug/kg																		
SW8260	Methylcyclohexane	108-87-2	ug/kg																		
SW8260	Methylene chloride	75-09-2	ug/kg																		
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg																		
SW8260	o-Xylene	95-47-6	ug/kg	6.3	U	6.3	5.4	U	5.4	7.3	U	7.3	0.64	J	5.1	5.6	U	5.6	6	U	6
SW8260	Styrene	100-42-5	ug/kg																		
SW8260	Tetrachloroethene	127-18-4	ug/kg																		
SW8260	Toluene	108-88-3	ug/kg	0.81	J	6.3	5.4	U	5.4	0.61	J	7.3	0.95	J	5.1	0.4	J	5.6	6	U	6
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg																		
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg																		
SW8260	Trichloroethene	79-01-6	ug/kg																		
SW8260	Trichlorofluoromethane	75-69-4	ug/kg																		
SW8260	Vinyl chloride	75-01-4	ug/kg																		
SW8270	1,1-Biphenyl	92-52-4	ug/kg																		
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg																		
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg																		
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg																		
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg																		
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg																		
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg																		
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg																		
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg																		
SW8270	2-Chloronaphthalene	91-58-7	ug/kg																		
SW8270	2-Chlorophenol	95-57-8	ug/kg																		
SW8270	2-Methylnaphthalene	91-57-6	ug/kg																		
SW8270	2-Nitroaniline	88-74-4	ug/kg																		
SW8270	2-Nitrophenol	88-75-5	ug/kg																		
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg																		
SW8270	3-Nitroaniline	99-09-2	ug/kg																		
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg																		
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg																		
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg																		
SW8270	4-Chloroaniline	106-47-8	ug/kg																		
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg																		
SW8270	4-Nitroaniline	100-01-6	ug/kg																		
SW8270	4-Nitrophenol	100-02-7	ug/kg																		
SW8270	Acenaphthene	83-32-9	ug/kg	1500	U	1500	370	U	370	380	U	380	360	U	360	400	U	400	1800	J	1900
SW8270	Acenaphthylene	208-96-8	ug/kg	2400		1500	370	U	370	380	U	380	360	U	360	400	U	400	1900	U	1900
SW8270	Acetophenone	98-86-2	ug/kg																		
SW8270	Anthracene	120-12-7	ug/kg	880	J	1500	370	U	370	380	U	380	360	U	360	400	UJ	400	4100	J	1900
SW8270	Atrazine	1912-24-9	ug/kg																		
SW8270	Benzaldehyde	100-52-7	ug/kg																		
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	7500		1500	160	J	370	45	J	380	360	U	360	400	UJ	400	8300	J	1900
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	6600		1500	160	J	370	47	J	380	360	U	360	400	UJ	400	5900	J	1900
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	7400		1500	200	J	370	48	J	380	360	U	360	400	UJ	400	5700	J	1900
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	5900		1500	150	J	370	43	J	380	360	U	360	400	UJ	400	2800	J	1900
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	7700		1500	150	J	370	51	J	380	360	U	360	400	UJ	400	5800	J	1900
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg																		
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg																		
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg																		
SW8270	Butylbenzylphthalate	85-68-7	ug/kg																		
SW8270	Caprolactam	105-60-2	ug/kg																		
SW8270	Carbazole	86-74-8	ug/kg																		
SW8270	Chrysene	218-01-9	ug/kg	9100		1500	220	J	370	57	J	380	360	U	360	400	UJ	400	8100	J	1900
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	1900		1500	51	J	370	380	U	380	360	U	360	400	U	400	940	J	1900
SW8270	Dibenzofuran	132-64-9	ug/kg																		
SW8270	Diethylphthalate	84-66-2	ug/kg																		
SW8270	Dimethylphthalate	131-11-3	ug/kg																		
SW8270	Di-n-butylphthalate	84-74-2	ug/kg																		
SW8270	Di-n-octylphthalate	117-84-0	ug/kg																		
SW8270	Fluoranthene	206-44-0	ug/kg	11000		1500	220	J	370	90	J	380	360	U	360	400	UJ	400	18000	J	1900
SW8270	Fluorene	86-73-7	ug/kg	1500	U	1500	370	U	370	380	U	380	360	U	360	400	U	400	1700	J	1900
SW8270	Hexachlorobenzene	118-74-1	ug/kg																		
SW8270	Hexachlorobutadiene	87-68-3	ug/kg																		
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC18SB3			AOC18SB4			AOC18SB5			AOC18SB6			AOC19SB1			AOC19SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.5			1			1			1			1			1		
			sys_sample_code:	AOC18SB3AA			AOC18SB4AA			AOC18SB5AA			AOC18SB6AA			AOC19SB1AA			AOC19SB1AB		
			sample_date:	1/17/2006 2:00:00 PM			1/17/2006 2:34:00 PM			1/25/2006 12:28:00 PM			1/25/2006 12:05:00 PM			2/7/2006 9:55:00 AM			2/7/2006 9:55:00 AM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg																		
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	5400		1500	130	J	370	380	U	380	360	U	360	400	UJ	400	2600	J	1900
SW8270	Isophorone	78-59-1	ug/kg																		
SW8270	Naphthalene	91-20-3	ug/kg	1500	U	1500	370	U	370	65	J	380	360	U	360	400	U	400	430	J	1900
SW8270	Nitrobenzene	98-95-3	ug/kg																		
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg																		
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg																		
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg																		
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg																		
SW8270	Pentachlorophenol	87-86-5	ug/kg																		
SW8270	Phenanthrene	85-01-8	ug/kg	3500		1500	100	J	370	70	J	380	360	U	360	400	UJ	400	16000	J	1900
SW8270	Phenol	108-95-2	ug/kg																		
SW8270	Pyrene	129-00-0	ug/kg	14000		1500	290	J	370	88	J	380	360	U	360	400	UJ	400	17000	J	1900
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	1.031	UJBK	0.045				0.756	UB	0.074	0.223	UJBK	0.042	1.013	J	0.049	90.343	J	0.155
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	5.507	B	0.022				2.122	UJBK	0.046	0.39	UB	0.041	4.754	JB	0.045	767.256	JB	1.396
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.177	J	0.063				0.346	J	0.104	0.058	U	0.058	0.063	UJ	0.063	6.219	J	0.2
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.292	JK	0.067				0.174	JK	0.039	0.024	U	0.024	0.024	UJ	0.024	5.337	J	0.218
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.029	U	0.029				0.041	U	0.041	0.037	U	0.037	0.06	UJ	0.06	5.258	J	0.05
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.242	J	0.07				0.281	J	0.041	0.117	JK	0.025	0.024	UJ	0.024	3.996	J	0.216
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.078	JK	0.028				0.039	U	0.039	0.035	U	0.035	0.054	UJ	0.054	13.122	J	0.045
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.087	U	0.087				0.051	U	0.051	0.031	U	0.031	0.029	UJ	0.029	0.258	UJ	0.258
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.169	JK	0.028				0.204	JK	0.039	0.105	JK	0.035	0.259	J	0.055	6.624	J	0.046
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.03	U	0.03				0.031	U	0.031	0.015	U	0.015	0.035	UJ	0.035	1.325	J	0.053
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.032	U	0.032				0.07	JK	0.039	0.028	U	0.028	0.05	UJ	0.05	2.083	J	0.068
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.231	J	0.075				0.044	U	0.044	0.027	U	0.027	0.026	UJ	0.026	6.182	J	0.23
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.161	JK	0.029				0.03	U	0.03	0.014	U	0.014	0.033	UJ	0.033	1.931	J	0.05
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.385	U	0.385				0.063	U	0.063	0.038	U	0.038	0.062	UJ	0.062	1.957	J	1.141
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.024	U	0.024				0.472	JK	0.041	0.022	U	0.022	0.053	UJ	0.053	0.416	JK	0.074
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	2.044	J	0.076				2.286	UJB	0.098	0.678	UJB	0.102	2.433	J	0.064	313.039		0.109
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	24.885	B	0.046				11.532	UJB	0.103	3.056	UJB	0.096	48.707	JB	0.076	4670.894	JB	0.672
SW9012A	CYANIDE	57-12-5	mg/kg	3.14		1.16	1.13	U	1.13	1.15	U	1.15	1.09	U	1.09	1.21	U	1.21	1.16	U	1.16

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC19SB10			AOC19SB10			AOC19SB11			AOC19SB12			AOC19SB13			AOC19SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	AOC19SB10AA			AOC19SB10AB			AOC19SB11AA			AOC19SB12AA			AOC19SB13AA			AOC19SB2AA		
			sample_date:	2/8/2006 12:36:00 PM			2/8/2006 12:36:00 PM			2/8/2006 1:10:00 PM			2/8/2006 1:55:00 PM			2/8/2006 2:23:00 PM			2/7/2006 10:57:00 AM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	84.5			85.6			87.3			82.2			76.5			88		
SW6010	Aluminum	7429-90-5	mg/kg	5600		11.8	4740		11.5	8270		11.2	9540		11.6	21300		12.7	8040		11.3
SW6010	Antimony	7440-36-0	mg/kg	7.1	UJ	7.1	6.9	UJ	6.9	6.7	UJ	6.7	7	UJ	7	7.6	UJ	7.6	6.8	UJ	6.8
SW6010	Arsenic	7440-38-2	mg/kg	5		1.2	5.3		1.1	8.4		1.1	10.3		1.2	19		1.3	11.6		1.1
SW6010	Barium	7440-39-3	mg/kg	60.4		2.4	56.3		2.3	106		2.2	129		2.3	122		2.5	49.3	J	2.3
SW6010	Beryllium	7440-41-7	mg/kg	0.59	U	0.59	0.57	U	0.57	0.57		0.56	1		0.58	1.4		0.63	0.67		0.56
SW6010	Cadmium	7440-43-9	mg/kg	0.59	U	0.59	0.57	U	0.57	0.78		0.56	1.1		0.58	0.63	U	0.63	0.56	U	0.56
SW6010	Calcium	7440-70-2	mg/kg	76800		592	75900		573	74200		562	6560		57.9	38400		63.5	92500	J	563
SW6010	Chromium (total)	7440-47-3	mg/kg	14.4		1.2	13.2		1.1	21.6		1.1	24.8		1.2	30.4		1.3	18.2	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.9	U	5.9	5.7	U	5.7	5.6	U	5.6	9.4		5.8	10.8		6.3	5.7		5.6
SW6010	Copper	7440-50-8	mg/kg	15.2		2.4	13.3		2.3	19.1		2.2	57.7		2.3	32.3		2.5	30.4	J	2.3
SW6010	Iron	7439-89-6	mg/kg	13200		11.8	12200		11.5	18900		11.2	21000		11.6	37300		12.7	16400		11.3
SW6010	Lead	7439-92-1	mg/kg	16.1		5.9	15.4		5.7	27.4		5.6	97.2		5.8	22.6		6.3	21.3		5.6
SW6010	Magnesium	7439-95-4	mg/kg	29300		118	28700		115	32900		112	3640		116	20700		127	32700	J	56.3
SW6010	Manganese	7439-96-5	mg/kg	343		1.2	316		1.1	409		1.1	822		1.2	839		1.3	432	J	1.1
SW6010	Nickel	7440-02-0	mg/kg	10.3		4.7	9.8		4.6	14.6		4.5	19.8		4.6	21.4		5.1	15.4		4.5
SW6010	Potassium	7440-09-7	mg/kg	1183	U	1183	1150	U	1145	1123	U	1123	1420		116	1880		1269	1640	J	225
SW6010	Selenium	7782-49-2	mg/kg	2.1		1.2	1.1	U	1.1	3		1.1	2.3	U	2.3	3.7		1.3	2.3	U	2.3
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.3	U	1.3	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	125		59.2	119		57.3	120		56.2	57.9	U	57.9	97		63.5	506		56.3
SW6010	Thallium	7440-28-0	mg/kg	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.3	U	1.3	1.1	U	1.1
SW6010	Vanadium	7440-62-2	mg/kg	18.8		5.9	16		5.7	22.6		5.6	28.6		5.8	56.2		6.3	21.6		5.6
SW6010	Zinc	7440-66-6	mg/kg	50.8		2.4	44.1		2.3	83.9		2.2	307		23.9	82.3		2.5	57.4	J-	2.3
SW7470	Mercury	7439-97-6	mg/kg	0.05		0.04	0.04		0.04	2.7		0.19	0.12		0.04	0.06		0.04	0.49		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	39	U	39	38	U	38	40	U	40	43	U	43	38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	78	U	78	77	U	77	82	U	82	88	U	88	76	U	76
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	39	U	39	38	U	38	40	U	40	43	U	43	38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	39	U	39	38	U	38	40	U	40	43	U	43	38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	100		39	86		39	38	U	38	40	U	40	43	U	43	38	U	38
SW8082	Aroclor 1254	11097-69-1	ug/kg	100		39	82		39	38	U	38	40	U	40	43	U	43	38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	39	U	39	39	U	39	38	U	38	40	U	40	43	U	43	38	U	38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg																		
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg																		
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg																		
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg																		
SW8260	1,1-Dichloroethane	75-34-3	ug/kg																		
SW8260	1,1-Dichloroethene	75-35-4	ug/kg																		
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg																		
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg																		
SW8260	1,2-Dibromoethane	106-93-4	ug/kg																		
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg																		
SW8260	1,2-Dichloroethane	107-06-2	ug/kg																		
SW8260	1,2-Dichloropropane	78-87-5	ug/kg																		
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg																		
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg																		
SW8260	2-Butanone	78-93-3	ug/kg																		
SW8260	2-Hexanone	591-78-6	ug/kg																		
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg																		
SW8260	Acetone	67-64-1	ug/kg																		
SW8260	Benzene	71-43-2	ug/kg	0.5	J	6.4	0.44	J	5.7	2.2	J	5	1.1	J	5.7	5.6	U	5.6	0.39	J	4.3
SW8260	Bromodichloromethane	75-27-4	ug/kg																		
SW8260	Bromoform	75-25-2	ug/kg																		
SW8260	Bromomethane	74-83-9	ug/kg																		
SW8260	Carbon disulfide	75-15-0	ug/kg																		
SW8260	Carbon tetrachloride	56-23-5	ug/kg																		
SW8260	Chlorobenzene	108-90-7	ug/kg																		
SW8260	Chloroethane	75-00-3	ug/kg																		
SW8260	Chloroform	67-66-3	ug/kg																		
SW8260	Chloromethane	74-87-3	ug/kg																		
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg																		
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg																		
SW8260	Cyclohexane	110-82-7	ug/kg																		
SW8260	Dibromochloromethane	124-48-1	ug/kg																		
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg																		
SW8260	Ethylbenzene	100-41-4	ug/kg	6.4	U	6.4	5.7	U	5.7	0.57	J	5	5.7	U	5.7	0.65	J	5.6	4.3	U	4.3
SW8260	Isopropylbenzene	98-82-8	ug/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC19SB10			AOC19SB10			AOC19SB11			AOC19SB12			AOC19SB13			AOC19SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	AOC19SB10AA			AOC19SB10AB			AOC19SB11AA			AOC19SB12AA			AOC19SB13AA			AOC19SB2AA		
			sample_date:	2/8/2006 12:36:00 PM			2/8/2006 12:36:00 PM			2/8/2006 1:10:00 PM			2/8/2006 1:55:00 PM			2/8/2006 2:23:00 PM			2/7/2006 10:57:00 AM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.4	U	6.4	5.7	U	5.7	0.97	J	5	5.7	U	5.7	5.6	U	5.6	4.3	U	4.3
SW8260	Methyl acetate	79-20-9	ug/kg																		
SW8260	Methylcyclohexane	108-87-2	ug/kg																		
SW8260	Methylene chloride	75-09-2	ug/kg																		
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg																		
SW8260	o-Xylene	95-47-6	ug/kg	6.4	U	6.4	5.7	U	5.7	0.41	J	5	5.7	U	5.7	5.6	U	5.6	4.3	U	4.3
SW8260	Styrene	100-42-5	ug/kg																		
SW8260	Tetrachloroethene	127-18-4	ug/kg																		
SW8260	Toluene	108-88-3	ug/kg	1	J	6.4	0.82	J	5.7	2.2	J	5	0.75	J	5.7	0.84	J	5.6	0.47	J	4.3
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg																		
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg																		
SW8260	Trichloroethene	79-01-6	ug/kg																		
SW8260	Trichlorofluoromethane	75-69-4	ug/kg																		
SW8260	Vinyl chloride	75-01-4	ug/kg																		
SW8270	1,1-Biphenyl	92-52-4	ug/kg																		
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg																		
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg																		
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg																		
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg																		
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg																		
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg																		
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg																		
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg																		
SW8270	2-Chloronaphthalene	91-58-7	ug/kg																		
SW8270	2-Chlorophenol	95-57-8	ug/kg																		
SW8270	2-Methylnaphthalene	91-57-6	ug/kg																		
SW8270	2-Nitroaniline	88-74-4	ug/kg																		
SW8270	2-Nitrophenol	88-75-5	ug/kg																		
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg																		
SW8270	3-Nitroaniline	99-09-2	ug/kg																		
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg																		
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg																		
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg																		
SW8270	4-Chloroaniline	106-47-8	ug/kg																		
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg																		
SW8270	4-Nitroaniline	100-01-6	ug/kg																		
SW8270	4-Nitrophenol	100-02-7	ug/kg																		
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	390	U	390	380	U	380	400	U	400	1300	U	1300	380	U	380
SW8270	Acenaphthylene	208-96-8	ug/kg	390	U	390	390	U	390	360	J	380	59	J	400	1300	U	1300	130	J	380
SW8270	Acetophenone	98-86-2	ug/kg																		
SW8270	Anthracene	120-12-7	ug/kg	130	J	390	99	J	390	380	U	380	67	J	400	1300	U	1300	140	J	380
SW8270	Atrazine	1912-24-9	ug/kg																		
SW8270	Benzaldehyde	100-52-7	ug/kg																		
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	480	B	390	320	JB	390	380	UB	380	400	JB	400	1300	UB	1300	620		380
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	470	B	390	340	JB	390	380	UB	380	350	JB	400	1300	UB	1300	630		380
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	460	B	390	320	JB	390	380	UB	380	330	JB	400	1300	UB	1300	540		380
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	380	JB	390	390	UB	390	380	UB	380	400	UB	400	1300	UB	1300	370	J	380
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	430	B	390	320	JB	390	380	UB	380	370	JB	400	1300	UB	1300	590		380
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg																		
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg																		
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg																		
SW8270	Butylbenzylphthalate	85-68-7	ug/kg																		
SW8270	Caprolactam	105-60-2	ug/kg																		
SW8270	Carbazole	86-74-8	ug/kg																		
SW8270	Chrysene	218-01-9	ug/kg	530	B	390	380	JB	390	380	UB	380	350	JB	400	1300	UB	1300	730		380
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	390	UB	390	390	UB	390	380	UB	380	400	UB	400	1300	U	1300	100	J	380
SW8270	Dibenzofuran	132-64-9	ug/kg																		
SW8270	Diethylphthalate	84-66-2	ug/kg																		
SW8270	Dimethylphthalate	131-11-3	ug/kg																		
SW8270	Di-n-butylphthalate	84-74-2	ug/kg																		
SW8270	Di-n-octylphthalate	117-84-0	ug/kg																		
SW8270	Fluoranthene	206-44-0	ug/kg	1200		390	750		390	180	J	380	520		400	340	J	1300	1600		380
SW8270	Fluorene	86-73-7	ug/kg	40	J	390	390	U	390	380	U	380	400	U	400	1300	U	1300	74	J	380
SW8270	Hexachlorobenzene	118-74-1	ug/kg																		
SW8270	Hexachlorobutadiene	87-68-3	ug/kg																		
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC19SB10			AOC19SB10			AOC19SB11			AOC19SB12			AOC19SB13			AOC19SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	AOC19SB10AA			AOC19SB10AB			AOC19SB11AA			AOC19SB12AA			AOC19SB13AA			AOC19SB2AA		
			sample_date:	2/8/2006 12:36:00 PM			2/8/2006 12:36:00 PM			2/8/2006 1:10:00 PM			2/8/2006 1:55:00 PM			2/8/2006 2:23:00 PM			2/7/2006 10:57:00 AM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg																		
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	320	JB	390	390	UB	390	380	UB	380	400	UB	400	1300	U	1300	340	J	380
SW8270	Isophorone	78-59-1	ug/kg																		
SW8270	Naphthalene	91-20-3	ug/kg	390	U	390	390	U	390	530		380	890		400	1300	U	1300	63	J	380
SW8270	Nitrobenzene	98-95-3	ug/kg																		
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg																		
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg																		
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg																		
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg																		
SW8270	Pentachlorophenol	87-86-5	ug/kg																		
SW8270	Phenanthrene	85-01-8	ug/kg	590	J	390	310	J	390	93	J	380	270	J	400	1300	U	1300	970		380
SW8270	Phenol	108-95-2	ug/kg																		
SW8270	Pyrene	129-00-0	ug/kg	900		390	590		390	180	J	380	430		400	320	J	1300	1400		380
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg							25.592		0.094	49.787		0.126						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg							70.694	B	0.082	118.983	B	0.089						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg							1.606	J	0.132	5.695		0.177						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg							3.071		0.054	6.092		0.12						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg							0.62	J	0.041	1	JK	0.048						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg							1.104	JK	0.057	3.52		0.125						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg							3.05		0.04	7.492		0.047						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg							0.07	U	0.07	0.154	U	0.154						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg							2.201	J	0.039	3.941		0.046						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg							0.769	J	0.044	1.224	J	0.141						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg							0.678	J	0.044	0.94	J	0.041						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg							0.986	J	0.061	3.268		0.134						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg							1.153	J	0.042	1.622	J	0.136						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg							1.892	JK	1.173	0.811	U	0.811						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg							0.641	JK	0.038	0.033	U	0.033						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg							42.488		0.12	85.17		0.102						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg							697.157	B	0.126	653.532	B	0.125						
SW9012A	CYANIDE	57-12-5	mg/kg	1.18	U	1.18	1.17	U	1.17	11.2		1.15	1.22	U	1.22	1.31	U	1.31	1.14	U	1.14

			sys_loc_code:	AOC19SB3			AOC19SB4			AOC19SB5			AOC19SB6			AOC19SB7			AOC19SB8		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	AOC19SB3AA			AOC19SB4AA			AOC19SB5AA			AOC19SB6AA			AOC19SB7AA			AOC19SB8AA		
			sample_date:	2/7/2006 11:43:00 AM			2/8/2006 8:52:00 AM			2/8/2006 9:46:00 AM			2/8/2006 10:50:00 AM			2/8/2006 10:22:00 AM			2/7/2006 2:10:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	82.9			82			77.8			79.3			86.1			89.4		
SW6010	Aluminum	7429-90-5	mg/kg	10800		12.1	14000		11.6	12800		12.5	12000		12.4	13600		11.6	8690		10.8
SW6010	Antimony	7440-36-0	mg/kg	7.2	UJ	7.2	7	UJ	7	7.5	UJ	7.5	7.4	UJ	7.4	7	UJ	7	6.5	UJ	6.5
SW6010	Arsenic	7440-38-2	mg/kg	8.9		1.2	10		1.2	13.2		1.2	8.3		1.2	14.4		1.2	101		1.1
SW6010	Barium	7440-39-3	mg/kg	104	J	2.4	94.3		2.3	127		2.5	101		2.5	72.4		2.3	73.3	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	0.98		0.6	1		0.58	1.2		0.62	0.94		0.62	0.84		0.58	0.8		0.54
SW6010	Cadmium	7440-43-9	mg/kg	0.6	U	0.6	0.58	U	0.58	0.62	U	0.62	1.5		0.62	0.58	U	0.58	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	2120	J	60.3	4150		58.1	13700		62.4	26400		61.8	43600		58.1	75300	J	538
SW6010	Chromium (total)	7440-47-3	mg/kg	15.5	J	1.2	20		1.2	19.3		1.2	19.1		1.2	18.9		1.2	15.3	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	10.4		6	8.7		5.8	9.8		6.2	10		6.2	6.1		5.8	5.5		5.4
SW6010	Copper	7440-50-8	mg/kg	28.6	J	2.4	17.4		2.3	42.3		2.5	21.1		2.5	26.7		2.3	52.5	J	2.2
SW6010	Iron	7439-89-6	mg/kg	17600		12.1	21500		11.6	25100		12.5	21700		12.4	20500		11.6	17300		10.8
SW6010	Lead	7439-92-1	mg/kg	12.5		6	19.2		5.8	34.6		6.2	23.7		6.2	13.9		5.8	44.7		5.4
SW6010	Magnesium	7439-95-4	mg/kg	2000	J	60.3	3910		116	7780		125	9930		124	25900		116	31000	J	53.8
SW6010	Manganese	7439-96-5	mg/kg	981	J	1.2	703		1.2	890		1.2	1090		1.2	591		1.2	470	J	1.1
SW6010	Nickel	7440-02-0	mg/kg	13.9		4.8	14.5		4.6	17		5	16.1		4.9	15.2		4.6	13.3		4.3
SW6010	Potassium	7440-09-7	mg/kg	1390	J	241	1600		1161	2240		1248	2620		1236	1520		1161	1000	J	215
SW6010	Selenium	7782-49-2	mg/kg	2.4	U	2.4	4		1.2	4.6		1.2	3.7		1.2	2		1.2	2.2	U	2.2
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	60.3	U	60.3	59.6		58.1	82.1		62.4	73.2		61.8	91.2		58.1	205		53.8
SW6010	Thallium	7440-28-0	mg/kg	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1
SW6010	Vanadium	7440-62-2	mg/kg	29.4		6	41.3		5.8	33.7		6.2	29.3		6.2	34.5		5.8	23.9		5.4
SW6010	Zinc	7440-66-6	mg/kg	42.4	J-	2.4	51.1		2.3	92.2		2.5	78.3		2.5	53.1		2.3	64.7	J-	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.05		0.04	0.05		0.04	0.44		0.04	0.04	U	0.04	0.04		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	40	U	40	40	U	40	42	U	42	42	U	42	38	U	38	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	81	U	81	82	U	82	86	U	86	84	U	84	78	U	78	75	U	75
SW8082	Aroclor 1232	11141-16-5	ug/kg	40	U	40	40	U	40	42	U	42	42	U	42	38	U	38	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	40	U	40	40	U	40	42	U	42	42	U	42	38	U	38	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	40	U	40	40	U	40	42	U	42	42	U	42	38	U	38	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	40	U	40	40	U	40	42	U	42	42	U	42	38	U	38	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	40	U	40	40	U	40	42	U	42	42	U	42	38	U	38	37	U	37
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg																		
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg																		
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg																		
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg																		
SW8260	1,1-Dichloroethane	75-34-3	ug/kg																		
SW8260	1,1-Dichloroethene	75-35-4	ug/kg																		
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg																		
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg																		
SW8260	1,2-Dibromoethane	106-93-4	ug/kg																		
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg																		
SW8260	1,2-Dichloroethane	107-06-2	ug/kg																		
SW8260	1,2-Dichloropropane	78-87-5	ug/kg																		
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg																		
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg																		
SW8260	2-Butanone	78-93-3	ug/kg																		
SW8260	2-Hexanone	591-78-6	ug/kg																		
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg																		
SW8260	Acetone	67-64-1	ug/kg																		
SW8260	Benzene	71-43-2	ug/kg	5.1	U	5.1	5.5	U	5.5	6.2	U	6.2	5.6	U	5.6	0.53	J	5.6	4.9	U	4.9
SW8260	Bromodichloromethane	75-27-4	ug/kg																		
SW8260	Bromoform	75-25-2	ug/kg																		
SW8260	Bromomethane	74-83-9	ug/kg																		
SW8260	Carbon disulfide	75-15-0	ug/kg																		
SW8260	Carbon tetrachloride	56-23-5	ug/kg																		
SW8260	Chlorobenzene	108-90-7	ug/kg																		
SW8260	Chloroethane	75-00-3	ug/kg																		
SW8260	Chloroform	67-66-3	ug/kg																		
SW8260	Chloromethane	74-87-3	ug/kg																		
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg																		
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg																		
SW8260	Cyclohexane	110-82-7	ug/kg																		
SW8260	Dibromochloromethane	124-48-1	ug/kg																		
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg																		
SW8260	Ethylbenzene	100-41-4	ug/kg	5.1	U	5.1	5.5	U	5.5	6.2	U	6.2	5.6	U	5.6	0.42	J	5.6	4.9	U	4.9
SW8260	Isopropylbenzene	98-82-8	ug/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC19SB3			AOC19SB4			AOC19SB5			AOC19SB6			AOC19SB7			AOC19SB8		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	AOC19SB3AA			AOC19SB4AA			AOC19SB5AA			AOC19SB6AA			AOC19SB7AA			AOC19SB8AA		
			sample_date:	2/7/2006 11:43:00 AM			2/8/2006 8:52:00 AM			2/8/2006 9:46:00 AM			2/8/2006 10:50:00 AM			2/8/2006 10:22:00 AM			2/7/2006 2:10:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	5.1	U	5.1	5.5	U	5.5	6.2	U	6.2	5.6	U	5.6	0.89	J	5.6	4.9	U	4.9
SW8260	Methyl acetate	79-20-9	ug/kg																		
SW8260	Methylcyclohexane	108-87-2	ug/kg																		
SW8260	Methylene chloride	75-09-2	ug/kg																		
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg																		
SW8260	o-Xylene	95-47-6	ug/kg	5.1	U	5.1	5.5	U	5.5	6.2	U	6.2	5.6	U	5.6	5.6	U	5.6	4.9	U	4.9
SW8260	Styrene	100-42-5	ug/kg																		
SW8260	Tetrachloroethene	127-18-4	ug/kg																		
SW8260	Toluene	108-88-3	ug/kg	5.1	U	5.1	0.54	J	5.5	6.2	U	6.2	5.6	U	5.6	1.1	J	5.6	0.63	J	4.9
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg																		
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg																		
SW8260	Trichloroethene	79-01-6	ug/kg																		
SW8260	Trichlorofluoromethane	75-69-4	ug/kg																		
SW8260	Vinyl chloride	75-01-4	ug/kg																		
SW8270	1,1-Biphenyl	92-52-4	ug/kg																		
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg																		
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg																		
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg																		
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg																		
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg																		
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg																		
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg																		
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg																		
SW8270	2-Chloronaphthalene	91-58-7	ug/kg																		
SW8270	2-Chlorophenol	95-57-8	ug/kg																		
SW8270	2-Methylnaphthalene	91-57-6	ug/kg																		
SW8270	2-Nitroaniline	88-74-4	ug/kg																		
SW8270	2-Nitrophenol	88-75-5	ug/kg																		
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg																		
SW8270	3-Nitroaniline	99-09-2	ug/kg																		
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg																		
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg																		
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg																		
SW8270	4-Chloroaniline	106-47-8	ug/kg																		
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg																		
SW8270	4-Nitroaniline	100-01-6	ug/kg																		
SW8270	4-Nitrophenol	100-02-7	ug/kg																		
SW8270	Acenaphthene	83-32-9	ug/kg	400	U	400	400	U	400	420	U	420	420	U	420	380	U	380	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	400	U	400	400	U	400	200	J	420	88	J	420	380	U	380	370	U	370
SW8270	Acetophenone	98-86-2	ug/kg																		
SW8270	Anthracene	120-12-7	ug/kg	400	U	400	400	U	400	170	J	420	80	J	420	380	U	380	370	U	370
SW8270	Atrazine	1912-24-9	ug/kg																		
SW8270	Benzaldehyde	100-52-7	ug/kg																		
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	400	U	400	400	UB	400	730	B	420	290	JB	420	380	UB	380	89	J	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	400	U	400	400	UB	400	740	B	420	300	JB	420	380	UB	380	92	J	370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	400	U	400	400	UB	400	630	B	420	420	UB	420	380	UB	380	87	J	370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	400	U	400	400	UB	400	540	B	420	420	UB	420	380	UB	380	70	J	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	400	U	400	400	UB	400	730	B	420	300	JB	420	380	UB	380	100	J	370
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg																		
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg																		
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg																		
SW8270	Butylbenzylphthalate	85-68-7	ug/kg																		
SW8270	Caprolactam	105-60-2	ug/kg																		
SW8270	Carbazole	86-74-8	ug/kg																		
SW8270	Chrysene	218-01-9	ug/kg	400	U	400	400	UB	400	830	B	420	310	JB	420	380	UB	380	120	J	370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	400	U	400	400	U	400	420	UB	420	420	UB	420	380	U	380	370	U	370
SW8270	Dibenzofuran	132-64-9	ug/kg																		
SW8270	Diethylphthalate	84-66-2	ug/kg																		
SW8270	Dimethylphthalate	131-11-3	ug/kg																		
SW8270	Di-n-butylphthalate	84-74-2	ug/kg																		
SW8270	Di-n-octylphthalate	117-84-0	ug/kg																		
SW8270	Fluoranthene	206-44-0	ug/kg	400	U	400	170	J	400	1600		420	720		420	140	J	380	200	J	370
SW8270	Fluorene	86-73-7	ug/kg	400	U	400	400	U	400	65	J	420	420	U	420	380	U	380	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg																		
SW8270	Hexachlorobutadiene	87-68-3	ug/kg																		
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC19SB3			AOC19SB4			AOC19SB5			AOC19SB6			AOC19SB7			AOC19SB8		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	AOC19SB3AA			AOC19SB4AA			AOC19SB5AA			AOC19SB6AA			AOC19SB7AA			AOC19SB8AA		
			sample_date:	2/7/2006 11:43:00 AM			2/8/2006 8:52:00 AM			2/8/2006 9:46:00 AM			2/8/2006 10:50:00 AM			2/8/2006 10:22:00 AM			2/7/2006 2:10:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg																		
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	400	U	400	400	UB	400	470	B	420	420	UB	420	380	UB	380	63	J	370
SW8270	Isophorone	78-59-1	ug/kg																		
SW8270	Naphthalene	91-20-3	ug/kg	400	U	400	400	U	400	200	J	420	420	U	420	77	J	380	370	U	370
SW8270	Nitrobenzene	98-95-3	ug/kg																		
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg																		
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg																		
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg																		
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg																		
SW8270	Pentachlorophenol	87-86-5	ug/kg																		
SW8270	Phenanthrene	85-01-8	ug/kg	400	U	400	100	J	400	990		420	370	J	420	110	J	380	100	J	370
SW8270	Phenol	108-95-2	ug/kg																		
SW8270	Pyrene	129-00-0	ug/kg	400	U	400	150	J	400	1400		420	590		420	130	J	380	190	J	370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	0.072	U	0.072	0.047	U	0.047				8.005	J	1.789	2.239	J	0.05			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	0.162	UJBK	0.053	0.311	UB	0.044				26.855		0.579	8.201	B	0.11			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.093	U	0.093	0.06	U	0.06				2.537	U	2.537	0.064	U	0.064			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.047	U	0.047	0.025	U	0.025				0.719	U	0.719	0.206	J	0.044			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.061	U	0.061	0.044	U	0.044				0.957	U	0.957	0.144	J	0.044			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.046	U	0.046	0.025	U	0.025				0.676	U	0.676	0.151	JK	0.043			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.055	U	0.055	0.04	U	0.04				0.844	U	0.844	0.321	J	0.04			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.055	U	0.055	0.03	U	0.03				0.96	U	0.96	0.052	U	0.052			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.057	U	0.057	0.041	U	0.041				0.951	U	0.951	0.435	J	0.041			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.048	U	0.048	0.024	U	0.024				0.355	U	0.355	0.027	U	0.027			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.057	U	0.057	0.043	U	0.043				0.546	U	0.546	0.041	U	0.041			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.049	U	0.049	0.027	U	0.027				0.761	U	0.761	0.19	J	0.046			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.045	U	0.045	0.022	U	0.022				0.516	JK	0.35	0.025	U	0.025			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.062	U	0.062	0.044	U	0.044				0.518	U	0.518	0.04	U	0.04			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.064	U	0.064	0.037	U	0.037				1.452	J	0.513	0.036	U	0.036			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	0.134	U	0.134	0.121	U	0.121				22.822	UB	2.267	4.858	J	0.128			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	1.202	UB	0.137	1.48	UB	0.102				305.682	B	2.177	62.137	JB	0.106			
SW9012A	CYANIDE	57-12-5	mg/kg	1.21	U	1.21	1.22	U	1.22	1.29	U	1.29	1.26	U	1.26	1.16	U	1.16	1.12	U	1.12

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC19SB9			AOC1CA10SB3			AOC1CA11SB2			AOC1CA12SB4			AOC1CA13SB1			AOC1CA13SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			2			2			1.7			1.3			1.3		
			sys_sample_code:	AOC19SB9AA			AOC1CA10SB3AA			AOC1CA11SB2AA			AOC1CA12SB4AA			AOC1CA13SB1AA			AOC1CA13SB1AB		
			sample_date:	2/7/2006 1:10:00 PM			1/11/2006 10:32:00 AM			1/25/2006 9:14:00 AM			1/10/2006 10:45:00 AM			1/11/2006 2:03:00 PM			1/11/2006 2:03:00 PM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	77.8			88			88.5			87.4			81			82.5		
SW6010	Aluminum	7429-90-5	mg/kg	12200		12.4															
SW6010	Antimony	7440-36-0	mg/kg	7.4	UJ	7.4															
SW6010	Arsenic	7440-38-2	mg/kg	13		1.2															
SW6010	Barium	7440-39-3	mg/kg	287	J	2.5															
SW6010	Beryllium	7440-41-7	mg/kg	1.2		0.62															
SW6010	Cadmium	7440-43-9	mg/kg	7.4		0.62															
SW6010	Calcium	7440-70-2	mg/kg	57800	J	61.8															
SW6010	Chromium (total)	7440-47-3	mg/kg	34.2	J	1.2															
SW6010	Cobalt	7440-48-4	mg/kg	7.4		6.2															
SW6010	Copper	7440-50-8	mg/kg	540	J	2.5															
SW6010	Iron	7439-89-6	mg/kg	27700		12.4															
SW6010	Lead	7439-92-1	mg/kg	435		6.2															
SW6010	Magnesium	7439-95-4	mg/kg	36100	J	61.8															
SW6010	Manganese	7439-96-5	mg/kg	1050	J	1.2															
SW6010	Nickel	7440-02-0	mg/kg	28.4		4.9															
SW6010	Potassium	7440-09-7	mg/kg	1480	J	247															
SW6010	Selenium	7782-49-2	mg/kg	2.5	U	2.5															
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2															
SW6010	Sodium	7440-23-5	mg/kg	316		61.8															
SW6010	Thallium	7440-28-0	mg/kg	1.2	U	1.2															
SW6010	Vanadium	7440-62-2	mg/kg	26.8		6.2															
SW6010	Zinc	7440-66-6	mg/kg	942	J-	24.7															
SW7470	Mercury	7439-97-6	mg/kg	0.27		0.04															
SW8082	Aroclor 1016	12674-11-2	ug/kg	42	U	42															
SW8082	Aroclor 1221	11104-28-2	ug/kg	86	U	86															
SW8082	Aroclor 1232	11141-16-5	ug/kg	42	U	42															
SW8082	Aroclor 1242	53469-21-9	ug/kg	42	U	42															
SW8082	Aroclor 1248	12672-29-6	ug/kg	42	U	42															
SW8082	Aroclor 1254	11097-69-1	ug/kg	42	U	42															
SW8082	Aroclor 1260	11096-82-5	ug/kg	42	U	42															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	2-Butanone	78-93-3	ug/kg				18		10	12	U	12	12	U	12	13	U	13	10	U	10
SW8260	2-Hexanone	591-78-6	ug/kg				1.6	J	10	12	U	12	12	U	12	13	U	13	10	U	10
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg				10	U	10	12	U	12	12	U	12	13	U	13	10	U	10
SW8260	Acetone	67-64-1	ug/kg				56		20	23	U	23	8.9	J	24	25	U	25	20	U	20
SW8260	Benzene	71-43-2	ug/kg	1.5	J	6.1	6.1		5	0.63	J	5.8	0.89	J	6	6.3	U	6.3	5	U	5
SW8260	Bromodichloromethane	75-27-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Bromoform	75-25-2	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Bromomethane	74-83-9	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Carbon disulfide	75-15-0	ug/kg				1.4	J	10	12	U	12	0.45	J	12	13	U	13	10	U	10
SW8260	Carbon tetrachloride	56-23-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Chlorobenzene	108-90-7	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Chloroethane	75-00-3	ug/kg				10	U	10	12	U	12	12	U	12	13	U	13	10	U	10
SW8260	Chloroform	67-66-3	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Chloromethane	74-87-3	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Cyclohexane	110-82-7	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	0.41	J	5
SW8260	Dibromochloromethane	124-48-1	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Ethylbenzene	100-41-4	ug/kg	6.1	U	6.1	1.6	J	5	5.8	U	5.8	2.1	J	6	6.3	U	6.3	5	U	5
SW8260	Isopropylbenzene	98-82-8	ug/kg				5	U	5	0.89	J	5.8	0.5	J	6	6.3	U	6.3	5	U	5

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			sys_loc_code:	AOC19SB9			AOC1CA10SB3			AOC1CA11SB2			AOC1CA12SB4			AOC1CA13SB1			AOC1CA13SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			2			2			1.7			1.3			1.3		
			sys_sample_code:	AOC19SB9AA			AOC1CA10SB3AA			AOC1CA11SB2AA			AOC1CA12SB4AA			AOC1CA13SB1AA			AOC1CA13SB1AB		
			sample_date:	2/7/2006 1:10:00 PM			1/11/2006 10:32:00 AM			1/25/2006 9:14:00 AM			1/10/2006 10:45:00 AM			1/11/2006 2:03:00 PM			1/11/2006 2:03:00 PM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.1	U	6.1	0.93	J	5	1.2	J	5.8	1.6	J	6	6.3	U	6.3	5	U	5
SW8260	Methyl acetate	79-20-9	ug/kg				10	U	10	12	U	12	12	U	12	13	U	13	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/kg				5	U	5	0.59	J	5.8	6	U	6	6.3	U	6.3	0.59	J	5
SW8260	Methylene chloride	75-09-2	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	UB	6.3	5	U	5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	o-Xylene	95-47-6	ug/kg	6.1	U	6.1	0.6	J	5	0.46	J	5.8	0.88	J	6	6.3	U	6.3	5	U	5
SW8260	Styrene	100-42-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Tetrachloroethene	127-18-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Toluene	108-88-3	ug/kg	0.77	J	6.1	4.7	J	5	0.53	J	5.8	2.1	J	6	6.3	U	6.3	5	U	5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Trichloroethene	79-01-6	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8260	Vinyl chloride	75-01-4	ug/kg				5	U	5	5.8	U	5.8	6	U	6	6.3	U	6.3	5	U	5
SW8270	1,1-Biphenyl	92-52-4	ug/kg																		
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg																		
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg																		
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg																		
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg																		
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg																		
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg																		
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg																		
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg																		
SW8270	2-Chloronaphthalene	91-58-7	ug/kg																		
SW8270	2-Chlorophenol	95-57-8	ug/kg																		
SW8270	2-Methylnaphthalene	91-57-6	ug/kg																		
SW8270	2-Nitroaniline	88-74-4	ug/kg																		
SW8270	2-Nitrophenol	88-75-5	ug/kg																		
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg																		
SW8270	3-Nitroaniline	99-09-2	ug/kg																		
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg																		
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg																		
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg																		
SW8270	4-Chloroaniline	106-47-8	ug/kg																		
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg																		
SW8270	4-Nitroaniline	100-01-6	ug/kg																		
SW8270	4-Nitrophenol	100-02-7	ug/kg																		
SW8270	Acenaphthene	83-32-9	ug/kg	2100	U	2100															
SW8270	Acenaphthylene	208-96-8	ug/kg	370	J	2100															
SW8270	Acetophenone	98-86-2	ug/kg																		
SW8270	Anthracene	120-12-7	ug/kg	260	J	2100															
SW8270	Atrazine	1912-24-9	ug/kg																		
SW8270	Benzaldehyde	100-52-7	ug/kg																		
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	1800	J	2100															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	2100		2100															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	2000	J	2100															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	1700	J	2100															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	2000	J	2100															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg																		
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg																		
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg																		
SW8270	Butylbenzylphthalate	85-68-7	ug/kg																		
SW8270	Caprolactam	105-60-2	ug/kg																		
SW8270	Carbazole	86-74-8	ug/kg																		
SW8270	Chrysene	218-01-9	ug/kg	2000	J	2100															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	430	J	2100															
SW8270	Dibenzofuran	132-64-9	ug/kg																		
SW8270	Diethylphthalate	84-66-2	ug/kg																		
SW8270	Dimethylphthalate	131-11-3	ug/kg																		
SW8270	Di-n-butylphthalate	84-74-2	ug/kg																		
SW8270	Di-n-octylphthalate	117-84-0	ug/kg																		
SW8270	Fluoranthene	206-44-0	ug/kg	3300		2100															
SW8270	Fluorene	86-73-7	ug/kg	2100	U	2100															
SW8270	Hexachlorobenzene	118-74-1	ug/kg																		
SW8270	Hexachlorobutadiene	87-68-3	ug/kg																		
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg																		

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			sys_loc_code:	AOC19SB9			AOC1CA10SB3			AOC1CA11SB2			AOC1CA12SB4			AOC1CA13SB1			AOC1CA13SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			2			2			1.7			1.3			1.3		
			sys_sample_code:	AOC19SB9AA			AOC1CA10SB3AA			AOC1CA11SB2AA			AOC1CA12SB4AA			AOC1CA13SB1AA			AOC1CA13SB1AB		
			sample_date:	2/7/2006 1:10:00 PM			1/11/2006 10:32:00 AM			1/25/2006 9:14:00 AM			1/10/2006 10:45:00 AM			1/11/2006 2:03:00 PM			1/11/2006 2:03:00 PM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg																		
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	1500	J	2100															
SW8270	Isophorone	78-59-1	ug/kg																		
SW8270	Naphthalene	91-20-3	ug/kg	2100	U	2100															
SW8270	Nitrobenzene	98-95-3	ug/kg																		
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg																		
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg																		
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg																		
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg																		
SW8270	Pentachlorophenol	87-86-5	ug/kg																		
SW8270	Phenanthrene	85-01-8	ug/kg	1300	J	2100															
SW8270	Phenol	108-95-2	ug/kg																		
SW8270	Pyrene	129-00-0	ug/kg	3100		2100															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg																		
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg																		
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg																		
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg																		
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg																		
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	1.29	U	1.29															

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			sys_loc_code:	AOC1CA1SB2			AOC1CA2SB1			AOC1CA2SB5			AOC1CA3SB7			AOC1CA4SB3			AOC1CA5SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.7			2			1.7			1.4			1.8			1		
			sys_sample_code:	AOC1CA1SB2AA			AOC1CA2SB1AA			AOC1CA2SB5AA			AOC1CA3SB7AA			AOC1CA4SB3AA			AOC1CA5SB2AA		
			sample_date:	1/3/2006 2:20:00 PM			1/4/2006 2:16:00 PM			1/5/2006 9:36:00 AM			12/19/2005 12:42:00 PM			1/5/2006 2:33:00 PM			1/12/2006 9:52:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	86.1			89.9			86.3			86.8			83.6			87.3		
SW6010	Aluminum	7429-90-5	mg/kg																		
SW6010	Antimony	7440-36-0	mg/kg																		
SW6010	Arsenic	7440-38-2	mg/kg																		
SW6010	Barium	7440-39-3	mg/kg																		
SW6010	Beryllium	7440-41-7	mg/kg																		
SW6010	Cadmium	7440-43-9	mg/kg																		
SW6010	Calcium	7440-70-2	mg/kg																		
SW6010	Chromium (total)	7440-47-3	mg/kg																		
SW6010	Cobalt	7440-48-4	mg/kg																		
SW6010	Copper	7440-50-8	mg/kg																		
SW6010	Iron	7439-89-6	mg/kg																		
SW6010	Lead	7439-92-1	mg/kg																		
SW6010	Magnesium	7439-95-4	mg/kg																		
SW6010	Manganese	7439-96-5	mg/kg																		
SW6010	Nickel	7440-02-0	mg/kg																		
SW6010	Potassium	7440-09-7	mg/kg																		
SW6010	Selenium	7782-49-2	mg/kg																		
SW6010	Silver	7440-22-4	mg/kg																		
SW6010	Sodium	7440-23-5	mg/kg																		
SW6010	Thallium	7440-28-0	mg/kg																		
SW6010	Vanadium	7440-62-2	mg/kg																		
SW6010	Zinc	7440-66-6	mg/kg																		
SW7470	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg																		
SW8082	Aroclor 1221	11104-28-2	ug/kg																		
SW8082	Aroclor 1232	11141-16-5	ug/kg																		
SW8082	Aroclor 1242	53469-21-9	ug/kg																		
SW8082	Aroclor 1248	12672-29-6	ug/kg																		
SW8082	Aroclor 1254	11097-69-1	ug/kg																		
SW8082	Aroclor 1260	11096-82-5	ug/kg																		
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.8	U	4.8	6.1	UJ	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	2-Butanone	78-93-3	ug/kg	9.6	U	9.6	4.6	J	12	14	U	14	8.8	U	8.8	11	U	11	9.1	U	9.1
SW8260	2-Hexanone	591-78-6	ug/kg	9.6	U	9.6	12	U	12	14	U	14	8.8	U	8.8	11	U	11	9.1	U	9.1
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.6	U	9.6	12	U	12	14	U	14	8.8	U	8.8	11	U	11	9.1	U	9.1
SW8260	Acetone	67-64-1	ug/kg	51		19	11	J	24	25	J	28	15	J	18	12	J	21	18	U	18
SW8260	Benzene	71-43-2	ug/kg	4.8	U	4.8	3.6	J	6.1	21		7.1	0.65	J	4.4	0.37	J	5.3	4.6	U	4.6
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Bromoform	75-25-2	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Bromomethane	74-83-9	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Carbon disulfide	75-15-0	ug/kg	0.34	J	9.6	9.3	U	12	36	J	14	0.41	J	8.8	11	U	11	9.1	U	9.1
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Chlorobenzene	108-90-7	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Chloroethane	75-00-3	ug/kg	9.6	U	9.6	12	U	12	14	U	14	8.8	U	8.8	11	U	11	9.1	U	9.1
SW8260	Chloroform	67-66-3	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Chloromethane	74-87-3	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Cyclohexane	110-82-7	ug/kg	0.65	J	4.8	1.4	J	6.1	4.1	J	7.1	0.79	J	4.4	1	J	5.3	0.33	J	4.6
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Ethylbenzene	100-41-4	ug/kg	4.8	U	4.8	0.52	J	6.1	2.7	J	7.1	0.36	J	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA1SB2			AOC1CA2SB1			AOC1CA2SB5			AOC1CA3SB7			AOC1CA4SB3			AOC1CA5SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.7			2			1.7			1.4			1.8			1		
			sys_sample_code:	AOC1CA1SB2AA			AOC1CA2SB1AA			AOC1CA2SB5AA			AOC1CA3SB7AA			AOC1CA4SB3AA			AOC1CA5SB2AA		
			sample_date:	1/3/2006 2:20:00 PM			1/4/2006 2:16:00 PM			1/5/2006 9:36:00 AM			12/19/2005 12:42:00 PM			1/5/2006 2:33:00 PM			1/12/2006 9:52:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	4.8	U	4.8	6.1	U	6.1	1.5	J	7.1	0.73	J	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Methyl acetate	79-20-9	ug/kg	9.6	U	9.6	12	U	12	14	U	14	8.8	U	8.8	11	U	11	9.1	U	9.1
SW8260	Methylcyclohexane	108-87-2	ug/kg	1.3	J	4.8	0.91	J	6.1	7.1	U	7.1	1.1	J	4.4	1.3	J	5.3	0.52	J	4.6
SW8260	Methylene chloride	75-09-2	ug/kg	4.8	U	4.8	6.1	UB	6.1	1.1	J	7.1	0.36	J	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	o-Xylene	95-47-6	ug/kg	4.8	U	4.8	6.1	U	6.1	1	J	7.1	0.28	J	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Styrene	100-42-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Toluene	108-88-3	ug/kg	0.42	J	4.8	1.8	J	6.1	12		7.1	1.1	J	4.4	0.36	J	5.3	0.27	J	4.6
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Trichloroethene	79-01-6	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8260	Vinyl chloride	75-01-4	ug/kg	4.8	U	4.8	6.1	U	6.1	7.1	U	7.1	4.4	U	4.4	5.3	U	5.3	4.6	U	4.6
SW8270	1,1-Biphenyl	92-52-4	ug/kg																		
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg																		
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg																		
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg																		
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg																		
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg																		
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg																		
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg																		
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg																		
SW8270	2-Chloronaphthalene	91-58-7	ug/kg																		
SW8270	2-Chlorophenol	95-57-8	ug/kg																		
SW8270	2-Methylnaphthalene	91-57-6	ug/kg																		
SW8270	2-Nitroaniline	88-74-4	ug/kg																		
SW8270	2-Nitrophenol	88-75-5	ug/kg																		
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg																		
SW8270	3-Nitroaniline	99-09-2	ug/kg																		
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg																		
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg																		
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg																		
SW8270	4-Chloroaniline	106-47-8	ug/kg																		
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg																		
SW8270	4-Nitroaniline	100-01-6	ug/kg																		
SW8270	4-Nitrophenol	100-02-7	ug/kg																		
SW8270	Acenaphthene	83-32-9	ug/kg																		
SW8270	Acenaphthylene	208-96-8	ug/kg																		
SW8270	Acetophenone	98-86-2	ug/kg																		
SW8270	Anthracene	120-12-7	ug/kg																		
SW8270	Atrazine	1912-24-9	ug/kg																		
SW8270	Benzaldehyde	100-52-7	ug/kg																		
SW8270	Benzo(a)anthracene	56-55-3	ug/kg																		
SW8270	Benzo(a)pyrene	50-32-8	ug/kg																		
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg																		
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg																		
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg																		
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg																		
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg																		
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg																		
SW8270	Butylbenzylphthalate	85-68-7	ug/kg																		
SW8270	Caprolactam	105-60-2	ug/kg																		
SW8270	Carbazole	86-74-8	ug/kg																		
SW8270	Chrysene	218-01-9	ug/kg																		
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg																		
SW8270	Dibenzofuran	132-64-9	ug/kg																		
SW8270	Diethylphthalate	84-66-2	ug/kg																		
SW8270	Dimethylphthalate	131-11-3	ug/kg																		
SW8270	Di-n-butylphthalate	84-74-2	ug/kg																		
SW8270	Di-n-octylphthalate	117-84-0	ug/kg																		
SW8270	Fluoranthene	206-44-0	ug/kg																		
SW8270	Fluorene	86-73-7	ug/kg																		
SW8270	Hexachlorobenzene	118-74-1	ug/kg																		
SW8270	Hexachlorobutadiene	87-68-3	ug/kg																		
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg																		

			sys_loc_code:	AOC1CA1SB2			AOC1CA2SB1			AOC1CA2SB5			AOC1CA3SB7			AOC1CA4SB3			AOC1CA5SB2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.7			2			1.7			1.4			1.8			1		
			sys_sample_code:	AOC1CA1SB2AA			AOC1CA2SB1AA			AOC1CA2SB5AA			AOC1CA3SB7AA			AOC1CA4SB3AA			AOC1CA5SB2AA		
			sample_date:	1/3/2006 2:20:00 PM			1/4/2006 2:16:00 PM			1/5/2006 9:36:00 AM			12/19/2005 12:42:00 PM			1/5/2006 2:33:00 PM			1/12/2006 9:52:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg																		
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg																		
SW8270	Isophorone	78-59-1	ug/kg																		
SW8270	Naphthalene	91-20-3	ug/kg																		
SW8270	Nitrobenzene	98-95-3	ug/kg																		
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg																		
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg																		
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg																		
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg																		
SW8270	Pentachlorophenol	87-86-5	ug/kg																		
SW8270	Phenanthrene	85-01-8	ug/kg																		
SW8270	Phenol	108-95-2	ug/kg																		
SW8270	Pyrene	129-00-0	ug/kg																		
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg																		
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg																		
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg																		
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg																		
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg																		
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg																		

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA6SB1			AOC1CA7SB1			AOC1CA8SB3			AOC1CA9SB3		
			start_depth:	0			0			0			0		
			end_depth:	2			0.7			0.8			1.4		
			sys_sample_code:	AOC1CA6SB1AA			AOC1CA7SB1AA			AOC1CA8SB3AA			AOC1CA9SB3AA		
			sample_date:	1/16/2006 1:20:00 PM			1/10/2006 8:35:00 AM			1/5/2006 8:42:00 AM			1/9/2006 1:00:00 PM		
			sample_type_code:	N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	91.1			88.3			82.4			92		
SW6010	Aluminum	7429-90-5	mg/kg												
SW6010	Antimony	7440-36-0	mg/kg												
SW6010	Arsenic	7440-38-2	mg/kg												
SW6010	Barium	7440-39-3	mg/kg												
SW6010	Beryllium	7440-41-7	mg/kg												
SW6010	Cadmium	7440-43-9	mg/kg												
SW6010	Calcium	7440-70-2	mg/kg												
SW6010	Chromium (total)	7440-47-3	mg/kg												
SW6010	Cobalt	7440-48-4	mg/kg												
SW6010	Copper	7440-50-8	mg/kg												
SW6010	Iron	7439-89-6	mg/kg												
SW6010	Lead	7439-92-1	mg/kg												
SW6010	Magnesium	7439-95-4	mg/kg												
SW6010	Manganese	7439-96-5	mg/kg												
SW6010	Nickel	7440-02-0	mg/kg												
SW6010	Potassium	7440-09-7	mg/kg												
SW6010	Selenium	7782-49-2	mg/kg												
SW6010	Silver	7440-22-4	mg/kg												
SW6010	Sodium	7440-23-5	mg/kg												
SW6010	Thallium	7440-28-0	mg/kg												
SW6010	Vanadium	7440-62-2	mg/kg												
SW6010	Zinc	7440-66-6	mg/kg												
SW7470	Mercury	7439-97-6	mg/kg												
SW8082	Aroclor 1016	12674-11-2	ug/kg												
SW8082	Aroclor 1221	11104-28-2	ug/kg												
SW8082	Aroclor 1232	11141-16-5	ug/kg												
SW8082	Aroclor 1242	53469-21-9	ug/kg												
SW8082	Aroclor 1248	12672-29-6	ug/kg												
SW8082	Aroclor 1254	11097-69-1	ug/kg												
SW8082	Aroclor 1260	11096-82-5	ug/kg												
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.8	U	5.8	6	U	6	1.5	J	6.2	5.7	U	5.7
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.8	U	5.8	6	U	6	0.4	J	6.2	5.7	U	5.7
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	2-Butanone	78-93-3	ug/kg	2.9	J	12	12	U	12	12	U	12	11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg	12	U	12	12	U	12	1.7	J	12	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	12	U	12	12	U	12	12	U	12	11	U	11
SW8260	Acetone	67-64-1	ug/kg	11	J	23	52		24	51		25	41		23
SW8260	Benzene	71-43-2	ug/kg	4.3	J	5.8	0.36	J	6	0.89	J	6.2	0.35	J	5.7
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Bromoform	75-25-2	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Bromomethane	74-83-9	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Carbon disulfide	75-15-0	ug/kg	3.1	J	12	12	U	12	1.1	J	12	29		11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Chlorobenzene	108-90-7	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Chloroethane	75-00-3	ug/kg	12	U	12	12	U	12	12	U	12	11	U	11
SW8260	Chloroform	67-66-3	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Chloromethane	74-87-3	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Cyclohexane	110-82-7	ug/kg	5.8	U	5.8	0.68	J	6	2.3	J	6.2	0.74	J	5.7
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Ethylbenzene	100-41-4	ug/kg	0.54	J	5.8	6	U	6	0.45	J	6.2	5.7	U	5.7
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.8	U	5.8	6	U	6	4.2	J	6.2	5.7	U	5.7

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA6SB1			AOC1CA7SB1			AOC1CA8SB3			AOC1CA9SB3		
			start_depth:	0			0			0			0		
			end_depth:	2			0.7			0.8			1.4		
			sys_sample_code:	AOC1CA6SB1AA			AOC1CA7SB1AA			AOC1CA8SB3AA			AOC1CA9SB3AA		
			sample_date:	1/16/2006 1:20:00 PM			1/10/2006 8:35:00 AM			1/5/2006 8:42:00 AM			1/9/2006 1:00:00 PM		
			sample_type_code:	N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Methyl acetate	79-20-9	ug/kg	12	U	12	12	U	12	12	U	12	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	5.8	U	5.8	1.1	J	6	3.3	J	6.2	1.8	J	5.7
SW8260	Methylene chloride	75-09-2	ug/kg	5.8	U	5.8	0.65	J	6	6.2	UB	6.2	0.5	J	5.7
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	o-Xylene	95-47-6	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Styrene	100-42-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Toluene	108-88-3	ug/kg	2.5	J	5.8	0.79	J	6	1	J	6.2	5.7	U	5.7
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Trichloroethene	79-01-6	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8260	Vinyl chloride	75-01-4	ug/kg	5.8	U	5.8	6	U	6	6.2	U	6.2	5.7	U	5.7
SW8270	1,1-Biphenyl	92-52-4	ug/kg												
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg												
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg												
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg												
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg												
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg												
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg												
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg												
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg												
SW8270	2-Chloronaphthalene	91-58-7	ug/kg												
SW8270	2-Chlorophenol	95-57-8	ug/kg												
SW8270	2-Methylnaphthalene	91-57-6	ug/kg												
SW8270	2-Nitroaniline	88-74-4	ug/kg												
SW8270	2-Nitrophenol	88-75-5	ug/kg												
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg												
SW8270	3-Nitroaniline	99-09-2	ug/kg												
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg												
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg												
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg												
SW8270	4-Chloroaniline	106-47-8	ug/kg												
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg												
SW8270	4-Nitroaniline	100-01-6	ug/kg												
SW8270	4-Nitrophenol	100-02-7	ug/kg												
SW8270	Acenaphthene	83-32-9	ug/kg												
SW8270	Acenaphthylene	208-96-8	ug/kg												
SW8270	Acetophenone	98-86-2	ug/kg												
SW8270	Anthracene	120-12-7	ug/kg												
SW8270	Atrazine	1912-24-9	ug/kg												
SW8270	Benzaldehyde	100-52-7	ug/kg												
SW8270	Benzo(a)anthracene	56-55-3	ug/kg												
SW8270	Benzo(a)pyrene	50-32-8	ug/kg												
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg												
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg												
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg												
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg												
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg												
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg												
SW8270	Butylbenzylphthalate	85-68-7	ug/kg												
SW8270	Caprolactam	105-60-2	ug/kg												
SW8270	Carbazole	86-74-8	ug/kg												
SW8270	Chrysene	218-01-9	ug/kg												
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg												
SW8270	Dibenzofuran	132-64-9	ug/kg												
SW8270	Diethylphthalate	84-66-2	ug/kg												
SW8270	Dimethylphthalate	131-11-3	ug/kg												
SW8270	Di-n-butylphthalate	84-74-2	ug/kg												
SW8270	Di-n-octylphthalate	117-84-0	ug/kg												
SW8270	Fluoranthene	206-44-0	ug/kg												
SW8270	Fluorene	86-73-7	ug/kg												
SW8270	Hexachlorobenzene	118-74-1	ug/kg												
SW8270	Hexachlorobutadiene	87-68-3	ug/kg												
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg												

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA6SB1			AOC1CA7SB1			AOC1CA8SB3			AOC1CA9SB3		
			start_depth:	0			0			0			0		
			end_depth:	2			0.7			0.8			1.4		
			sys_sample_code:	AOC1CA6SB1AA			AOC1CA7SB1AA			AOC1CA8SB3AA			AOC1CA9SB3AA		
			sample_date:	1/16/2006 1:20:00 PM			1/10/2006 8:35:00 AM			1/5/2006 8:42:00 AM			1/9/2006 1:00:00 PM		
			sample_type_code:	N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg												
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg												
SW8270	Isophorone	78-59-1	ug/kg												
SW8270	Naphthalene	91-20-3	ug/kg												
SW8270	Nitrobenzene	98-95-3	ug/kg												
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg												
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg												
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg												
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg												
SW8270	Pentachlorophenol	87-86-5	ug/kg												
SW8270	Phenanthrene	85-01-8	ug/kg												
SW8270	Phenol	108-95-2	ug/kg												
SW8270	Pyrene	129-00-0	ug/kg												
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg												
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg												
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg												
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg												
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg												
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg												
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg												
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg												
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg												
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg												
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg												
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg												
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg												
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg												
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg												
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg												
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg												
SW9012A	CYANIDE	57-12-5	mg/kg												

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA10SB2			AOC20CA11SB2			AOC20CA12SB1			AOC20CA12SB2			AOC20CA13SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.2			0.6			1.9			1.7			2		
			sys_sample_code:	AOC20CA10SB2AA			AOC20CA11SB2AA			AOC20CA12SB1AA			AOC20CA12SB2AA			AOC20CA13SB2AA		
			sample_date:	11/21/2005 2:35:00 PM			11/16/2005 12:40:00 PM			12/7/2005 2:25:00 PM			12/8/2005 7:30:00 AM			12/2/2005 8:02:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	87.4			86.9						88.1			89.2		
SW6010	Aluminum	7429-90-5	mg/kg															
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg															
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg															
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg															
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg															
SW6010	Manganese	7439-96-5	mg/kg															
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg															
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg															
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW6020	Antimony	7440-36-0	mg/kg															
SW6020	Arsenic	7440-38-2	mg/kg															
SW6020	Barium	7440-39-3	mg/kg															
SW6020	Cadmium	7440-43-9	mg/kg															
SW6020	Chromium (total)	7440-47-3	mg/kg															
SW6020	Cobalt	7440-48-4	mg/kg															
SW6020	Copper	7440-50-8	mg/kg															
SW6020	Lead	7439-92-1	mg/kg															
SW6020	Nickel	7440-02-0	mg/kg															
SW6020	Selenium	7782-49-2	mg/kg															
SW6020	Silver	7440-22-4	mg/kg															
SW6020	Thallium	7440-28-0	mg/kg															
SW6020	Vanadium	7440-62-2	mg/kg															
SW6020	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg															
SW7471	Mercury	7439-97-6	mg/kg															
SW8082	Aroclor 1016	12674-11-2	ug/kg															
SW8082	Aroclor 1221	11104-28-2	ug/kg															
SW8082	Aroclor 1232	11141-16-5	ug/kg															
SW8082	Aroclor 1242	53469-21-9	ug/kg															
SW8082	Aroclor 1248	12672-29-6	ug/kg															
SW8082	Aroclor 1254	11097-69-1	ug/kg															
SW8082	Aroclor 1260	11096-82-5	ug/kg															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	2-Butanone	78-93-3	ug/kg	14	UJ	14	11	U	11	10	U	10	45		8.7	19	U	19

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA10SB2			AOC20CA11SB2			AOC20CA12SB1			AOC20CA12SB2			AOC20CA13SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.2			0.6			1.9			1.7			2		
			sys_sample_code:	AOC20CA10SB2AA			AOC20CA11SB2AA			AOC20CA12SB1AA			AOC20CA12SB2AA			AOC20CA13SB2AA		
			sample_date:	11/21/2005 2:35:00 PM			11/16/2005 12:40:00 PM			12/7/2005 2:25:00 PM			12/8/2005 7:30:00 AM			12/2/2005 8:02:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	14	UJ	14	11	U	11	10	U	10	8.7	U	8.7	19	U	19
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	14	UJ	14	11	U	11	10	U	10	8.7	U	8.7	19	U	19
SW8260	Acetone	67-64-1	ug/kg	9.5	J	29	22	UB	22	6.8	J	21	170		17	35	J	37
SW8260	Benzene	71-43-2	ug/kg	0.5	J	7.2	0.38	J	5.4	5.2	U	5.2	12		4.4	2.7	J	9.4
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Bromoform	75-25-2	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Bromomethane	74-83-9	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Carbon disulfide	75-15-0	ug/kg	1.8	J	14	11	U	11	3.1	J	10	0.94	J	8.7	1.9	J	19
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Chlorobenzene	108-90-7	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Chloroethane	75-00-3	ug/kg	14	UJ	14	11	U	11	10	U	10	8.7	U	8.7	19	U	19
SW8260	Chloroform	67-66-3	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Chloromethane	74-87-3	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Cyclohexane	110-82-7	ug/kg	7.2	UJ	7.2	1.3	J	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	UJ	4.4	9.4	U	9.4
SW8260	Ethylbenzene	100-41-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	9.5		4.4	9.4	U	9.4
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	m+p-Xylene	XYLMP	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	6.4		4.4	9.4	U	9.4
SW8260	Methyl acetate	79-20-9	ug/kg	14	UJ	14	11	U	11	10	U	10	8.7	U	8.7	19	U	19
SW8260	Methylcyclohexane	108-87-2	ug/kg	1.8	J	7.2	1.8	J	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Methylene chloride	75-09-2	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5	UB	5.2	4.4	U	4.4	2.7	J	9.4
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	o-Xylene	95-47-6	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	3.5	J	4.4	9.4	U	9.4
SW8260	Styrene	100-42-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.2	UJ	7.2	1.2	J	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Toluene	108-88-3	ug/kg	7.2	UJ	7.2	0.75	J	5.4	5.2	U	5.2	14		4.4	1.8	J	9.4
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Trichloroethene	79-01-6	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg															
SW8260	Vinyl chloride	75-01-4	ug/kg	7.2	UJ	7.2	5.4	U	5.4	5.2	U	5.2	4.4	U	4.4	9.4	U	9.4
SW8270	1,1-Biphenyl	92-52-4	ug/kg															
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg															
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg															
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg															
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg															
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg															
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg															
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg															
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg															
SW8270	2-Chloronaphthalene	91-58-7	ug/kg															
SW8270	2-Chlorophenol	95-57-8	ug/kg															
SW8270	2-Methylnaphthalene	91-57-6	ug/kg															
SW8270	2-Nitroaniline	88-74-4	ug/kg															
SW8270	2-Nitrophenol	88-75-5	ug/kg															
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg															
SW8270	3-Nitroaniline	99-09-2	ug/kg															
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg															
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg															
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg															
SW8270	4-Chloroaniline	106-47-8	ug/kg															
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg															
SW8270	4-Nitroaniline	100-01-6	ug/kg															
SW8270	4-Nitrophenol	100-02-7	ug/kg															
SW8270	Acenaphthene	83-32-9	ug/kg															
SW8270	Acenaphthylene	208-96-8	ug/kg															
SW8270	Acetophenone	98-86-2	ug/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA10SB2			AOC20CA11SB2			AOC20CA12SB1			AOC20CA12SB2			AOC20CA13SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.2			0.6			1.9			1.7			2		
			sys_sample_code:	AOC20CA10SB2AA			AOC20CA11SB2AA			AOC20CA12SB1AA			AOC20CA12SB2AA			AOC20CA13SB2AA		
			sample_date:	11/21/2005 2:35:00 PM			11/16/2005 12:40:00 PM			12/7/2005 2:25:00 PM			12/8/2005 7:30:00 AM			12/2/2005 8:02:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg															
SW8270	Atrazine	1912-24-9	ug/kg															
SW8270	Benzaldehyde	100-52-7	ug/kg															
SW8270	Benzo(a)anthracene	56-55-3	ug/kg															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg															
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg															
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg															
SW8270	Butylbenzylphthalate	85-68-7	ug/kg															
SW8270	Caprolactam	105-60-2	ug/kg															
SW8270	Carbazole	86-74-8	ug/kg															
SW8270	Chrysene	218-01-9	ug/kg															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg															
SW8270	Dibenzofuran	132-64-9	ug/kg															
SW8270	Diethylphthalate	84-66-2	ug/kg															
SW8270	Dimethylphthalate	131-11-3	ug/kg															
SW8270	Di-n-butylphthalate	84-74-2	ug/kg															
SW8270	Di-n-octylphthalate	117-84-0	ug/kg															
SW8270	Fluoranthene	206-44-0	ug/kg															
SW8270	Fluorene	86-73-7	ug/kg															
SW8270	Hexachlorobenzene	118-74-1	ug/kg															
SW8270	Hexachlorobutadiene	87-68-3	ug/kg															
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg															
SW8270	Hexachloroethane	67-72-1	ug/kg															
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg															
SW8270	Isophorone	78-59-1	ug/kg															
SW8270	Naphthalene	91-20-3	ug/kg															
SW8270	Nitrobenzene	98-95-3	ug/kg															
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg															
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg															
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg															
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg															
SW8270	Pentachlorophenol	87-86-5	ug/kg															
SW8270	Phenanthrene	85-01-8	ug/kg															
SW8270	Phenol	108-95-2	ug/kg															
SW8270	Pyrene	129-00-0	ug/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA1SB1			AOC20CA2SB2			AOC20CA3SB1			AOC20CA4SB1			AOC20CA5SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	2			1.5			1.3			1.5			1.4		
			sys_sample_code:	AOC20CA1SB1AA			AOC20CA2SB2AA			AOC20CA3SB1AA			AOC20CA4SB1AA			AOC20CA5SB2AA		
			sample_date:	12/8/2005 9:00:00 AM			11/18/2005 2:07:00 PM			11/17/2005 9:25:00 AM			12/7/2005 9:30:00 AM			12/6/2005 2:10:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	88.7			80.4			85.9			81.5			88.7		
SW6010	Aluminum	7429-90-5	mg/kg															
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg															
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg															
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg															
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg															
SW6010	Manganese	7439-96-5	mg/kg															
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg															
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg															
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW6020	Antimony	7440-36-0	mg/kg															
SW6020	Arsenic	7440-38-2	mg/kg															
SW6020	Barium	7440-39-3	mg/kg															
SW6020	Cadmium	7440-43-9	mg/kg															
SW6020	Chromium (total)	7440-47-3	mg/kg															
SW6020	Cobalt	7440-48-4	mg/kg															
SW6020	Copper	7440-50-8	mg/kg															
SW6020	Lead	7439-92-1	mg/kg															
SW6020	Nickel	7440-02-0	mg/kg															
SW6020	Selenium	7782-49-2	mg/kg															
SW6020	Silver	7440-22-4	mg/kg															
SW6020	Thallium	7440-28-0	mg/kg															
SW6020	Vanadium	7440-62-2	mg/kg															
SW6020	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg															
SW7471	Mercury	7439-97-6	mg/kg															
SW8082	Aroclor 1016	12674-11-2	ug/kg															
SW8082	Aroclor 1221	11104-28-2	ug/kg															
SW8082	Aroclor 1232	11141-16-5	ug/kg															
SW8082	Aroclor 1242	53469-21-9	ug/kg															
SW8082	Aroclor 1248	12672-29-6	ug/kg															
SW8082	Aroclor 1254	11097-69-1	ug/kg															
SW8082	Aroclor 1260	11096-82-5	ug/kg															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	2-Butanone	78-93-3	ug/kg	2.5	J	7.8	19	UJ	19	15	UJ	15	4.5	J	12	9.6	U	9.6

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA1SB1			AOC20CA2SB2			AOC20CA3SB1			AOC20CA4SB1			AOC20CA5SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	2			1.5			1.3			1.5			1.4		
			sys_sample_code:	AOC20CA1SB1AA			AOC20CA2SB2AA			AOC20CA3SB1AA			AOC20CA4SB1AA			AOC20CA5SB2AA		
			sample_date:	12/8/2005 9:00:00 AM			11/18/2005 2:07:00 PM			11/17/2005 9:25:00 AM			12/7/2005 9:30:00 AM			12/6/2005 2:10:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	7.8	U	7.8	19	UJ	19	15	UJ	15	12	U	12	9.6	U	9.6
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	7.8	U	7.8	19	UJ	19	15	UJ	15	12	U	12	9.6	U	9.6
SW8260	Acetone	67-64-1	ug/kg	12	J	16	17	J	39	30	UB	30	16	J	25	18	J	19
SW8260	Benzene	71-43-2	ug/kg	0.44	J	3.9	2.2	J	9.6	7.5	UJ	7.5	1.2	J	6.1	4.8	U	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Bromoform	75-25-2	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Bromomethane	74-83-9	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg	7.8	U	7.8	1.4	J	19	6.6	J	15	5	J	12	2.5	J	9.6
SW8260	Carbon tetrachloride	56-23-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Chloroethane	75-00-3	ug/kg	7.8	U	7.8	19	UJ	19	15	UJ	15	12	U	12	9.6	U	9.6
SW8260	Chloroform	67-66-3	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Chloromethane	74-87-3	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Cyclohexane	110-82-7	ug/kg	0.39	J	3.9	2.5	J	9.6	7.5	UJ	7.5	6.1	U	6.1	0.54	J	4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	3.9	UJ	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	UJ	6.1	4.8	U	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	0.5	J	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	m+p-Xylene	XYLMP	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	18		4.8
SW8260	Methyl acetate	79-20-9	ug/kg	7.8	U	7.8	19	UJ	19	15	UJ	15	12	U	12	9.6	U	9.6
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.87	J	3.9	3.6	J	9.6	1.4	J	7.5	0.44	J	6.1	0.71	J	4.8
SW8260	Methylene chloride	75-09-2	ug/kg	3.9	U	3.9	9.6	UB	9.6	7.5	UJ	7.5	5	UB	6.1	0.74	J	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	o-Xylene	95-47-6	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	1.1	J	4.8
SW8260	Styrene	100-42-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Toluene	108-88-3	ug/kg	3.9	U	3.9	1.1	J	9.6	7.5	UJ	7.5	0.61	J	6.1	0.33	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Trichloroethene	79-01-6	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	0.44	J	6.1	4.8	U	4.8
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg															
SW8260	Vinyl chloride	75-01-4	ug/kg	3.9	U	3.9	9.6	UJ	9.6	7.5	UJ	7.5	6.1	U	6.1	4.8	U	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg															
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg															
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg															
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg															
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg															
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg															
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg															
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg															
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg															
SW8270	2-Chloronaphthalene	91-58-7	ug/kg															
SW8270	2-Chlorophenol	95-57-8	ug/kg															
SW8270	2-Methylnaphthalene	91-57-6	ug/kg															
SW8270	2-Nitroaniline	88-74-4	ug/kg															
SW8270	2-Nitrophenol	88-75-5	ug/kg															
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg															
SW8270	3-Nitroaniline	99-09-2	ug/kg															
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg															
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg															
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg															
SW8270	4-Chloroaniline	106-47-8	ug/kg															
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg															
SW8270	4-Nitroaniline	100-01-6	ug/kg															
SW8270	4-Nitrophenol	100-02-7	ug/kg															
SW8270	Acenaphthene	83-32-9	ug/kg															
SW8270	Acenaphthylene	208-96-8	ug/kg															
SW8270	Acetophenone	98-86-2	ug/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA1SB1			AOC20CA2SB2			AOC20CA3SB1			AOC20CA4SB1			AOC20CA5SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	2			1.5			1.3			1.5			1.4		
			sys_sample_code:	AOC20CA1SB1AA			AOC20CA2SB2AA			AOC20CA3SB1AA			AOC20CA4SB1AA			AOC20CA5SB2AA		
			sample_date:	12/8/2005 9:00:00 AM			11/18/2005 2:07:00 PM			11/17/2005 9:25:00 AM			12/7/2005 9:30:00 AM			12/6/2005 2:10:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg															
SW8270	Atrazine	1912-24-9	ug/kg															
SW8270	Benzaldehyde	100-52-7	ug/kg															
SW8270	Benzo(a)anthracene	56-55-3	ug/kg															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg															
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg															
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg															
SW8270	Butylbenzylphthalate	85-68-7	ug/kg															
SW8270	Caprolactam	105-60-2	ug/kg															
SW8270	Carbazole	86-74-8	ug/kg															
SW8270	Chrysene	218-01-9	ug/kg															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg															
SW8270	Dibenzofuran	132-64-9	ug/kg															
SW8270	Diethylphthalate	84-66-2	ug/kg															
SW8270	Dimethylphthalate	131-11-3	ug/kg															
SW8270	Di-n-butylphthalate	84-74-2	ug/kg															
SW8270	Di-n-octylphthalate	117-84-0	ug/kg															
SW8270	Fluoranthene	206-44-0	ug/kg															
SW8270	Fluorene	86-73-7	ug/kg															
SW8270	Hexachlorobenzene	118-74-1	ug/kg															
SW8270	Hexachlorobutadiene	87-68-3	ug/kg															
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg															
SW8270	Hexachloroethane	67-72-1	ug/kg															
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg															
SW8270	Isophorone	78-59-1	ug/kg															
SW8270	Naphthalene	91-20-3	ug/kg															
SW8270	Nitrobenzene	98-95-3	ug/kg															
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg															
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg															
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg															
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg															
SW8270	Pentachlorophenol	87-86-5	ug/kg															
SW8270	Phenanthrene	85-01-8	ug/kg															
SW8270	Phenol	108-95-2	ug/kg															
SW8270	Pyrene	129-00-0	ug/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA5SB3			AOC20CA5SB4			AOC20CA6SB1			AOC20CA7SB4			AOC20CA8SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.7			2			0.9			0.7			1.2		
			sys_sample_code:	AOC20CA5SB3AA			AOC20CA5SB4AA			AOC20CA6SB1AA			AOC20CA7SB4AA			AOC20CA8SB2AA		
			sample_date:	12/6/2005 8:30:00 AM			12/6/2005 12:40:00 PM			11/30/2005 2:49:00 PM			11/29/2005 9:45:00 AM			11/28/2005 8:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent							91.4			89.6			89.5		
SW6010	Aluminum	7429-90-5	mg/kg															
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg															
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg															
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg															
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg															
SW6010	Manganese	7439-96-5	mg/kg															
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg															
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg															
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW6020	Antimony	7440-36-0	mg/kg															
SW6020	Arsenic	7440-38-2	mg/kg															
SW6020	Barium	7440-39-3	mg/kg															
SW6020	Cadmium	7440-43-9	mg/kg															
SW6020	Chromium (total)	7440-47-3	mg/kg															
SW6020	Cobalt	7440-48-4	mg/kg															
SW6020	Copper	7440-50-8	mg/kg															
SW6020	Lead	7439-92-1	mg/kg															
SW6020	Nickel	7440-02-0	mg/kg															
SW6020	Selenium	7782-49-2	mg/kg															
SW6020	Silver	7440-22-4	mg/kg															
SW6020	Thallium	7440-28-0	mg/kg															
SW6020	Vanadium	7440-62-2	mg/kg															
SW6020	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg															
SW7471	Mercury	7439-97-6	mg/kg															
SW8082	Aroclor 1016	12674-11-2	ug/kg															
SW8082	Aroclor 1221	11104-28-2	ug/kg															
SW8082	Aroclor 1232	11141-16-5	ug/kg															
SW8082	Aroclor 1242	53469-21-9	ug/kg															
SW8082	Aroclor 1248	12672-29-6	ug/kg															
SW8082	Aroclor 1254	11097-69-1	ug/kg															
SW8082	Aroclor 1260	11096-82-5	ug/kg															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	2-Butanone	78-93-3	ug/kg	9.3	U	9.3	8.8	UJ	8.8	17	UJ	17	14	U	14	8.8	UJ	8.8

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA5SB3			AOC20CA5SB4			AOC20CA6SB1			AOC20CA7SB4			AOC20CA8SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.7			2			0.9			0.7			1.2		
			sys_sample_code:	AOC20CA5SB3AA			AOC20CA5SB4AA			AOC20CA6SB1AA			AOC20CA7SB4AA			AOC20CA8SB2AA		
			sample_date:	12/6/2005 8:30:00 AM			12/6/2005 12:40:00 PM			11/30/2005 2:49:00 PM			11/29/2005 9:45:00 AM			11/28/2005 8:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	9.3	U	9.3	8.8	UJ	8.8	17	UJ	17	14	U	14	8.8	UJ	8.8
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.3	U	9.3	8.8	UJ	8.8	17	UJ	17	14	U	14	8.8	UJ	8.8
SW8260	Acetone	67-64-1	ug/kg	5.2	J	19	18	UJ	18	27	J	33	9.8	J	27	36	J	18
SW8260	Benzene	71-43-2	ug/kg	4.7	U	4.7	1.2	J	4.4	0.67	J	8.3	6.9	U	6.9	1.1	J	4.4
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Bromoform	75-25-2	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Bromomethane	74-83-9	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Carbon disulfide	75-15-0	ug/kg	0.35	J	9.3	0.39	J	8.8	3	J	17	10	J	14	2.9	J	8.8
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Chlorobenzene	108-90-7	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Chloroethane	75-00-3	ug/kg	9.3	U	9.3	8.8	UJ	8.8	17	UJ	17	14	U	14	8.8	UJ	8.8
SW8260	Chloroform	67-66-3	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Chloromethane	74-87-3	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Cyclohexane	110-82-7	ug/kg	4.7	U	4.7	3.6	J	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Ethylbenzene	100-41-4	ug/kg	4.7	U	4.7	0.59	J	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	m+p-Xylene	XYLMP	ug/kg	4.7	U	4.7	0.79	J	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Methyl acetate	79-20-9	ug/kg	9.3	U	9.3	8.8	UJ	8.8	17	UJ	17	14	U	14	8.8	UJ	8.8
SW8260	Methylcyclohexane	108-87-2	ug/kg	4.7	U	4.7	4.8	J	4.4	8.3	UJ	8.3	6.9	U	6.9	0.98	J	4.4
SW8260	Methylene chloride	75-09-2	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	o-Xylene	95-47-6	ug/kg	4.7	U	4.7	0.42	J	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Styrene	100-42-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	4.2	J	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Toluene	108-88-3	ug/kg	0.57	J	4.7	1.8	J	4.4	8.3	UJ	8.3	6.9	U	6.9	0.79	J	4.4
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Trichloroethene	79-01-6	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg															
SW8260	Vinyl chloride	75-01-4	ug/kg	4.7	U	4.7	4.4	UJ	4.4	8.3	UJ	8.3	6.9	U	6.9	4.4	UJ	4.4
SW8270	1,1-Biphenyl	92-52-4	ug/kg															
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg															
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg															
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg															
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg															
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg															
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg															
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg															
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg															
SW8270	2-Chloronaphthalene	91-58-7	ug/kg															
SW8270	2-Chlorophenol	95-57-8	ug/kg															
SW8270	2-Methylnaphthalene	91-57-6	ug/kg															
SW8270	2-Nitroaniline	88-74-4	ug/kg															
SW8270	2-Nitrophenol	88-75-5	ug/kg															
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg															
SW8270	3-Nitroaniline	99-09-2	ug/kg															
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg															
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg															
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg															
SW8270	4-Chloroaniline	106-47-8	ug/kg															
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg															
SW8270	4-Nitroaniline	100-01-6	ug/kg															
SW8270	4-Nitrophenol	100-02-7	ug/kg															
SW8270	Acenaphthene	83-32-9	ug/kg															
SW8270	Acenaphthylene	208-96-8	ug/kg															
SW8270	Acetophenone	98-86-2	ug/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA5SB3			AOC20CA5SB4			AOC20CA6SB1			AOC20CA7SB4			AOC20CA8SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.7			2			0.9			0.7			1.2		
			sys_sample_code:	AOC20CA5SB3AA			AOC20CA5SB4AA			AOC20CA6SB1AA			AOC20CA7SB4AA			AOC20CA8SB2AA		
			sample_date:	12/6/2005 8:30:00 AM			12/6/2005 12:40:00 PM			11/30/2005 2:49:00 PM			11/29/2005 9:45:00 AM			11/28/2005 8:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg															
SW8270	Atrazine	1912-24-9	ug/kg															
SW8270	Benzaldehyde	100-52-7	ug/kg															
SW8270	Benzo(a)anthracene	56-55-3	ug/kg															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg															
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg															
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg															
SW8270	Butylbenzylphthalate	85-68-7	ug/kg															
SW8270	Caprolactam	105-60-2	ug/kg															
SW8270	Carbazole	86-74-8	ug/kg															
SW8270	Chrysene	218-01-9	ug/kg															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg															
SW8270	Dibenzofuran	132-64-9	ug/kg															
SW8270	Diethylphthalate	84-66-2	ug/kg															
SW8270	Dimethylphthalate	131-11-3	ug/kg															
SW8270	Di-n-butylphthalate	84-74-2	ug/kg															
SW8270	Di-n-octylphthalate	117-84-0	ug/kg															
SW8270	Fluoranthene	206-44-0	ug/kg															
SW8270	Fluorene	86-73-7	ug/kg															
SW8270	Hexachlorobenzene	118-74-1	ug/kg															
SW8270	Hexachlorobutadiene	87-68-3	ug/kg															
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg															
SW8270	Hexachloroethane	67-72-1	ug/kg															
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg															
SW8270	Isophorone	78-59-1	ug/kg															
SW8270	Naphthalene	91-20-3	ug/kg															
SW8270	Nitrobenzene	98-95-3	ug/kg															
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg															
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg															
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg															
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg															
SW8270	Pentachlorophenol	87-86-5	ug/kg															
SW8270	Phenanthrene	85-01-8	ug/kg															
SW8270	Phenol	108-95-2	ug/kg															
SW8270	Pyrene	129-00-0	ug/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA9SB2			AOC20SB39			AOC20SB40			AOC21SB1			AOC21SB10		
			start_depth:	0			0			0			0			0		
			end_depth:	1.8			1.5			1.2			1.6			0.9		
			sys_sample_code:	AOC20CA9SB2AA			AOC20SB39AA			AOC20SB40AA			AOC21SB1AA			AOC21SB10AA		
			sample_date:	11/22/2005 3:24:00 PM			1/4/2006 3:49:00 PM			1/4/2006 2:13:00 PM			1/12/2006 9:42:00 AM			12/21/2005 1:36:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	79.6			87.9			87.9						90.5		
SW6010	Aluminum	7429-90-5	mg/kg				6430	J	10.9	34700	J	11.4	33400	J	30.58	13000	J	10.8
SW6010	Antimony	7440-36-0	mg/kg				6.6	UJ	6.6	6.8	UJ	6.8				6.5	U	6.5
SW6010	Arsenic	7440-38-2	mg/kg				6.4	J	1.1	1.8	J	1.1				4.9		1.1
SW6010	Barium	7440-39-3	mg/kg				55.9	J	2.2	389	J	2.3				85	JJ	2.2
SW6010	Beryllium	7440-41-7	mg/kg				0.55	UJ	0.55	4.9	J	0.57	1.36		1.22	1.7		0.54
SW6010	Cadmium	7440-43-9	mg/kg				0.74		0.55	0.57	U	0.57				0.59		0.54
SW6010	Calcium	7440-70-2	mg/kg				86800	J	547	237000	J	569	7390		305.77	120000	J	542
SW6010	Chromium (total)	7440-47-3	mg/kg				11.9	J	1.1	23.6	J	1.1				10.9	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg				5.5	U	5.5	5.7	U	5.7				5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg				14.6	J	2.2	5.9	J	2.3				11	U	2.2
SW6010	Iron	7439-89-6	mg/kg				11700	J	10.9	6050	J	11.4	40600		61.15	9680		10.8
SW6010	Lead	7439-92-1	mg/kg				11.6		5.5	5.7	U	5.7				6.4		5.4
SW6010	Magnesium	7439-95-4	mg/kg				28600		54.7	40300		56.9	6660		61.15	45900	J	526
SW6010	Manganese	7439-96-5	mg/kg				419	J	1.1	5140	J	11.4	1020		6.12	1330	J	10.8
SW6010	Nickel	7440-02-0	mg/kg				10.3		4.4	4.6	U	4.6				8.7		4.3
SW6010	Potassium	7440-09-7	mg/kg				937		219	2540		228	2910		1223.09	1200		217
SW6010	Selenium	7782-49-2	mg/kg				1.3		1.1	6.2		1.1				3.2		1.1
SW6010	Silver	7440-22-4	mg/kg				1.1	U	1.1	1.1	U	1.1				1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg				123	J	54.7	1040	J	56.9	83.5		305.77	420		54.2
SW6010	Thallium	7440-28-0	mg/kg				10.9	U	10.9	11.4	U	11.4				5.4	U	5.4
SW6010	Vanadium	7440-62-2	mg/kg				16.6		5.5	11.7		5.7				19	J	5.4
SW6010	Zinc	7440-66-6	mg/kg				45		2.2	19.8	J	2.3	117	J	18.35	23.9	J	2.2
SW6020	Antimony	7440-36-0	mg/kg										0.557	J-	3.06			
SW6020	Arsenic	7440-38-2	mg/kg										18.4	J	0.31			
SW6020	Barium	7440-39-3	mg/kg										128	J-	1.22			
SW6020	Cadmium	7440-43-9	mg/kg										0.255		0.31			
SW6020	Chromium (total)	7440-47-3	mg/kg										31.8	J	1.22			
SW6020	Cobalt	7440-48-4	mg/kg										13.5		0.61			
SW6020	Copper	7440-50-8	mg/kg										33.4		1.22			
SW6020	Lead	7439-92-1	mg/kg										26		0.61			
SW6020	Nickel	7440-02-0	mg/kg										36.5		1.22			
SW6020	Selenium	7782-49-2	mg/kg										1.49		1.22			
SW6020	Silver	7440-22-4	mg/kg										0.31	U	0.31			
SW6020	Thallium	7440-28-0	mg/kg										1.14		1.22			
SW6020	Vanadium	7440-62-2	mg/kg										63.1		1.22			
SW6020	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg				0.04	UJ	0.04	0.05	J-	0.04				0.03	U	0.03
SW7471	Mercury	7439-97-6	mg/kg										0.031		0.06			
SW8082	Aroclor 1016	12674-11-2	ug/kg				38	U	38	38	U	38	42	U	42	36	U	36
SW8082	Aroclor 1221	11104-28-2	ug/kg				76	U	76	76	U	76	42	U	42	74	U	74
SW8082	Aroclor 1232	11141-16-5	ug/kg				38	U	38	38	U	38	42	U	42	36	U	36
SW8082	Aroclor 1242	53469-21-9	ug/kg				38	U	38	38	U	38	42	U	42	36	U	36
SW8082	Aroclor 1248	12672-29-6	ug/kg				40		38	63		38	42	U	42	36	U	36
SW8082	Aroclor 1254	11097-69-1	ug/kg				38	U	38	38	U	38	42	U	42	36	U	36
SW8082	Aroclor 1260	11096-82-5	ug/kg				38	U	38	210		38	42	U	42	36	U	36
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8				4.5	U	4.5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	11	U	11	4.5	U	4.5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	11	U	11	4.5	U	4.5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	2-Butanone	78-93-3	ug/kg	1200	UB	1200	3.8	J	11	2	J	12	11	U	11	9	U	9

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA9SB2			AOC20SB39			AOC20SB40			AOC21SB1			AOC21SB10		
			start_depth:	0			0			0			0			0		
			end_depth:	1.8			1.5			1.2			1.6			0.9		
			sys_sample_code:	AOC20CA9SB2AA			AOC20SB39AA			AOC20SB40AA			AOC21SB1AA			AOC21SB10AA		
			sample_date:	11/22/2005 3:24:00 PM			1/4/2006 3:49:00 PM			1/4/2006 2:13:00 PM			1/12/2006 9:42:00 AM			12/21/2005 1:36:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	1200	U	1200	11	U	11	12	U	12	11	U	11	9	U	9
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	1200	U	1200	11	U	11	12	U	12	11	U	11	9	U	9
SW8260	Acetone	67-64-1	ug/kg	2400	U	2400	22	J	23	14	J	23	4.6	J	140	17	J	18
SW8260	Benzene	71-43-2	ug/kg	84	J	610	2.8	J	5.7	3.6	J	5.8	5.4	U	5.4	0.83	J	4.5
SW8260	Bromodichloromethane	75-27-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Bromoform	75-25-2	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Bromomethane	74-83-9	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Carbon disulfide	75-15-0	ug/kg	1200	U	1200	0.69	J	11	0.43	J	12	11	U	11	3.3	J	9
SW8260	Carbon tetrachloride	56-23-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Chlorobenzene	108-90-7	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Chloroethane	75-00-3	ug/kg	1200	U	1200	11	U	11	12	U	12	5.4	U	5.4	9	U	9
SW8260	Chloroform	67-66-3	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	1.4	J	5.4	4.5	U	4.5
SW8260	Chloromethane	74-87-3	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Cyclohexane	110-82-7	ug/kg	160	J	610	5	J	5.7	3.8	J	5.8	11	U	11	2.7	J	4.5
SW8260	Dibromochloromethane	124-48-1	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	610	U	610	5.7	UJ	5.7	5.8	UJ	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Ethylbenzene	100-41-4	ug/kg	230	J	610	2	J	5.7	5.8	U	5.8	5.4	U	5.4	0.54	J	4.5
SW8260	Isopropylbenzene	98-82-8	ug/kg	360	J	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	m+p-Xylene	XYLMP	ug/kg	650		610	3.1	J	5.7	2.8	J	5.8	11	U	11	0.69	J	4.5
SW8260	Methyl acetate	79-20-9	ug/kg	1200	U	1200	11	U	11	12	U	12	11	U	11	9	U	9
SW8260	Methylcyclohexane	108-87-2	ug/kg	2000		610	6.5		5.7	5.3	J	5.8	11	U	11	4	J	4.5
SW8260	Methylene chloride	75-09-2	ug/kg	87	J	610	0.66	J	5.7	0.58	J	5.8	22	U	22	0.31	J	4.5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	o-Xylene	95-47-6	ug/kg	210	J	610	1.5	J	5.7	1.4	J	5.8	5.4	U	5.4	0.29	J	4.5
SW8260	Styrene	100-42-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Tetrachloroethene	127-18-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Toluene	108-88-3	ug/kg	200	J	610	6		5.7	6.1		5.8	5.4	U	5.4	1.7	J	4.5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Trichloroethene	79-01-6	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg										5.4	U	5.4			
SW8260	Vinyl chloride	75-01-4	ug/kg	610	U	610	5.7	U	5.7	5.8	U	5.8	5.4	U	5.4	4.5	U	4.5
SW8270	1,1-Biphenyl	92-52-4	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg				1900	U	1900	14000	U	14000	830	U	830	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2-Chloronaphthalene	91-58-7	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2-Chlorophenol	95-57-8	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	2-Methylnaphthalene	91-57-6	ug/kg				380	U	380	300	J	2600	410	U	410	360	U	360
SW8270	2-Nitroaniline	88-74-4	ug/kg				1900	U	1900	14000	U	14000	410	U	410	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	3-Nitroaniline	99-09-2	ug/kg				1900	U	1900	14000	U	14000	410	U	410	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg				1900	U	1900	14000	U	14000	830	U	830	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	4-Chloroaniline	106-47-8	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	4-Nitroaniline	100-01-6	ug/kg				1900	U	1900	14000	U	14000	410	U	410	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg				1900	U	1900	14000	U	14000	830	U	830	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg				380	U	380	1600	J	2600	410	U	410	360	U	360
SW8270	Acenaphthylene	208-96-8	ug/kg				380	U	380	310	J	2600	410	U	410	360	U	360
SW8270	Acetophenone	98-86-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA9SB2			AOC20SB39			AOC20SB40			AOC21SB1			AOC21SB10		
			start_depth:	0			0			0			0			0		
			end_depth:	1.8			1.5			1.2			1.6			0.9		
			sys_sample_code:	AOC20CA9SB2AA			AOC20SB39AA			AOC20SB40AA			AOC21SB1AA			AOC21SB10AA		
			sample_date:	11/22/2005 3:24:00 PM			1/4/2006 3:49:00 PM			1/4/2006 2:13:00 PM			1/12/2006 9:42:00 AM			12/21/2005 1:36:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg				380	U	380	3000		2600	410	U	410	360	U	360
SW8270	Atrazine	1912-24-9	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Benzaldehyde	100-52-7	ug/kg				1900	U	380	14000	U	2600	410	U	410	1900	U	360
SW8270	Benzo(a)anthracene	56-55-3	ug/kg				43	J	380	15000		2600	25	J	410	360	U	360
SW8270	Benzo(a)pyrene	50-32-8	ug/kg				43	J	380	15000		2600	410	U	410	360	U	360
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg				40	J	380	14000		2600	410	U	410	360	U	360
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg				380	U	380	8100		2600	410	U	410	360	U	360
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg				43	J	380	14000		2600	32	J	410	360	U	360
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg				380	U	380	2600	U	2600	410	U	410	40	J	360
SW8270	Butylbenzylphthalate	85-68-7	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Caprolactam	105-60-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Carbazole	86-74-8	ug/kg				380	U	380	1800	J	2600	410	U	410	360	U	360
SW8270	Chrysene	218-01-9	ug/kg				46	J	380	16000		2600	32	J	410	38	J	360
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg				380	U	380	3000		2600	410	U	410	360	U	360
SW8270	Dibenzofuran	132-64-9	ug/kg				380	U	380	550	J	2600	410	U	410	360	U	360
SW8270	Diethylphthalate	84-66-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Dimethylphthalate	131-11-3	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Di-n-butylphthalate	84-74-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Di-n-octylphthalate	117-84-0	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Fluoranthene	206-44-0	ug/kg				83	J	380	25000		2600	53	J	410	56	J	360
SW8270	Fluorene	86-73-7	ug/kg				380	U	380	1100	J	2600	410	U	410	360	U	360
SW8270	Hexachlorobenzene	118-74-1	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Hexachlorobutadiene	87-68-3	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Hexachloroethane	67-72-1	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg				380	U	380	7600		2600	410	U	410	360	U	360
SW8270	Isophorone	78-59-1	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Naphthalene	91-20-3	ug/kg				380	U	380	560	J	2600	410	U	410	360	U	360
SW8270	Nitrobenzene	98-95-3	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Pentachlorophenol	87-86-5	ug/kg				1900	U	1900	14000	U	14000	830	U	830	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg				380	U	380	11000		2600	410	U	410	360	U	360
SW8270	Phenol	108-95-2	ug/kg				380	U	380	2600	U	2600	410	U	410	360	U	360
SW8270	Pyrene	129-00-0	ug/kg				72	J	380	22000		2600	50	J	410	50	J	360
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg							16.229		0.118	1.37	J	0.055			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg							71.087	B	0.194	5.161	JB	0.072			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg							1.286	J	0.165	0.174	JK	0.077			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg							2.139	UB	0.088	0.51	UJBK	0.039			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg							1.077	J	0.054	0.118	JK	0.028			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg							1.151	J	0.092	0.232	J	0.041			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg							2.343	J	0.052	0.213	JK	0.027			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg							0.114	U	0.114	0.05	U	0.05			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg							2.315	J	0.052	0.299	J	0.027			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg							0.747	J	0.035	0.282	J	0.023			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg							0.61	J	0.036	0.102	JK	0.049			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg							1.459	J	0.099	0.312	J	0.044			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg							0.827	J	0.034	0.311	J	0.022			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg							1.36		0.909	1.409	U	1.409			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg							0.024	U	0.024	0.049	JK	0.034			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg							28.552	B	0.239	1.922	UJB	0.084			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg							452.798	B	0.197	20.636	JB	0.066			
SW9012A	CYANIDE	57-12-5	mg/kg				1.14	U	1.14	1.14	U	1.14	0.5	U	0.5	1.1	U	1.1

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB11			AOC21SB12			AOC21SB13			AOC21SB2			AOC21SB3		
			start_depth:	0			0			0			0			0		
			end_depth:	1.3			0.9			1.2			1.6			2		
			sys_sample_code:	AOC21SB11AA			AOC21SB12AA			AOC21SB13AA			AOC21SB2AA			AOC21SB3AA		
			sample_date:	12/20/2005 12:27:00 PM			12/20/2005 1:45:00 PM			12/21/2005 7:51:00 AM			1/10/2006 8:18:00 AM			1/10/2006 2:16:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	83.4			83.5			81.4								
SW6010	Aluminum	7429-90-5	mg/kg	14900	J	11.6	17200	J	12	11900	J	12.3	16600	J	28.51	12100	J	27.48
SW6010	Antimony	7440-36-0	mg/kg	7	U	7	7.2	U	7.2	7.4	U	7.4						
SW6010	Arsenic	7440-38-2	mg/kg	8.9		1.2	11		1.2	9.2		1.2						
SW6010	Barium	7440-39-3	mg/kg	116	J	2.3	98.6	J	2.4	82.9	J	2.5						
SW6010	Beryllium	7440-41-7	mg/kg	0.58	U	0.58	0.6	U	0.6	0.61	U	0.61	0.547		1.14	0.725		1.1
SW6010	Cadmium	7440-43-9	mg/kg	0.85		0.58	0.87		0.6	0.66		0.61						
SW6010	Calcium	7440-70-2	mg/kg	24800	J	58.2	6910	J	59.9	25100	J	61.4	2190		285.08	1990		274.81
SW6010	Chromium (total)	7440-47-3	mg/kg	19.1	J	1.2	19.2	J	1.2	14.5	J	1.2						
SW6010	Cobalt	7440-48-4	mg/kg	9.3		5.8	10.5		6	8.8		6.1						
SW6010	Copper	7440-50-8	mg/kg	17.1	U	2.3	17.7	U	2.4	15.3	U	2.5						
SW6010	Iron	7439-89-6	mg/kg	17500	J	11.6	21600	J	12	16700	J	12.3	26500		57.02	18300		54.96
SW6010	Lead	7439-92-1	mg/kg	21.4		5.8	18.5		6	10.8		6.1						
SW6010	Magnesium	7439-95-4	mg/kg	6510	J	588	20000	J	599	6290	j	585	2910		57.02	1790		54.96
SW6010	Manganese	7439-96-5	mg/kg	1730	J	11.6	1090	J	1.2	769	J	1.2	433		5.7	976		5.5
SW6010	Nickel	7440-02-0	mg/kg	13.6		4.7	18.5		4.8	14.1		4.9						
SW6010	Potassium	7440-09-7	mg/kg	1410		233	1430		240	953		246	1310		1140.3	886		1099.24
SW6010	Selenium	7782-49-2	mg/kg	2.8		1.2	2.5		1.2	2.9		1.2						
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2						
SW6010	Sodium	7440-23-5	mg/kg	128		58.2	59.9	U	59.9	61.4	U	61.4	25.7		285.08	32.4		274.81
SW6010	Thallium	7440-28-0	mg/kg	5.8	U	5.8	6	U	6	6.1	U	6.1						
SW6010	Vanadium	7440-62-2	mg/kg	32	J	5.8	38.5	U	6	28.1	J	6.1						
SW6010	Zinc	7440-66-6	mg/kg	60.3	J	2.3	58.8	J	2.4	45.1	J	2.5						
SW6020	Antimony	7440-36-0	mg/kg										0.322	J-	2.85	2.75	UJ	2.75
SW6020	Arsenic	7440-38-2	mg/kg										11.8	J	0.29	6.19	J	0.27
SW6020	Barium	7440-39-3	mg/kg										54.2	J	1.14	75	J	1.1
SW6020	Cadmium	7440-43-9	mg/kg										0.29	U	0.29	0.27	U	0.27
SW6020	Chromium (total)	7440-47-3	mg/kg										17.9	J	1.14	12.7	J	1.1
SW6020	Cobalt	7440-48-4	mg/kg										9		0.57	8.88		0.55
SW6020	Copper	7440-50-8	mg/kg										19.2		1.14	9.96		1.1
SW6020	Lead	7439-92-1	mg/kg										14.1		0.57	13.4		0.55
SW6020	Nickel	7440-02-0	mg/kg										18		1.14	12.6		1.1
SW6020	Selenium	7782-49-2	mg/kg										1.14	U	1.14	1.1	U	1.1
SW6020	Silver	7440-22-4	mg/kg										0.29	U	0.29	0.27	U	0.27
SW6020	Thallium	7440-28-0	mg/kg										0.281		1.14	0.258		1.1
SW6020	Vanadium	7440-62-2	mg/kg										40.3		1.14	31.8		1.1
SW6020	Zinc	7440-66-6	mg/kg										79.5	J	5.7	50.5	J	5.5
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04						
SW7471	Mercury	7439-97-6	mg/kg										0.032	U	0.06	0.016	U	0.05
SW8082	Aroclor 1016	12674-11-2	ug/kg	40	U	40	40	U	40	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	80	U	80	80	U	80	82	U	82	40	U	40	39	U	39
SW8082	Aroclor 1232	11141-16-5	ug/kg	40	U	40	40	U	40	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	40	U	40	40	U	40	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	40	U	40	40	U	40	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	40	U	40	40	U	40	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	40	U	40	40	U	40	41	U	41	40	U	40	39	U	39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2						
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	11	U	11	11	U	11
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	11	U	11	11	U	11
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	2-Butanone	78-93-3	ug/kg	10	UJ	10	6	J	9.5	10	U	10	11	U	11	11	U	11

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB11			AOC21SB12			AOC21SB13			AOC21SB2			AOC21SB3		
			start_depth:	0			0			0			0			0		
			end_depth:	1.3			0.9			1.2			1.6			2		
			sys_sample_code:	AOC21SB11AA			AOC21SB12AA			AOC21SB13AA			AOC21SB2AA			AOC21SB3AA		
			sample_date:	12/20/2005 12:27:00 PM			12/20/2005 1:45:00 PM			12/21/2005 7:51:00 AM			1/10/2006 8:18:00 AM			1/10/2006 2:16:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	10	UJ	10	9.5	U	9.5	10	U	10	11	U	11	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	UJ	10	9.5	U	9.5	10	U	10	11	U	11	11	U	11
SW8260	Acetone	67-64-1	ug/kg	21	UJ	21	95		19	21	U	21	140	U	140	130	U	130
SW8260	Benzene	71-43-2	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Bromoform	75-25-2	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Bromomethane	74-83-9	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Carbon disulfide	75-15-0	ug/kg	0.44	J	10	0.62	J	9.5	10	U	10	11	U	11	11	U	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Chlorobenzene	108-90-7	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Chloroethane	75-00-3	ug/kg	10	UJ	10	9.5	U	9.5	10	U	10	5.3	U	5.3	5.2	U	5.2
SW8260	Chloroform	67-66-3	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Chloromethane	74-87-3	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Cyclohexane	110-82-7	ug/kg	0.48	J	5.2	4.7	U	4.7	5.2	U	5.2	11	U	11	11	U	11
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Ethylbenzene	100-41-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	m+p-Xylene	XYLMP	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	11	U	11	11	U	11
SW8260	Methyl acetate	79-20-9	ug/kg	10	UJ	10	9.5	U	9.5	10	U	10	11	U	11	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.62	J	5.2	4.7	U	4.7	0.39	J	5.2	11	U	11	11	U	11
SW8260	Methylene chloride	75-09-2	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	21	U	21	21	U	21
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	o-Xylene	95-47-6	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Styrene	100-42-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Toluene	108-88-3	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Trichloroethene	79-01-6	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg										5.3	U	5.3	5.2	U	5.2
SW8260	Vinyl chloride	75-01-4	ug/kg	5.2	UJ	5.2	4.7	U	4.7	5.2	U	5.2	5.3	U	5.3	5.2	U	5.2
SW8270	1,1-Biphenyl	92-52-4	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	810	U	810	800	U	800
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2-Chlorophenol	95-57-8	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400	400	U	400
SW8270	2-Nitrophenol	88-75-5	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400	400	U	400
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	810	U	810	800	U	800
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	4-Chloroaniline	106-47-8	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400	400	U	400
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	810	U	810	800	U	800
SW8270	Acenaphthene	83-32-9	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Acenaphthylene	208-96-8	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Acetophenone	98-86-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB11			AOC21SB12			AOC21SB13			AOC21SB2			AOC21SB3		
			start_depth:	0			0			0			0			0		
			end_depth:	1.3			0.9			1.2			1.6			2		
			sys_sample_code:	AOC21SB11AA			AOC21SB12AA			AOC21SB13AA			AOC21SB2AA			AOC21SB3AA		
			sample_date:	12/20/2005 12:27:00 PM			12/20/2005 1:45:00 PM			12/21/2005 7:51:00 AM			1/10/2006 8:18:00 AM			1/10/2006 2:16:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Atrazine	1912-24-9	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	400	2000	U	400	2100	U	410	400	U	400	400	U	400
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Caprolactam	105-60-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Carbazole	86-74-8	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Chrysene	218-01-9	ug/kg	40	J	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Dibenzofuran	132-64-9	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Diethylphthalate	84-66-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Dimethylphthalate	131-11-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Fluoranthene	206-44-0	ug/kg	71	J	400	400	U	400	410	U	410	32	J	400	400	U	400
SW8270	Fluorene	86-73-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Hexachlorobenzene	118-74-1	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Hexachloroethane	67-72-1	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Isophorone	78-59-1	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Naphthalene	91-20-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Nitrobenzene	98-95-3	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	2000	U	2000	2100	U	2100	810	U	810	800	U	800
SW8270	Phenanthrene	85-01-8	ug/kg	400	U	400	74	J	400	410	U	410	38	J	400	400	U	400
SW8270	Phenol	108-95-2	ug/kg	400	U	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8270	Pyrene	129-00-0	ug/kg	56	J	400	400	U	400	410	U	410	400	U	400	400	U	400
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg													0.118	JK	0.047
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg													2.154	UB	0.055
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg													0.066	U	0.066
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg													0.018	U	0.018
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg													0.04	U	0.04
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg													0.018	U	0.018
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg													0.038	U	0.038
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg													0.023	U	0.023
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg													0.038	U	0.038
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg													0.014	U	0.014
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg													0.039	U	0.039
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg													0.02	U	0.02
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg													0.014	U	0.014
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg													0.058	U	0.058
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg													0.019	U	0.019
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg													0.552	UJBK	0.082
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg													8.976	UB	0.089
SW9012A	CYANIDE	57-12-5	mg/kg	1.2	U	1.2	1.2	U	1.2	1.23	U	1.23	0.5	U	0.5	0.5	U	0.5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB4			AOC21SB5			AOC21SB6			AOC21SB7			AOC21SB8		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			1.4			2			2			1.6		
			sys_sample_code:	AOC21SB4AA			AOC21SB5AA			AOC21SB6AA			AOC21SB7AA			AOC21SB8AA		
			sample_date:	1/10/2006 1:35:00 PM			1/11/2006 8:30:00 AM			1/10/2006 10:35:00 AM			1/10/2006 9:33:00 AM			1/11/2006 1:52:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent															
SW6010	Aluminum	7429-90-5	mg/kg	12400	J	29.19	13300	J	29.41	14400	J	26.6	15500	J	29.12	24500	J	29.19
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg	0.578		1.17	0.576		1.18	0.899		1.06	0.635		1.16	0.782		1.17
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg	1780		291.87	2070		294.09	2710		266	2200		291.19	3200		291.87
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg	18400		58.37	20000		58.82	37100		53.2	20200		58.24	28600		58.37
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg	1950		58.37	2130		58.82	2760		53.2	2260		58.24	3940		58.37
SW6010	Manganese	7439-96-5	mg/kg	1030		5.84	846		5.88	648		5.32	1490		5.82	755		5.84
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg	1167.46	U	1167.46	1176.36	U	1176.36	878		1064.01	1330		1164.77	1670		1167.46
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg	33.9		291.87	24.6		294.09	25.8		266	26.9		291.19	47.2		291.87
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg													64.7	J	17.51
SW6020	Antimony	7440-36-0	mg/kg	2.92	UJ	2.92	2.94	UJ	2.94	2.66	UJ	2.66	2.91	UJ	2.91	2.92	UJ	2.92
SW6020	Arsenic	7440-38-2	mg/kg	6.82	J	0.29	7.58	J	0.29	12.6	J	0.27	7.12	J	0.29	10.8	J	0.29
SW6020	Barium	7440-39-3	mg/kg	78.8	J	1.17	76.9	J	1.18	69.4	J	1.06	122	J	1.16	109	J	1.17
SW6020	Cadmium	7440-43-9	mg/kg	0.29	U	0.29	0.29	U	0.29	0.27	U	0.27	0.29	U	0.29	0.29	U	0.29
SW6020	Chromium (total)	7440-47-3	mg/kg	13.1	J	1.17	13.6	J	1.18	21.8	J	1.06	14.1	J	1.16	23.2	J	1.17
SW6020	Cobalt	7440-48-4	mg/kg	9.46		0.58	8.87		0.59	7.24		0.53	11		0.58	13.4		0.58
SW6020	Copper	7440-50-8	mg/kg	11.4		1.17	11.7		1.18	18.6		1.06	12.5		1.16	17.4		1.17
SW6020	Lead	7439-92-1	mg/kg	11.8		0.58	11.6		0.59	13.3		0.53	13.6		0.58	16.5		0.58
SW6020	Nickel	7440-02-0	mg/kg	15		1.17	14.4		1.18	18.5		1.06	15.4		1.16	21.9		1.17
SW6020	Selenium	7782-49-2	mg/kg	1.17	U	1.17	1.1		1.18	1.06	U	1.06	1.16	U	1.16	1.17	U	1.17
SW6020	Silver	7440-22-4	mg/kg	0.29	U	0.29	0.29	U	0.29	0.27	U	0.27	0.29	U	0.29	0.29	U	0.29
SW6020	Thallium	7440-28-0	mg/kg	1.17	U	1.17	1.18	U	1.18	1.06	U	1.06	1.16	U	1.16	1.17	U	1.17
SW6020	Vanadium	7440-62-2	mg/kg	27.9		1.17	32.7		1.18	50.6		1.06	32.6		1.16	46.6		1.17
SW6020	Zinc	7440-66-6	mg/kg	51.5	J	5.84	49.6	J	5.88	62.9	J	5.32	55	J	5.82			
SW7470	Mercury	7439-97-6	mg/kg															
SW7471	Mercury	7439-97-6	mg/kg	0.02	U	0.05	0.021	U	0.06	0.029	U	0.06	0.013	U	0.06	0.026		0.06
SW8082	Aroclor 1016	12674-11-2	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8082	Aroclor 1221	11104-28-2	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8082	Aroclor 1232	11141-16-5	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8082	Aroclor 1242	53469-21-9	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8082	Aroclor 1248	12672-29-6	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8082	Aroclor 1254	11097-69-1	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8082	Aroclor 1260	11096-82-5	ug/kg	40	U	40	40	U	40	38	U	38	41	U	41	40	U	40
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg															
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	2-Butanone	78-93-3	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB4			AOC21SB5			AOC21SB6			AOC21SB7			AOC21SB8		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			1.4			2			2			1.6		
			sys_sample_code:	AOC21SB4AA			AOC21SB5AA			AOC21SB6AA			AOC21SB7AA			AOC21SB8AA		
			sample_date:	1/10/2006 1:35:00 PM			1/11/2006 8:30:00 AM			1/10/2006 10:35:00 AM			1/10/2006 9:33:00 AM			1/11/2006 1:52:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	Acetone	67-64-1	ug/kg	3.2	J	150	160	U	160	120	U	120	140	U	140	4.2	J	130
SW8260	Benzene	71-43-2	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Bromoform	75-25-2	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Bromomethane	74-83-9	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Carbon disulfide	75-15-0	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Chlorobenzene	108-90-7	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Chloroethane	75-00-3	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Chloroform	67-66-3	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Chloromethane	74-87-3	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Cyclohexane	110-82-7	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Ethylbenzene	100-41-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	m+p-Xylene	XYLMP	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	Methyl acetate	79-20-9	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	Methylcyclohexane	108-87-2	ug/kg	12	U	12	13	U	13	9.2	U	9.2	11	U	11	9.8	U	9.8
SW8260	Methylene chloride	75-09-2	ug/kg	24	U	24	26	U	26	19	U	19	22	U	22	20	U	20
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	o-Xylene	95-47-6	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Styrene	100-42-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Toluene	108-88-3	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Trichloroethene	79-01-6	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8260	Vinyl chloride	75-01-4	ug/kg	5.8	U	5.8	6.3	U	6.3	4.6	U	4.6	5.4	U	5.4	4.9	U	4.9
SW8270	1,1-Biphenyl	92-52-4	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	820	U	820	800	U	800	770	U	770	820	U	820	810	U	810
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2-Chlorophenol	95-57-8	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2-Nitroaniline	88-74-4	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	2-Nitrophenol	88-75-5	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	3-Nitroaniline	99-09-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	820	U	820	800	U	800	770	U	770	820	U	820	810	U	810
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	4-Chloroaniline	106-47-8	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	4-Nitroaniline	100-01-6	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	4-Nitrophenol	100-02-7	ug/kg	820	U	820	800	U	800	770	U	770	820	U	820	810	U	810
SW8270	Acenaphthene	83-32-9	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Acenaphthylene	208-96-8	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Acetophenone	98-86-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB4			AOC21SB5			AOC21SB6			AOC21SB7			AOC21SB8		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			1.4			2			2			1.6		
			sys_sample_code:	AOC21SB4AA			AOC21SB5AA			AOC21SB6AA			AOC21SB7AA			AOC21SB8AA		
			sample_date:	1/10/2006 1:35:00 PM			1/11/2006 8:30:00 AM			1/10/2006 10:35:00 AM			1/10/2006 9:33:00 AM			1/11/2006 1:52:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Atrazine	1912-24-9	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Benzaldehyde	100-52-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Caprolactam	105-60-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Carbazole	86-74-8	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Chrysene	218-01-9	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Dibenzofuran	132-64-9	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Diethylphthalate	84-66-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Dimethylphthalate	131-11-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Fluoranthene	206-44-0	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Fluorene	86-73-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Hexachlorobenzene	118-74-1	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Hexachloroethane	67-72-1	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Isophorone	78-59-1	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Naphthalene	91-20-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Nitrobenzene	98-95-3	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Pentachlorophenol	87-86-5	ug/kg	820	U	820	800	U	800	770	U	770	820	U	820	810	U	810
SW8270	Phenanthrene	85-01-8	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Phenol	108-95-2	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8270	Pyrene	129-00-0	ug/kg	400	U	400	400	U	400	380	U	380	410	U	410	400	U	400
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				0.201	JK	0.038							0.23	J	0.032
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				0.461	UJBK	0.035							0.824	UB	0.031
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				0.053	U	0.053							0.044	U	0.044
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				0.061	JK	0.027							0.1	UJBK	0.023
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.026	U	0.026							0.05	J	0.021
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				0.028	U	0.028							0.1	J	0.024
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				0.025	U	0.025							0.07	JK	0.02
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				0.034	U	0.034							0.03	U	0.03
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				0.024	U	0.024							0.13	JK	0.02
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				0.025	U	0.025							0.068	J	0.015
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				0.03	U	0.03							0.059	JK	0.02
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				0.03	U	0.03							0.068	J	0.026
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				0.024	U	0.024							0.054	JK	0.014
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				0.047	U	0.047							0.042	U	0.042
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.03	U	0.03							0.053	JK	0.021
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				0.367	UJBK	0.056							0.477	UB	0.05
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				3.027	UB	0.041							2.779	UB	0.047
SW9012A	CYANIDE	57-12-5	mg/kg	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5	0.5	U	0.5

Appendix C-1 Surface Soil Analytical Data
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New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB9			AOC2SB1			AOC2SB10			AOC2SB10			AOC2SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.6			1.2			2			2			2		
			sys_sample_code:	AOC21SB9AA			AOC2SB1AA			AOC2SB10AA			AOC2SB10AB			AOC2SB2AA		
			sample_date:	1/11/2006 11:20:00 AM			1/5/2006 8:31:00 AM			1/4/2006 1:19:00 PM			1/4/2006 1:19:00 PM			1/5/2006 9:42:00 AM		
			sample_type_code:	N			N			N			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent															
SW6010	Aluminum	7429-90-5	mg/kg	21200	J	29.9	7790		12.3	11700		6.05	12100		6.26	5970		25.6
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg	0.843		1.2	0.433	J-	0.255	0.637	U	0.125	0.713	U	0.129	0.983	J-	0.528
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg	3550		299.04	22900	J	14.2	4490	J	6.98	10900	J	7.22	49900	J	29.5
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg	27700		59.81	22200		4.33	17300		2.12	18800		2.2	213000		8.97
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg	3290		59.81	11100	J	45.7	3150	J	22.4	5220	J	23.2	10900	J	94.6
SW6010	Manganese	7439-96-5	mg/kg	700		5.98	707	J+	1.07	1230	J+	0.523	1290	J+	0.541	2820	J+	2.21
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg	1710		1196.17	3130	J+	949	1220	J+	465	1220		481	1970	U	1970
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg	44		299.04	219	UJ	2.19	37.6	J-	1.08	55.4	J-	1.11	134	UJ	4.55
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW6020	Antimony	7440-36-0	mg/kg	0.503	J-	2.99		R	0.321		R	0.314		R	0.325	0.685	J-	0.332
SW6020	Arsenic	7440-38-2	mg/kg	9.25	J	0.3	4.55		0.19	4.97		0.186	5.52		0.193	23.7		0.197
SW6020	Barium	7440-39-3	mg/kg	93.9	J	1.2	50.5	J+	0.44	85.6	J+	0.43	82.1		0.445	89.6	J+	0.455
SW6020	Cadmium	7440-43-9	mg/kg	0.3	U	0.3	1.72		0.214	0.209	U	0.209	0.238	J	0.217	5.64		0.221
SW6020	Chromium (total)	7440-47-3	mg/kg	21.2	J	1.2	12.4		0.119	14.5		0.116	15		0.12	33.2		0.123
SW6020	Cobalt	7440-48-4	mg/kg	13.3		0.6	3.29		0.143	8.23		0.14	7.96		0.144	8.44		0.147
SW6020	Copper	7440-50-8	mg/kg	13.6		1.2	16.7		0.238	13.5		0.233	14		0.241	49.1		0.246
SW6020	Lead	7439-92-1	mg/kg	18.6		0.6	147	J	0.178	12.9	J	0.175	16.7	J	0.18	336	J	0.184
SW6020	Nickel	7440-02-0	mg/kg	16.7		1.2	12.2		0.892	14.3		0.872	14		0.902	25.1		0.922
SW6020	Selenium	7782-49-2	mg/kg	1.2		1.2	0.892	U	0.892	0.872	U	0.872	0.902	U	0.902	0.922	U	0.922
SW6020	Silver	7440-22-4	mg/kg	0.3	U	0.3	0.321	U	0.321	0.314	UJ	0.314	0.325	UJ	0.325	1.03		0.332
SW6020	Thallium	7440-28-0	mg/kg	1.06		1.2	0.44	J	0.274	0.268	U	0.268	0.277	U	0.277	2.47		0.283
SW6020	Vanadium	7440-62-2	mg/kg	44.5		1.2	13.3	J-	0.357	27.6		0.349	27.7		0.361	29.5		0.369
SW6020	Zinc	7440-66-6	mg/kg	48.8	J	5.98	714		0.951	55.5		0.931	64.2		0.963	1390		0.983
SW7470	Mercury	7439-97-6	mg/kg															
SW7471	Mercury	7439-97-6	mg/kg	0.024	U	0.05	0.074		0.05	0.032	J	0.06	0.053		0.05	0.038	J	0.05
SW8082	Aroclor 1016	12674-11-2	ug/kg	42	U	42	40	U	40	40	U	40	41	U	41	43	U	43
SW8082	Aroclor 1221	11104-28-2	ug/kg	42	U	42	40	U	40	40	U	40	41	U	41	43	U	43
SW8082	Aroclor 1232	11141-16-5	ug/kg	42	U	42	40	U	40	40	U	40	41	U	41	43	U	43
SW8082	Aroclor 1242	53469-21-9	ug/kg	42	U	42	40	U	40	40	U	40	41	U	41	43	U	43
SW8082	Aroclor 1248	12672-29-6	ug/kg	42	U	42	40	U	40	40	U	40	41	U	41	2700		430
SW8082	Aroclor 1254	11097-69-1	ug/kg	42	U	42	40	U	40	40	U	40	41	U	41	43	U	43
SW8082	Aroclor 1260	11096-82-5	ug/kg	42	U	42	5.4	J	40	40	U	40	41	U	41	43	U	43
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg															
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	12	U	12	33	UJ	33	11	UJ	11	11	UJ	11	11	U	11
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	12	U	12	33	UJ	33	11	UJ	11	11	UJ	11	11	UJ	11
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.7	U	5.7	1.5	J	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.7	U	5.7	1.8	J	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.7	U	5.7	2.5	J	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	2-Butanone	78-93-3	ug/kg	12	U	12	33	U	33	11	U	11	11	U	11	11	U	11

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB9			AOC2SB1			AOC2SB10			AOC2SB10			AOC2SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.6			1.2			2			2			2		
			sys_sample_code:	AOC21SB9AA			AOC2SB1AA			AOC2SB10AA			AOC2SB10AB			AOC2SB2AA		
			sample_date:	1/11/2006 11:20:00 AM			1/5/2006 8:31:00 AM			1/4/2006 1:19:00 PM			1/4/2006 1:19:00 PM			1/5/2006 9:42:00 AM		
			sample_type_code:	N			N			N			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	12	U	12	33	U	33	11	U	11	11	U	11	16		11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	12	U	12	33	U	33	11	U	11	11	U	11	11	U	11
SW8260	Acetone	67-64-1	ug/kg	5.9	J	150	410	U	410	130	U	130	130	U	130	18	J	130
SW8260	Benzene	71-43-2	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Bromoform	75-25-2	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Bromomethane	74-83-9	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Carbon disulfide	75-15-0	ug/kg	12	U	12	33	U	33	11	UJ	11	11	UJ	11	11	U	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Chlorobenzene	108-90-7	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	Chloroethane	75-00-3	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Chloroform	67-66-3	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Chloromethane	74-87-3	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Cyclohexane	110-82-7	ug/kg	12	U	12	33	U	33	11	U	11	11	U	11	11	U	11
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Ethylbenzene	100-41-4	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.7	U	5.7	17	UJ	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	m+p-Xylene	XYLMP	ug/kg	12	U	12	33	U	33	11	UJ	11	11	UJ	11	11	U	11
SW8260	Methyl acetate	79-20-9	ug/kg	12	U	12	33	UJ	33	11	U	11	11	U	11	11	UJ	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	12	U	12	33	UJ	33	11	UJ	11	11	UJ	11	11	U	11
SW8260	Methylene chloride	75-09-2	ug/kg	23	U	23	65	U	65	21	U	21	21	U	21	21	U	21
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	o-Xylene	95-47-6	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	Styrene	100-42-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	Toluene	108-88-3	ug/kg	5.7	U	5.7	17	U	17	5.1	UJ	5.1	5.1	UJ	5.1	5.2	U	5.2
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Trichloroethene	79-01-6	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8260	Vinyl chloride	75-01-4	ug/kg	5.7	U	5.7	17	U	17	5.1	U	5.1	5.1	U	5.1	5.2	U	5.2
SW8270	1,1-Biphenyl	92-52-4	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	290	J	430
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	840	U	840	800	UJ	800	800	UJ	800	820	UJ	820	880	UJ	880
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2-Chlorophenol	95-57-8	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	420	U	420	78	J	400	400	U	400	410	U	410	350	J	430
SW8270	2-Nitroaniline	88-74-4	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	2-Nitrophenol	88-75-5	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	3-Nitroaniline	99-09-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	840	U	840	800	U	800	800	U	800	820	U	820	880	U	880
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	4-Chloroaniline	106-47-8	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	4-Nitroaniline	100-01-6	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	4-Nitrophenol	100-02-7	ug/kg	840	U	840	800	U	800	800	U	800	820	U	820	880	U	880
SW8270	Acenaphthene	83-32-9	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Acenaphthylene	208-96-8	ug/kg	420	U	420	1000		400	400	U	400	410	U	410	37	J	430
SW8270	Acetophenone	98-86-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC21SB9			AOC2SB1			AOC2SB10			AOC2SB10			AOC2SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.6			1.2			2			2			2		
			sys_sample_code:	AOC21SB9AA			AOC2SB1AA			AOC2SB10AA			AOC2SB10AB			AOC2SB2AA		
			sample_date:	1/11/2006 11:20:00 AM			1/5/2006 8:31:00 AM			1/4/2006 1:19:00 PM			1/4/2006 1:19:00 PM			1/5/2006 9:42:00 AM		
			sample_type_code:	N			N			N			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg	420	U	420	1500	J	400	400	U	400	410	U	410	410	J	430
SW8270	Atrazine	1912-24-9	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Benzaldehyde	100-52-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	15	J	420	3800	J	400	21	J	400	410	U	410	470		430
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	420	U	420	5600		400	400	U	400	410	U	410	380	J	430
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	420	U	420	9300	J	400	400	U	400	410	U	410	870		430
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	420	U	420	2800	J	400	22	J	400	410	U	410	400	J	430
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	420	U	420	2400	J	400	22	J	400	410	U	410	470		430
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Caprolactam	105-60-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Carbazole	86-74-8	ug/kg	420	U	420	360	J	400	400	U	400	410	U	410	60	J	430
SW8270	Chrysene	218-01-9	ug/kg	420	U	420	5400		400	400	U	400	410	U	410	1000		430
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	420	U	420	1400		400	400	U	400	410	U	410	170	J	430
SW8270	Dibenzofuran	132-64-9	ug/kg	420	U	420	54	J	400	400	U	400	410	U	410	250	J	430
SW8270	Diethylphthalate	84-66-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Dimethylphthalate	131-11-3	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Fluoranthene	206-44-0	ug/kg	420	U	420	3200	J	400	400	U	400	410	U	410	730		430
SW8270	Fluorene	86-73-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	130	J	430
SW8270	Hexachlorobenzene	118-74-1	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	420	U	420	400	UJ	400	400	UJ	400	410	UJ	410	430	UJ	430
SW8270	Hexachloroethane	67-72-1	ug/kg	420	U	420	400	U	400	400	UJ	400	410	UJ	410	430	U	430
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	420	U	420	2800		400	400	U	400	410	U	410	260	J	430
SW8270	Isophorone	78-59-1	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Naphthalene	91-20-3	ug/kg	420	U	420	94	J	400	400	U	400	410	U	410	410	J	430
SW8270	Nitrobenzene	98-95-3	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	420	U	420	34	J	400	400	U	400	410	U	410	430	U	430
SW8270	Pentachlorophenol	87-86-5	ug/kg	840	U	840	800	U	800	800	U	800	820	U	820	880	U	880
SW8270	Phenanthrene	85-01-8	ug/kg	20	J	420	680		400	25	J	400	410	U	410	1500		430
SW8270	Phenol	108-95-2	ug/kg	420	U	420	400	U	400	400	U	400	410	U	410	430	U	430
SW8270	Pyrene	129-00-0	ug/kg	31	J	420	4000	J	400	37	J	400	410	U	410	610		430
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg													3.803		0.072
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg													24.347	B	0.149
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg													0.703	JK	0.102
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg													2.882	J	0.072
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg													0.509	JK	0.046
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg													1.318	J	0.075
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg													1.799	J	0.044
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg													0.104	JK	0.093
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg													2.413	J	0.043
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg													2.043	J	0.072
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg													1.176	J	0.062
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg													0.847	J	0.081
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg													3.263		0.069
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg													6.124		0.598
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg													0.61	J	0.038
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg													4.666	UB	0.137
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg													109.968	B	0.134
SW9012A	CYANIDE	57-12-5	mg/kg	0.5	U	0.5	2.86		0.58	0.18	J	0.6	0.24	J	0.58	9.5		0.61

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC2SB3			AOC2SB4			AOC2SB5			AOC2SB6			AOC2SB7		
			start_depth:	0			0			0			0			0		
			end_depth:	2			1.1			1.1			0.7			1.4		
			sys_sample_code:	AOC2SB3AA			AOC2SB4AA			AOC2SB5AA			AOC2SB6AA			AOC2SB7AA		
			sample_date:	1/3/2006 8:11:00 AM			1/3/2006 1:35:00 PM			1/3/2006 10:41:00 AM			1/4/2006 8:03:00 AM			1/4/2006 10:04:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	83.7			85.8			86								
SW6010	Aluminum	7429-90-5	mg/kg	30400		23.9	18100		12.4	31200		23.6	26100		23.4	17300		6.1
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg	6.74		0.493	1.34	J-	0.256	6.43		0.487	5.09		0.484	0.941		0.126
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg	230000	J	27.5	49700	J	14.3	244000	J	27.2	194000		27	27900	J	7.03
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg	17200		8.37	23300		4.34	10800		8.27	12300		8.22	22600		2.14
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg	67800	J	88.3	19500	J	45.8	77600	J	87.2	65500	J	86.7	11300	J	22.6
SW6010	Manganese	7439-96-5	mg/kg	2270	J+	2.06	1390	J+	1.07	3430	J+	2.04	2360	J+	2.03	627	J+	0.528
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg	1840	U	1840	1680	J+	951	1810	U	1810	1940	J+	1800	1350	J+	469
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg	2350	J	4.24	266	UJ	2.2	2400		4.19	1110		4.16	129	J	1.08
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW6020	Antimony	7440-36-0	mg/kg		R	0.31		R	0.321	3.61	J-	0.306	0.461	J-	0.304		R	0.317
SW6020	Arsenic	7440-38-2	mg/kg	0.515		0.184	9.69		0.19	0.181	U	0.181	2.64		0.18	10.2		0.188
SW6020	Barium	7440-39-3	mg/kg	281	J+	0.424	116	J+	0.44	303	J+	0.419	217	J+	0.416	87.9	J+	0.434
SW6020	Cadmium	7440-43-9	mg/kg	0.206	U	0.206	0.214	U	0.214	0.204	U	0.204	0.203	UJ	0.203	0.806		0.211
SW6020	Chromium (total)	7440-47-3	mg/kg	16.2		0.115	19.1		0.119	13.7		0.113	14.3		0.113	19.3		0.117
SW6020	Cobalt	7440-48-4	mg/kg	0.8		0.138	7.28		0.143	0.736		0.136	1.95		0.135	8.01		0.141
SW6020	Copper	7440-50-8	mg/kg	5.71		0.229	17.4		0.238	4.55		0.226	12.3		0.225	20.1		0.234
SW6020	Lead	7439-92-1	mg/kg	2.54	J	0.172	19.3	J	0.178	1.34	J	0.17	7.72	J	0.169	13.5	J	0.176
SW6020	Nickel	7440-02-0	mg/kg	4.72		0.86	19.1		0.891	5.17		0.849	7.31		0.844	19.1		0.879
SW6020	Selenium	7782-49-2	mg/kg	5.04	J+	0.86	1.19	J+	0.891	4.12	J+	0.849	2.66	J+	0.844	0.879	U	0.879
SW6020	Silver	7440-22-4	mg/kg	0.31	UJ	0.31	0.321	U	0.321	0.306	U	0.306	0.304	UJ	0.304	0.317	UJ	0.317
SW6020	Thallium	7440-28-0	mg/kg	0.264	U	0.264	0.318	J	0.273	0.26	U	0.26	0.628	J	0.259	0.3	J	0.27
SW6020	Vanadium	7440-62-2	mg/kg	12.6		0.344	34.9		0.357	10.7	J-	0.34	19.4		0.338	37		0.352
SW6020	Zinc	7440-66-6	mg/kg	17.4		0.918	86		0.951	7.86		0.906	29.2		0.9	65.3		0.938
SW7470	Mercury	7439-97-6	mg/kg															
SW7471	Mercury	7439-97-6	mg/kg	0.05	U	0.05	0.117		0.05	0.06	U	0.06	0.004	U	0.05	0.03	J	0.06
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	41	U	41	39	U	39	39	U	39	40	U	40
SW8082	Aroclor 1221	11104-28-2	ug/kg	39	U	39	41	U	41	39	U	39	39	U	39	40	U	40
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	41	U	41	39	U	39	39	U	39	40	U	40
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	41	U	41	39	U	39	39	U	39	40	U	40
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	41	U	41	39	U	39	39	U	39	40	U	40
SW8082	Aroclor 1254	11097-69-1	ug/kg	39	U	39	41	U	41	39	U	39	39	U	39	40	U	40
SW8082	Aroclor 1260	11096-82-5	ug/kg	17	J	39	41	U	41	39	U	39	8.7	J	39	40	U	40
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8						
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	10	UJ	10	9.7	UJ	9.7
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	10	U	10	9.7	U	9.7
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	2-Butanone	78-93-3	ug/kg	1.9	J	12	2.9	J	9.7	1.6	J	12	10	U	10	9.7	U	9.7

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC2SB3			AOC2SB4			AOC2SB5			AOC2SB6			AOC2SB7		
			start_depth:	0			0			0			0			0		
			end_depth:	2			1.1			1.1			0.7			1.4		
			sys_sample_code:	AOC2SB3AA			AOC2SB4AA			AOC2SB5AA			AOC2SB6AA			AOC2SB7AA		
			sample_date:	1/3/2006 8:11:00 AM			1/3/2006 1:35:00 PM			1/3/2006 10:41:00 AM			1/4/2006 8:03:00 AM			1/4/2006 10:04:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	12	U	12	9.7	U	9.7	12	U	12	10	U	10	9.7	U	9.7
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	12	U	12	9.7	U	9.7	12	U	12	10	U	10	9.7	U	9.7
SW8260	Acetone	67-64-1	ug/kg	7.9	J	24	48		19	7.2	J	23	3.7	J	130	130	U	130
SW8260	Benzene	71-43-2	ug/kg	1.4	J	6	1.6	J	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	Bromodichloromethane	75-27-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Bromoform	75-25-2	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Bromomethane	74-83-9	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Carbon disulfide	75-15-0	ug/kg	2.7	J	12	0.72	J	9.7	10	J	12	10	UJ	10	9.7	UJ	9.7
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Chlorobenzene	108-90-7	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	Chloroethane	75-00-3	ug/kg	12	U	12	9.7	U	9.7	12	U	12	5	U	5	4.9	U	4.9
SW8260	Chloroform	67-66-3	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Chloromethane	74-87-3	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Cyclohexane	110-82-7	ug/kg	6	U	6	4.1	J	4.8	5.8	U	5.8	10	U	10	9.7	U	9.7
SW8260	Dibromochloromethane	124-48-1	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Ethylbenzene	100-41-4	ug/kg	6	U	6	2	J	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	Isopropylbenzene	98-82-8	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	m+p-Xylene	XYLMP	ug/kg	6	U	6	2.8	J	4.8	5.8	U	5.8	10	UJ	10	9.7	UJ	9.7
SW8260	Methyl acetate	79-20-9	ug/kg	12	U	12	9.7	U	9.7	12	U	12	10	U	10	9.7	U	9.7
SW8260	Methylcyclohexane	108-87-2	ug/kg	6	U	6	4.7	J	4.8	5.8	U	5.8	10	UJ	10	9.7	UJ	9.7
SW8260	Methylene chloride	75-09-2	ug/kg	0.45	J	6	0.3	J	4.8	0.43	J	5.8	20	U	20	20	U	20
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	o-Xylene	95-47-6	ug/kg	6	U	6	1.3	J	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	Styrene	100-42-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Tetrachloroethene	127-18-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	Toluene	108-88-3	ug/kg	6	U	6	4.7	J	4.8	5.8	U	5.8	5	UJ	5	4.9	UJ	4.9
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Trichloroethene	79-01-6	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg										5	U	5	4.9	U	4.9
SW8260	Vinyl chloride	75-01-4	ug/kg	6	U	6	4.8	U	4.8	5.8	U	5.8	5	U	5	4.9	U	4.9
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	790	UJ	790	820	UJ	820	780	UJ	780	770	UJ	770	810	UJ	810
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	220	J	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2-Nitroaniline	88-74-4	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	3-Nitroaniline	99-09-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	790	U	790	820	U	820	780	U	780	770	U	770	810	U	810
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	4-Nitroaniline	100-01-6	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	4-Nitrophenol	100-02-7	ug/kg	790	U	790	820	UJ	820	780	U	780	770	U	770	810	U	810
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	500		410	390	U	390	380	U	380	400	U	400
SW8270	Acenaphthylene	208-96-8	ug/kg	390	U	390	120	J	410	390	U	390	380	U	380	130	J	400
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC2SB3			AOC2SB4			AOC2SB5			AOC2SB6			AOC2SB7		
			start_depth:	0			0			0			0			0		
			end_depth:	2			1.1			1.1			0.7			1.4		
			sys_sample_code:	AOC2SB3AA			AOC2SB4AA			AOC2SB5AA			AOC2SB6AA			AOC2SB7AA		
			sample_date:	1/3/2006 8:11:00 AM			1/3/2006 1:35:00 PM			1/3/2006 10:41:00 AM			1/4/2006 8:03:00 AM			1/4/2006 10:04:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg	390	U	390	730		410	390	U	390	380	U	380	510		400
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Benzaldehyde	100-52-7	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	91	J	390	2700		410	390	U	390	110	J	380	1300		400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	98	J	390	3500		410	390	U	390	110	J	380	1100		400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	98	J	390	3000		410	390	U	390	110	J	380	990		400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	86	J	390	1900		410	390	U	390	130	J	380	830		400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	88	J	390	1700		410	390	U	390	100	J	380	900		400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Caprolactam	105-60-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	320	J	410	390	U	390	380	U	380	48	J	400
SW8270	Chrysene	218-01-9	ug/kg	110	J	390	2400		410	390	U	390	120	J	380	1200		400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	33	J	390	890		410	390	U	390	34	J	380	260	J	400
SW8270	Dibenzofuran	132-64-9	ug/kg	390	U	390	140	J	410	390	U	390	380	U	380	31	J	400
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Fluoranthene	206-44-0	ug/kg	140	J	390	3700		410	390	U	390	170	J	380	3600		400
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	240	J	410	390	U	390	380	U	380	130	J	400
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	UJ	390	410	UJ	410	390	UJ	390	380	UJ	380	400	UJ	400
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	410	U	410	390	U	390	380	UJ	380	400	UJ	400
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	79	J	390	2000		410	390	U	390	100	J	380	670		400
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Naphthalene	91-20-3	ug/kg	130	J	390	160	J	410	390	U	390	380	U	380	400	U	400
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	410	UJ	410	390	U	390	380	U	380	400	U	400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Pentachlorophenol	87-86-5	ug/kg	790	U	790	820	U	820	780	U	780	770	U	770	810	U	810
SW8270	Phenanthrene	85-01-8	ug/kg	33	J	390	2400		410	390	U	390	380	U	380	2100		400
SW8270	Phenol	108-95-2	ug/kg	390	U	390	410	U	410	390	U	390	380	U	380	400	U	400
SW8270	Pyrene	129-00-0	ug/kg	130	J	390	3700		410	390	U	390	210	J	380	3100		400
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	1.878	J	0.154												
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	5.203	JB	0.214												
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.216	U	0.216												
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.458	JK	0.091												
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.068	U	0.068												
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.095	U	0.095												
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.269	JK	0.066												
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.116	U	0.116												
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.065	U	0.065												
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.061	U	0.061												
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.068	U	0.068												
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.442	JK	0.101												
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.059	U	0.059												
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.058	UJ	0.058												
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.039	U	0.039												
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	5.038	UJB	0.115												
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	43.396	JB	0.22												
SW9012A	CYANIDE	57-12-5	mg/kg	0.4	J	0.58	0.125	J	0.57	0.78		0.58	1.7		0.56	0.16	J	0.61

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC2SB8			AOC2SB9		
			start_depth:	0			0		
			end_depth:	0.9			0.6		
			sys_sample_code:	AOC2SB8AA			AOC2SB9AA		
			sample_date:	1/4/2006 3:27:00 PM			1/4/2006 2:08:00 PM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent						
SW6010	Aluminum	7429-90-5	mg/kg	10500		23.2	5110		5.35
SW6010	Antimony	7440-36-0	mg/kg						
SW6010	Arsenic	7440-38-2	mg/kg						
SW6010	Barium	7440-39-3	mg/kg						
SW6010	Beryllium	7440-41-7	mg/kg	0.86	J-	0.481	0.347	U	0.111
SW6010	Cadmium	7440-43-9	mg/kg						
SW6010	Calcium	7440-70-2	mg/kg	11000	J	26.8	88900	J	6.17
SW6010	Chromium (total)	7440-47-3	mg/kg						
SW6010	Cobalt	7440-48-4	mg/kg						
SW6010	Copper	7440-50-8	mg/kg						
SW6010	Iron	7439-89-6	mg/kg	56400		8.16	10300		1.88
SW6010	Lead	7439-92-1	mg/kg						
SW6010	Magnesium	7439-95-4	mg/kg	6740	J	86	31500	J	19.8
SW6010	Manganese	7439-96-5	mg/kg	1360	J+	2.01	402	J+	0.463
SW6010	Nickel	7440-02-0	mg/kg						
SW6010	Potassium	7440-09-7	mg/kg	1790	U	1790	714	J+	411
SW6010	Selenium	7782-49-2	mg/kg						
SW6010	Silver	7440-22-4	mg/kg						
SW6010	Sodium	7440-23-5	mg/kg	65.7	UJ	4.13	112	J-	0.951
SW6010	Thallium	7440-28-0	mg/kg						
SW6010	Vanadium	7440-62-2	mg/kg						
SW6010	Zinc	7440-66-6	mg/kg						
SW6020	Antimony	7440-36-0	mg/kg	0.333	J-	0.302		R	0.278
SW6020	Arsenic	7440-38-2	mg/kg	16.6		0.179	6.12		0.165
SW6020	Barium	7440-39-3	mg/kg	87	J+	0.413	27	J+	0.381
SW6020	Cadmium	7440-43-9	mg/kg	0.318		0.201	0.185	U	0.185
SW6020	Chromium (total)	7440-47-3	mg/kg	15.9		0.112	7.34	U	0.103
SW6020	Cobalt	7440-48-4	mg/kg	9.17		0.134	3.85		0.123
SW6020	Copper	7440-50-8	mg/kg	14.6		0.223	12.5		0.206
SW6020	Lead	7439-92-1	mg/kg	14.2	J	0.168	8.16	J	0.154
SW6020	Nickel	7440-02-0	mg/kg	18.8		0.838	11.7		0.771
SW6020	Selenium	7782-49-2	mg/kg	0.838	U	0.838	0.771	U	0.771
SW6020	Silver	7440-22-4	mg/kg	0.302	UJ	0.302	0.278	UJ	0.278
SW6020	Thallium	7440-28-0	mg/kg	0.257	U	0.257	0.237	U	0.237
SW6020	Vanadium	7440-62-2	mg/kg	46.3		0.335	15.8		0.309
SW6020	Zinc	7440-66-6	mg/kg	65.8		0.894	34.8		0.823
SW7470	Mercury	7439-97-6	mg/kg						
SW7471	Mercury	7439-97-6	mg/kg	0.033	J	0.06	0.019	J	0.05
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	39	U	39	37	U	37
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	39	U	39	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	3.7	J	39	37	U	37
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg						
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	11	UJ	11	9.9	UJ	9.9
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	11	U	11	9.9	UJ	9.9
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.1	U	5.1	5	U	5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	2-Butanone	78-93-3	ug/kg	11	U	11	9.9	UJ	9.9

			sys_loc_code:	AOC2SB8			AOC2SB9		
			start_depth:	0			0		
			end_depth:	0.9			0.6		
			sys_sample_code:	AOC2SB8AA			AOC2SB9AA		
			sample_date:	1/4/2006 3:27:00 PM			1/4/2006 2:08:00 PM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	2-Hexanone	591-78-6	ug/kg	11	U	11	9.9	UJ	9.9
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	11	U	11	9.9	UJ	9.9
SW8260	Acetone	67-64-1	ug/kg	130	U	130		R	130
SW8260	Benzene	71-43-2	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.1	U	5.1	5	U	5
SW8260	Bromoform	75-25-2	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Bromomethane	74-83-9	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Carbon disulfide	75-15-0	ug/kg	11	UJ	11	9.9	UJ	9.9
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Chlorobenzene	108-90-7	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	Chloroethane	75-00-3	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Chloroform	67-66-3	ug/kg	5.1	U	5.1	5	U	5
SW8260	Chloromethane	74-87-3	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.1	U	5.1	5	U	5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Cyclohexane	110-82-7	ug/kg	11	U	11	9.9	UJ	9.9
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.1	U	5.1	5	U	5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Ethylbenzene	100-41-4	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	m+p-Xylene	XYLMP	ug/kg	11	UJ	11	9.9	UJ	9.9
SW8260	Methyl acetate	79-20-9	ug/kg	11	U	11	9.9	UJ	9.9
SW8260	Methylcyclohexane	108-87-2	ug/kg	11	UJ	11	9.9	UJ	9.9
SW8260	Methylene chloride	75-09-2	ug/kg	21	U	21	20	UJ	20
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.1	U	5.1	5	U	5
SW8260	o-Xylene	95-47-6	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	Styrene	100-42-5	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	Toluene	108-88-3	ug/kg	5.1	UJ	5.1	5	UJ	5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Trichloroethene	79-01-6	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.1	U	5.1	5	UJ	5
SW8260	TRICHLOROTRIFLUOROETHANE	26523-64-8	ug/kg	5.1	U	5.1	5	U	5
SW8260	Vinyl chloride	75-01-4	ug/kg	5.1	U	5.1	5	UJ	5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	780	UJ	780	750	UJ	750
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	390	U	390	370	U	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	390	U	390	370	U	370
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	390	U	390	370	U	370
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	780	U	780	750	U	750
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	390	U	390	370	U	370
SW8270	4-Nitrophenol	100-02-7	ug/kg	780	U	780	750	U	750
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	390	U	390	370	U	370
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	370	U	370

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC2SB8			AOC2SB9		
			start_depth:	0			0		
			end_depth:	0.9			0.6		
			sys_sample_code:	AOC2SB8AA			AOC2SB9AA		
			sample_date:	1/4/2006 3:27:00 PM			1/4/2006 2:08:00 PM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Anthracene	120-12-7	ug/kg	390	U	390	370	U	370
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	390	U	390	370	U	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	54	J	390	370	U	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	68	J	390	370	U	370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	53	J	390	370	U	370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	63	J	390	370	U	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	72	J	390	370	U	370
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	370	U	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	390	U	390	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	370	U	370
SW8270	Chrysene	218-01-9	ug/kg	67	J	390	370	U	370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	390	U	390	370	U	370
SW8270	Dibenzofuran	132-64-9	ug/kg	390	U	390	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	120	J	390	370	U	370
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	UJ	390	370	UJ	370
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	370	UJ	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	53	J	390	370	U	370
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	390	U	390	370	U	370
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	780	U	780	750	U	750
SW8270	Phenanthrene	85-01-8	ug/kg	65	J	390	370	U	370
SW8270	Phenol	108-95-2	ug/kg	390	U	390	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	110	J	390	370	U	370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	4.911		0.111			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	15.735	JB	0.316			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.609	J	0.156			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.938	J	0.103			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.257	JK	0.096			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.534	J	0.108			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.977	J	0.093			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.133	U	0.133			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.198	JK	0.091			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.043	U	0.043			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.091	U	0.091			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.445	JK	0.115			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.46	J	0.041			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	1.514		1.312			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.053	U	0.053			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	7.247	JB	0.166			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	108.533	JB	0.349			
SW9012A	CYANIDE	57-12-5	mg/kg	0.58	U	0.58	0.29	J	0.56

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC8SB1			AOC8SB2			AOC8SB3			AOC8SB4			AOC8SB5			AOC9SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.5			1.5			1			1.5			1.5			1.5		
			sys_sample_code:	AOC8SB1AA			AOC8SB2AA			AOC8SB3AA			AOC8SB4AA			AOC8SB5AA			AOC9SB1AA		
			sample_date:	10/18/2005 10:50:00 AM			10/19/2005 10:17:00 AM			10/20/2005 3:46:00 PM			10/20/2005 2:44:00 PM			10/20/2005 4:28:00 PM			12/12/2005 8:36:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	89			91.2			87.3			85.5			84			88.9		
SW6010	Aluminum	7429-90-5	mg/kg	17900		10.9	17200		10.9	21600		11	15400		11.5	15800		11.8	27700		10.7
SW6010	Antimony	7440-36-0	mg/kg	6.5	U	6.5	6.5	U	6.5	6.6	U	6.6	6.9	U	6.9	7.1	U	7.1		R	6.7
SW6010	Arsenic	7440-38-2	mg/kg	11.2		1.1	8.6		1.1	9.6		1.1	11.3		1.1	11.1		1.2	1.1		1.1
SW6010	Barium	7440-39-3	mg/kg	130	J	2.2	176	J	2.2	175	J	2.2	117	J	2.3	114	J	2.4	264		2.2
SW6010	Beryllium	7440-41-7	mg/kg	0.55	U	0.55	0.54	U	0.54	1.5		0.55	0.57	U	0.57	0.59	U	0.59	6		0.56
SW6010	Cadmium	7440-43-9	mg/kg	0.91	J+	0.55	0.83	J+	0.54	0.87	J+	0.55	0.89	J+	0.57	0.84	J+	0.59	2.1		0.56
SW6010	Calcium	7440-70-2	mg/kg	28500		54.5	155000		543	75800		551	11100		57.3	7880		58.9	195000		536
SW6010	Chromium (total)	7440-47-3	mg/kg	20.3		1.1	16.5		1.1	18.5		1.1	19.3		1.1	19.2		1.2	29.2	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	9.4		5.5	5.4	U	5.4	8.1		5.5	14.9		5.7	10.3		5.9	5.6	U	5.6
SW6010	Copper	7440-50-8	mg/kg	19.6		2.2	20.9		2.2	17.2		2.2	18		2.3	17.8		2.4	12.8	J	2.2
SW6010	Iron	7439-89-6	mg/kg	25000		109	17200		10.9	19700		11	25300		115	23400		11.8	70600	J	107
SW6010	Lead	7439-92-1	mg/kg	24.6		0.55	27.7		0.54	22		0.55	24.8		0.57	19.7		0.59	10.7	J	0.56
SW6010	Magnesium	7439-95-4	mg/kg	10500		54.5	39400		54.3	17600		55.1	4710		57.3	4380		58.9	48200		55.7
SW6010	Manganese	7439-96-5	mg/kg	929		1.1	1950		10.9	1650		11	1020		1.1	634		1.2	4560		10.7
SW6010	Nickel	7440-02-0	mg/kg	19.2		4.4	13.1		4.3	15.4		4.4	20.5		4.6	21		4.7	4.5	U	4.5
SW6010	Potassium	7440-09-7	mg/kg	1670		218	1380		217	1870		220	1310		229	1320		236	1740		214
SW6010	Selenium	7782-49-2	mg/kg	1.1	UJ	1.1	3.3		1.1	1.7	J-	1.1	1.1	U	1.1	1.2	U	1.2	2.4		1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	233		54.5	682		54.3	520		55.1	57.3	U	57.3	58.9	U	58.9	1420		53.6
SW6010	Thallium	7440-28-0	mg/kg	1.1	U	1.1	10.9	U	10.9	11	U	11	1.1	U	1.1	1.2	U	1.2	22.3	UJ	22.3
SW6010	Vanadium	7440-62-2	mg/kg	32.5		5.5	16.4		5.4	30.4		5.5	34.4		5.7	34.4		5.9	28.1		5.6
SW6010	Zinc	7440-66-6	mg/kg	70.8	J	2.2	58.1	J	2.2	56.9	J	2.2	65.3	J	2.3	64.7	J	2.4	44	J	2.1
SW7470	Mercury	7439-97-6	mg/kg	0.04		0.04	0.04	U	0.04	0.04		0.04	0.04		0.04	0.04	U	0.04	0.06		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	75	U	75	73	U	73	77	U	77	78	U	78	80	U	80	75	U	75
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	39		37	52		36	38	U	38	39	U	39	39	U	39	120		37
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	1	J	6.4
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	0.4	J	6.4
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	2-Butanone	78-93-3	ug/kg	22	U	22	17	UJ	17	11	U	11	5.7	J	19	11	U	11	7.2	J	13
SW8260	2-Hexanone	591-78-6	ug/kg	22	U	22	17	UJ	17	11	U	11	19	U	19	11	U	11	13	U	13
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	22	U	22	17	UJ	17	11	U	11	19	U	19	11	U	11	13	U	13
SW8260	Acetone	67-64-1	ug/kg	44	UB	44	34	UB	35	23	UB	23	67	B	38	22	UB	22	16	J	25
SW8260	Benzene	71-43-2	ug/kg	0.82	J	11	2.9	J	8.7	0.55	J	5.7	0.96	J	9.4	0.35	J	5.4	2.5	J	6.4
SW8260	Bromodichloromethane	75-27-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Bromoform	75-25-2	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Bromomethane	74-83-9	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Carbon disulfide	75-15-0	ug/kg	1.3	J	22	2.1	J	17	0.4	J	11	0.62	J	19	11	U	11	7.1	J	13
SW8260	Carbon tetrachloride	56-23-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Chlorobenzene	108-90-7	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Chloroethane	75-00-3	ug/kg	22	U	22	17	UJ	17	11	U	11	19	U	19	11	U	11	13	U	13
SW8260	Chloroform	67-66-3	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Chloromethane	74-87-3	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	0.94	J	6.4
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Cyclohexane	110-82-7	ug/kg	3.1	J	11	3	J	8.7	0.78	J	5.7	3.6	J	9.4	1.3	J	5.4	6.4	U	6.4
SW8260	Dibromochloromethane	124-48-1	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	UJ	6.4
SW8260	Ethylbenzene	100-41-4	ug/kg	1	J	11	8.7	UJ	8.7	5.7	U	5.7	1.1	J	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Isopropylbenzene	98-82-8	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC8SB1			AOC8SB2			AOC8SB3			AOC8SB4			AOC8SB5			AOC9SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.5			1.5			1			1.5			1.5			1.5		
			sys_sample_code:	AOC8SB1AA			AOC8SB2AA			AOC8SB3AA			AOC8SB4AA			AOC8SB5AA			AOC9SB1AA		
			sample_date:	10/18/2005 10:50:00 AM			10/19/2005 10:17:00 AM			10/20/2005 3:46:00 PM			10/20/2005 2:44:00 PM			10/20/2005 4:28:00 PM			12/12/2005 8:36:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	2.2	J	11	1.4	J	8.7	5.7	U	5.7	1.5	J	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Methyl acetate	79-20-9	ug/kg	22	U	22	17	UJ	17	11	U	11	19	U	19	11	U	11	13	U	13
SW8260	Methylcyclohexane	108-87-2	ug/kg	4.3	J	11	5.9	J	8.7	0.88	J	5.7	4.4	J	9.4	1.5	J	5.4	6.4	U	6.4
SW8260	Methylene chloride	75-09-2	ug/kg	2.8	J	11	1.1	J	8.7	1	J	5.7	18		9.4	1.8	J	5.4	5	UB	6.4
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	o-Xylene	95-47-6	ug/kg	0.91	J	11	1	J	8.7	5.7	U	5.7	0.64	J	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Styrene	100-42-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Tetrachloroethene	127-18-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Toluene	108-88-3	ug/kg	3.1	J	11	1.4	J	8.7	0.42	J	5.7	3	J	9.4	0.81	J	5.4	1.5	J	6.4
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Trichloroethene	79-01-6	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	0.51	J	6.4
SW8260	Vinyl chloride	75-01-4	ug/kg	11	U	11	8.7	UJ	8.7	5.7	U	5.7	9.4	U	9.4	5.4	U	5.4	6.4	U	6.4
SW8270	1,1-Biphenyl	92-52-4	ug/kg	60	J	370	140	J	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	380		370	940		360	380	U	380	390	U	390	44	J	390	190	J	1100
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	Acenaphthene	83-32-9	ug/kg	42	J	370	140	J	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Acenaphthylene	208-96-8	ug/kg	160	J	370	180	J	360	380	U	380	390	U	390	60	J	390	2000		1100
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Anthracene	120-12-7	ug/kg	170	J	370	350	J	360	42	J	380	390	U	390	58	J	390	1100		1100
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Benzaldehyde	100-52-7	ug/kg	370	UJ	370	360	UJ	360	380	UJ	380	390	UJ	390	390	UJ	390	5700	U	1100
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	310	J	370	750		360	210	J	380	60	J	390	130	J	390	4400		1100
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	390		370	730		360	220	J	380	67	J	390	150	J	390	4300		1100
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	530		370	870		360	240	J	380	60	J	390	180	J	390	3600		1100
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	600		370	660		360	180	J	380	56	J	390	130	J	390	2700		1100
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	450		370	700		360	250	J	380	60	J	390	170	J	390	3300		1100
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Caprolactam	105-60-2	ug/kg	1900	U	370	1900	U	360	1900	U	380	2000	U	390	2000	U	390	1100	U	1100
SW8270	Carbazole	86-74-8	ug/kg	57	J	370	150	J	360	380	U	380	390	U	390	390	U	390	240	J	1100
SW8270	Chrysene	218-01-9	ug/kg	430		370	940		360	250	J	380	68	J	390	170	J	390	4400		1100
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	150	J	370	180	J	360	46	J	380	390	U	390	390	U	390	780	J	1100
SW8270	Dibenzofuran	132-64-9	ug/kg	120	J	370	350	J	360	380	U	380	390	U	390	390	U	390	150	J	1100
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Fluoranthene	206-44-0	ug/kg	740		370	1800		360	460		380	140	J	390	270	J	390	8900		1100
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	120	J	360	380	U	380	390	U	390	54	J	390	260	J	1100
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC8SB1			AOC8SB2			AOC8SB3			AOC8SB4			AOC8SB5			AOC9SB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	0.5			1.5			1			1.5			1.5			1.5		
			sys_sample_code:	AOC8SB1AA			AOC8SB2AA			AOC8SB3AA			AOC8SB4AA			AOC8SB5AA			AOC9SB1AA		
			sample_date:	10/18/2005 10:50:00 AM			10/19/2005 10:17:00 AM			10/20/2005 3:46:00 PM			10/20/2005 2:44:00 PM			10/20/2005 4:28:00 PM			12/12/2005 8:36:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	490		370	570		360	160	J	380	49	J	390	120	J	390	2600		1100
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Naphthalene	91-20-3	ug/kg	370	U	370	1000		360	380	U	380	390	U	390	390	U	390	1100	UB	1100
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	2000	U	2000	5700	U	5700
SW8270	Phenanthrene	85-01-8	ug/kg	550		370	1500		360	240	J	380	120	J	390	290	J	390	3700		1100
SW8270	Phenol	108-95-2	ug/kg	370	U	370	360	U	360	380	U	380	390	U	390	390	U	390	1100	U	1100
SW8270	Pyrene	129-00-0	ug/kg	490		370	1100		360	390		380	130	J	390	290	J	390	6700		1100
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	28.458	B	0.122										0.848	UB	0.156	5.996	B	0.22
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	226.341	B	0.349										4.933	B	0.127	12.063	B	0.406
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	3.802		0.172										0.219	U	0.219	0.309	U	0.309
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	3.168	J	0.166										0.071	U	0.071	2.371		0.151
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.711	J	0.098										0.062	U	0.062	0.281	J	0.129
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	1.047	J	0.173										0.074	U	0.074	0.872	J	0.158
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	5.516	J	0.094										0.06	U	0.06	0.97	J	0.124
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.238	J	0.213										0.091	U	0.091	0.195	U	0.195
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	2.187	J	0.093										0.059	U	0.059	1.018	J	0.123
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.663	J	0.516										0.041	U	0.041	0.663	J	0.12
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.296	JK	0.097										0.068	U	0.068	0.62	J	0.172
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.796	J	0.185										0.079	U	0.079	0.764	J	0.169
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.585	J	0.497										0.04	U	0.04	0.914	J	0.115
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	1.252	U	1.252										0.113	U	0.113	1.368		0.312
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.075	U	0.075										0.051	U	0.051	0.072	U	0.072
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg	146.443		0.122										2.618		0.156			
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg	493.276		0.349										11.351		0.127			
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg	39.968	J	0.166										0.916	J	0.071			
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg	37.951	J	0.094										0.543	J	0.06			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	158.447	B	0.113										4.998	UB	0.112	6.454	B	0.489
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	1762.954	JB	0.25										37.09	B	0.15	72.536	B	0.481
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg	7.541		0.497										0.935	J	0.04			
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg	4.105		0.097										0.068	U	0.068			
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg	3.37		0.113										0.113	U	0.113			
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg	1.089		0.075										0.051	U	0.051			
SW9012A	CYANIDE	57-12-5	mg/kg	1.12	U	1.12	2.26		1.1	1.15	U	1.15	1.17	U	1.17	1.19	U	1.19	1.26		1.12

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC9SB2			AOC9SB3			AOC9SB4			BFSB1			BFSB2			BFSB3		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.8			1.8			1.4			0.8			0.9			1		
			sys_sample_code:	AOC9SB2AA			AOC9SB3AA			AOC9SB4AA			BFSB1AA			BFSB2AA			BFSB3AA		
			sample_date:	12/12/2005 1:44:00 PM			12/12/2005 12:29:00 PM			12/12/2005 10:19:00 AM			10/21/2005 11:48:00 AM			10/21/2005 11:16:00 AM			10/21/2005 10:50:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	89.1			87.1			85.7			82			87.3			86.5		
SW6010	Aluminum	7429-90-5	mg/kg	27800		10.9	30300		11.5	17200		11.6	7390		11.6	10100		11.3	10600		11.4
SW6010	Antimony	7440-36-0	mg/kg	8.7	J-	6.7		R	6.6		R	7	7	U	7	6.8	U	6.8	6.9	U	6.9
SW6010	Arsenic	7440-38-2	mg/kg	1.1	U	1.1	1.1	U	1.1	10.1		1.2	15.2		1.2	15.3		1.1	10.3		1.1
SW6010	Barium	7440-39-3	mg/kg	230		2.2	301		2.2	122		2.3	101		2.3	136		2.3	128		2.3
SW6010	Beryllium	7440-41-7	mg/kg	4.7		0.56	7		0.55	1.2		0.58	0.58	U	0.58	0.57	U	0.57	1		0.57
SW6010	Cadmium	7440-43-9	mg/kg	6.9		0.56	0.88		0.55	6.8		0.58	10.6		0.58	2.5		0.57	2.9		0.57
SW6010	Calcium	7440-70-2	mg/kg	188000		545	211000		574	92300		578	50300		581	58800		567	67700		572
SW6010	Chromium (total)	7440-47-3	mg/kg	47.2	J	1.1	26.1	J	1.1	50.3	J	1.2	86.4		1.2	27.4		1.1	45.8		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.6	U	5.6	5.5	U	5.5	5.8	U	5.8	7.7		5.8	5.9		5.7	5.7	U	5.7
SW6010	Copper	7440-50-8	mg/kg	11.3	J	2.2	11.7	J	2.2	96.6	J	2.3	119		2.3	140		2.3	55.1		2.3
SW6010	Iron	7439-89-6	mg/kg	110000	J	109	31900	J	115	127000	J	116	128000		116	73400		113	86800		114
SW6010	Lead	7439-92-1	mg/kg	11	J	0.56	10.5	J	0.55	220	J	0.58	148		0.58	54.7		0.57	89.9		0.57
SW6010	Magnesium	7439-95-4	mg/kg	41400		56.1	43500		55.2	8430		58.3	11400		58.1	18400		56.7	15900		57.2
SW6010	Manganese	7439-96-5	mg/kg	5040		10.9	4540		11.5	4450		11.6	1950		11.6	2170		11.3	1830		11.4
SW6010	Nickel	7440-02-0	mg/kg	4.8		4.5	4.4	U	4.4	19.9		4.7	49.9		4.6	17.1		4.5	22		4.6
SW6010	Potassium	7440-09-7	mg/kg	1770		218	2380		230	1910		231	759		232	869		227	733		229
SW6010	Selenium	7782-49-2	mg/kg	11.2	U	11.2	5.3		1.1	5.8	U	5.8	6.9		1.2	3.5		1.1	2.9		1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	2.1		1.2	1.4		1.1	1.6		1.1
SW6010	Sodium	7440-23-5	mg/kg	1440		54.5	1440		57.4	546		57.8	305		58.1	377		56.7	492		57.2
SW6010	Thallium	7440-28-0	mg/kg	22.4	UJ	22.4	22.1	UJ	22.1	23.3	UJ	23.3	11.6	U	11.6	11.3	U	11.3	11.4	U	11.4
SW6010	Vanadium	7440-62-2	mg/kg	44.6		5.6	20.7		5.5	22.8		5.8	27.2		5.8	17.6		5.7	24.5		5.7
SW6010	Zinc	7440-66-6	mg/kg	36.2	J	2.2	37.8	J	2.3	830	J	23.1	866		23.2	212		2.3	335		22.9
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.14		0.04	0.09		0.04	0.05		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	38	U	38	39	U	39	400	U	400	190	U	190	38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	75	U	75	77	U	77	78	U	78	820	U	820	380	U	380	77	U	77
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	38	U	38	39	U	39	400	U	400	190	U	190	38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	38	U	38	39	U	39	400	U	400	190	U	190	38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	130		37	38	U	38	39	U	39	400	U	400	190	U	190	38	U	38
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	38	U	38	39	U	39	400	U	400	190	U	190	38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	37	U	37	150		38	57		39	1800		400	730		190	380		38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	2-Butanone	78-93-3	ug/kg	25		14	11	U	11	13	UJ	13	1.6	J	12	11	U	11	11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg	14	U	14	11	U	11	13	UJ	13	12	U	12	11	U	11	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	14	U	14	11	U	11	13	UJ	13	12	U	12	11	U	11	11	U	11
SW8260	Acetone	67-64-1	ug/kg	63		28	23	U	23	13	J	27	27	UB	24	22	UB	21	22	UB	22
SW8260	Benzene	71-43-2	ug/kg	3.8	J	6.9	5.6	U	5.6	6.7	UJ	6.7	0.38	J	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Bromoform	75-25-2	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Bromomethane	74-83-9	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Carbon disulfide	75-15-0	ug/kg	17		14	0.53	J	11	1.4	J	13	12	U	12	11	U	11	11	U	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Chlorobenzene	108-90-7	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Chloroethane	75-00-3	ug/kg	14	U	14	11	U	11	13	UJ	13	12	U	12	11	U	11	11	U	11
SW8260	Chloroform	67-66-3	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Chloromethane	74-87-3	ug/kg	6.9	U	6.9	5.6	U	5.6	1.3	J	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Cyclohexane	110-82-7	ug/kg	6.9	U	6.9	5.6	U	5.6	0.78	J	6.7	5.9	U	5.9	0.64	J	5.3	0.52	J	5.6
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.9	UJ	6.9	5.6	UJ	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Ethylbenzene	100-41-4	ug/kg	1.8	J	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Isopropylbenzene	98-82-8	ug/kg	1.3	J	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC9SB2			AOC9SB3			AOC9SB4			BFSB1			BFSB2			BFSB3		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.8			1.8			1.4			0.8			0.9			1		
			sys_sample_code:	AOC9SB2AA			AOC9SB3AA			AOC9SB4AA			BFSB1AA			BFSB2AA			BFSB3AA		
			sample_date:	12/12/2005 1:44:00 PM			12/12/2005 12:29:00 PM			12/12/2005 10:19:00 AM			10/21/2005 11:48:00 AM			10/21/2005 11:16:00 AM			10/21/2005 10:50:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	1.1	J	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Methyl acetate	79-20-9	ug/kg	14	U	14	11	U	11	13	UJ	13	12	U	12	11	U	11	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	6.9	U	6.9	5.6	U	5.6	1.5	J	6.7	0.7	J	5.9	0.99	J	5.3	0.94	J	5.6
SW8260	Methylene chloride	75-09-2	ug/kg	6.9	U	6.9	5	UB	5.6	6.7	UJ	6.7	0.51	J	5.9	6.8		5.3	0.62	J	5.6
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	o-Xylene	95-47-6	ug/kg	0.73	J	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Styrene	100-42-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Toluene	108-88-3	ug/kg	2.7	J	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	0.46	J	5.3	5.6	U	5.6
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Trichloroethene	79-01-6	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.9	U	6.9	5.6	U	5.6	0.56	J	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8260	Vinyl chloride	75-01-4	ug/kg	6.9	U	6.9	5.6	U	5.6	6.7	UJ	6.7	5.9	U	5.9	5.3	U	5.3	5.6	U	5.6
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	370	U	370	260	J	1900	39000	U	39000	290	J	1200	320	J	1900	230	J	1100
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Acenaphthylene	208-96-8	ug/kg	38	J	370	730	J	1900	39000	U	39000	460	J	1200	460	J	1900	180	J	1100
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Anthracene	120-12-7	ug/kg	81	J	370	2000		1900	39000	U	39000	510	J	1200	360	J	1900	350	J	1100
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	U	370	9800	U	1900	200000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	380		370	5900		1900	39000	U	39000	2000		1200	1100	J	1900	1000	J	1100
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	420		370	5100		1900	39000	U	39000	2200		1200	1300	J	1900	1200		1100
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	420		370	4400		1900	39000	U	39000	2300		1200	1500	J	1900	1600		1100
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	350	J	370	3300		1900	14000	J	39000	2000		1200	1400	J	1900	1300		1100
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	400		370	4400		1900	39000	U	39000	2300		1200	1400	J	1900	1500		1100
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Caprolactam	105-60-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	6200	U	1200	9700	U	1900	5900	U	1100
SW8270	Carbazole	86-74-8	ug/kg	370	U	370	540	J	1900	39000	U	39000	260	J	1200	1900	U	1900	1100	U	1100
SW8270	Chrysene	218-01-9	ug/kg	490		370	5700		1900	39000	U	39000	2200		1200	1400	J	1900	1400		1100
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	98	J	370	920	J	1900	39000	U	39000	620	J	1200	370	J	1900	370	J	1100
SW8270	Dibenzofuran	132-64-9	ug/kg	370	U	370	440	J	1900	39000	U	39000	230	J	1200	190	J	1900	230	J	1100
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Fluoranthene	206-44-0	ug/kg	620		370	13000		1900	39000	U	39000	3200		1200	1900		1900	1600		1100
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	550	J	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC9SB2			AOC9SB3			AOC9SB4			BFSB1			BFSB2			BFSB3		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.8			1.8			1.4			0.8			0.9			1		
			sys_sample_code:	AOC9SB2AA			AOC9SB3AA			AOC9SB4AA			BFSB1AA			BFSB2AA			BFSB3AA		
			sample_date:	12/12/2005 1:44:00 PM			12/12/2005 12:29:00 PM			12/12/2005 10:19:00 AM			10/21/2005 11:48:00 AM			10/21/2005 11:16:00 AM			10/21/2005 10:50:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	300	J	370	2900		1900	39000	U	39000	1700		1200	1100	J	1900	1100	J	1100
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Naphthalene	91-20-3	ug/kg	40	UB370	370	1900	UB	1900	39000	U	39000	320	J	1200	360	J	1900	240	J	1100
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	9800	U	9800	200000	U	200000	6200	U	6200	9700	U	9700	5900	U	5900
SW8270	Phenanthrene	85-01-8	ug/kg	270	J	370	8300		1900	39000	U	39000	1700		1200	1300	J	1900	840	J	1100
SW8270	Phenol	108-95-2	ug/kg	370	U	370	1900	U	1900	39000	U	39000	1200	U	1200	1900	U	1900	1100	U	1100
SW8270	Pyrene	129-00-0	ug/kg	540		370	9800		1900	39000	U	39000	2100		1200	1400	J	1900	1300		1100
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg							18.019		0.085									
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg							49.305	B	0.121									
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg							1.226	J	0.12									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg							8.311		0.049									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg							1.501	J	0.06									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg							3.369		0.051									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg							3.392		0.058									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg							0.093	J	0.063									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg							3.889		0.057									
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg							1.929		0.057									
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg							1.86	J	0.078									
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg							2.352		0.055									
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg							3.212		0.055									
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg							4.155		0.408									
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg							0.294	JK	0.038									
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg																		
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg																		
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg																		
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg							17.644	B	0.158									
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg							224.027	B	0.197									
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg																		
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg																		
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg																		
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	2.65		1.12	2.09		1.15	2.57		1.17	1.8		1.22	1.5		1.15	1.71		1.16

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BFSB4			BFSB5			BFSB6			BFSB7			BFSB8			BGSB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.4			1.2			0.9			0.6			0.7			1.1		
			sys_sample_code:	BFSB4AA			BFSB5AA			BFSB6AA			BFSB7AA			BFSB8AA			BGSB1AA		
			sample_date:	10/24/2005 11:01:00 AM			10/24/2005 10:15:00 AM			10/24/2005 11:33:00 AM			10/24/2005 12:21:00 PM			10/24/2005 12:42:00 PM			10/25/2005 11:32:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	88.4			83.8			83.5			80.5			77.5			82.1		
SW6010	Aluminum	7429-90-5	mg/kg	10000		11	4510		11.7	12100		12	8520		12.2	5450		12.9	14400		11.7
SW6010	Antimony	7440-36-0	mg/kg	105		6.6	7	U	7	7.2	U	7.2	7.3	U	7.3	7.7	U	7.7	7	UJ	7
SW6010	Arsenic	7440-38-2	mg/kg	5.5	U	5.5	12.6		1.2	11.8		1.2	8.9		1.2	9		1.3	11.4		1.2
SW6010	Barium	7440-39-3	mg/kg	96.6		2.2	87.9		2.3	164		2.4	118		2.4	107		2.6	104		2.3
SW6010	Beryllium	7440-41-7	mg/kg	5.5	U	5.5	0.58	U	0.58	0.6	U	0.6	0.66		0.61	0.65	U	0.65	0.59	U	0.59
SW6010	Cadmium	7440-43-9	mg/kg	5		0.55	4.8		0.58	1.8		0.6	2.2		0.61	2		0.65	0.59	U	0.59
SW6010	Calcium	7440-70-2	mg/kg	110000		549	31000		585	78100		599	50700		609	26400		645	5560	J	58.6
SW6010	Chromium (total)	7440-47-3	mg/kg	3730		11	105		1.2	41.3		1.2	45.1		1.2	23.4		1.3	19.3		1.2
SW6010	Cobalt	7440-48-4	mg/kg	5.7		5.5	5.8	U	5.8	8.4		6	6.1	U	6.1	6.5	U	6.5	12		5.9
SW6010	Copper	7440-50-8	mg/kg	211		2.2	311		2.3	70.4		2.4	56.6		2.4	45.2		2.6	16.5		2.3
SW6010	Iron	7439-89-6	mg/kg	147000		110	112000		117	62700		120	47600		122	41600		129	27900		11.7
SW6010	Lead	7439-92-1	mg/kg	184		0.55	123		0.58	29.4		0.6	59.4		0.61	53.3		0.65	22.3	J	0.59
SW6010	Magnesium	7439-95-4	mg/kg	16400		54.9	8230		58.5	21600		59.9	14700		60.9	7380		64.5	4090		58.6
SW6010	Manganese	7439-96-5	mg/kg	19600		54.9	1900		11.7	2160		12	1080		1.2	1030		1.3	1450	J	11.7
SW6010	Nickel	7440-02-0	mg/kg	26.1		4.4	26		4.7	44.2		4.8	24.4		4.9	18.2		5.2	18		4.7
SW6010	Potassium	7440-09-7	mg/kg	273		220	405		234	850		240	796		244	609		258	1490		234
SW6010	Selenium	7782-49-2	mg/kg	38.9		1.1	3.1		1.2	3.2		1.2	2.9		1.2	2.7		1.3	1.2	UJ	1.2
SW6010	Silver	7440-22-4	mg/kg	2.1		1.1	1.7		1.2	1.2		1.2	1.2	U	1.2	1.3	U	1.3	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	2090		54.9	140		58.5	331		59.9	292		60.9	161		64.5	58.6	U	58.6
SW6010	Thallium	7440-28-0	mg/kg	110	U	110	11.7	U	11.7	12	U	12	12.2	U	12.2	12.9	U	12.9	5.9	U	5.9
SW6010	Vanadium	7440-62-2	mg/kg	485		5.5	17.2		5.8	9.2		6	14.3		6.1	10.5		6.5	45.6		5.9
SW6010	Zinc	7440-66-6	mg/kg	129		2.2	375		23.4	75.8		2.4	214		2.4	457		25.8	68.2		2.3
SW7470	Mercury	7439-97-6	mg/kg	0.11		0.04	0.17		0.04	0.04	U	0.04	0.14		0.04	0.13		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	200	U	200	40	U	40	410	U	410	43	U	43	40	U	40
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76	400	U	400	80	U	80	830	U	830	86	U	86	82	U	82
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	200	U	200	40	U	40	410	U	410	43	U	43	40	U	40
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	200	U	200	40	U	40	410	U	410	43	U	43	40	U	40
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	200	U	200	40	U	40	410	U	410	43	U	43	40	U	40
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	200	U	200	40	U	40	410	U	410	43	U	43	40	U	40
SW8082	Aroclor 1260	11096-82-5	ug/kg	50		37	1000		200	160		40	3500		410	43	U	43	40	U	40
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	2-Butanone	78-93-3	ug/kg	13	U	13	15	U	15	12	U	12	13	U	13	14	U	14	9.5	U	9.5
SW8260	2-Hexanone	591-78-6	ug/kg	13	U	13	15	U	15	12	U	12	13	U	13	14	U	14	9.5	U	9.5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	13	U	13	15	U	15	12	U	12	13	U	13	14	U	14	9.5	U	9.5
SW8260	Acetone	67-64-1	ug/kg	26	UB	27	30	UB	29	24	UB	23	30	UB	25	21	J	27	12	J	19
SW8260	Benzene	71-43-2	ug/kg	1.9	J	6.7	2	J	7.3	1.1	J	5.9	1.7	J	6.3	1.7	J	6.8	1.3	J	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Bromoform	75-25-2	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Bromomethane	74-83-9	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg	13	U	13	15	U	15	12	U	12	13	U	13	14	U	14	9.5	U	9.5
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Chloroethane	75-00-3	ug/kg	13	U	13	15	U	15	12	U	12	13	U	13	14	U	14	9.5	U	9.5
SW8260	Chloroform	67-66-3	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Chloromethane	74-87-3	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Cyclohexane	110-82-7	ug/kg	2.5	J	6.7	2.6	J	7.3	0.86	J	5.9	1.6	J	6.3	1.7	J	6.8	5	J	4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	1.5	J	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BFSB4			BFSB5			BFSB6			BFSB7			BFSB8			BGSB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.4			1.2			0.9			0.6			0.7			1.1		
			sys_sample_code:	BFSB4AA			BFSB5AA			BFSB6AA			BFSB7AA			BFSB8AA			BGSB1AA		
			sample_date:	10/24/2005 11:01:00 AM			10/24/2005 10:15:00 AM			10/24/2005 11:33:00 AM			10/24/2005 12:21:00 PM			10/24/2005 12:42:00 PM			10/25/2005 11:32:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	1.9	J	4.8
SW8260	Methyl acetate	79-20-9	ug/kg	13	U	13	15	U	15	12	U	12	13	U	13	14	U	14	9.5	U	9.5
SW8260	Methylcyclohexane	108-87-2	ug/kg	3.3	J	6.7	3.7	J	7.3	1.2	J	5.9	2.5	J	6.3	1.9	J	6.8	5.7		4.8
SW8260	Methylene chloride	75-09-2	ug/kg	2.6	J	6.7	7.3	U	7.3	1.7	J	5.9	1.4	J	6.3	0.85	J	6.8	0.49	J	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	o-Xylene	95-47-6	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	0.94	J	4.8
SW8260	Styrene	100-42-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Toluene	108-88-3	ug/kg	0.43	J	6.7	0.69	J	7.3	5.9	U	5.9	0.48	J	6.3	0.43	J	6.8	3.2	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Trichloroethene	79-01-6	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8260	Vinyl chloride	75-01-4	ug/kg	6.7	U	6.7	7.3	U	7.3	5.9	U	5.9	6.3	U	6.3	6.8	U	6.8	4.8	U	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	110	J	370	530	J	2000	2000	U	2000	290	J	2000	230	J	2100	400	U	400
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	2000	U	2000	2000	U	2000	470	J	2000	770	J	2100	400	U	400
SW8270	Acenaphthylene	208-96-8	ug/kg	110	J	370	450	J	2000	990	J	2000	620	J	2000	390	J	2100	400	U	400
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Anthracene	120-12-7	ug/kg	110	J	370	370	J	2000	590	J	2000	1200	J	2000	1500	J	2100	400	U	400
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Benzaldehyde	100-52-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2100	UJ	2100
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	640		370	1100	J	2000	1800	J	2000	6200		2000	7100		2100	180	J	400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	780		370	1400	J	2000	2500		2000	7300		2000	7700		2100	110	J	400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	750		370	1700	J	2000	2800		2000	6100		2000	6200		2100	150	J	400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	590		370	1200	J	2000	2000		2000	6100		2000	5700		2100	62	J	400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	690		370	1300	J	2000	2800		2000	5700		2000	5700		2100	120	J	400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	590	J	2100	400	U	400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Caprolactam	105-60-2	ug/kg	1900	U	370	10000	U	2000	10000	U	2000	11000	U	2000	11000	U	2100	2100	U	2100
SW8270	Carbazole	86-74-8	ug/kg	51	J	370	2000	U	2000	2000	U	2000	580	J	2000	830	J	2100	400	U	400
SW8270	Chrysene	218-01-9	ug/kg	750		370	1300	J	2000	2200		2000	7600		2000	10000		2100	220	J	400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	190	J	370	480	J	2000	620	J	2000	1700	J	2000	1800	J	2100	400	U	400
SW8270	Dibenzofuran	132-64-9	ug/kg	49	J	370	200	J	2000	2000	U	2000	250	J	2000	310	J	2100	400	U	400
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Fluoranthene	206-44-0	ug/kg	780		370	1400	J	2000	1200	J	2000	9100		2000	9500		2100	230	J	400
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	260	J	2000	390	J	2100	400	U	400
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BFSB4			BFSB5			BFSB6			BFSB7			BFSB8			BGSB1		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.4			1.2			0.9			0.6			0.7			1.1		
			sys_sample_code:	BFSB4AA			BFSB5AA			BFSB6AA			BFSB7AA			BFSB8AA			BGSB1AA		
			sample_date:	10/24/2005 11:01:00 AM			10/24/2005 10:15:00 AM			10/24/2005 11:33:00 AM			10/24/2005 12:21:00 PM			10/24/2005 12:42:00 PM			10/25/2005 11:32:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	510		370	1200	J	2000	1800	J	2000	5000		2000	4600		2100	52	J	400
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Naphthalene	91-20-3	ug/kg	100	J	370	580	J	2000	2000	U	2000	340	J	2000	310	J	2100	400	U	400
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	10000	U	10000	10000	U	10000	11000	U	11000	11000	U	11000	2100	U	2100
SW8270	Phenanthrene	85-01-8	ug/kg	410		370	1100	J	2000	380	J	2000	4200		2000	5400		2100	43	J	400
SW8270	Phenol	108-95-2	ug/kg	370	U	370	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	400	U	400
SW8270	Pyrene	129-00-0	ug/kg	670		370	1200	J	2000	1600	J	2000	7700		2000	7700		2100	220	J	400
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	1.206	UB	0.035	25.285	B	0.064										1.591	UB	0.041
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	1.424	UB	0.034	6.046	B	0.064										5.598	B	0.046
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.143	J	0.049	10.378		0.089										0.514	J	0.058
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.54	J	0.02	29.887		0.046										0.434	J	0.021
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.088	J	0.016	0.174	J	0.023										0.25	JK	0.03
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.204	J	0.021	2.084	J	0.049										0.388	J	0.022
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.212	J	0.016	0.442	J	0.022										0.43	J	0.029
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.026	U	0.026	0.139	JK	0.06										0.231	JK	0.027
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.158	J	0.015	0.306	J	0.021										0.498	J	0.028
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.2	JK	0.015	4.591		0.025										0.263	J	0.015
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.114	J	0.017	0.197	JK	0.03										0.264	J	0.018
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.134	JK	0.023	1.41	J	0.052										0.359	J	0.023
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.196	JK	0.014	3.185		0.024										0.225	JK	0.014
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.344	U	0.344	2.006												0.506	U	0.506
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.024	U	0.024	0.028	U	0.028										0.136	JK	0.02
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg																4.796		0.041
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg																9.437		0.046
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg																2.438		0.021
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg																2.051	J	0.029
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	2.472	UB	0.055	237.126	B	0.069										6.459	UB	0.045
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	5.304	UB	0.048	30.202	B	0.061										28.092	B	0.044
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg																1.016	J	0.014
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg																0.264	J	0.018
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg																0.496	J	0.071
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg																0.098	J	0.02
SW9012A	CYANIDE	57-12-5	mg/kg	1.13	U	1.13	1.19	U	1.19	1.2	U	1.2	5.79		1.24	1.29	U	1.29	1.22	U	1.22

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGSB10			BGSB11			BGSB12			BGSB13			BGSB2			BGSB3		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.2			1.1			1			1.2			1			1.4		
			sys_sample_code:	BGSB10AA			BGSB11AA			BGSB12AA			BGSB13AA			BGSB2AA			BGSB3AA		
			sample_date:	10/24/2005 3:43:00 PM			10/24/2005 1:22:00 PM			10/24/2005 3:02:00 PM			10/24/2005 2:33:00 PM			10/25/2005 11:50:00 AM			10/25/2005 12:27:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	81.6			81.1			80.6			84.1			84.5			86.6		
SW6010	Aluminum	7429-90-5	mg/kg	15600		11.9	15100		11.9	16100		12.3	6940		11.4	16400		11.4	14000		11.4
SW6010	Antimony	7440-36-0	mg/kg	7.1	UJ	7.1	7.1	UJ	7.1	7.4	UJ	7.4	6.9	UJ	6.9	6.8	UJ	6.8	6.9	UJ	6.9
SW6010	Arsenic	7440-38-2	mg/kg	9.6		1.2	8.3		1.2	9.9		1.2	10.4		1.1	9.1		1.1	7.8		1.1
SW6010	Barium	7440-39-3	mg/kg	102		2.4	96		2.4	87		2.5	80.6		2.3	91.3		2.3	93.5		2.3
SW6010	Beryllium	7440-41-7	mg/kg	0.59	U	0.59	0.59	U	0.59	0.61	U	0.61	0.57	U	0.57	0.57	U	0.57	0.57	U	0.57
SW6010	Cadmium	7440-43-9	mg/kg	0.59	U	0.59	0.59	U	0.59	0.61	U	0.61	0.92		0.57	0.57	U	0.57	0.57	U	0.57
SW6010	Calcium	7440-70-2	mg/kg	22400	J	59.5	2840	J	59.3	39800	J	61.4	78000	J	572	6880	J	56.9	2880	J	57.2
SW6010	Chromium (total)	7440-47-3	mg/kg	19.5		1.2	19.7		1.2	19.1		1.2	28.2		1.1	19.9		1.1	19		1.1
SW6010	Cobalt	7440-48-4	mg/kg	11.6		5.9	9.5		5.9	7.6		6.1	11.1		5.7	9		5.7	9.4		5.7
SW6010	Copper	7440-50-8	mg/kg	19.2		2.4	20.3		2.4	15.2		2.5	66.6		2.3	15.4		2.3	14.5		2.3
SW6010	Iron	7439-89-6	mg/kg	22500		11.9	23000		11.9	21600		12.3	76600		114	27100		114	20900		11.4
SW6010	Lead	7439-92-1	mg/kg	22.4		0.59	17.2		0.59	16.4		0.61	42.9	J	0.57	18.9	J	0.57	20.3		0.57
SW6010	Magnesium	7439-95-4	mg/kg	6860		59.5	3170		59.3	22100		61.4	25500		57.2	4470		56.9	2570		57.2
SW6010	Manganese	7439-96-5	mg/kg	709		1.2	964		1.2	881		1.2	1030	J	1.1	997	J	1.1	1130		1.1
SW6010	Nickel	7440-02-0	mg/kg	19.5		4.8	18.6		4.7	17.5		4.9	33.2		4.6	16.6		4.6	15		4.6
SW6010	Potassium	7440-09-7	mg/kg	1500		238	1230		237	1410		246	638		229	1350		228	1150		229
SW6010	Selenium	7782-49-2	mg/kg	1.2	UJ	1.2	1.2	UJ	1.2	1.2	UJ	1.2	1.1	UJ	1.1	1.1	UJ	1.1	1.1	UJ	1.1
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	67.3		59.5	59.3	U	59.3	89.3		61.4	165		57.2	56.9	U	56.9	57.2	U	57.2
SW6010	Thallium	7440-28-0	mg/kg	5.9	U	5.9	5.9	U	5.9	6.1	U	6.1	5.7	U	5.7	5.7	U	5.7	5.7	U	5.7
SW6010	Vanadium	7440-62-2	mg/kg	38.4		5.9	41.2		5.9	41.2		6.1	27.8		5.7	45.2		5.7	39.7		5.7
SW6010	Zinc	7440-66-6	mg/kg	64.1		2.4	69.1		2.4	59.7		2.5	424		22.9	62.4		2.3	58.7		2.3
SW7470	Mercury	7439-97-6	mg/kg	0.04		0.04	0.05		0.04	0.04	U	0.04	0.04	U	0.04	0.05		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	40	U	40	41	U	41	41	U	41	39	U	39	39	U	39	38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	82	U	82	83	U	83	83	U	83	80	U	80	79	U	79	77	U	77
SW8082	Aroclor 1232	11141-16-5	ug/kg	40	U	40	41	U	41	41	U	41	39	U	39	39	U	39	38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	40	U	40	41	U	41	41	U	41	39	U	39	39	U	39	38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	40	U	40	41	U	41	41	U	41	39	U	39	39	U	39	38	U	38
SW8082	Aroclor 1254	11097-69-1	ug/kg	40	U	40	41	U	41	41	U	41	39	U	39	39	U	39	38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	40	U	40	41	U	41	230		41	39	U	39	39	U	39	38	U	38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	2-Butanone	78-93-3	ug/kg	10	UJ	10	10	U	10	11	U	11	10	U	10	9.6	U	9.6	3.6	J	9.1
SW8260	2-Hexanone	591-78-6	ug/kg	10	UJ	10	10	U	10	11	U	11	10	U	10	9.6	U	9.6	9.1	U	9.1
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	UJ	10	10	U	10	11	U	11	10	U	10	9.6	U	9.6	9.1	U	9.1
SW8260	Acetone	67-64-1	ug/kg	20	UJ	20	27		21	19	J	21	20	U	20	28		19	14	J	18
SW8260	Benzene	71-43-2	ug/kg	0.7	J	5.1	1.2	J	5.2	0.45	J	5.3	5	U	5	0.98	J	4.8	1.3	J	4.6
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Bromoform	75-25-2	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Bromomethane	74-83-9	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Carbon disulfide	75-15-0	ug/kg	10	UJ	10	0.73	J	10	11	U	11	10	U	10	0.33	J	9.6	1	J	9.1
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Chlorobenzene	108-90-7	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Chloroethane	75-00-3	ug/kg	10	UJ	10	10	U	10	11	U	11	10	U	10	9.6	U	9.6	9.1	U	9.1
SW8260	Chloroform	67-66-3	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	0.37	J	4.6
SW8260	Chloromethane	74-87-3	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Cyclohexane	110-82-7	ug/kg	2.8	J	5.1	7.5		5.2	5.2	J	5.3	0.58	J	5	6		4.8	9	J	4.6
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Ethylbenzene	100-41-4	ug/kg	0.51	J	5.1	0.86	J	5.2	5.3	U	5.3	5	U	5	0.39	J	4.8	1.3	J	4.6
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGSB10			BGSB11			BGSB12			BGSB13			BGSB2			BGSB3		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.2			1.1			1			1.2			1			1.4		
			sys_sample_code:	BGSB10AA			BGSB11AA			BGSB12AA			BGSB13AA			BGSB2AA			BGSB3AA		
			sample_date:	10/24/2005 3:43:00 PM			10/24/2005 1:22:00 PM			10/24/2005 3:02:00 PM			10/24/2005 2:33:00 PM			10/25/2005 11:50:00 AM			10/25/2005 12:27:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	5.1	UJ	5.1	1.2	J	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	1.8	J	4.6
SW8260	Methyl acetate	79-20-9	ug/kg	10	UJ	10	10	U	10	11	U	11	10	U	10	9.6	U	9.6	9.1	U	9.1
SW8260	Methylcyclohexane	108-87-2	ug/kg	3.6	J	5.1	9.6		5.2	6.1		5.3	0.59	J	5	6.9		4.8	12	J	4.6
SW8260	Methylene chloride	75-09-2	ug/kg	1.5	J	5.1	0.67	J	5.2	5.3	U	5.3	2.1	J	5	4.8	U	4.8	0.31	J	4.6
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	o-Xylene	95-47-6	ug/kg	5.1	UJ	5.1	0.57	J	5.2	5.3	U	5.3	5	U	5	0.38	J	4.8	0.88	J	4.6
SW8260	Styrene	100-42-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Toluene	108-88-3	ug/kg	1.6	J	5.1	2.8	J	5.2	0.53	J	5.3	0.4	J	5	1.2	J	4.8	3.9	J	4.6
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Trichloroethene	79-01-6	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	0.59	J	5	4.8	U	4.8	4.6	U	4.6
SW8260	Vinyl chloride	75-01-4	ug/kg	5.1	UJ	5.1	5.2	U	5.2	5.3	U	5.3	5	U	5	4.8	U	4.8	4.6	U	4.6
SW8270	1,1-Biphenyl	92-52-4	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg		R	2100	2100	U	2100	2100	U	2100	2000	UJ	2000	2000	U	2000	2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2-Chlorophenol	95-57-8	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	400	U	400	410	U	410	63	J	410	390	U	390	390	U	390	380	U	380
SW8270	2-Nitroaniline	88-74-4	ug/kg	2100	UJ	2100	2100	U	2100	2100	U	2100	2000	U	2000	2000	U	2000	2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	3-Nitroaniline	99-09-2	ug/kg	2100	U	2100	2100	U	2100	2100	U	2100	2000	U	2000	2000	U	2000	2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2100	UJ	2100	2100	U	2100	2100	U	2100	2000	U	2000	2000	U	2000	2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	4-Chloroaniline	106-47-8	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	4-Nitroaniline	100-01-6	ug/kg	2100	U	2100	2100	U	2100	2100	U	2100	2000	U	2000	2000	U	2000	2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg	2100	U	2100	2100	U	2100	2100	U	2100	2000	U	2000	2000	U	2000	2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Acenaphthylene	208-96-8	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Acetophenone	98-86-2	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Anthracene	120-12-7	ug/kg	400	U	400	57	J	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Atrazine	1912-24-9	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Benzaldehyde	100-52-7	ug/kg	400	UJ	400	410	UJ	410	410	UJ	410	390	UJ	390	2000	UJ	2000	2000	UJ	2000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	54	J	400	120	J	410	110	J	410	71	J	390	120	J	390	94	J	380
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	54	J	400	110	J	410	120	J	410	64	J	390	120	J	390	110	J	380
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	53	J	400	110	J	410	140	J	410	80	J	390	130	J	390	94	J	380
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	45	J	400	84	J	410	110	J	410	63	J	390	120	J	390	110	J	380
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	51	J	400	100	J	410	120	J	410	69	J	390	120	J	390	79	J	380
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Caprolactam	105-60-2	ug/kg	2100	U	2100	2100	U	2100	2100	U	2100	390	U	390	2000	U	2000	2000	U	2000
SW8270	Carbazole	86-74-8	ug/kg	400	U	400	410	U	410	410	U	410	2000	U	2000	390	U	390	380	U	380
SW8270	Chrysene	218-01-9	ug/kg	61	J	400	140	J	410	150	J	410	90	J	390	150	J	390	110	J	380
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Dibenzofuran	132-64-9	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Diethylphthalate	84-66-2	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Dimethylphthalate	131-11-3	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Fluoranthene	206-44-0	ug/kg	120	J	400	300	J	410	200	J	410	170	J	390	260	J	390	170	J	380
SW8270	Fluorene	86-73-7	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Hexachlorobenzene	118-74-1	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGSB10			BGSB11			BGSB12			BGSB13			BGSB2			BGSB3		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.2			1.1			1			1.2			1			1.4		
			sys_sample_code:	BGSB10AA			BGSB11AA			BGSB12AA			BGSB13AA			BGSB2AA			BGSB3AA		
			sample_date:	10/24/2005 3:43:00 PM			10/24/2005 1:22:00 PM			10/24/2005 3:02:00 PM			10/24/2005 2:33:00 PM			10/25/2005 11:50:00 AM			10/25/2005 12:27:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	400	U	400	76	J	410	94	J	410	50	J	390	89	J	390	87	J	380
SW8270	Isophorone	78-59-1	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Naphthalene	91-20-3	ug/kg	400	U	400	410	U	410	58	J	410	390	U	390	390	U	390	380	U	380
SW8270	Nitrobenzene	98-95-3	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	400	UJ	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Pentachlorophenol	87-86-5	ug/kg	2100	U	2100	2100	U	2100	2100	U	2100	2000	U	2000	2000	U	2000	2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	71	J	400	210	J	410	150	J	410	110	J	390	140	J	390	94	J	380
SW8270	Phenol	108-95-2	ug/kg	400	U	400	410	U	410	410	U	410	390	U	390	390	U	390	380	U	380
SW8270	Pyrene	129-00-0	ug/kg	94	J	400	210	J	410	150	J	410	130	J	390	250	J	390	150	J	380
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										1.532	UB	0.035						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										5.985	B	0.052						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										0.048	U	0.048						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										0.278	J	0.019						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										0.031	U	0.031						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										0.144	JK	0.02						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										0.229	J	0.03						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.024	U	0.024						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										0.247	JK	0.029						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										0.03	U	0.03						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										0.03	U	0.03						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										0.021	U	0.021						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										0.029	U	0.029						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										0.344	U	0.344						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										0.098	JK	0.028						
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg										3.841		0.035						
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg										11.907		0.052						
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg										2.258	J	0.019						
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg										2.096	J	0.03						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										5.131	UB	0.044						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										39.586	B	0.051						
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg										1.989	J	0.029						
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg										0.03	U	0.03						
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg										0.306	J	0.041						
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg										0.028	U	0.028						
SW9012A	CYANIDE	57-12-5	mg/kg	1.23	U	1.23	1.23	U	1.23	1.24	U	1.24	1.19	U	1.19	1.18	U	1.18	1.15	U	1.15

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGSB4			BGSB5			BGSB6			BGSB7			BGSB8			BGSB9		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.5			1.4			0.9			1.2			1.6			1.2		
			sys_sample_code:	BGSB4AA			BGSB5AA			BGSB6AA			BGSB7AA			BGSB8AA			BGSB9AA		
			sample_date:	10/26/2005 11:53:00 AM			10/25/2005 1:50:00 PM			10/25/2005 2:08:00 PM			10/25/2005 11:10:00 AM			10/25/2005 10:49:00 AM			10/25/2005 10:23:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	88.1			85.7			85.9			86			79.5			83.1		
SW6010	Aluminum	7429-90-5	mg/kg	4960		11.1	13500	J	11.6	6180		11.6	16700		11.5	18100		12	16300		11.8
SW6010	Antimony	7440-36-0	mg/kg	6.7	UJ	6.7	6.9	UJ	6.9	7	UJ	7	6.9	UJ	6.9	7.2	UJ	7.2	7.1	UJ	7.1
SW6010	Arsenic	7440-38-2	mg/kg	5		1.1	7.8		1.2	5		1.2	9.7		1.2	8.7		1.2	8.8		1.2
SW6010	Barium	7440-39-3	mg/kg	48.7		2.2	98.1		2.3	62.8		2.3	108		2.3	110		2.4	85.7		2.4
SW6010	Beryllium	7440-41-7	mg/kg	0.56	U	0.56	0.58	U	0.58	0.58	U	0.58	0.58	U	0.58	0.6	U	0.6	0.59	U	0.59
SW6010	Cadmium	7440-43-9	mg/kg	0.56	U	0.56	0.58	U	0.58	0.58		0.58	0.58	U	0.58	0.6	U	0.6	0.59	U	0.59
SW6010	Calcium	7440-70-2	mg/kg	85100	J	556	2450	J	57.8	86100	J	582	21400	J	57.6	24500	J	59.9	56600	J	59
SW6010	Chromium (total)	7440-47-3	mg/kg	13.7		1.1	17.9		1.2	17.4		1.2	20.3		1.2	22.2		1.2	24.2		1.2
SW6010	Cobalt	7440-48-4	mg/kg	5.6	U	5.6	10.1		5.8	5.8	U	5.8	12.2		5.8	12.3		6	7.2		5.9
SW6010	Copper	7440-50-8	mg/kg	13.3		2.2	14.3		2.3	16.8		2.3	18.2		2.3	19.7		2.4	14.9		2.4
SW6010	Iron	7439-89-6	mg/kg	10500		11.1	19900		11.6	12000		11.6	24000		11.5	30600		120	19400		11.8
SW6010	Lead	7439-92-1	mg/kg	17.7	J	0.56	21.4		0.58	21.9	J	0.58	20.7	J	0.58	19.7	J	0.6	16.7		0.59
SW6010	Magnesium	7439-95-4	mg/kg	24500		55.6	2260		57.8	26500		58.2	7350		57.6	9290		59.9	25700		59
SW6010	Manganese	7439-96-5	mg/kg	337	J	1.1	1280		11.6	430	J	1.2	785	J	1.2	750	J	1.2	761		1.2
SW6010	Nickel	7440-02-0	mg/kg	10.6		4.5	15.1		4.6	13.3		4.7	18.7		4.6	24.2		4.8	18.8		4.7
SW6010	Potassium	7440-09-7	mg/kg	853		223	1300		231	1020		233	1440		230	2270		240	1310		236
SW6010	Selenium	7782-49-2	mg/kg	1.1	UJ	1.1	1.2	UJ	1.2	1.2	UJ	1.2	1.2	UJ	1.2	1.2	UJ	1.2	1.2	UJ	1.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	127		55.6	57.8	U	57.8	171		58.2	126		57.6	92.2		59.9	114		59
SW6010	Thallium	7440-28-0	mg/kg	5.6	U	5.6	5.8	U	5.8	5.8	U	5.8	5.8	U	5.8	6	U	6	5.9	U	5.9
SW6010	Vanadium	7440-62-2	mg/kg	16.3		5.6	39.7		5.8	18.3		5.8	40.3		5.8	40.6		6	37.5		5.9
SW6010	Zinc	7440-66-6	mg/kg	63.6		2.2	60.6		2.3	74.2		2.3	65.7		2.3	69.8		2.4	57.3		2.4
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.07		0.04	0.06		0.04	0.04		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	39	U	39	38	U	38	38	U	38	42	U	42	40	U	40
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76	78	U	78	78	U	78	78	U	78	84	U	84	81	U	81
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	39	U	39	38	U	38	38	U	38	42	U	42	40	U	40
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	39	U	39	38	U	38	38	U	38	42	U	42	40	U	40
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	39	U	39	38	U	38	38	U	38	120		42	40	U	40
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	39	U	39	38	U	38	190		38	210		42	40	U	40
SW8082	Aroclor 1260	11096-82-5	ug/kg	37	U	37	39	U	39	38	U	38	71		38	42	U	42	40	U	40
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	2-Butanone	78-93-3	ug/kg	4.8	J	8.9	9.7	U	9.7	4.9	J	9.5	9.9	U	9.9	10	U	10	10	U	10
SW8260	2-Hexanone	591-78-6	ug/kg	8.9	U	8.9	9.7	U	9.7	9.5	U	9.5	9.9	U	9.9	10	U	10	10	U	10
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	8.9	U	8.9	9.7	U	9.7	9.5	U	9.5	9.9	U	9.9	10	U	10	10	U	10
SW8260	Acetone	67-64-1	ug/kg	48		18	23		19	38		19	20	U	20	21	U	21	26		20
SW8260	Benzene	71-43-2	ug/kg	4.4	U	4.4	0.39	J	4.8	0.29	J	4.8	0.42	J	4.9	5.2	U	5.2	0.43	J	5.1
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Bromoform	75-25-2	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Bromomethane	74-83-9	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Carbon disulfide	75-15-0	ug/kg	0.33	J	8.9	0.33	J	9.7	0.33	J	9.5	9.9	U	9.9	10	U	10	10	U	10
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Chlorobenzene	108-90-7	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Chloroethane	75-00-3	ug/kg	8.9	U	8.9	9.7	U	9.7	9.5	U	9.5	9.9	U	9.9	10	U	10	10	U	10
SW8260	Chloroform	67-66-3	ug/kg	0.39	J	4.4	0.4	J	4.8	0.44	J	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Chloromethane	74-87-3	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Cyclohexane	110-82-7	ug/kg	0.66	J	4.4	2.1	J	4.8	0.45	J	4.8	2.4	J	4.9	1.5	J	5.2	4.6	J	5.1
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Ethylbenzene	100-41-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGSB4			BGSB5			BGSB6			BGSB7			BGSB8			BGSB9		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.5			1.4			0.9			1.2			1.6			1.2		
			sys_sample_code:	BGSB4AA			BGSB5AA			BGSB6AA			BGSB7AA			BGSB8AA			BGSB9AA		
			sample_date:	10/26/2005 11:53:00 AM			10/25/2005 1:50:00 PM			10/25/2005 2:08:00 PM			10/25/2005 11:10:00 AM			10/25/2005 10:49:00 AM			10/25/2005 10:23:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Methyl acetate	79-20-9	ug/kg	8.9	U	8.9	9.7	U	9.7	9.5	U	9.5	9.9	U	9.9	10	U	10	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.58	J	4.4	2.1	J	4.8	0.5	J	4.8	2.7	J	4.9	1.5	J	5.2	4.6	J	5.1
SW8260	Methylene chloride	75-09-2	ug/kg	0.3	J	4.4	0.39	J	4.8	0.37	J	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	o-Xylene	95-47-6	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Styrene	100-42-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Toluene	108-88-3	ug/kg	0.51	J	4.4	0.93	J	4.8	0.43	J	4.8	0.67	J	4.9	0.42	J	5.2	0.61	J	5.1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Trichloroethene	79-01-6	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8260	Vinyl chloride	75-01-4	ug/kg	4.4	U	4.4	4.8	U	4.8	4.8	U	4.8	4.9	U	4.9	5.2	U	5.2	5.1	U	5.1
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	UJ	2000	2100	U	2100	2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	66	J	400
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Acenaphthylene	208-96-8	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Anthracene	120-12-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	110	J	420	84	J	400
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	UJ	1900	2000	UJ	2000	2000	UJ	2000	2000	UJ	2000	2100	UJ	2100	2000	UJ	2000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	370	U	370	62	J	390	380	U	380	97	J	380	380	J	420	260	J	400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	370	U	370	75	J	390	380	U	380	110	J	380	390	J	420	200	J	400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	370	U	370	65	J	390	380	U	380	99	J	380	310	J	420	220	J	400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	370	U	370	82	J	390	380	U	380	84	J	380	300	J	420	180	J	400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	370	U	370	67	J	390	380	U	380	86	J	380	340	J	420	220	J	400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Caprolactam	105-60-2	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	Carbazole	86-74-8	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	43	J	400
SW8270	Chrysene	218-01-9	ug/kg	370	U	370	69	J	390	380	U	380	120	J	380	390	J	420	290	J	400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	84	J	420	58	J	400
SW8270	Dibenzofuran	132-64-9	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Fluoranthene	206-44-0	ug/kg	45	J	370	110	J	390	44	J	380	190	J	380	720		420	530		400
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGSB4			BGSB5			BGSB6			BGSB7			BGSB8			BGSB9		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1.5			1.4			0.9			1.2			1.6			1.2		
			sys_sample_code:	BGSB4AA			BGSB5AA			BGSB6AA			BGSB7AA			BGSB8AA			BGSB9AA		
			sample_date:	10/26/2005 11:53:00 AM			10/25/2005 1:50:00 PM			10/25/2005 2:08:00 PM			10/25/2005 11:10:00 AM			10/25/2005 10:49:00 AM			10/25/2005 10:23:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	370	U	370	64	J	390	380	U	380	69	J	380	260	J	420	160	J	400
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Naphthalene	91-20-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	58	J	400
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	2000	U	2000	2100	U	2100	2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	370	U	370	51	J	390	380	U	380	80	J	380	390	J	420	400	J	400
SW8270	Phenol	108-95-2	ug/kg	370	U	370	390	U	390	380	U	380	380	U	380	420	U	420	400	U	400
SW8270	Pyrene	129-00-0	ug/kg	40	J	370	100	J	390	380	U	380	160	J	380	530		420	390	J	400
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	0.344	UB	0.048										30.606	JB	0.151			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	0.983	UB	0.059										163.903	JB	0.21			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.067	U	0.067										1.942	J	0.213			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.134	JK	0.021										3.64		0.213			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.031	U	0.031										1.057	J	0.07			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.022	U	0.022										1.556	J	0.222			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.03	U	0.03										4.917		0.067			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.027	U	0.027										0.274	U	0.274			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.03	U	0.03										3.241		0.067			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.016	U	0.016										1.278	JK	0.157			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.024	U	0.024										0.823	J	0.036			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.023	U	0.023										0.948	JK	0.238			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.016	U	0.016										1.237	JK	0.151			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.069	U	0.069										4.633		0.83			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.024	U	0.024										0.884	JK	0.045			
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg	0.344	U	0.048										85.202	J	0.151			
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg	0.983	U	0.059										303.982	J	0.21			
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg	0.303	J	0.021										35.169		0.213			
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg	0.437	J	0.03										40.769		0.067			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	2.529	UB	0.062										54.493	JB	0.096			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	6.001	UB	0.058										1096.941	JB	0.084			
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg	0.016	U	0.016										25.821		0.151			
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg	0.024	U	0.024										3.639		0.036			
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg	0.069	U	0.069										43.4	J	0.166			
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg	0.024	U	0.024										2.968		0.045			
SW9012A	CYANIDE	57-12-5	mg/kg	1.14	U	1.14	1.17	U	1.17	1.16	U	1.16	1.16	U	1.16	1.26	U	1.26	1.2	U	1.2

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-10S			MW-11S			MW-11S			MW-12S			MW-13S			MW-14S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			2		
			sys_sample_code:	MW10SAA			MW11SAA			MW11SAB			MW12SAA			MW13SAA			MW14SAA		
			sample_date:	11/30/2005 8:01:00 AM			11/30/2005 11:57:00 AM			11/30/2005 11:57:00 AM			11/30/2005 2:42:00 PM			12/5/2005 12:10:00 PM			12/8/2005 8:45:00 AM		
			sample_type_code:	N			N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	88.4			91.5			86.2			84.6			88.2			83.9		
SW6010	Aluminum	7429-90-5	mg/kg	24400		11	31300		10.4	33000		11.5	5400		11.4	35000		11.2	10100		11.8
SW6010	Antimony	7440-36-0	mg/kg	6.6	U	6.6	6.2	U	6.2	6.9	U	6.9	6.8	U	6.8	6.7	U	6.7	7.1	UJ	7.1
SW6010	Arsenic	7440-38-2	mg/kg	7.2	J-	1.1	1	UJ	1	1.1	UJ	1.1	5.7	J-	1.1	1.1	UJ	1.1	8.5	J	1.2
SW6010	Barium	7440-39-3	mg/kg	274		2.2	294		2.1	305		2.3	62.1		2.3	374		2.2	99.5		2.4
SW6010	Beryllium	7440-41-7	mg/kg	4.4	J	0.55	7.5		0.52	7.1		0.57	1.3	J	0.57	7.4	J	0.56	0.59	U	0.59
SW6010	Cadmium	7440-43-9	mg/kg	1.1		0.55	1.3		0.52	1.7		0.57	0.61		0.57	0.56	U	0.56	0.59	U	0.59
SW6010	Calcium	7440-70-2	mg/kg	163000	J	549	210000	J	520	223000	J	574	24000	J	56.8	222000	J	561	4280		59
SW6010	Chromium (total)	7440-47-3	mg/kg	8.5	J	1.1	17.4	J	1	22.5	J	1.1	7.4	J	1.1	16.2	J	1.1	14		1.2
SW6010	Cobalt	7440-48-4	mg/kg	5.5	U	5.5	5.2	U	5.2	6.4		5.7	5.7	U	5.7	5.6	U	5.6	9.9		5.9
SW6010	Copper	7440-50-8	mg/kg	15.4	J	2.2	8.1		2.1	9.1		2.3	17.7	J	2.3	9.7	J	2.2	12	J	2.4
SW6010	Iron	7439-89-6	mg/kg	22700	J	11	42000	J	104	51400	J	115	14400	J	11.4	15000	J	11.2	17500		11.8
SW6010	Lead	7439-92-1	mg/kg	20.8	J	0.55	4.1	J+	0.52	4.9	J+	0.57	19.6	J	0.57	11.7	J+	0.56	17		5.9
SW6010	Magnesium	7439-95-4	mg/kg	52500	J	54.9	42200	J	52	50600	J	57.4	5870	J	56.8	46300	J	56.1	2580		59
SW6010	Manganese	7439-96-5	mg/kg	2450	J	11	4400	J	10.4	4760	J	11.5	717	J	1.1	5240	J	11.2	1080	J	1.2
SW6010	Nickel	7440-02-0	mg/kg	5.7		4.4	4.6		4.2	5.4		4.6	5.2		4.5	4.5	U	4.5	12.7		4.7
SW6010	Potassium	7440-09-7	mg/kg	1280		220	1970		208	2090		230	549		227	2340		225	792	J	236
SW6010	Selenium	7782-49-2	mg/kg	3.9		1.1	3.2		1	2.6		1.1	1.1	U	1.1	6.1		1.1	1.2	U	1.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1	U	1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	1160	J	54.9	1100		52	1420		57.4	260	J	56.8	1300	J	56.1	59	UJ	59
SW6010	Thallium	7440-28-0	mg/kg	27.5	U	27.5	52	U	52	57.4	U	57.4	5.7	U	5.7	56.1	U	56.1	5.9	U	5.9
SW6010	Vanadium	7440-62-2	mg/kg	15.3		5.5	21.4		5.2	25.5		5.7	7.1		5.7	15		5.6	27		5.9
SW6010	Zinc	7440-66-6	mg/kg	91.9	J+	2.2	12.3	J+	2.1	15.1	J+	2.3	51.4	J+	2.3	20.4	J+	2.2	45.1	J	2.4
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04		0.03	0.05		0.04	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76	73	U	73	78	U	78	79	U	79	76	U	76	80	U	80
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	40		37	36	U	36	38	U	38	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	37	U	37	36	U	36	38	U	38	39	U	39	37	U	37	39	U	39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5	UJ	5	3.9	UJ	3.9	4.5	UJ	4.5	9.6	UJ	9.6	4.9	UJ	4.9	4.8	U	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	2-Butanone	78-93-3	ug/kg	10	UJ	10	7.9	U	7.9	3	J	8.9	19	UJ	19	9.9	U	9.9	21		9.7
SW8260	2-Hexanone	591-78-6	ug/kg	10	UJ	10	7.9	U	7.9	8.9	U	8.9	19	UJ	19	9.9	U	9.9	9.7	U	9.7
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	UJ	10	7.9	U	7.9	8.9	U	8.9	19	UJ	19	9.9	U	9.9	9.7	U	9.7
SW8260	Acetone	67-64-1	ug/kg	19	J	20	16	UJ	16	79	J	18	40	J	39	7.4	J	20	150		19
SW8260	Benzene	71-43-2	ug/kg	5	UJ	5	0.24	J	3.9	0.53	J	4.5	1.4	J	9.6	4.9	U	4.9	0.38	J	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Bromoform	75-25-2	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Bromomethane	74-83-9	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	0.38	J	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg	0.79	J	10	7.9	U	7.9	8.9	U	8.9	3.4	J	19	3.2	J	9.9	9.7	U	9.7
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Chloroethane	75-00-3	ug/kg	10	UJ	10	7.9	U	7.9	8.9	U	8.9	19	UJ	19	9.9	U	9.9	9.7	U	9.7
SW8260	Chloroform	67-66-3	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Chloromethane	74-87-3	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Cyclohexane	110-82-7	ug/kg	0.68	J	5	0.62	J	3.9	1.3	J	4.5	2.6	J	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	UJ	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg	5	UJ	5	3.9	U	3.9	0.31	J	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-10S			MW-11S			MW-11S			MW-12S			MW-13S			MW-14S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			2		
			sys_sample_code:	MW10SAA			MW11SAA			MW11SAB			MW12SAA			MW13SAA			MW14SAA		
			sample_date:	11/30/2005 8:01:00 AM			11/30/2005 11:57:00 AM			11/30/2005 11:57:00 AM			11/30/2005 2:42:00 PM			12/5/2005 12:10:00 PM			12/8/2005 8:45:00 AM		
			sample_type_code:	N			N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	0.37	J	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Methyl acetate	79-20-9	ug/kg	10	UJ	10	7.9	U	7.9	8.9	U	8.9	19	UJ	19	9.9	U	9.9	9.7	U	9.7
SW8260	Methylcyclohexane	108-87-2	ug/kg	1.1	J	5	1.1	J	3.9	1.7	J	4.5	2.4	J	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Methylene chloride	75-09-2	ug/kg	1.5	J	5	3.9	UB	3.9	4.5	UB	4.5	9.6	UB	9.6	4.9	UB	4.9	4.8	U	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	o-Xylene	95-47-6	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Styrene	100-42-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Toluene	108-88-3	ug/kg	5	UJ	5	0.39	J	3.9	1.1	J	4.5	0.79	J	9.6	4.9	U	4.9	0.38	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Trichloroethene	79-01-6	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8260	Vinyl chloride	75-01-4	ug/kg	5	UJ	5	3.9	U	3.9	4.5	U	4.5	9.6	UJ	9.6	4.9	U	4.9	4.8	U	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	6000	U	6000	9600	U	9600	2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2-Chlorophenol	95-57-8	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	270	J	1900	360	U	360	380	U	380	320	J	1200	1900	U	1900	390	U	390
SW8270	2-Nitroaniline	88-74-4	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	6000	U	6000	9600	U	9600	2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	3-Nitroaniline	99-09-2	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	6000	U	6000	9600	U	9600	2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	6000	U	6000	9600	U	9600	2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	4-Chloroaniline	106-47-8	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	4-Nitroaniline	100-01-6	ug/kg	9600	U	9600	1900	UJ	1900	2000	UJ	2000	6000	UJ	6000	9600	U	9600	2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	6000	U	6000	9600	U	9600	2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	1900	U	1900	360	U	360	380	U	380	140	J	1200	1900	U	1900	390	U	390
SW8270	Acenaphthylene	208-96-8	ug/kg	1800	J	1900	360	U	360	380	U	380	910	J	1200	2000		1900	390	U	390
SW8270	Acetophenone	98-86-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Anthracene	120-12-7	ug/kg	1100	J	1900	360	U	360	380	U	380	930	J	1200	2000		1900	390	U	390
SW8270	Atrazine	1912-24-9	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	UJ	1900	390	U	390
SW8270	Benzaldehyde	100-52-7	ug/kg	9600	UJ	9600	1900	UJ	1900	2000	UJ	2000	1700	J	1700	9600	UJ	9600	2000	U	390
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	6600		1900	46	J	360	380	U	380	1300		1200	3100		1900	390	U	390
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	10000		1900	52	J	360	380	U	380	1400		1200	9100		1900	390	U	390
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	7600		1900	47	J	360	380	U	380	1400		1200	11000		1900	390	U	390
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	7800		1900	54	J	360	380	U	380	1000	J	1200	8600		1900	390	U	390
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	7900		1900	48	J	360	380	U	380	1300		1200	7700		1900	390	U	390
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1900	U	1900	360	U	360	380	U	380	150	J	1200	1900	U	1900	390	U	390
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Caprolactam	105-60-2	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	1700	U	1700	9600	U	9600	390	U	390
SW8270	Carbazole	86-74-8	ug/kg	1900	U	1900	360	U	360	380	U	380	240	J	1200	350	J	1900	390	U	390
SW8270	Chrysene	218-01-9	ug/kg	6900		1900	58	J	360	380	U	380	1700		1200	5100		1900	390	U	390
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	1700	J	1900	360	U	360	380	U	380	350	J	1200	2000		1900	390	U	390
SW8270	Dibenzofuran	132-64-9	ug/kg	230	J	1900	360	U	360	380	U	380	220	J	1200	1900	U	1900	390	U	390
SW8270	Diethylphthalate	84-66-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Dimethylphthalate	131-11-3	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Fluoranthene	206-44-0	ug/kg	8900		1900	85	J	360	380	U	380	1400		1200	3500		1900	390	U	390
SW8270	Fluorene	86-73-7	ug/kg	210	J	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	UJ	1900	390	U	390

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-10S			MW-11S			MW-11S			MW-12S			MW-13S			MW-14S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			2		
			sys_sample_code:	MW10SAA			MW11SAA			MW11SAB			MW12SAA			MW13SAA			MW14SAA		
			sample_date:	11/30/2005 8:01:00 AM			11/30/2005 11:57:00 AM			11/30/2005 11:57:00 AM			11/30/2005 2:42:00 PM			12/5/2005 12:10:00 PM			12/8/2005 8:45:00 AM		
			sample_type_code:	N			N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	6700		1900	44	J	360	380	U	380	900	J	1200	6900		1900	390	U	390
SW8270	Isophorone	78-59-1	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Naphthalene	91-20-3	ug/kg	380	J	1900	360	U	360	380	U	380	210	J	1200	1900	U	1900	390	U	390
SW8270	Nitrobenzene	98-95-3	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1900	U	1900	360	U	360	380	U	380	170	J	1200	1900	U	1900	390	U	390
SW8270	Pentachlorophenol	87-86-5	ug/kg	9600	U	9600	1900	U	1900	2000	U	2000	6000	U	6000	9600	U	9600	2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	2300		1900	360	U	360	380	U	380	1400		1200	540	J	1900	390	U	390
SW8270	Phenol	108-95-2	ug/kg	1900	U	1900	360	U	360	380	U	380	1200	U	1200	1900	U	1900	390	U	390
SW8270	Pyrene	129-00-0	ug/kg	9000		1900	64	J	360	380	U	380	1700	J	1200	5600		1900	390	U	390
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	1.334	J	0.038										205.312	B	0.206			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	3.474	B	0.032										556.526	B	0.174			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.124	J	0.053										11.199		0.289			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.528	JK	0.029										5.233	UJBK	0.155			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.17	J	0.018										3.969	J	0.093			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.347	J	0.03										4.372	J	0.162			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.331	J	0.017										14.533		0.089			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.037	U	0.037										0.199	U	0.199			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.343	J	0.017										8.048	J	0.088			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.21	JK	0.017										1.123	JK	0.094			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.234	JK	0.024										1.677	J	0.087			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.507	J	0.032										4.07	J	0.173			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.455	J	0.016										1.507	J	0.091			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.432	U	0.432										1.539	J	1.539			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.013	U	0.013										0.076	U	0.076			
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg																		
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg																		
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg																		
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	1.753	U	0.044										826.118	B	0.164			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	19.84	B	0.055										2369.964	B	0.137			
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg																		
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg																		
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg																		
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	1.57		1.13	1.13		1.09	1.16	U	1.16	1.18	U	1.18	2.03		1.13	1.19	U	1.19

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-15S			MW-16S			MW-17S			MW-18S			MW-18S			MW-19S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			1.3		
			sys_sample_code:	MW15SAA			MW16SAA			MW17SAA			MW18SAA			MW18SAB			MW19SAA		
			sample_date:	12/7/2005 2:55:00 PM			12/5/2005 1:41:00 PM			12/7/2005 8:10:00 AM			12/6/2005 8:24:00 AM			12/6/2005 8:24:00 AM			11/21/2005 2:12:00 PM		
			sample_type_code:	N			N			N			N			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	86.1			83.6			84.1			89			86.9			89.5		
SW6010	Aluminum	7429-90-5	mg/kg	9950		11.4	4900		11.7	14900		11.5	32800		10.8	38900		11.1	27700		11.1
SW6010	Antimony	7440-36-0	mg/kg	6.8	UJ	6.8	7	U	7	6.9	UJ	6.9	6.5	U	6.5	6.6	U	6.6	6.6	U	6.6
SW6010	Arsenic	7440-38-2	mg/kg	6.8	J	1.1	11.3	J-	1.2	8.8	J	1.2	3	J-	1.1	1.1	UJ	1.1	1.1	U	1.1
SW6010	Barium	7440-39-3	mg/kg	70.3		2.3	104		2.3	116		2.3	351		2.2	351		2.2	286		11.1
SW6010	Beryllium	7440-41-7	mg/kg	0.57	U	0.57	1.4	J	0.59	1.2		0.58	6.6	J	0.54	9.1	J	0.55	6.3		0.55
SW6010	Cadmium	7440-43-9	mg/kg	0.57	U	0.57	10.1		0.59	0.79		0.58	0.64		0.54	0.55	U	0.55	1.6		0.55
SW6010	Calcium	7440-70-2	mg/kg	3130		56.9	44800	J	58.6	115000		577	226000	J	540	271000	J	553	182000		553
SW6010	Chromium (total)	7440-47-3	mg/kg	13.6		1.1	51.4	J	1.2	20.7		1.2	28.9	J	1.1	26.7	J	1.1	46.6		1.1
SW6010	Cobalt	7440-48-4	mg/kg	8.9		5.7	14.5		5.9	7.6		5.8	5.4	U	5.4	5.5	U	5.5	5.5	U	5.5
SW6010	Copper	7440-50-8	mg/kg	13	J	2.3	44	J	2.3	22.9	J	2.3	24.2	J	2.2	8.8	J	2.2	8.4		2.2
SW6010	Iron	7439-89-6	mg/kg	17100		11.4	186000	J	117	22900		11.5	14700	J	10.8	12100	J	11.1	114000		111
SW6010	Lead	7439-92-1	mg/kg	11.4		5.7	194	J	0.59	22.7		5.8	23.2	J+	0.54	7.4	J	0.55	4.2		0.55
SW6010	Magnesium	7439-95-4	mg/kg	2610		56.9	16300	J	58.6	25100		57.7	42400	J	54	53200	J	55.3	40900		55.3
SW6010	Manganese	7439-96-5	mg/kg	724	J	1.1	5230	J	11.7	1260	J	11.5	6700	J	10.8	7060	J	11.1	4380		11.1
SW6010	Nickel	7440-02-0	mg/kg	13.4		4.6	21.7		4.7	18.4		4.6	8.2		4.3	4.4	U	4.4	5.8		4.4
SW6010	Potassium	7440-09-7	mg/kg	1240	J	228	440		235	2420	J	231	2340		216	2230		221	1760		221
SW6010	Selenium	7782-49-2	mg/kg	1.1	U	1.1	11.7	U	11.7	1.2	U	1.2	9		1.1	11.3		1.1	5.5	U	5.5
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	56.9	UJ	56.9	140	J	58.6	247	J	57.7	1210	J	54	2340	J	55.3	1390		55.3
SW6010	Thallium	7440-28-0	mg/kg	5.7	U	5.7	58.6	U	58.6	28.9	U	28.9	54	U	54	55.3	U	55.3	27.7	U	27.7
SW6010	Vanadium	7440-62-2	mg/kg	25.7		5.7	47.9		5.9	22.3		5.8	19.5		5.4	24.3		5.5	42.6		5.5
SW6010	Zinc	7440-66-6	mg/kg	49.8	J	2.3	1020	J+	23.5	58.1	J	2.3	29	J+	2.2	12.9	J+	2.2	14.3		2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.14		0.04	0.04	U	0.04	0.08		0.04	0.06		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	38	U	38	39	U	39	39	U	39	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	78	U	78	80	U	80	80	U	80	75	U	75	77	U	77	75	U	75
SW8082	Aroclor 1232	11141-16-5	ug/kg	38	U	38	39	U	39	39	U	39	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	38	U	38	39	U	39	39	U	39	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	38	U	38	39	U	39	39	U	39	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	38	U	38	150		39	39	U	39	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	38	U	38	39	U	39	39	U	39	37	U	37	38	U	38	37	U	37
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	2-Butanone	78-93-3	ug/kg	8.7	U	8.7	8.5	UJ	8.5	9	U	9	9	UJ	9	11	UJ	11	11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg	8.7	U	8.7	8.5	U	8.5	9	UJ	9	9	U	9	11	U	11	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	8.7	U	8.7	8.5	U	8.5	9	U	9	1.1	J	9	11	U	11	11	U	11
SW8260	Acetone	67-64-1	ug/kg	30		17	5.3	J	17	34		18	15	J	18	13	J	21	3.8	J	22
SW8260	Benzene	71-43-2	ug/kg	4.4	U	4.4	0.33	J	4.2	0.29	J	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Bromoform	75-25-2	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Bromomethane	74-83-9	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Carbon disulfide	75-15-0	ug/kg	0.6	J	8.7	8.5	U	8.5	0.74	J	9	2.5	J	9	6.8	J	11	2.7	J	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Chlorobenzene	108-90-7	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Chloroethane	75-00-3	ug/kg	8.7	U	8.7	8.5	UJ	8.5	9	U	9	9	UJ	9	11	UJ	11	11	U	11
SW8260	Chloroform	67-66-3	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Chloromethane	74-87-3	ug/kg	4.4	U	4.4	4.2	UJ	4.2	0.48	J	4.5	0.9	J	4.5	0.85	J	5.3	5.5	U	5.5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	65	J	4.5	5.3	UJ	5.3	5.5	U	5.5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Cyclohexane	110-82-7	ug/kg	4.4	U	4.4	4.2	U	4.2	0.59	J	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Ethylbenzene	100-41-4	ug/kg	4.4	U	4.4	4.2	U	4.2	0.31	J	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-15S			MW-16S			MW-17S			MW-18S			MW-18S			MW-19S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			1.3		
			sys_sample_code:	MW15SAA			MW16SAA			MW17SAA			MW18SAA			MW18SAB			MW19SAA		
			sample_date:	12/7/2005 2:55:00 PM			12/5/2005 1:41:00 PM			12/7/2005 8:10:00 AM			12/6/2005 8:24:00 AM			12/6/2005 8:24:00 AM			11/21/2005 2:12:00 PM		
			sample_type_code:	N			N			N			N			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	4.4	U	4.4	4.2	U	4.2	0.5	J	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Methyl acetate	79-20-9	ug/kg	8.7	U	8.7	8.5	U	8.5	9	U	9	9	U	9	11	U	11	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	4.4	U	4.4	4.2	U	4.2	0.65	J	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Methylene chloride	75-09-2	ug/kg	0.88	J	4.4	4.2	UB	4.2	1	J	4.5	4.5	UB	4.5	5.3	UB	5.3	0.44	J	5.5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	o-Xylene	95-47-6	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Styrene	100-42-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.4	U	4.4	4.2	U	4.2	0.39	J	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Toluene	108-88-3	ug/kg	4.4	U	4.4	4.2	U	4.2	0.88	J	4.5	4.5	U	4.5	0.33	J	5.3	1	J	5.5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	0.92	J	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	UJ	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Trichloroethene	79-01-6	ug/kg	4.4	U	4.4	4.2	U	4.2	0.43	J	4.5	1.7	J	4.5	5.3	U	5.3	5.5	U	5.5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	0.67	J	4.4	4.2	U	4.2	0.65	J	4.5	4.5	U	4.5	0.47	J	5.3	5.5	U	5.5
SW8260	Vinyl chloride	75-01-4	ug/kg	4.4	U	4.4	4.2	U	4.2	4.5	U	4.5	4.5	U	4.5	5.3	U	5.3	5.5	U	5.5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	380	U	380	110	J	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	2000	U	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	380	U	380	190	J	390	390	U	390	370	U	370	380	U	380	42	J	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	2000	UJ	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	2000	UJ	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	2000	U	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	2000	UJ	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	2000	U	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	380	U	380	390	UJ	390	390	U	390	81	J	370	380	U	380	58	J	370
SW8270	Acetophenone	98-86-2	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	380	U	380	140	J	390	390	U	390	130	J	370	380	U	380	150	J	370
SW8270	Atrazine	1912-24-9	ug/kg	380	U	380	390	UJ	390	390	U	390	370	UJ	370	380	UJ	380	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	380	2000	UJ	2000	2000	U	390	1900	UJ	1900	2000	UJ	2000	370	U	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	380	U	380	140	J	390	390	U	390	470	J	370	110	J	380	560		370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	380	U	380	120	J	390	390	U	390	460	J	370	110	J	380	530		370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	380	U	380	280	J	390	52	J	390	490	J	370	130	J	380	540		370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	380	U	380	190	J	390	55	J	390	370	J	370	90	J	380	370	J	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	380	U	380	140	J	390	56	J	390	450	J	370	130	J	380	500		370
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	380	U	380	390	UJ	390	390	U	390	48	J	370	40	J	380	270	J	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	380	U	380	390	UJ	390	390	U	390	1900	U	1900	2000	U	2000	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	60	J	370
SW8270	Chrysene	218-01-9	ug/kg	380	U	380	330	J	390	50	J	390	530	J	370	140	J	380	610		370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	380	U	380	71	J	390	390	U	390	100	J	370	380	U	380	110	J	370
SW8270	Dibenzofuran	132-64-9	ug/kg	380	U	380	100	J	390	390	U	390	46	J	370	380	U	380	56	J	370
SW8270	Diethylphthalate	84-66-2	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	380	U	380	250	J	390	59	J	390	1000	J	370	160	J	380	1100		370
SW8270	Fluorene	86-73-7	ug/kg	380	U	380	50	J	390	390	U	390	46	J	370	380	U	380	55	J	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	380	U	380	390	UJ	390	390	U	390	370	UJ	370	380	UJ	380	370	U	370

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-15S			MW-16S			MW-17S			MW-18S			MW-18S			MW-19S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			1.3		
			sys_sample_code:	MW15SAA			MW16SAA			MW17SAA			MW18SAA			MW18SAB			MW19SAA		
			sample_date:	12/7/2005 2:55:00 PM			12/5/2005 1:41:00 PM			12/7/2005 8:10:00 AM			12/6/2005 8:24:00 AM			12/6/2005 8:24:00 AM			11/21/2005 2:12:00 PM		
			sample_type_code:	N			N			N			N			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	380	U	380	120	J	390	42	J	390	340	J	370	81	J	380	350	J	370
SW8270	Isophorone	78-59-1	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	380	U	380	2200	J	390	390	U	390	40	J	370	380	U	380	65	J	370
SW8270	Nitrobenzene	98-95-3	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	380	U	380	390	U	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	2000	U	2000	2000	U	2000	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	380	U	380	500	J	390	390	U	390	670	J	370	55	J	380	610		370
SW8270	Phenol	108-95-2	ug/kg	380	U	380	390	UJ	390	390	U	390	370	U	370	380	U	380	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	380	U	380	220	J	390	54	J	390	910	J	370	160	J	380	830		370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										0.906	J	0.034	0.533	J	0.038	0.883	J	0.028
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										5.453	B	0.045	9.125	B	0.033	6.261	B	0.013
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										0.188	J	0.048	0.191	JK	0.053	0.039	U	0.039
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										0.3	J	0.019	0.26	J	0.021	0.289	J	0.021
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										0.023	U	0.023	0.166	J	0.02	0.053	JK	0.02
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										0.135	JK	0.02	0.243	J	0.022	0.113	JK	0.022
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										0.177	JK	0.022	0.314	JK	0.02	0.301	J	0.019
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.024	U	0.024	0.088	J	0.027	0.028	U	0.028
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										0.137	JK	0.022	0.327	JK	0.019	0.263	J	0.019
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										0.163	J	0.015	0.311	J	0.015	0.107	J	0.012
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										0.018	U	0.018	0.209	JK	0.019	0.115	JK	0.019
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										0.183	J	0.021	0.148	JK	0.024	0.096	JK	0.024
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										0.203	J	0.014	0.226	JK	0.015	0.163	J	0.011
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										0.267	J	0.245	0.181	UJ	0.181	0.497	U	0.497
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										0.013	U	0.013	0.168	JK	0.014	0.077	JK	0.004
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg																		
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg																		
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg																		
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										2.628	UB	0.051	1.351	UB	0.051	1.868	J	0.058
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										22.881	JB	0.045	36.544	B	0.059	36.433	B	0.036
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg																		
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg																		
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg																		
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	1.16	U	1.16	1.65		1.2	1.19	U	1.19	4.02		1.12	1.7		1.15	3.11		1.12

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-1S			MW-20S			MW-20S			MW-21S			MW-22S			MW-2S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			1.6			1.6			2			1			2		
			sys_sample_code:	MW1SAA			MW20SAA			MW20SAB			MW21SAA			MW22SAA			MW2SAA		
			sample_date:	11/15/2005 9:55:00 AM			11/28/2005 1:02:00 PM			11/28/2005 1:02:00 PM			11/29/2005 7:42:00 AM			1/26/2006 10:39:00 AM			11/16/2005 8:15:00 AM		
			sample_type_code:	N			N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	81.4			91.8			90.5			85.4			90.2			84.1		
SW6010	Aluminum	7429-90-5	mg/kg	35600		12.2	24100	J	10.5	13800	J	11	22500	J	11.3	35800		10.9	11100		11.9
SW6010	Antimony	7440-36-0	mg/kg	7.3	U	7.3	6.3	UJ	6.3	6.6	UJ	6.6	6.8	UJ	6.8	6.5	U	6.5	7.1	U	7.1
SW6010	Arsenic	7440-38-2	mg/kg	2.8	J+	1.2	5.9	J	1	10.2	J	1.1	10.5	J	1.1	1.7		1.1	4.6	J+	1.2
SW6010	Barium	7440-39-3	mg/kg	392	J	2.4	264	J	20.9	96.3	J	22.1	115	J	22.5	321		2.2	205	J	2.4
SW6010	Beryllium	7440-41-7	mg/kg	10.6		0.61	3.5		0.52	0.73		0.55	0.67		0.56	8.3		0.54	1.1		0.59
SW6010	Cadmium	7440-43-9	mg/kg	1.2	UJ	1.2	1.3		0.52	0.83		0.55	0.56	U	0.56	0.73		0.54	1.2	UJ	1.2
SW6010	Calcium	7440-70-2	mg/kg	238000	J	608	140000	J	524	68900	J	552	10200	J	56.3	216000		543	159000	J	595
SW6010	Chromium (total)	7440-47-3	mg/kg	22.1	J	1.2	27.1		1	21		1.1	25.8		1.1	16.6		1.1	13.3	J	1.2
SW6010	Cobalt	7440-48-4	mg/kg	6.1	U	6.1	5.2	U	5.2	6.4		5.5	8.6		5.6	5.4	U	5.4	5.9	U	5.9
SW6010	Copper	7440-50-8	mg/kg	2.9		2.4	43.5	J	2.1	22.3	J	2.2	18.8	J	2.3	5		2.2	798		2.4
SW6010	Iron	7439-89-6	mg/kg	8200		12.2	24700		105	26100		110	29400		113	10100		10.9	12600		11.9
SW6010	Lead	7439-92-1	mg/kg	3.2	J	0.61	206	J	0.52	50.1	J	0.55	16.4	J	0.56	7.4		0.54	246	J	0.59
SW6010	Magnesium	7439-95-4	mg/kg	68300	J	608	27900		52.4	21700		55.2	6730		56.3	49100		54.3	60800	J	595
SW6010	Manganese	7439-96-5	mg/kg	5050	J	12.2	3570	J	10.5	1020	J	11	1080	J	11.3	4160		10.9	919	J	1.2
SW6010	Nickel	7440-02-0	mg/kg	4.9	U	4.9	8.7		4.2	15.9		4.4	20.8		4.5	4.3	U	4.3	11		4.8
SW6010	Potassium	7440-09-7	mg/kg	3180		243	1530	J	209	1070	J	221	1690	J	225	2050		217	922		238
SW6010	Selenium	7782-49-2	mg/kg	3.6		2.4	5.7		1	2.4		1.1	2.5		1.1	5.2		1.1	2.4	U	2.4
SW6010	Silver	7440-22-4	mg/kg	1.7		1.2	1	U	1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	1440		60.8	755	J	52.4	142	J	55.2	56.3	UJ	56.3	1230		54.3	419		59.5
SW6010	Thallium	7440-28-0	mg/kg	60.8	U	60.8	26.2	U	26.2	5.5	U	5.5	5.6	U	5.6	10.9	U	10.9	5.9	U	5.9
SW6010	Vanadium	7440-62-2	mg/kg	24.8		6.1	12		5.2	31.8		5.5	45		5.6	18		5.4	18.1		5.9
SW6010	Zinc	7440-66-6	mg/kg	4.9		2.4	231	J	2.1	128	J	2.2	72	J	2.3	20		2.2	692		23.8
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	2.8	J	0.18	0.39	J	0.04	0.04	UJ	0.04	0.09		0.04	0.04		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	41	U	41	36	UJ	36	180	U	180	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	82	U	82	73	UJ	73	370	U	370	78	U	78	74	U	74	80	U	80
SW8082	Aroclor 1232	11141-16-5	ug/kg	41	U	41	36	UJ	36	180	U	180	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	41	U	41	36	UJ	36	180	U	180	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	41	U	41	36	UJ	36	180	U	180	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	41	U	41	36	UJ	36	180	U	180	39	U	39	37	U	37	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	41	U	41	210	J	36	970	J	180	39	U	39	110		37	39	U	39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	UJ	4.5				5.7	U	5.7
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	UJ	4.5				5.7	U	5.7
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	2-Butanone	78-93-3	ug/kg	12	U	12	10	U	10	11	U	11	9	U	9				11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg	12	U	12	10	U	10	11	U	11	9	UJ	9				11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	12	U	12	10	U	10	11	U	11	9	U	9				11	U	11
SW8260	Acetone	67-64-1	ug/kg	24	UB	25	10	J	21	31	J	23	21	J	18				22	UB	23
SW8260	Benzene	71-43-2	ug/kg	6.2	U	6.2	1.6	J	5.2	2	J	5.7	0.94	J	4.5	9.5	U	9.5	0.43	J	5.7
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Bromoform	75-25-2	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Bromomethane	74-83-9	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Carbon disulfide	75-15-0	ug/kg	1.4	J	12	2.1	J	10	0.62	J	11	0.4	J	9				2.6	J	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Chlorobenzene	108-90-7	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Chloroethane	75-00-3	ug/kg	12	U	12	10	U	10	11	U	11	9	U	9				11	U	11
SW8260	Chloroform	67-66-3	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Chloromethane	74-87-3	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Cyclohexane	110-82-7	ug/kg	0.64	J	6.2	0.59	J	5.2	3.5	J	5.7	2.2	J	4.5				1.4	J	5.7
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	0.58	J	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Ethylbenzene	100-41-4	ug/kg	6.2	U	6.2	0.57	J	5.2	1.7	J	5.7	1	J	4.5	9.5	U	9.5	5.7	U	5.7
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-1S			MW-20S			MW-20S			MW-21S			MW-22S			MW-2S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			1.6			1.6			2			1			2		
			sys_sample_code:	MW1SAA			MW20SAA			MW20SAB			MW21SAA			MW22SAA			MW2SAA		
			sample_date:	11/15/2005 9:55:00 AM			11/28/2005 1:02:00 PM			11/28/2005 1:02:00 PM			11/29/2005 7:42:00 AM			1/26/2006 10:39:00 AM			11/16/2005 8:15:00 AM		
			sample_type_code:	N			N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	6.2	U	6.2	1.5	J	5.2	2.5	J	5.7	1.3	J	4.5	9.5	U	9.5	5.7	U	5.7
SW8260	Methyl acetate	79-20-9	ug/kg	12	U	12	10	U	10	11	U	11	9	UJ	9				11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.74	J	6.2	1.1	J	5.2	6	J	5.7	3.7	J	4.5				1.8	J	5.7
SW8260	Methylene chloride	75-09-2	ug/kg	0.42	J	6.2	5.2	UB	5.2	5.7	UB	5.7	4.5	UB	4.5				5.7	U	5.7
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	o-Xylene	95-47-6	ug/kg	6.2	U	6.2	1.2	J	5.2	1.2	J	5.7	0.61	J	4.5	9.5	U	9.5	5.7	U	5.7
SW8260	Styrene	100-42-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Tetrachloroethene	127-18-4	ug/kg	0.38	J	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Toluene	108-88-3	ug/kg	0.5	J	6.2	1.2	J	5.2	3.4	J	5.7	2.7	J	4.5	9.5	U	9.5	0.94	J	5.7
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	UJ	4.5				5.7	U	5.7
SW8260	Trichloroethene	79-01-6	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	0.42	J	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8260	Vinyl chloride	75-01-4	ug/kg	6.2	U	6.2	5.2	U	5.2	5.7	U	5.7	4.5	U	4.5				5.7	U	5.7
SW8270	1,1-Biphenyl	92-52-4	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2100	U	2100	93000	U	93000		R	9400	2000	U	2000				2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2-Chlorophenol	95-57-8	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	410	U	410	6000	J	18000	1800	UJ	1800	390	U	390				390	U	390
SW8270	2-Nitroaniline	88-74-4	ug/kg	2100	U	2100	93000	U	93000	9400	U	9400	2000	U	2000				2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	3-Nitroaniline	99-09-2	ug/kg	2100	U	2100	93000	U	93000	9400	U	9400	2000	U	2000				2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2100	U	2100	93000	U	93000	9400	UJ	9400	2000	U	2000				2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	4-Chloroaniline	106-47-8	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	4-Nitroaniline	100-01-6	ug/kg	2100	U	2100	93000	U	93000	9400	U	9400	2000	U	2000				2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg	2100	U	2100	93000	U	93000	9400	UJ	9400	2000	U	2000				2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	410	U	410	9800	J	18000	1800	UJ	1800	390	U	390	370	U	370	390	U	390
SW8270	Acenaphthylene	208-96-8	ug/kg	81	J	410	22000	J	18000	3300	J	1800	390	U	390	370	U	370	190	J	390
SW8270	Acetophenone	98-86-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Anthracene	120-12-7	ug/kg	44	J	410	42000	J	18000	2000	J	1800	390	U	390	370	U	370	190	J	390
SW8270	Atrazine	1912-24-9	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Benzaldehyde	100-52-7	ug/kg	410	U	410	160000	U	18000	9400	U	1800	2000	U	390				390	U	390
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	230	J	410	82000	J	18000	9000	J	1800	66	J	390	180	J	370	770		390
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	250	J	410	73000	J	18000	9700	J	1800	68	J	390	210	J	370	820		390
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	230	J	410	61000	J	18000	8600	J	1800	67	J	390	180	J	370	760		390
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	200	J	410	47000	J	18000	7400	J	1800	49	J	390	200	J	370	620		390
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	270	J	410	69000	J	18000	8700	J	1800	66	J	390	170	J	370	740		390
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				140	J	390
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Caprolactam	105-60-2	ug/kg	410	U	410	18000	U	18000	1800	UJ	1800	390	U	390				390	U	390
SW8270	Carbazole	86-74-8	ug/kg	410	U	410	14000	J	18000	410	J	1800	390	U	390				390	U	390
SW8270	Chrysene	218-01-9	ug/kg	270	J	410	83000	J	18000	9100	J	1800	76	J	390	210	J	370	760		390
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	61	J	410	13000	J	18000	1900	J	1800	390	U	390	54	J	370	140	J	390
SW8270	Dibenzofuran	132-64-9	ug/kg	410	U	410	15000	J	18000	240	J	1800	390	U	390				390	U	390
SW8270	Diethylphthalate	84-66-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Dimethylphthalate	131-11-3	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Fluoranthene	206-44-0	ug/kg	440		410	160000	J	18000	13000	J	1800	120	J	390	240	J	370	1400		390
SW8270	Fluorene	86-73-7	ug/kg	410	U	410	31000	J	18000	440	J	1800	390	U	390	370	U	370	390	U	390
SW8270	Hexachlorobenzene	118-74-1	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-1S			MW-20S			MW-20S			MW-21S			MW-22S			MW-2S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			1.6			1.6			2			1			2		
			sys_sample_code:	MW1SAA			MW20SAA			MW20SAB			MW21SAA			MW22SAA			MW2SAA		
			sample_date:	11/15/2005 9:55:00 AM			11/28/2005 1:02:00 PM			11/28/2005 1:02:00 PM			11/29/2005 7:42:00 AM			1/26/2006 10:39:00 AM			11/16/2005 8:15:00 AM		
			sample_type_code:	N			N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	170	J	410	42000	J	18000	6400	J	1800	44	J	390	140	J	370	520		390
SW8270	Isophorone	78-59-1	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Naphthalene	91-20-3	ug/kg	410	U	410	17000	J	18000	590	J	1800	390	U	390	370	U	370	93	J	390
SW8270	Nitrobenzene	98-95-3	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	410	U	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Pentachlorophenol	87-86-5	ug/kg	2100	U	2100	93000	U	93000	9400	UJ	9400	2000	U	2000				2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	160	J	410	150000	J	18000	5100	J	1800	71	J	390	77	J	370	550		390
SW8270	Phenol	108-95-2	ug/kg	200	J	410	18000	U	18000	1800	U	1800	390	U	390				390	U	390
SW8270	Pyrene	129-00-0	ug/kg	410	J	410	140000	J	18000	13000	J	1800	110	J	390	250	J	370	1300		390
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	2.544		0.04							1.833	UB	0.083						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	5.23	B	0.032							8.766	B	0.137						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.056	U	0.056							0.187	J	0.103						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.534	J	0.014							0.297	J	0.044						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.024	U	0.024							0.141	JK	0.035						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.314	J	0.014							0.275	J	0.044						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.395	J	0.023							0.367	J	0.03						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.018	U	0.018							0.052	U	0.052						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.323	J	0.023							0.324	J	0.032						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.377	JK	0.022							0.164	J	0.017						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.218	J	0.027							0.044	U	0.044						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.015	U	0.015							0.404	J	0.046						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.418	JK	0.021							0.244	J	0.016						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	1.174		0.887							0.362	U	0.362						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.014	U	0.014							0.526	JK	0.023						
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg																		
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg																		
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg																		
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	2.407	UB	0.056							4.731	J	0.101						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	24.71	B	0.045							44.205	B	0.159						
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg																		
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg																		
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg																		
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	2.05		1.23	4.96		1.09	4.73		1.1	1.17	U	1.17	1.55		1.11	1.19	U	1.19

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-3S			MW-4S			MW-4S			MW-5S			MW-6S			MW-6S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			2		
			sys_sample_code:	MW3SAA			MW4SAA			MW4SAB			MW5SAA			MW6SAA			MW6SAB		
			sample_date:	11/18/2005 10:17:00 AM			11/16/2005 11:45:00 AM			11/16/2005 11:45:00 AM			11/22/2005 8:28:00 AM			11/22/2005 3:13:00 PM			11/22/2005 3:13:00 PM		
			sample_type_code:	N			N			FD			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	88			82.1			80.8			90.8			91.8			91.6		
SW6010	Aluminum	7429-90-5	mg/kg	11800		11.1	13500		11.9	14700		12.1	21400	J	11	17500	J	10.7	35200	J	10.8
SW6010	Antimony	7440-36-0	mg/kg	6.7	U	6.7	7.2	U	7.2	7.3	U	7.3		R	6.6		R	6.4		R	6.5
SW6010	Arsenic	7440-38-2	mg/kg	9.1	J+	1.1	7.6	J+	1.2	9.9	J+	1.2	16.2	J	1.1	25.8	J	1.1	3.6	J	1.1
SW6010	Barium	7440-39-3	mg/kg	89.7	J	2.2	83	J	2.4	115	J	2.4	246		2.2	425		2.1	425		2.2
SW6010	Beryllium	7440-41-7	mg/kg	0.78		0.56	0.67		0.6	0.61	U	0.61	4.4		0.55	2.6		0.53	5.9		0.54
SW6010	Cadmium	7440-43-9	mg/kg	1.1	J-	1.1	1.2	UJ	1.2	1.2	UJ	1.2	1.7		0.55	1.7		0.53	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	86800	J	557	134000	J	597	26700	J	60.7	145000	J	551	114000	J	534	249000	J	540
SW6010	Chromium (total)	7440-47-3	mg/kg	25.9	J	1.1	17.1	J	1.2	19.2	J	1.2	58.9	J	1.1	132	J	1.1	31.6	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	6		5.6	9.2		6	12.7		6.1	5.5	U	5.5	13.8		5.3	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	28.5		2.2	16.2		2.4	18.7		2.4	234	J	2.2	222	J	2.1	17.4	J	2.2
SW6010	Iron	7439-89-6	mg/kg	38000		11.1	19000		11.9	21800		12.1	100000	J	110	131000	J	107	13200	J	10.8
SW6010	Lead	7439-92-1	mg/kg	68.5	J	0.56	28.4	J	0.6	38.8	J	0.61	254	J	0.55	117	J	0.53	28.1	J	0.54
SW6010	Magnesium	7439-95-4	mg/kg	32700	J	55.7	10900	J	59.7	7180	J	60.7	21800	J	55.1	24500	J	53.4	45300	J	54
SW6010	Manganese	7439-96-5	mg/kg	1330	J	11.1	871	J	1.2	892	J	1.2	5190	J	11	12600	J	53.4	5790	J	10.8
SW6010	Nickel	7440-02-0	mg/kg	18.5		4.5	16.8		4.8	19		4.9	24.5	J	4.4	138	J	4.3	7.4	J	4.3
SW6010	Potassium	7440-09-7	mg/kg	1190		223	1890		239	1700		243	1750		220	1480		214	2520		216
SW6010	Selenium	7782-49-2	mg/kg	2.2	U	2.2	2.4	U	2.4	2.4	U	2.4	1.1	U	1.1	1.1	U	1.1	5.6		1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	235		55.7	149		59.7	73		60.7	825	J	55.1	904	J	53.4	2400	J	54
SW6010	Thallium	7440-28-0	mg/kg	5.6	U	5.6	6	U	6	6.1	U	6.1	110	U	110	107	U	107	108	U	108
SW6010	Vanadium	7440-62-2	mg/kg	25.1		5.6	25.7		6	32.5		6.1	28.2		5.5	34.2		5.3	25.8		5.4
SW6010	Zinc	7440-66-6	mg/kg	276		22.3	55		2.4	61.2		2.4	718	J	22	356	J	21.4	28.7	J	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.3		0.03	0.14		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	38	U	38	40	U	40	41	U	41	36	U	36	36	U	36	72	U	72
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76	82	U	82	83	U	83	74	U	74	73	U	73	150	U	150
SW8082	Aroclor 1232	11141-16-5	ug/kg	38	U	38	40	U	40	41	U	41	36	U	36	36	U	36	72	U	72
SW8082	Aroclor 1242	53469-21-9	ug/kg	38	U	38	40	U	40	41	U	41	36	U	36	36	U	36	72	U	72
SW8082	Aroclor 1248	12672-29-6	ug/kg	38	U	38	40	U	40	41	U	41	36	U	36	36	U	36	72	U	72
SW8082	Aroclor 1254	11097-69-1	ug/kg	38	U	38	40	U	40	41	U	41	36	U	36	36	U	36	72	U	72
SW8082	Aroclor 1260	11096-82-5	ug/kg	38	U	38	40	U	40	41	U	41	240		36	36	UJ	36	590	J	72
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	2-Butanone	78-93-3	ug/kg	8.8	U	8.8	11	U	11	10	U	10	3.3	J	12	14	U	14	11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg	8.8	U	8.8	11	U	11	10	U	10	12	UJ	12	14	U	14	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	8.8	U	8.8	11	U	11	10	U	10	12	UJ	12	14	U	14	11	U	11
SW8260	Acetone	67-64-1	ug/kg	18	UB	18	22	UB	21	20	UB	20	28	J	23	20	J	29	12	J	22
SW8260	Benzene	71-43-2	ug/kg	0.61	J	4.4	0.54	J	5.3	0.31	J	5.1	2.6	J	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Bromoform	75-25-2	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Bromomethane	74-83-9	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Carbon disulfide	75-15-0	ug/kg	3	J	8.8	1.3	J	11	0.4	J	10	1.1	UJ	12	10	J	14	2.4	J	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Chlorobenzene	108-90-7	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Chloroethane	75-00-3	ug/kg	8.8	U	8.8	11	U	11	10	U	10	12	UJ	12	14	U	14	11	U	11
SW8260	Chloroform	67-66-3	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Chloromethane	74-87-3	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Cyclohexane	110-82-7	ug/kg	1.7	J	4.4	2.6	J	5.3	1.5	J	5.1	1.4	J	5.8	7.2	U	7.2	0.48	J	5.5
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Ethylbenzene	100-41-4	ug/kg	4.4	U	4.4	0.38	J	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-3S			MW-4S			MW-4S			MW-5S			MW-6S			MW-6S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			2		
			sys_sample_code:	MW3SAA			MW4SAA			MW4SAB			MW5SAA			MW6SAA			MW6SAB		
			sample_date:	11/18/2005 10:17:00 AM			11/16/2005 11:45:00 AM			11/16/2005 11:45:00 AM			11/22/2005 8:28:00 AM			11/22/2005 3:13:00 PM			11/22/2005 3:13:00 PM		
			sample_type_code:	N			N			FD			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	0.85	J	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Methyl acetate	79-20-9	ug/kg	8.8	U	8.8	11	U	11	10	U	10	12	UJ	12	14	U	14	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	3.2	J	4.4	2.9	J	5.3	1.6	J	5.1	1.9	J	5.8	0.68	J	7.2	1.1	J	5.5
SW8260	Methylene chloride	75-09-2	ug/kg	4.4	UB	4.4	5.3	U	5.3	5.1	UB	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	o-Xylene	95-47-6	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	0.45	J	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Styrene	100-42-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Toluene	108-88-3	ug/kg	0.9	J	4.4	1.2	J	5.3	0.69	J	5.1	2	J	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Trichloroethene	79-01-6	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8260	Vinyl chloride	75-01-4	ug/kg	4.4	U	4.4	5.3	U	5.3	5.1	U	5.1	5.8	UJ	5.8	7.2	U	7.2	5.5	U	5.5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2-Chlorophenol	95-57-8	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	750	U	750	400	U	400	2000	U	2000	80	J	730	360	U	360	200	J	720
SW8270	2-Nitroaniline	88-74-4	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	2-Nitrophenol	88-75-5	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	3-Nitroaniline	99-09-2	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	4-Chloroaniline	106-47-8	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	4-Nitroaniline	100-01-6	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	4-Nitrophenol	100-02-7	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	Acenaphthene	83-32-9	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Acenaphthylene	208-96-8	ug/kg	750	U	750	400	U	400	2000	U	2000	480	J	730	360	U	360	270	J	720
SW8270	Acetophenone	98-86-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Anthracene	120-12-7	ug/kg	750	U	750	400	U	400	2000	U	2000	460	J	730	360	U	360	260	J	720
SW8270	Atrazine	1912-24-9	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Benzaldehyde	100-52-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	250	J	750	100	J	400	2000	U	2000	2900		730	360	U	360	640	J	720
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	300	J	750	150	J	400	2000	U	2000	2600		730	360	U	360	800		720
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	260	J	750	150	J	400	2000	U	2000	2300		730	360	U	360	1100		720
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	270	J	750	110	J	400	2000	U	2000	1800		730	360	U	360	680	J	720
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	260	J	750	130	J	400	2000	U	2000	2400		730	360	U	360	920		720
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	750	U	750	69	J	400	2000	U	2000	200	J	730	360	U	360	150	J	720
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Caprolactam	105-60-2	ug/kg	750	U	750	400	U	400	2000	U	2000	3700	U	730	1900	U	360	3700	U	720
SW8270	Carbazole	86-74-8	ug/kg	750	U	750	400	U	400	2000	U	2000	150	J	730	360	U	360	720	U	720
SW8270	Chrysene	218-01-9	ug/kg	330	J	750	150	J	400	2000	U	2000	2900		730	360	U	360	850		720
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	750	U	750	400	U	400	2000	U	2000	450	J	730	360	U	360	200	J	720
SW8270	Dibenzofuran	132-64-9	ug/kg	750	U	750	400	U	400	2000	U	2000	85	J	730	360	U	360	100	J	720
SW8270	Diethylphthalate	84-66-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Dimethylphthalate	131-11-3	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Fluoranthene	206-44-0	ug/kg	400	J	750	280	J	400	370	J	2000	4400		730	360	U	360	930		720
SW8270	Fluorene	86-73-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Hexachlorobenzene	118-74-1	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-3S			MW-4S			MW-4S			MW-5S			MW-6S			MW-6S		
			start_depth:	0			0			0			0			0			0		
			end_depth:	2			2			2			2			2			2		
			sys_sample_code:	MW3SAA			MW4SAA			MW4SAB			MW5SAA			MW6SAA			MW6SAB		
			sample_date:	11/18/2005 10:17:00 AM			11/16/2005 11:45:00 AM			11/16/2005 11:45:00 AM			11/22/2005 8:28:00 AM			11/22/2005 3:13:00 PM			11/22/2005 3:13:00 PM		
			sample_type_code:	N			N			FD			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	190	J	750	93	J	400	2000	U	2000	1500		730	360	U	360	620	J	720
SW8270	Isophorone	78-59-1	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Naphthalene	91-20-3	ug/kg	750	U	750	400	U	400	2000	U	2000	150	J	730	360	U	360	210	J	720
SW8270	Nitrobenzene	98-95-3	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Pentachlorophenol	87-86-5	ug/kg	3900	U	3900	2100	U	2100	11000	U	11000	3700	U	3700	1900	U	1900	3700	U	3700
SW8270	Phenanthrene	85-01-8	ug/kg	220	J	750	150	J	400	2000	U	2000	1800		730	360	U	360	400	J	720
SW8270	Phenol	108-95-2	ug/kg	750	U	750	400	U	400	2000	U	2000	730	U	730	360	U	360	720	U	720
SW8270	Pyrene	129-00-0	ug/kg	490	J	750	240	J	400	310	J	2000	3600		730	360	U	360	860		720
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				1.278	J	0.048	0.125	JK	0.038	29.409	JBK	0.085						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				7.527	JB	0.023	0.738	UJB	0.014	49.851	B	0.059						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				0.068	U	0.068	0.053	U	0.053	1.809	J	0.12						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				0.123	JK	0.032	0.014	U	0.014	14.111	B	0.093						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.03	U	0.03	0.028	U	0.028	2.531	J	0.049						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				0.033	U	0.033	0.015	U	0.015	5.332	B	0.097						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				0.184	JK	0.029	0.027	U	0.027	4.066		0.047						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				0.041	U	0.041	0.018	U	0.018	0.14	J	0.12						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				0.176	JK	0.028	0.026	U	0.026	5.453		0.047						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				0.025	U	0.025	0.009	U	0.009	4.929		0.061						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				0.031	U	0.031	0.023	U	0.023	3.308		0.054						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				0.035	U	0.035	0.016	U	0.016	4.134		0.104						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				0.024	U	0.024	0.009	U	0.009	6.462		0.059						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				0.69	U	0.69	0.026	U	0.026	8.827		4.908						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.532	JK	0.024	0.012	U	0.012	0.729	J	0.021						
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg																		
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg																		
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg																		
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				4.602	UB	0.071	0.357	UJBK	0.048	61.938	JB	0.119						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				81.691	JB	0.05	3.765	UJB	0.041	286.201	JB	0.103						
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg																		
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg																		
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg																		
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	1.25		1.14	1.22	U	1.22	1.24	U	1.24	1.21		1.1	1.61		1.09	1.09	U	1.09

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-7S			MW-8S			MW-9S		
			start_depth:	0			0			0		
			end_depth:	2			2			2		
			sys_sample_code:	MW7SAA			MW8SAA			MW9SAA		
			sample_date:	11/22/2005 10:51:00 AM			11/29/2005 2:26:00 PM			11/29/2005 10:07:00 AM		
			sample_type_code:	N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	85.3			84.5			89.1		
SW6010	Aluminum	7429-90-5	mg/kg	15700	J	11.7	12800	J	11.8	4920	J	10.9
SW6010	Antimony	7440-36-0	mg/kg		R	7		R	7.1	6.5	UJ	6.5
SW6010	Arsenic	7440-38-2	mg/kg	10.9	J	1.2	8.1	J	1.2	3.1	J	1.1
SW6010	Barium	7440-39-3	mg/kg	93.3		2.3	69		2.4	45.8	J	21.8
SW6010	Beryllium	7440-41-7	mg/kg	0.59	U	0.59	0.59	U	0.59	0.54	U	0.54
SW6010	Cadmium	7440-43-9	mg/kg	0.59	U	0.59	0.59	U	0.59	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	28000	J	58.6	45400	J	59.2	83800	J	545
SW6010	Chromium (total)	7440-47-3	mg/kg	17.6	J	1.2	15	J	1.2	11.4		1.1
SW6010	Cobalt	7440-48-4	mg/kg	8.1		5.9	5.9	U	5.9	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	15.8	J	2.3	27.5	J	2.4	11.8	J	2.2
SW6010	Iron	7439-89-6	mg/kg	20100	J	11.7	15700	J	11.8	11100		109
SW6010	Lead	7439-92-1	mg/kg	18.7	J	0.59	14.3	J	0.59	12.5	J	0.54
SW6010	Magnesium	7439-95-4	mg/kg	13400	J	58.6	21300	J	59.2	26100		54.5
SW6010	Manganese	7439-96-5	mg/kg	964	J	1.2	613	J	1.2	331	J	1.1
SW6010	Nickel	7440-02-0	mg/kg	17.2	J	4.7	13.6	J	4.7	9.2		4.4
SW6010	Potassium	7440-09-7	mg/kg	1460		234	1320		237	816	J	218
SW6010	Selenium	7782-49-2	mg/kg	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	58.6	U	58.6	73.2	J	59.2	122	J	54.5
SW6010	Thallium	7440-28-0	mg/kg	11.7	U	11.7	11.8	U	11.8	5.4	U	5.4
SW6010	Vanadium	7440-62-2	mg/kg	34.4		5.9	29		5.9	14.2		5.4
SW6010	Zinc	7440-66-6	mg/kg	63.9	J	2.3	54.1	J	2.4	46.9	J	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04		0.04	0.04		0.04	0.04	J	0.03
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	79	U	79	75	U	75
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	39	U	39	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	39	U	39	39	U	39	48		37
SW8082	Aroclor 1260	11096-82-5	ug/kg	39	U	39	39	U	39	37	U	37
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.1	UJ	5.1	0.38	J	4.9	4.8	U	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.1	UJ	5.1	0.41	J	4.9	4.8	U	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.1	UJ	5.1	0.37	J	4.9	4.8	U	4.8
SW8260	2-Butanone	78-93-3	ug/kg	10	U	10	9.8	U	9.8	9.5	U	9.5
SW8260	2-Hexanone	591-78-6	ug/kg	10	UJ	10	9.8	U	9.8	9.5	U	9.5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	U	10	9.8	U	9.8	9.5	U	9.5
SW8260	Acetone	67-64-1	ug/kg	13	J	20	15	J	20	13	J	19
SW8260	Benzene	71-43-2	ug/kg	1.9	J	5.1	2.1	J	4.9	1.7	J	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Bromoform	75-25-2	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Bromomethane	74-83-9	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg	0.76	J	10	0.5	J	9.8	0.62	J	9.5
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Chloroethane	75-00-3	ug/kg	10	U	10	9.8	U	9.8	9.5	U	9.5
SW8260	Chloroform	67-66-3	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Chloromethane	74-87-3	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Cyclohexane	110-82-7	ug/kg	8.1	J	5.1	6.6	J	4.9	2	J	4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.1	U	5.1	0.6	J	4.9	4.8	U	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg	2	J	5.1	2.5	J	4.9	0.82	J	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.1	UJ	5.1	0.44	J	4.9	4.8	U	4.8

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-7S			MW-8S			MW-9S		
			start_depth:	0			0			0		
			end_depth:	2			2			2		
			sys_sample_code:	MW7SAA			MW8SAA			MW9SAA		
			sample_date:	11/22/2005 10:51:00 AM			11/29/2005 2:26:00 PM			11/29/2005 10:07:00 AM		
			sample_type_code:	N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	2.5	J	5.1	3.6	J	4.9	1.5	J	4.8
SW8260	Methyl acetate	79-20-9	ug/kg	10	U	10	9.8	U	9.8	9.5	U	9.5
SW8260	Methylcyclohexane	108-87-2	ug/kg	11		5.1	10		4.9	3.3	J	4.8
SW8260	Methylene chloride	75-09-2	ug/kg	5.1	UB	5.1	2	J	4.9	4.8	UB	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	o-Xylene	95-47-6	ug/kg	1.2	J	5.1	1.4	J	4.9	0.56	J	4.8
SW8260	Styrene	100-42-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.1	U	5.1	0.54	J	4.9	0.29	J	4.8
SW8260	Toluene	108-88-3	ug/kg	5.2	J	5.1	6.3		4.9	2.7	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Trichloroethene	79-01-6	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.1	U	5.1	0.37	J	4.9	4.8	U	4.8
SW8260	Vinyl chloride	75-01-4	ug/kg	5.1	U	5.1	4.9	U	4.9	4.8	U	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	390	U	390	76	J	390	370	U	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	180	J	390	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	47	J	390	130	J	390	370	U	370
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	390	U	390	390	J	390	370	U	370
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	390	U	390	390	U	390	1900	U	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	190	J	390	880		390	130	J	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	200	J	390	780		390	150	J	370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	180	J	390	690		390	120	J	370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	140	J	390	510		390	100	J	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	160	J	390	780		390	130	J	370
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	92	J	390	71	J	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	2000	U	390	2000	U	390	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	80	J	390	370	U	370
SW8270	Chrysene	218-01-9	ug/kg	200	J	390	840		390	160	J	370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	390	U	390	140	J	390	370	U	370
SW8270	Dibenzofuran	132-64-9	ug/kg	390	U	390	180	J	390	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	360	J	390	2100		390	290	J	370
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	140	J	390	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	U	390	390	U	390	370	U	370

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-7S			MW-8S			MW-9S		
			start_depth:	0			0			0		
			end_depth:	2			2			2		
			sys_sample_code:	MW7SAA			MW8SAA			MW9SAA		
			sample_date:	11/22/2005 10:51:00 AM			11/29/2005 2:26:00 PM			11/29/2005 10:07:00 AM		
			sample_type_code:	N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	130	J	390	500		390	91	J	370
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	86	J	390	71	J	390	56	J	370
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	390	U	390	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	2000	U	2000	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	130	J	390	1500		390	160	J	370
SW8270	Phenol	108-95-2	ug/kg	40	J	390	390	U	390	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	300	J	390	1700		390	250	J	370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				4.358	B	0.057	9.051		0.084
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				11.748	B	0.036	34.353	B	0.101
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				0.358	J	0.08	0.845	J	0.118
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				0.539	UB	0.058	0.855	JK	0.041
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.185	JK	0.029	0.247	J	0.034
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				0.328	UJBK	0.06	0.456	J	0.043
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				0.405	J	0.028	1.038	J	0.033
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				0.074	U	0.074	0.053	U	0.053
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				0.441	JK	0.027	0.694	J	0.032
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				0.214	J	0.026	0.369	JK	0.02
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				0.023	U	0.023	0.173	JK	0.027
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				0.297	J	0.064	0.663	J	0.046
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				0.221	J	0.025	0.323	JK	0.02
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				1.052	U	1.052	0.813	J	0.382
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.295	JK	0.02	0.245	JK	0.016
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg									
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg									
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg									
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg									
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				20.848	B	0.065	17.018	B	0.073
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				70.541	B	0.055	260.997	B	0.069
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg									
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg									
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg									
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg									
SW9012A	CYANIDE	57-12-5	mg/kg	1.17	U	1.17	1.18	U	1.18	1.12	U	1.12

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA10SB4			BACA11SB1			BACA12SB2			BACA13SB2			BACA13SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.8			2			2			1.3			1.3		
			sys_sample_code:	BACA10SB4AA			BACA11SB1AA			BACA12SB2AA			BACA13SB2AA			BACA13SB2AB		
			sample_date:	12/13/2005 3:02:00 PM			12/12/2005 12:30:00 PM			12/14/2005 1:52:00 PM			12/19/2005 1:02:00 PM			12/19/2005 1:04:00 PM		
			sample_type_code:	N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	82.8			90			84.1			75.9			82.4		
SW6010	Aluminum	7429-90-5	mg/kg															
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg															
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg															
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg															
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg															
SW6010	Manganese	7439-96-5	mg/kg															
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg															
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg															
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg															
SW8082	Aroclor 1016	12674-11-2	ug/kg															
SW8082	Aroclor 1221	11104-28-2	ug/kg															
SW8082	Aroclor 1232	11141-16-5	ug/kg															
SW8082	Aroclor 1242	53469-21-9	ug/kg															
SW8082	Aroclor 1248	12672-29-6	ug/kg															
SW8082	Aroclor 1254	11097-69-1	ug/kg															
SW8082	Aroclor 1260	11096-82-5	ug/kg															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	2-Butanone	78-93-3	ug/kg	15	U	15	9.1	U	9.1	12	U	12	11	U	11	1.2	J	10
SW8260	2-Hexanone	591-78-6	ug/kg	15	U	15	9.1	U	9.1	12	U	12	11	U	11	10	U	10
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	15	U	15	9.1	U	9.1	12	U	12	11	U	11	10	U	10
SW8260	Acetone	67-64-1	ug/kg	14	J	31	7.1	J	18	24	U	24	22	U	22	12	J	20
SW8260	Benzene	71-43-2	ug/kg	7.7	U	7.7	0.41	J	4.6	0.68	J	5.9	0.97	J	5.4	0.35	J	5
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Bromoform	75-25-2	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Bromomethane	74-83-9	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Carbon disulfide	75-15-0	ug/kg	15	U	15	9.1	U	9.1	1.4	J	12	11	U	11	0.36	J	10
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Chlorobenzene	108-90-7	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Chloroethane	75-00-3	ug/kg	15	U	15	9.1	U	9.1	12	U	12	11	U	11	10	U	10
SW8260	Chloroform	67-66-3	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Chloromethane	74-87-3	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	BACA10SB4			BACA11SB1			BACA12SB2			BACA13SB2			BACA13SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.8			2			2			1.3			1.3		
			sys_sample_code:	BACA10SB4AA			BACA11SB1AA			BACA12SB2AA			BACA13SB2AA			BACA13SB2AB		
			sample_date:	12/13/2005 3:02:00 PM			12/12/2005 12:30:00 PM			12/14/2005 1:52:00 PM			12/19/2005 1:02:00 PM			12/19/2005 1:04:00 PM		
			sample_type_code:	N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Cyclohexane	110-82-7	ug/kg	0.69	J	7.7	4.6	U	4.6	5.9	U	5.9	0.8	J	5.4	5	U	5
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.7	U	7.7	4.6	UJ	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Ethylbenzene	100-41-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	m+p-Xylene	XYLMP	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Methyl acetate	79-20-9	ug/kg	15	U	15	9.1	U	9.1	12	U	12	11	U	11	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.87	J	7.7	4.6	U	4.6	5.9	U	5.9	1.1	J	5.4	5	U	5
SW8260	Methylene chloride	75-09-2	ug/kg	7.7	U	7.7	4.6	U	4.6	1	J	5.9	5.4	U	5.4	5	U	5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	o-Xylene	95-47-6	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Styrene	100-42-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Toluene	108-88-3	ug/kg	7.7	U	7.7	0.48	J	4.6	0.46	J	5.9	0.88	J	5.4	5	U	5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Trichloroethene	79-01-6	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8260	Vinyl chloride	75-01-4	ug/kg	7.7	U	7.7	4.6	U	4.6	5.9	U	5.9	5.4	U	5.4	5	U	5
SW8270	1,1-Biphenyl	92-52-4	ug/kg															
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg															
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg															
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg															
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg															
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg															
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg															
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg															
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg															
SW8270	2-Chloronaphthalene	91-58-7	ug/kg															
SW8270	2-Chlorophenol	95-57-8	ug/kg															
SW8270	2-Methylnaphthalene	91-57-6	ug/kg															
SW8270	2-Nitroaniline	88-74-4	ug/kg															
SW8270	2-Nitrophenol	88-75-5	ug/kg															
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg															
SW8270	3-Nitroaniline	99-09-2	ug/kg															
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg															
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg															
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg															
SW8270	4-Chloroaniline	106-47-8	ug/kg															
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg															
SW8270	4-Nitroaniline	100-01-6	ug/kg															
SW8270	4-Nitrophenol	100-02-7	ug/kg															
SW8270	Acenaphthene	83-32-9	ug/kg															
SW8270	Acenaphthylene	208-96-8	ug/kg															
SW8270	Acetophenone	98-86-2	ug/kg															
SW8270	Anthracene	120-12-7	ug/kg															
SW8270	Atrazine	1912-24-9	ug/kg															
SW8270	Benzaldehyde	100-52-7	ug/kg															
SW8270	Benzo(a)anthracene	56-55-3	ug/kg															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg															
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg															
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg															
SW8270	Butylbenzylphthalate	85-68-7	ug/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	BACA10SB4			BACA11SB1			BACA12SB2			BACA13SB2			BACA13SB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.8			2			2			1.3			1.3		
			sys_sample_code:	BACA10SB4AA			BACA11SB1AA			BACA12SB2AA			BACA13SB2AA			BACA13SB2AB		
			sample_date:	12/13/2005 3:02:00 PM			12/12/2005 12:30:00 PM			12/14/2005 1:52:00 PM			12/19/2005 1:02:00 PM			12/19/2005 1:04:00 PM		
			sample_type_code:	N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg															
SW8270	Carbazole	86-74-8	ug/kg															
SW8270	Chrysene	218-01-9	ug/kg															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg															
SW8270	Dibenzofuran	132-64-9	ug/kg															
SW8270	Diethylphthalate	84-66-2	ug/kg															
SW8270	Dimethylphthalate	131-11-3	ug/kg															
SW8270	Di-n-butylphthalate	84-74-2	ug/kg															
SW8270	Di-n-octylphthalate	117-84-0	ug/kg															
SW8270	Fluoranthene	206-44-0	ug/kg															
SW8270	Fluorene	86-73-7	ug/kg															
SW8270	Hexachlorobenzene	118-74-1	ug/kg															
SW8270	Hexachlorobutadiene	87-68-3	ug/kg															
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg															
SW8270	Hexachloroethane	67-72-1	ug/kg															
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg															
SW8270	Isophorone	78-59-1	ug/kg															
SW8270	Naphthalene	91-20-3	ug/kg															
SW8270	Nitrobenzene	98-95-3	ug/kg															
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg															
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg															
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg															
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg															
SW8270	Pentachlorophenol	87-86-5	ug/kg															
SW8270	Phenanthrene	85-01-8	ug/kg															
SW8270	Phenol	108-95-2	ug/kg															
SW8270	Pyrene	129-00-0	ug/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg															
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg															
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg															

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AK Steel Former ARMCO Hamilton Plant
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			sys_loc_code:	BACA1SB2			BACA2SB1			BACA3SB2			BACA4SB3			BACA4SB4		
			start_depth:	0			0			0			0			0		
			end_depth:	1.1			1.8			1.2			1.4			0.8		
			sys_sample_code:	BACA1SB2AA			BACA2SB1AA			BACA3SB2AA			BACA4SB3AA			BACA4SB4AA		
			sample_date:	11/16/2005 8:24:00 AM			11/17/2005 8:20:00 AM			11/29/2005 11:36:00 AM			11/21/2005 11:28:00 AM			11/28/2005 11:27:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	90.3			88.7			83.3						89		
SW6010	Aluminum	7429-90-5	mg/kg															
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg															
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg															
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg															
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg															
SW6010	Manganese	7439-96-5	mg/kg															
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg															
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg															
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg															
SW8082	Aroclor 1016	12674-11-2	ug/kg															
SW8082	Aroclor 1221	11104-28-2	ug/kg															
SW8082	Aroclor 1232	11141-16-5	ug/kg															
SW8082	Aroclor 1242	53469-21-9	ug/kg															
SW8082	Aroclor 1248	12672-29-6	ug/kg															
SW8082	Aroclor 1254	11097-69-1	ug/kg															
SW8082	Aroclor 1260	11096-82-5	ug/kg															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.7	U	4.7	4.5	UJ	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.7	U	4.7	4.5	UJ	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.7	U	4.7	0.46	J	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.7	U	4.7	4.5	UJ	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	2-Butanone	78-93-3	ug/kg	9.3	U	9.3	8.7	J	8.9	12	U	12	10	U	10	9.3	U	9.3
SW8260	2-Hexanone	591-78-6	ug/kg	9.3	U	9.3	8.9	U	8.9	12	U	12	10	U	10	9.3	U	9.3
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.3	U	9.3	8.9	U	8.9	12	U	12	10	U	10	9.3	U	9.3
SW8260	Acetone	67-64-1	ug/kg	19	U	19	24	UB	18	7	J	24	17	J	20	6.4	J	19
SW8260	Benzene	71-43-2	ug/kg	0.68	J	4.7	23	J	4.5	6.1	U	6.1	0.61	J	5	0.72	J	4.7
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Bromoform	75-25-2	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Bromomethane	74-83-9	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Carbon disulfide	75-15-0	ug/kg	7.3	J	9.3	11		8.9	2.4	J	12	14		10	9.3	U	9.3
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Chlorobenzene	108-90-7	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Chloroethane	75-00-3	ug/kg	9.3	U	9.3	8.9	U	8.9	12	U	12	10	U	10	9.3	U	9.3
SW8260	Chloroform	67-66-3	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Chloromethane	74-87-3	ug/kg	0.33	J	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	BACA1SB2			BACA2SB1			BACA3SB2			BACA4SB3			BACA4SB4		
			start_depth:	0			0			0			0			0		
			end_depth:	1.1			1.8			1.2			1.4			0.8		
			sys_sample_code:	BACA1SB2AA			BACA2SB1AA			BACA3SB2AA			BACA4SB3AA			BACA4SB4AA		
			sample_date:	11/16/2005 8:24:00 AM			11/17/2005 8:20:00 AM			11/29/2005 11:36:00 AM			11/21/2005 11:28:00 AM			11/28/2005 11:27:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Cyclohexane	110-82-7	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.7	U	4.7	4.5	U	4.5	0.61	J	6.1	5	U	5	4.7	U	4.7
SW8260	Ethylbenzene	100-41-4	ug/kg	4.7	U	4.7	3.6	J	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.7	U	4.7	0.35	J	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	m+p-Xylene	XYLMP	ug/kg	4.7	U	4.7	2	J	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Methyl acetate	79-20-9	ug/kg	9.3	U	9.3	8.9	U	8.9	12	U	12	10	U	10	9.3	U	9.3
SW8260	Methylcyclohexane	108-87-2	ug/kg	4.7	U	4.7	0.48	J	4.5	0.41	J	6.1	0.42	J	5	4.7	U	4.7
SW8260	Methylene chloride	75-09-2	ug/kg	5	UB	4.7	4.5	U	4.5	6.1	UB	6.1	5	U	5	5.2	UB	4.7
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	o-Xylene	95-47-6	ug/kg	4.7	U	4.7	1.1	J	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Styrene	100-42-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Toluene	108-88-3	ug/kg	0.74	J	4.7	14		4.5	6.1	U	6.1	0.72	J	5	0.38	J	4.7
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Trichloroethene	79-01-6	ug/kg	0.45	J	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	0.43	J	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8260	Vinyl chloride	75-01-4	ug/kg	4.7	U	4.7	4.5	U	4.5	6.1	U	6.1	5	U	5	4.7	U	4.7
SW8270	1,1-Biphenyl	92-52-4	ug/kg															
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg															
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg															
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg															
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg															
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg															
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg															
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg															
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg															
SW8270	2-Chloronaphthalene	91-58-7	ug/kg															
SW8270	2-Chlorophenol	95-57-8	ug/kg															
SW8270	2-Methylnaphthalene	91-57-6	ug/kg															
SW8270	2-Nitroaniline	88-74-4	ug/kg															
SW8270	2-Nitrophenol	88-75-5	ug/kg															
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg															
SW8270	3-Nitroaniline	99-09-2	ug/kg															
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg															
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg															
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg															
SW8270	4-Chloroaniline	106-47-8	ug/kg															
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg															
SW8270	4-Nitroaniline	100-01-6	ug/kg															
SW8270	4-Nitrophenol	100-02-7	ug/kg															
SW8270	Acenaphthene	83-32-9	ug/kg															
SW8270	Acenaphthylene	208-96-8	ug/kg															
SW8270	Acetophenone	98-86-2	ug/kg															
SW8270	Anthracene	120-12-7	ug/kg															
SW8270	Atrazine	1912-24-9	ug/kg															
SW8270	Benzaldehyde	100-52-7	ug/kg															
SW8270	Benzo(a)anthracene	56-55-3	ug/kg															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg															
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg															
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg															
SW8270	Butylbenzylphthalate	85-68-7	ug/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	BACA1SB2			BACA2SB1			BACA3SB2			BACA4SB3			BACA4SB4		
			start_depth:	0			0			0			0			0		
			end_depth:	1.1			1.8			1.2			1.4			0.8		
			sys_sample_code:	BACA1SB2AA			BACA2SB1AA			BACA3SB2AA			BACA4SB3AA			BACA4SB4AA		
			sample_date:	11/16/2005 8:24:00 AM			11/17/2005 8:20:00 AM			11/29/2005 11:36:00 AM			11/21/2005 11:28:00 AM			11/28/2005 11:27:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg															
SW8270	Carbazole	86-74-8	ug/kg															
SW8270	Chrysene	218-01-9	ug/kg															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg															
SW8270	Dibenzofuran	132-64-9	ug/kg															
SW8270	Diethylphthalate	84-66-2	ug/kg															
SW8270	Dimethylphthalate	131-11-3	ug/kg															
SW8270	Di-n-butylphthalate	84-74-2	ug/kg															
SW8270	Di-n-octylphthalate	117-84-0	ug/kg															
SW8270	Fluoranthene	206-44-0	ug/kg															
SW8270	Fluorene	86-73-7	ug/kg															
SW8270	Hexachlorobenzene	118-74-1	ug/kg															
SW8270	Hexachlorobutadiene	87-68-3	ug/kg															
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg															
SW8270	Hexachloroethane	67-72-1	ug/kg															
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg															
SW8270	Isophorone	78-59-1	ug/kg															
SW8270	Naphthalene	91-20-3	ug/kg															
SW8270	Nitrobenzene	98-95-3	ug/kg															
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg															
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg															
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg															
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg															
SW8270	Pentachlorophenol	87-86-5	ug/kg															
SW8270	Phenanthrene	85-01-8	ug/kg															
SW8270	Phenol	108-95-2	ug/kg															
SW8270	Pyrene	129-00-0	ug/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg															
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg															
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg															

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			sys_loc_code:	BACA5SB1			BACA6SB5			BACA7SB2			BACA7SB4			BACA8SB1		
			start_depth:	0			0			0			1.7			0		
			end_depth:	1.7			1.3			0.6			2			1.4		
			sys_sample_code:	BACA5SB1AA			BACA6SB5AA			BACA7SB2AA			BACA7SB4BA			BACA8SB1AA		
			sample_date:	11/30/2005 2:44:00 PM			12/1/2005 10:13:00 AM			12/7/2005 9:05:00 AM			12/8/2005 11:47:00 AM			12/8/2005 1:40:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	89			88.8			91.9			89.7			90		
SW6010	Aluminum	7429-90-5	mg/kg															
SW6010	Antimony	7440-36-0	mg/kg															
SW6010	Arsenic	7440-38-2	mg/kg															
SW6010	Barium	7440-39-3	mg/kg															
SW6010	Beryllium	7440-41-7	mg/kg															
SW6010	Cadmium	7440-43-9	mg/kg															
SW6010	Calcium	7440-70-2	mg/kg															
SW6010	Chromium (total)	7440-47-3	mg/kg															
SW6010	Cobalt	7440-48-4	mg/kg															
SW6010	Copper	7440-50-8	mg/kg															
SW6010	Iron	7439-89-6	mg/kg															
SW6010	Lead	7439-92-1	mg/kg															
SW6010	Magnesium	7439-95-4	mg/kg															
SW6010	Manganese	7439-96-5	mg/kg															
SW6010	Nickel	7440-02-0	mg/kg															
SW6010	Potassium	7440-09-7	mg/kg															
SW6010	Selenium	7782-49-2	mg/kg															
SW6010	Silver	7440-22-4	mg/kg															
SW6010	Sodium	7440-23-5	mg/kg															
SW6010	Thallium	7440-28-0	mg/kg															
SW6010	Vanadium	7440-62-2	mg/kg															
SW6010	Zinc	7440-66-6	mg/kg															
SW7470	Mercury	7439-97-6	mg/kg															
SW8082	Aroclor 1016	12674-11-2	ug/kg															
SW8082	Aroclor 1221	11104-28-2	ug/kg															
SW8082	Aroclor 1232	11141-16-5	ug/kg															
SW8082	Aroclor 1242	53469-21-9	ug/kg															
SW8082	Aroclor 1248	12672-29-6	ug/kg															
SW8082	Aroclor 1254	11097-69-1	ug/kg															
SW8082	Aroclor 1260	11096-82-5	ug/kg															
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	2-Butanone	78-93-3	ug/kg	5.6	J	11	14	U	14	12	U	12	23000	U	23000	5	J	9.7
SW8260	2-Hexanone	591-78-6	ug/kg	11	U	11	14	U	14	12	U	12	23000	U	23000	9.7	UJ	9.7
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	11	U	11	14	U	14	12	U	12	23000	U	23000	9.7	UJ	9.7
SW8260	Acetone	67-64-1	ug/kg	19	J	22	16	J	28	15	J	23	46000	U	46000	81	J	19
SW8260	Benzene	71-43-2	ug/kg	2.2	J	5.6	7	U	7	0.39	J	5.8	25000		12000	0.63	J	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Bromoform	75-25-2	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Bromomethane	74-83-9	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg	12		11	11	J	14	5.7	J	12	1200	J	23000	2.4	J	9.7
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Chloroethane	75-00-3	ug/kg	11	U	11	14	U	14	12	U	12	23000	U	23000	9.7	UJ	9.7
SW8260	Chloroform	67-66-3	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Chloromethane	74-87-3	ug/kg	5.6	U	5.6	7	U	7	1.2	J	5.8	12000	U	12000	4.8	UJ	4.8

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New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA5SB1			BACA6SB5			BACA7SB2			BACA7SB4			BACA8SB1		
			start_depth:	0			0			0			1.7			0		
			end_depth:	1.7			1.3			0.6			2			1.4		
			sys_sample_code:	BACA5SB1AA			BACA6SB5AA			BACA7SB2AA			BACA7SB4BA			BACA8SB1AA		
			sample_date:	11/30/2005 2:44:00 PM			12/1/2005 10:13:00 AM			12/7/2005 9:05:00 AM			12/8/2005 11:47:00 AM			12/8/2005 1:40:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Cyclohexane	110-82-7	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	1.3	J	4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg	0.39	J	5.6	7	U	7	5.8	U	5.8	56000		12000	0.33	J	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	m+p-Xylene	XYLMP	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	280000		12000	4.8	UJ	4.8
SW8260	Methyl acetate	79-20-9	ug/kg	11	U	11	14	U	14	12	U	12	23000	U	23000	9.7	UJ	9.7
SW8260	Methylcyclohexane	108-87-2	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	1.1	J	4.8
SW8260	Methylene chloride	75-09-2	ug/kg	5.6	UB	5.6	7	UB	7	0.99	J	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	o-Xylene	95-47-6	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	160000		12000	4.8	UJ	4.8
SW8260	Styrene	100-42-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	120000		12000	4.8	UJ	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Toluene	108-88-3	ug/kg	1.1	J	5.6	7	U	7	5.8	U	5.8	190000		12000	0.58	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Trichloroethene	79-01-6	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8260	Vinyl chloride	75-01-4	ug/kg	5.6	U	5.6	7	U	7	5.8	U	5.8	12000	U	12000	4.8	UJ	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg															
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg															
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg															
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg															
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg															
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg															
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg															
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg															
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg															
SW8270	2-Chloronaphthalene	91-58-7	ug/kg															
SW8270	2-Chlorophenol	95-57-8	ug/kg															
SW8270	2-Methylnaphthalene	91-57-6	ug/kg															
SW8270	2-Nitroaniline	88-74-4	ug/kg															
SW8270	2-Nitrophenol	88-75-5	ug/kg															
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg															
SW8270	3-Nitroaniline	99-09-2	ug/kg															
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg															
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg															
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg															
SW8270	4-Chloroaniline	106-47-8	ug/kg															
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg															
SW8270	4-Nitroaniline	100-01-6	ug/kg															
SW8270	4-Nitrophenol	100-02-7	ug/kg															
SW8270	Acenaphthene	83-32-9	ug/kg															
SW8270	Acenaphthylene	208-96-8	ug/kg															
SW8270	Acetophenone	98-86-2	ug/kg															
SW8270	Anthracene	120-12-7	ug/kg															
SW8270	Atrazine	1912-24-9	ug/kg															
SW8270	Benzaldehyde	100-52-7	ug/kg															
SW8270	Benzo(a)anthracene	56-55-3	ug/kg															
SW8270	Benzo(a)pyrene	50-32-8	ug/kg															
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg															
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg															
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg															
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg															
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg															
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg															
SW8270	Butylbenzylphthalate	85-68-7	ug/kg															

			sys_loc_code:	BACA5SB1			BACA6SB5			BACA7SB2			BACA7SB4			BACA8SB1		
			start_depth:	0			0			0			1.7			0		
			end_depth:	1.7			1.3			0.6			2			1.4		
			sys_sample_code:	BACA5SB1AA			BACA6SB5AA			BACA7SB2AA			BACA7SB4BA			BACA8SB1AA		
			sample_date:	11/30/2005 2:44:00 PM			12/1/2005 10:13:00 AM			12/7/2005 9:05:00 AM			12/8/2005 11:47:00 AM			12/8/2005 1:40:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg															
SW8270	Carbazole	86-74-8	ug/kg															
SW8270	Chrysene	218-01-9	ug/kg															
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg															
SW8270	Dibenzofuran	132-64-9	ug/kg															
SW8270	Diethylphthalate	84-66-2	ug/kg															
SW8270	Dimethylphthalate	131-11-3	ug/kg															
SW8270	Di-n-butylphthalate	84-74-2	ug/kg															
SW8270	Di-n-octylphthalate	117-84-0	ug/kg															
SW8270	Fluoranthene	206-44-0	ug/kg															
SW8270	Fluorene	86-73-7	ug/kg															
SW8270	Hexachlorobenzene	118-74-1	ug/kg															
SW8270	Hexachlorobutadiene	87-68-3	ug/kg															
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg															
SW8270	Hexachloroethane	67-72-1	ug/kg															
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg															
SW8270	Isophorone	78-59-1	ug/kg															
SW8270	Naphthalene	91-20-3	ug/kg															
SW8270	Nitrobenzene	98-95-3	ug/kg															
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg															
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg															
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg															
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg															
SW8270	Pentachlorophenol	87-86-5	ug/kg															
SW8270	Phenanthrene	85-01-8	ug/kg															
SW8270	Phenol	108-95-2	ug/kg															
SW8270	Pyrene	129-00-0	ug/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg															
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg															
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg															

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA8SB2			BACA9SB1			BACA9SB4			BBSB1			BBSB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			2			1.3			2			1.9		
			sys_sample_code:	BACA8SB2AA			BACA9SB1AA			BACA9SB4AA			BBSB1AA			BBSB2AA		
			sample_date:	12/9/2005 8:42:00 AM			12/5/2005 1:15:00 PM			12/2/2005 10:34:00 AM			12/15/2005 2:29:00 PM			12/16/2005 8:01:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	88.6			91.2			91.2			85.9			81.8		
SW6010	Aluminum	7429-90-5	mg/kg										22100		114	25600		116
SW6010	Antimony	7440-36-0	mg/kg										6.8	J	6.8	7	J	7
SW6010	Arsenic	7440-38-2	mg/kg										11.5		1.1	2.5		1.2
SW6010	Barium	7440-39-3	mg/kg										216	J	2.3	238	J	2.3
SW6010	Beryllium	7440-41-7	mg/kg										4.7		0.57	4.4		0.58
SW6010	Cadmium	7440-43-9	mg/kg										0.82		0.57	0.58	U	0.58
SW6010	Calcium	7440-70-2	mg/kg										176000		571	209000		582
SW6010	Chromium (total)	7440-47-3	mg/kg										47.7		1.1	18.5		1.2
SW6010	Cobalt	7440-48-4	mg/kg										5.7	U	5.7	5.8	U	5.8
SW6010	Copper	7440-50-8	mg/kg										58.2		2.3	6.8		2.3
SW6010	Iron	7439-89-6	mg/kg										84600		114	7920		116
SW6010	Lead	7439-92-1	mg/kg										181		0.57	5		0.58
SW6010	Magnesium	7439-95-4	mg/kg										44500		57.1	47300		58.2
SW6010	Manganese	7439-96-5	mg/kg										3610		11.4	3510		11.6
SW6010	Nickel	7440-02-0	mg/kg										22.2		4.6	4.9		4.7
SW6010	Potassium	7440-09-7	mg/kg										2280	J	2283	2330	U	2329
SW6010	Selenium	7782-49-2	mg/kg										9.7		5.7	5.3		1.2
SW6010	Silver	7440-22-4	mg/kg										1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg										856	J+	571	918	J+	582
SW6010	Thallium	7440-28-0	mg/kg										11.4	U	11.4	11.6	U	11.6
SW6010	Vanadium	7440-62-2	mg/kg										33.8		5.7	17.1		5.8
SW6010	Zinc	7440-66-6	mg/kg										1400		22.8	20.3		2.3
SW7470	Mercury	7439-97-6	mg/kg										0.12		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg										380	U	380	40	U	40
SW8082	Aroclor 1221	11104-28-2	ug/kg										780	U	780	82	U	82
SW8082	Aroclor 1232	11141-16-5	ug/kg										380	U	380	40	U	40
SW8082	Aroclor 1242	53469-21-9	ug/kg										380	U	380	40	U	40
SW8082	Aroclor 1248	12672-29-6	ug/kg										3600		380	40	U	40
SW8082	Aroclor 1254	11097-69-1	ug/kg										3300		380	40	U	40
SW8082	Aroclor 1260	11096-82-5	ug/kg										380	U	380	40	U	40
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	2-Butanone	78-93-3	ug/kg	41		9.6	11	U	11	10	U	10	14	U	14	21	UJ	21
SW8260	2-Hexanone	591-78-6	ug/kg	9.6	U	9.6	11	U	11	10	U	10	14	U	14	21	UJ	21
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.6	U	9.6	11	U	11	10	U	10	14	U	14	21	UJ	21
SW8260	Acetone	67-64-1	ug/kg	76		19	6.9	J	22	21	U	21	7.2	J	27	10	J	43
SW8260	Benzene	71-43-2	ug/kg	0.46	J	4.8	5.6	U	5.6	3.6	J	5.2	6.8	U	6.8	11	UJ	11
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Bromoform	75-25-2	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Bromomethane	74-83-9	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Carbon disulfide	75-15-0	ug/kg	7.3	J	9.6	10	J	11	0.47	J	10	6.4	J	14	6.1	J	21
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Chlorobenzene	108-90-7	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Chloroethane	75-00-3	ug/kg	9.6	U	9.6	11	U	11	10	U	10	14	U	14	21	UJ	21
SW8260	Chloroform	67-66-3	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Chloromethane	74-87-3	ug/kg	0.99	J	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	0.92	J	11

Appendix C-1 Surface Soil Analytical Data
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New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA8SB2			BACA9SB1			BACA9SB4			BBSB1			BBSB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			2			1.3			2			1.9		
			sys_sample_code:	BACA8SB2AA			BACA9SB1AA			BACA9SB4AA			BBSB1AA			BBSB2AA		
			sample_date:	12/9/2005 8:42:00 AM			12/5/2005 1:15:00 PM			12/2/2005 10:34:00 AM			12/15/2005 2:29:00 PM			12/16/2005 8:01:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Cyclohexane	110-82-7	ug/kg	0.61	J	4.8	5.6	U	5.6	7.8		5.2	6.8	U	6.8	1	J	11
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.8	UJ	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Ethylbenzene	100-41-4	ug/kg	0.46	J	4.8	5.6	U	5.6	3	J	5.2	1	J	6.8	11	UJ	11
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.8	U	4.8	5.6	U	5.6	0.34	J	5.2	6.8	U	6.8	11	UJ	11
SW8260	m+p-Xylene	XYLMP	ug/kg	4.8	U	4.8	5.6	U	5.6	4.3	J	5.2	2.8	J	6.8	11	UJ	11
SW8260	Methyl acetate	79-20-9	ug/kg	9.6	U	9.6	11	U	11	10	U	10	14	U	14	21	UJ	21
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.76	J	4.8	5.6	U	5.6	13		5.2	6.8	U	6.8	0.97	J	11
SW8260	Methylene chloride	75-09-2	ug/kg	4.8	UB	4.8	5.6	UB	5.6	1.5	JB	5.2	0.42	J	6.8	5	UJB	11
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	o-Xylene	95-47-6	ug/kg	4.8	U	4.8	5.6	U	5.6	1.9	J	5.2	0.55	J	6.8	11	UJ	11
SW8260	Styrene	100-42-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Toluene	108-88-3	ug/kg	1.2	J	4.8	5.6	U	5.6	9.6		5.2	1.5	J	6.8	1.1	J	11
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Trichloroethene	79-01-6	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	1.3	J	11
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	0.41	J	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8260	Vinyl chloride	75-01-4	ug/kg	4.8	U	4.8	5.6	U	5.6	5.2	U	5.2	6.8	U	6.8	11	UJ	11
SW8270	1,1-Biphenyl	92-52-4	ug/kg										380	U	380	400	U	400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg										380	U	380	400	U	400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg										380	U	380		R	400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg										380	U	380		R	400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg										380	U	380		R	400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg										380	U	380		R	400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg										2000	U	2000		R	2100
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg										380	U	380	400	U	400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg										380	U	380	400	U	400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg										380	U	380	400	U	400
SW8270	2-Chlorophenol	95-57-8	ug/kg										380	U	380		R	400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg										380	U	380	400	U	400
SW8270	2-Nitroaniline	88-74-4	ug/kg										2000	U	2000	2100	U	2100
SW8270	2-Nitrophenol	88-75-5	ug/kg										380	U	380		R	400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg										380	U	380	400	U	400
SW8270	3-Nitroaniline	99-09-2	ug/kg										2000	U	2000	2100	U	2100
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg										2000	U	2000		R	2100
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg										380	U	380	400	U	400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg										380	U	380		R	400
SW8270	4-Chloroaniline	106-47-8	ug/kg										380	U	380	400	U	400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg										380	U	380	400	U	400
SW8270	4-Nitroaniline	100-01-6	ug/kg										2000	U	2000	2100	U	2100
SW8270	4-Nitrophenol	100-02-7	ug/kg										2000	U	2000		R	2100
SW8270	Acenaphthene	83-32-9	ug/kg										380	U	380	400	U	400
SW8270	Acenaphthylene	208-96-8	ug/kg										66	J	380	400	U	400
SW8270	Acetophenone	98-86-2	ug/kg										380	U	380	400	U	400
SW8270	Anthracene	120-12-7	ug/kg										70	J	380	400	U	400
SW8270	Atrazine	1912-24-9	ug/kg										380	U	380	400	U	400
SW8270	Benzaldehyde	100-52-7	ug/kg										2000	U	380	2100	U	400
SW8270	Benzo(a)anthracene	56-55-3	ug/kg										580		380	400	U	400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg										540		380	43	J	400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg										560		380	400	U	400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg										380		380	400	U	400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg										610		380	400	U	400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg										380	U	380	400	U	400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg										380	U	380	400	U	400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg										380	U	380	400	U	400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg										380	U	380	400	U	400

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA8SB2			BACA9SB1			BACA9SB4			BBSB1			BBSB2		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			2			1.3			2			1.9		
			sys_sample_code:	BACA8SB2AA			BACA9SB1AA			BACA9SB4AA			BBSB1AA			BBSB2AA		
			sample_date:	12/9/2005 8:42:00 AM			12/5/2005 1:15:00 PM			12/2/2005 10:34:00 AM			12/15/2005 2:29:00 PM			12/16/2005 8:01:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg										380	U	380	400	U	400
SW8270	Carbazole	86-74-8	ug/kg										380	U	380	400	U	400
SW8270	Chrysene	218-01-9	ug/kg										660		380	43	J	400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg										110	J	380	400	U	400
SW8270	Dibenzofuran	132-64-9	ug/kg										380	U	380	400	U	400
SW8270	Diethylphthalate	84-66-2	ug/kg										380	U	380	400	U	400
SW8270	Dimethylphthalate	131-11-3	ug/kg										380	U	380	400	U	400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg										380	U	380	400	U	400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg										380	U	380	400	U	400
SW8270	Fluoranthene	206-44-0	ug/kg										730		380	76	J	400
SW8270	Fluorene	86-73-7	ug/kg										380	U	380	400	U	400
SW8270	Hexachlorobenzene	118-74-1	ug/kg										380	U	380	400	U	400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg										380	U	380	400	U	400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg										380	U	380	400	U	400
SW8270	Hexachloroethane	67-72-1	ug/kg										380	U	380	400	U	400
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg										340	J	380	400	U	400
SW8270	Isophorone	78-59-1	ug/kg										380	U	380	400	U	400
SW8270	Naphthalene	91-20-3	ug/kg										41	J	380	400	U	400
SW8270	Nitrobenzene	98-95-3	ug/kg										380	U	380	400	U	400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg										380	U	380	400	U	400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg										380	U	380	400	U	400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg										380	U	380		R	400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg										380	U	380		R	400
SW8270	Pentachlorophenol	87-86-5	ug/kg										2000	U	2000		R	2100
SW8270	Phenanthrene	85-01-8	ug/kg										210	J	380	400	U	400
SW8270	Phenol	108-95-2	ug/kg										380	U	380		R	400
SW8270	Pyrene	129-00-0	ug/kg										680		380	59	J	400
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										27.742	JB	0.065			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										115.373	B	0.098			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										2.857	J	0.091			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										13.873	J	0.059			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										1.97	J	0.044			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										6.812	J	0.062			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										26.349	J	0.043			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.547	J	0.076			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										7.342	J	0.042			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										10.047	JK	0.095			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										12.031		0.069			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										4.6	J	0.066			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										13.277	JK	0.092			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										38.132		12.781			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										5.561		0.042			
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										24.497	B	0.065			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										301.701	B	0.044			
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg										3.61		1.16	1.5		1.22

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BBSB3			BBSB4			BBSB5			BBSB6			BBSB7		
			start_depth:	0			0			0			0			0		
			end_depth:	1.7			1.6			2			1.4			1.6		
			sys_sample_code:	BBSB3AA			BBSB4AA			BBSB5AA			BBSB6AA			BBSB7AA		
			sample_date:	12/16/2005 8:44:00 AM			12/16/2005 9:26:00 AM			12/15/2005 9:21:00 AM			12/15/2005 10:01:00 AM			12/15/2005 8:31:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	90.4			86.2			89.4			88.1			92.5		
SW6010	Aluminum	7429-90-5	mg/kg	11100		108	10300		11.5	35700		108	32800		108	4260		107
SW6010	Antimony	7440-36-0	mg/kg	13	J	13	6.9	J	6.9	6.5	J	6.5	6.5	J	6.5	6.4	J	6.4
SW6010	Arsenic	7440-38-2	mg/kg	29.9		1.1	6.7		1.1	6.1		1.1	1.1		1.1	7.8		1.1
SW6010	Barium	7440-39-3	mg/kg	131	J	2.2	134	J	2.3	379	J	2.2	304	J	2.2	50.2	J	2.1
SW6010	Beryllium	7440-41-7	mg/kg	2		0.54	0.78		0.57	6.7		0.54	8.6		0.54	0.54	U	0.54
SW6010	Cadmium	7440-43-9	mg/kg	0.54	U	0.54	3.3		0.57	0.54	U	0.54	0.54	U	0.54	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	79800		542	78300		574	215000		538	211000		541	112000		535
SW6010	Chromium (total)	7440-47-3	mg/kg	33		1.1	75.6		1.1	30.9		1.1	16.2		1.1	12.9		1.1
SW6010	Cobalt	7440-48-4	mg/kg	7.5		5.4	5.7	U	5.7	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	57.8		2.2	46.6		2.3	16.2		2.2	4.2		2.2	16.2		2.1
SW6010	Iron	7439-89-6	mg/kg	145000		108	67100		115	24800		108	6670		108	32500		107
SW6010	Lead	7439-92-1	mg/kg	44.3		0.54	122		0.57	27.7		0.54	10.4		0.54	21.1		0.54
SW6010	Magnesium	7439-95-4	mg/kg	15600		54.2	17700		57.4	36400		53.8	65900		541	38000		53.5
SW6010	Manganese	7439-96-5	mg/kg	6870		10.8	3240		11.5	6570		10.8	4020		10.8	737		10.7
SW6010	Nickel	7440-02-0	mg/kg	22.7		4.3	20.1		4.6	4.3	U	4.3	4.3	U	4.3	9.4		4.3
SW6010	Potassium	7440-09-7	mg/kg	2170	U	2169	988	J+	230	2150	U	2151	2180	J+	2162	2140		2141
SW6010	Selenium	7782-49-2	mg/kg	4.1		2.2	1.1	U	1.1	3.9		1.1	7.7		1.1	1.1	U	1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	542	U	542	457	J+	57.4	1090	J+	538	1530	J+	541	535		535
SW6010	Thallium	7440-28-0	mg/kg	10.8	U	10.8	11.5	U	11.5	10.8	U	10.8	10.8	U	10.8	10.7	U	10.7
SW6010	Vanadium	7440-62-2	mg/kg	31.2		5.4	68.1		5.7	16		5.4	17.5		5.4	13.9		5.4
SW6010	Zinc	7440-66-6	mg/kg	193		2.2	517		23	113		2.2	28.3		2.2	46.9		2.1
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	14.4		0.38	0.07		0.04	0.04	U	0.04	0.03	U	0.03
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	38	U	38	37	U	37	37	U	37	36	U	36
SW8082	Aroclor 1221	11104-28-2	ug/kg	74	U	74	78	U	78	75	U	75	76	U	76	72	U	72
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	38	U	38	37	U	37	37	U	37	36	U	36
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	38	U	38	37	U	37	37	U	37	36	U	36
SW8082	Aroclor 1248	12672-29-6	ug/kg	110		37	38	U	38	37	U	37	67		37	36	U	36
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	38	U	38	37	U	37	37	U	37	54		36
SW8082	Aroclor 1260	11096-82-5	ug/kg	91		37	210		38	130		37	56		37	36	U	36
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	1.5	J	7	7.7	U	7.7
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	0.52	J	7	7.7	U	7.7
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	0.47	J	7	7.7	U	7.7
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	2-Butanone	78-93-3	ug/kg	15	U	15	11	UJ	11	4.6	J	9.2	14	U	14	15	U	15
SW8260	2-Hexanone	591-78-6	ug/kg	15	U	15	11	UJ	11	9.2	UJ	9.2	1.8	J	14	15	U	15
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	15	U	15	11	UJ	11	9.2	UJ	9.2	14	U	14	15	U	15
SW8260	Acetone	67-64-1	ug/kg	15	J	31	23	UJ	23	18	J	18	8.6	J	28	31	U	31
SW8260	Benzene	71-43-2	ug/kg	7.7	U	7.7	5.7	UJ	5.7	0.87	J	4.6	7	U	7	0.98	J	7.7
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Bromoform	75-25-2	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	U	4.6	7	U	7	7.7	U	7.7
SW8260	Bromomethane	74-83-9	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Carbon disulfide	75-15-0	ug/kg	3.9	J	15	0.44	J	11	0.79	J	9.2	4.5	J	14	3.2	J	15
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Chlorobenzene	108-90-7	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Chloroethane	75-00-3	ug/kg	15	U	15	11	UJ	11	9.2	UJ	9.2	14	U	14	15	U	15
SW8260	Chloroform	67-66-3	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Chloromethane	74-87-3	ug/kg	1.1	J	7.7	1.5	J	5.7	4.6	UJ	4.6	0.58	J	7	7.7	U	7.7

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BBSB3			BBSB4			BBSB5			BBSB6			BBSB7		
			start_depth:	0			0			0			0			0		
			end_depth:	1.7			1.6			2			1.4			1.6		
			sys_sample_code:	BBSB3AA			BBSB4AA			BBSB5AA			BBSB6AA			BBSB7AA		
			sample_date:	12/16/2005 8:44:00 AM			12/16/2005 9:26:00 AM			12/15/2005 9:21:00 AM			12/15/2005 10:01:00 AM			12/15/2005 8:31:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Cyclohexane	110-82-7	ug/kg	7.7	U	7.7	0.39	J	5.7	4.6	UJ	4.6	7	U	7	3	J	7.7
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	0.42	J	7	7.7	U	7.7
SW8260	Ethylbenzene	100-41-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	0.69	J	7	0.55	J	7.7
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	m+p-Xylene	XYLMP	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	1.6	J	7	7.7	U	7.7
SW8260	Methyl acetate	79-20-9	ug/kg	15	U	15	11	UJ	11	9.2	UJ	9.2	14	U	14	15	U	15
SW8260	Methylcyclohexane	108-87-2	ug/kg	7.7	U	7.7	5.7	UJ	5.7	0.39	J	4.6	7	U	7	3.9	J	7.7
SW8260	Methylene chloride	75-09-2	ug/kg	5	UB	7.7	0.67	JB	5.7	0.29	J	4.6	7	U	7	7.7	U	7.7
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	o-Xylene	95-47-6	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	0.45	J	7	7.7	U	7.7
SW8260	Styrene	100-42-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Toluene	108-88-3	ug/kg	7.7	U	7.7	5.7	UJ	5.7	0.38	J	4.6	0.54	J	7	1.4	J	7.7
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Trichloroethene	79-01-6	ug/kg	7.7	U	7.7	0.36	J	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	0.59	J	7.7	0.9	J	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8260	Vinyl chloride	75-01-4	ug/kg	7.7	U	7.7	5.7	UJ	5.7	4.6	UJ	4.6	7	U	7	7.7	U	7.7
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	370	U	370	260	J	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	1900	U	1900	740	U	740	1100	J	1900	2900	U	2900
SW8270	Acenaphthylene	208-96-8	ug/kg	370	U	370	3000		1900	740	U	740	220	J	1900	480	J	2900
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Anthracene	120-12-7	ug/kg	370	U	370	1100	J	1900	740	U	740	2300		1900	390	J	2900
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	U	370	9900	U	1900	3800	U	740	9600	U	1900	15000	U	2900
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	120	J	370	4800		1900	170	J	740	6000		1900	3100		2900
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	110	J	370	5600		1900	180	J	740	5300		1900	3800		2900
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	110	J	370	4900		1900	130	J	740	4200		1900	2300	J	2900
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	94	J	370	4800		1900	190	J	740	3500		1900	2400	J	2900
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	110	J	370	4900		1900	130	J	740	4900		1900	1700	J	2900
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BBSB3			BBSB4			BBSB5			BBSB6			BBSB7		
			start_depth:	0			0			0			0			0		
			end_depth:	1.7			1.6			2			1.4			1.6		
			sys_sample_code:	BBSB3AA			BBSB4AA			BBSB5AA			BBSB6AA			BBSB7AA		
			sample_date:	12/16/2005 8:44:00 AM			12/16/2005 9:26:00 AM			12/15/2005 9:21:00 AM			12/15/2005 10:01:00 AM			12/15/2005 8:31:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Carbazole	86-74-8	ug/kg	370	U	370	580	J	1900	740	U	740	1000	J	1900	2900	U	2900
SW8270	Chrysene	218-01-9	ug/kg	130	J	370	5100		1900	250	J	740	6000		1900	4400		2900
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	370	U	370	1300	J	1900	740	U	740	1000	J	1900	670	J	2900
SW8270	Dibenzofuran	132-64-9	ug/kg	370	U	370	240	J	1900	740	U	740	500	J	1900	2900	U	2900
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Fluoranthene	206-44-0	ug/kg	220	J	370	8700		1900	200	J	740	11000		1900	2900		2900
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	350	J	1900	740	U	740	920	J	1900	2900	U	2900
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	77	J	370	3800		1900	110	J	740	3100		1900	1400	J	2900
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Naphthalene	91-20-3	ug/kg	370	U	370	450	J	1900	740	U	740	650	J	1900	2900	U	2900
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	9900	U	9900	3800	U	3800	9600	U	9600	15000	U	15000
SW8270	Phenanthrene	85-01-8	ug/kg	92	J	370	3700		1900	120	J	740	8600		1900	1000	J	2900
SW8270	Phenol	108-95-2	ug/kg	370	U	370	1900	U	1900	740	U	740	1900	U	1900	2900	U	2900
SW8270	Pyrene	129-00-0	ug/kg	190	J	370	7500		1900	200	J	740	10000		1900	3100		2900
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				35.583	JB	0.074									
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				57.235	JB	0.057									
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				2.991	J	0.104									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				21.79	J	0.117									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.049	U	0.049									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				8.728	J	0.122									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				6.796	J	0.047									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				1.354	J	0.151									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				1.782	J	0.046									
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				18.025		0.088									
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				3.256		0.064									
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				4.285	J	0.131									
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				11.363		0.085									
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				28.686		8.848									
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.475	JK	0.077									
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				36.143	JB	0.081									
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				300.834	JB	0.07									
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg	1.11	U	1.11	8.55		1.16	1.12	U	1.12	3.67		1.14	1.14		1.08

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BBSB8			BCSB1			BCSB10			BCSB11			BCSB12		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			1.9			2			1.2			1.8		
			sys_sample_code:	BBSB8AA			BCSB1AA			BCSB10AA			BCSB11AA			BCSB12AA		
			sample_date:	12/15/2005 11:06:00 AM			12/8/2005 1:40:00 PM			1/3/2006 10:05:00 AM			12/21/2005 12:35:00 PM			1/3/2006 8:12:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	91.7			89.5			82.6			87.9			84.5		
SW6010	Aluminum	7429-90-5	mg/kg	35500		104	34200		11	13500		115	19200		11.2	23100		113
SW6010	Antimony	7440-36-0	mg/kg	6.2	J	6.2	6.6	U	6.6	7	UJ	7	6.7	U	6.7	6.9	UJ	6.9
SW6010	Arsenic	7440-38-2	mg/kg	1.6		1	1.1	U	1.1	10.4	J	1.2	11.5		1.1	27.9	J	1.1
SW6010	Barium	7440-39-3	mg/kg	319	J	2.1	304		2.2	122		2.3	413		2.2	325		2.3
SW6010	Beryllium	7440-41-7	mg/kg	8.7		0.52	6.5		0.55	0.69		0.58	2.5		0.56	3.5		0.57
SW6010	Cadmium	7440-43-9	mg/kg	0.52	U	0.52	1.6		0.55	0.58	U	0.58	2.3		0.56	4		0.57
SW6010	Calcium	7440-70-2	mg/kg	214000		519	237000		548	140000	J	582	142000		558	154000	J	574
SW6010	Chromium (total)	7440-47-3	mg/kg	18.4		1	111		1.1	14.9	J	1.2	377		1.1	64.6	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.2	U	5.2	5.5	U	5.5	5.8	U	5.8	5.6	U	5.6	8.2		5.7
SW6010	Copper	7440-50-8	mg/kg	15.1		2.1	9.8		2.2	20.3	J	2.3	51		2.2	122	J	2.3
SW6010	Iron	7439-89-6	mg/kg	14700		104	49000		110	24400	J	11.6	77900		112	158000	J	115
SW6010	Lead	7439-92-1	mg/kg	12.6		0.52	5.5		0.55	17.5		5.8	131		5.6	154		5.7
SW6010	Magnesium	7439-95-4	mg/kg	59700		519	47800		54.8	26000	J	577	27500		55.8	27100	J	564
SW6010	Manganese	7439-96-5	mg/kg	4470		10.4	5750		11	1010		1.2	5760		11.2	6400		11.5
SW6010	Nickel	7440-02-0	mg/kg	4.2	U	4.2	4.4	U	4.4	15.6		4.7	17.5		4.5	30.9		4.6
SW6010	Potassium	7440-09-7	mg/kg	2460	J+	2077	2350		219	2020		233	1460		223	2560		230
SW6010	Selenium	7782-49-2	mg/kg	6.8		1	5.6		1.1	17.5	U	17.5	5.6	U	5.6	17.2	U	17.2
SW6010	Silver	7440-22-4	mg/kg	1	U	1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1	2		1.1
SW6010	Sodium	7440-23-5	mg/kg	1410	J+	519	1880		54.8	249		58.2	710		55.8	888		57.4
SW6010	Thallium	7440-28-0	mg/kg	10.4	U	10.4	32.9	U	32.9	17.5	U	17.5	11.2	U	11.2	17.2	U	17.2
SW6010	Vanadium	7440-62-2	mg/kg	18.4		5.2	45.1		5.5	26.2	J	5.8	58.1		5.6	28.5		5.7
SW6010	Zinc	7440-66-6	mg/kg	32.6		2.1	15.9		2.2	78.5		2.3	617		22.3	787		23
SW7470	Mercury	7439-97-6	mg/kg	0.1		0.03	0.03	U	0.03	0.04	J	0.04	0.35		0.04	0.78	J	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	36	U	36	37	U	37	40	U	40	38	U	38	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	73	U	73	75	U	75	81	U	81	76	U	76	79	U	79
SW8082	Aroclor 1232	11141-16-5	ug/kg	36	U	36	37	U	37	40	U	40	38	U	38	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	36	U	36	37	U	37	40	U	40	38	U	38	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	36	U	36	37	U	37	40	U	40	38	U	38	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	36	U	36	37	U	37	40	U	40	38	U	38	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	280		36	37	U	37	190	J	40	150		38	39	U	39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.5	U	6.5	5	U	5	5.5	UJ	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	2-Butanone	78-93-3	ug/kg	13	U	13	8	J	10	6.2	J	11	1.8	J	9.8	3.2	J	11
SW8260	2-Hexanone	591-78-6	ug/kg	13	U	13	1.2	J	10	11	U	11	9.8	U	9.8	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	13	U	13	10	U	10	6.3	J	11	9.8	U	9.8	11	U	11
SW8260	Acetone	67-64-1	ug/kg	8.6	J	26	25		20	27		22	15	J	20	21	J	22
SW8260	Benzene	71-43-2	ug/kg	6.5	U	6.5	8.7		5	2.4	J	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Bromoform	75-25-2	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Bromomethane	74-83-9	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Carbon disulfide	75-15-0	ug/kg	3.5	J	13	5	J	10	11	U	11	9.8	U	9.8	2.8	J	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Chlorobenzene	108-90-7	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Chloroethane	75-00-3	ug/kg	13	U	13	10	U	10	11	U	11	9.8	U	9.8	11	U	11
SW8260	Chloroform	67-66-3	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Chloromethane	74-87-3	ug/kg	0.46	J	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BBSB8			BCSB1			BCSB10			BCSB11			BCSB12		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			1.9			2			1.2			1.8		
			sys_sample_code:	BBSB8AA			BCSB1AA			BCSB10AA			BCSB11AA			BCSB12AA		
			sample_date:	12/15/2005 11:06:00 AM			12/8/2005 1:40:00 PM			1/3/2006 10:05:00 AM			12/21/2005 12:35:00 PM			1/3/2006 8:12:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Cyclohexane	110-82-7	ug/kg	6.5	U	6.5	5	U	5	1.7	J	5.5	0.56	J	4.9	0.54	J	5.5
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Ethylbenzene	100-41-4	ug/kg	6.5	U	6.5	0.54	J	5	0.51	J	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	m+p-Xylene	XYLMP	ug/kg	6.5	U	6.5	5	U	5	6.3		5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Methyl acetate	79-20-9	ug/kg	13	U	13	10	U	10	11	U	11	9.8	U	9.8	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	6.5	U	6.5	5	U	5	1.5	J	5.5	1.1	J	4.9	0.64	J	5.5
SW8260	Methylene chloride	75-09-2	ug/kg	0.48	J	6.5	5	UB	5	0.45	J	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	o-Xylene	95-47-6	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Styrene	100-42-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Toluene	108-88-3	ug/kg	6.5	U	6.5	3.4	J	5	3.1	J	5.5	0.31	J	4.9	5.5	U	5.5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Trichloroethene	79-01-6	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8260	Vinyl chloride	75-01-4	ug/kg	6.5	U	6.5	5	U	5	5.5	U	5.5	4.9	U	4.9	5.5	U	5.5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	360	U	360	370	U	370	400	U	400	130	J	1100	7800	U	7800
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900		R	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2-Chlorophenol	95-57-8	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	360	U	360	370	U	370	400	U	400	650	J	1100	2400	J	7800
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	1900	U	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	2-Nitrophenol	88-75-5	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	1900	U	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	1900	UJ	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	4-Chloroaniline	106-47-8	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	1900	U	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	1900	U	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	Acenaphthene	83-32-9	ug/kg	360	U	360	370	U	370	400	U	400	250	J	1100	2700	J	7800
SW8270	Acenaphthylene	208-96-8	ug/kg	37	J	360	110	J	370	400	U	400	890	J	1100	9000		7800
SW8270	Acetophenone	98-86-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Anthracene	120-12-7	ug/kg	39	J	360	200	J	370	61	J	400	1600		1100	14000		7800
SW8270	Atrazine	1912-24-9	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	U	360	1900	U	1900	2100	U	2100	5800	U	1100	40000	U	40000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	170	J	360	500		370	500		400	4200		1100	36000		7800
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	170	J	360	480		370	910		400	3500		1100	27000		7800
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	160	J	360	440		370	740		400	3100		1100	25000		7800
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	160	J	360	380		370	1000		400	2300		1100	17000		7800
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	160	J	360	390		370	610		400	3600		1100	27000		7800
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BBSB8			BCSB1			BCSB10			BCSB11			BCSB12		
			start_depth:	0			0			0			0			0		
			end_depth:	1.4			1.9			2			1.2			1.8		
			sys_sample_code:	BBSB8AA			BCSB1AA			BCSB10AA			BCSB11AA			BCSB12AA		
			sample_date:	12/15/2005 11:06:00 AM			12/8/2005 1:40:00 PM			1/3/2006 10:05:00 AM			12/21/2005 12:35:00 PM			1/3/2006 8:12:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Carbazole	86-74-8	ug/kg	360	U	360	100	J	370	400	U	400	910	J	1100	3300	J	7800
SW8270	Chrysene	218-01-9	ug/kg	210	J	360	580		370	800		400	4300		1100	33000		7800
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	49	J	360	88	J	370	230	J	400	840	J	1100	4900	J	7800
SW8270	Dibenzofuran	132-64-9	ug/kg	360	U	360	94	J	370	400	U	400	740	J	1100	5000	J	7800
SW8270	Diethylphthalate	84-66-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Dimethylphthalate	131-11-3	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Fluoranthene	206-44-0	ug/kg	280	J	360	1000		370	510		400	8300		1100	71000		7800
SW8270	Fluorene	86-73-7	ug/kg	360	U	360	130	J	370	400	U	400	980	J	1100	7900		7800
SW8270	Hexachlorobenzene	118-74-1	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Hexachloroethane	67-72-1	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	130	J	360	310	J	370	680		400	2200		1100	17000		7800
SW8270	Isophorone	78-59-1	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Naphthalene	91-20-3	ug/kg	360	U	360	66	J	370	400	U	400	780	J	1100	3400	J	7800
SW8270	Nitrobenzene	98-95-3	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900		R	1900	2100	U	2100	5800	U	5800	40000	U	40000
SW8270	Phenanthrene	85-01-8	ug/kg	110	J	360	960		370	280	J	400	6900		1100	56000		7800
SW8270	Phenol	108-95-2	ug/kg	360	U	360	370	U	370	400	U	400	1100	U	1100	7800	U	7800
SW8270	Pyrene	129-00-0	ug/kg	240	J	360	940		370	610		400	6900		1100	57000		7800
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	12.088	B	0.053	0.429	JK	0.048									
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	13.296	B	0.072	2.486	B	0.038									
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	8.113		0.075	0.126	J	0.068									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	9.347		0.023	0.166	J	0.025									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	6.88		0.025	0.061	J	0.024									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	8.63		0.024	0.097	J	0.026									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	6.944		0.024	0.205	J	0.024									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	6.386		0.029	0.05	JK	0.032									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	6.276		0.024	0.162	JK	0.023									
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	7.828		0.026	0.08	JK	0.014									
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	7.128		0.022	0.084	J	0.028									
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	7.033		0.025	0.081	JK	0.028									
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	7.42		0.025	0.085	JK	0.014									
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	3.082		0.425	0.696	U	0.696									
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	2.539		0.024	0.015	U	0.015									
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	24.632	B	0.054	1.102	J	0.068									
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	44.731	UB	0.039	15.882	B	0.06									
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg	1.54		1.09	3.2		1.12	4.82	J	1.21	1.75		1.14	2.76	J	1.18

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB13			BCSB2			BCSB2R			BCSB3			BCSB3R		
			start_depth:	0			0			0			0			0		
			end_depth:	1.6			2			1			2			1		
			sys_sample_code:	BCSB13AA			BCSB2AA			BCSB2RAA			BCSB3AA			BCSB3RAA		
			sample_date:	12/21/2005 2:00:00 PM			12/9/2005 7:54:00 AM			1/24/2006 10:25:00 AM			12/9/2005 11:13:00 AM			1/24/2006 9:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	88.4			89.7			86.2			87.2					
SW6010	Aluminum	7429-90-5	mg/kg	13700		11.2	30300		10.9	35400		11.3	25900		11	26900		11.5
SW6010	Antimony	7440-36-0	mg/kg	13.4	U	13.4	7.8		6.6	6.8	UJ	6.8	6.6	U	6.6	6.9	UJ	6.9
SW6010	Arsenic	7440-38-2	mg/kg	17.7		1.1	1.1	U	1.1	1.6	J+	1.1	2.6		1.1	5.2	J+	1.1
SW6010	Barium	7440-39-3	mg/kg	182		2.2	260		2.2	314	J	2.3	229		2.2	238	J	2.3
SW6010	Beryllium	7440-41-7	mg/kg	0.56	U	0.56	6.5		0.55	6.6		0.56	4.8		0.55	5.3		0.57
SW6010	Cadmium	7440-43-9	mg/kg	2.6		0.56	4.3		0.55	0.72		0.56	3.6		0.55	1.1		0.57
SW6010	Calcium	7440-70-2	mg/kg	124000		560	207000		546	225000		563	179000		551	160000		574
SW6010	Chromium (total)	7440-47-3	mg/kg	448		1.1	67.4		1.1	18.5		1.1	38.5		1.1	20.3		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.7		5.6	5.5	U	5.5	5.6	U	5.6	5.5	U	5.5	5.8		5.7
SW6010	Copper	7440-50-8	mg/kg	41		2.2	18.5		2.2	4.7		2.3	13.6		2.2	31.6		2.3
SW6010	Iron	7439-89-6	mg/kg	156000		112	107000		109	10800		11.3	85500		110	21400		11.5
SW6010	Lead	7439-92-1	mg/kg	77.8		5.6	3.5		0.55	6.9		0.56	8.6		0.55	23.8		0.57
SW6010	Magnesium	7439-95-4	mg/kg	27100		56	40900		54.6	51400		56.3	39000		55.1	32200		57.4
SW6010	Manganese	7439-96-5	mg/kg	20700		112	5170		10.9	4550		11.3	3710		11	2920		11.5
SW6010	Nickel	7440-02-0	mg/kg	15.4		4.5	9.7		4.4	4.5	U	4.5	7.1		4.4	7.8		4.6
SW6010	Potassium	7440-09-7	mg/kg	1070		224	2390		219	2070		225	1820		221	2230		230
SW6010	Selenium	7782-49-2	mg/kg	11.2	U	11.2	2.2	U	2.2	5.3		1.1	1.1	U	1.1	4.4		1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	390		56	1500		54.6	1690		56.3	1200		55.1	1120		57.4
SW6010	Thallium	7440-28-0	mg/kg	56	U	56	32.8	U	32.8	16.9	U	16.9	33.1	U	33.1	17.2	U	17.2
SW6010	Vanadium	7440-62-2	mg/kg	130		5.6	54.2		5.5	21.3		5.6	36.1		5.5	40.7		5.7
SW6010	Zinc	7440-66-6	mg/kg	326		22.4	7.8		2.2	22.2		2.3	30.8		2.2	53.4		2.3
SW7470	Mercury	7439-97-6	mg/kg	0.4		0.03	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37				38	U	38	38	U	38	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76				78	U	78	77	U	77	78	U	78
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37				38	U	38	38	U	38	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37				38	U	38	38	U	38	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37				38	U	38	38	U	38	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37				38	U	38	38	U	38	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	200		37				31	J	38	99		38	36	J	39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	2-Butanone	78-93-3	ug/kg	2.7	J	9.2	2	J	13	14	U	14	3	J	11	13	U	13
SW8260	2-Hexanone	591-78-6	ug/kg	9.2	U	9.2	13	U	13	14	U	14	11	U	11	13	U	13
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.2	U	9.2	13	U	13	14	U	14	11	U	11	13	U	13
SW8260	Acetone	67-64-1	ug/kg	21	J	18	8.5	J	26	15	J	27	15	J	22	25	U	25
SW8260	Benzene	71-43-2	ug/kg	0.5	J	4.6	6.4	U	6.4	0.43	J	6.8	0.92	J	5.6	6.3	U	6.3
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Bromoform	75-25-2	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Bromomethane	74-83-9	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Carbon disulfide	75-15-0	ug/kg	1.2	J	9.2	7.6	J	13	7.8	J	14	11	J	11	0.54	J	13
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Chlorobenzene	108-90-7	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Chloroethane	75-00-3	ug/kg	9.2	U	9.2	13	U	13	14	U	14	11	U	11	13	U	13
SW8260	Chloroform	67-66-3	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Chloromethane	74-87-3	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB13			BCSB2			BCSB2R			BCSB3			BCSB3R		
			start_depth:	0			0			0			0			0		
			end_depth:	1.6			2			1			2			1		
			sys_sample_code:	BCSB13AA			BCSB2AA			BCSB2RAA			BCSB3AA			BCSB3RAA		
			sample_date:	12/21/2005 2:00:00 PM			12/9/2005 7:54:00 AM			1/24/2006 10:25:00 AM			12/9/2005 11:13:00 AM			1/24/2006 9:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Cyclohexane	110-82-7	ug/kg	0.55	J	4.6	6.4	U	6.4	6.8	U	6.8	0.72	J	5.6	6.3	U	6.3
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Ethylbenzene	100-41-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	m+p-Xylene	XYLMP	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Methyl acetate	79-20-9	ug/kg	9.2	U	9.2	13	U	13	14	U	14	11	U	11	13	U	13
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.9	J	4.6	6.4	U	6.4	0.48	J	6.8	1.1	J	5.6	6.3	U	6.3
SW8260	Methylene chloride	75-09-2	ug/kg	4.6	U	4.6	5	UB	6.4	6.8	U	6.8	5	UB	5.6	6.3	U	6.3
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	o-Xylene	95-47-6	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Styrene	100-42-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Toluene	108-88-3	ug/kg	4.6	U	4.6	6.4	U	6.4	0.5	J	6.8	0.89	J	5.6	6.3	U	6.3
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Trichloroethene	79-01-6	ug/kg	0.66	J	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8260	Vinyl chloride	75-01-4	ug/kg	4.6	U	4.6	6.4	U	6.4	6.8	U	6.8	5.6	U	5.6	6.3	U	6.3
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2-Chlorophenol	95-57-8	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	1100	U	1100	370	U	370	380	U	380	42	J	380	390	U	390
SW8270	2-Nitroaniline	88-74-4	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	3-Nitroaniline	99-09-2	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	4-Chloroaniline	106-47-8	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	4-Nitroaniline	100-01-6	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Acenaphthylene	208-96-8	ug/kg	1100		1100	370	U	370	190	J	380	73	J	380	70	J	390
SW8270	Acetophenone	98-86-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Anthracene	120-12-7	ug/kg	510	J	1100	370	U	370	84	J	380	78	J	380	55	J	390
SW8270	Atrazine	1912-24-9	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Benzaldehyde	100-52-7	ug/kg	5800	U	1100	1900	UJ	1900	2000	U	2000	1900	UJ	1900	2000	U	2000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	4400		1100	190	J	370	630		380	280	J	380	210	J	390
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	5100		1100	200	J	370	750		380	290	J	380	250	J	390
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	4600		1100	200	J	370	720		380	330	J	380	260	J	390
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	4000		1100	190	J	370	720		380	240	J	380	230	J	390
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	5100		1100	190	J	370	670		380	380	U	380	190	J	390
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB13			BCSB2			BCSB2R			BCSB3			BCSB3R		
			start_depth:	0			0			0			0			0		
			end_depth:	1.6			2			1			2			1		
			sys_sample_code:	BCSB13AA			BCSB2AA			BCSB2RAA			BCSB3AA			BCSB3RAA		
			sample_date:	12/21/2005 2:00:00 PM			12/9/2005 7:54:00 AM			1/24/2006 10:25:00 AM			12/9/2005 11:13:00 AM			1/24/2006 9:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Carbazole	86-74-8	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Chrysene	218-01-9	ug/kg	4600		1100	250	J	370	650		380	340	J	380	250	J	390
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	1200		1100	46	J	370	170	J	380	75	J	380	74	J	390
SW8270	Dibenzofuran	132-64-9	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Diethylphthalate	84-66-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Dimethylphthalate	131-11-3	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Fluoranthene	206-44-0	ug/kg	5900		1100	280	J	370	1200		380	440		380	370	J	390
SW8270	Fluorene	86-73-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Hexachloroethane	67-72-1	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	3600		1100	170	J	370	600		380	220	J	380	200	J	390
SW8270	Isophorone	78-59-1	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Naphthalene	91-20-3	ug/kg	140	J	1100	370	U	370	380	U	380	39	J	380	390	U	390
SW8270	Nitrobenzene	98-95-3	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Pentachlorophenol	87-86-5	ug/kg	5800	U	5800	1900	U	1900	2000	U	2000	1900	U	1900	2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	1500		1100	120	J	370	280	J	380	180	J	380	190	J	390
SW8270	Phenol	108-95-2	ug/kg	1100	U	1100	370	U	370	380	U	380	380	U	380	390	U	390
SW8270	Pyrene	129-00-0	ug/kg	5700		1100	270	J	370	1100		380	380		380	300	J	390
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	93.755	B	0.616										2.009	J	0.049
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	32.539	B	0.368										5.869	B	0.037
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	4.012		0.864										0.224	JK	0.069
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	29.278		0.376										0.403	J	0.032
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.985	J	0.225										0.043	U	0.043
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.393	U	0.393										0.223	J	0.033
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	4.306		0.217										0.367	J	0.042
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	1.404	J	0.483										0.041	U	0.041
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	3.122		0.214										0.366	JK	0.041
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	3.791		0.208										0.172	JK	0.016
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	2.277	J	0.257										0.13	JK	0.02
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.42	U	0.42										0.083	JK	0.036
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	5.233		0.2										0.178	JK	0.016
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	4.664		3.44										0.996	U	0.996
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.196	U	0.196										0.124	JK	0.02
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	118.813	B	0.531										3.616	UB	0.091
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	149.844	B	0.5										38.441	B	0.091
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg	2.75		1.13	1.56		1.11	1.16	U	1.16	3.37		1.15			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB4			BCSB5			BCSB6			BCSB7			BCSB8		
			start_depth:	0			0			0			0			0		
			end_depth:	0.5			2			1.5			1.5			2		
			sys_sample_code:	BCSB4AA			BCSB5AA			BCSB6AA			BCSB7AA			BCSB8AA		
			sample_date:	1/20/2006 9:25:00 AM			1/24/2006 11:53:00 AM			1/4/2006 10:05:00 AM			1/4/2006 8:45:00 AM			1/4/2006 7:40:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	86.1			91.2			89.9			80.9			88.9		
SW6010	Aluminum	7429-90-5	mg/kg	27700		11.3	90200		31.9	17300		109	20500		124	8800		107
SW6010	Antimony	7440-36-0	mg/kg	6.8	U	6.8	19.2	UJ	19.2	6.5	UJ	6.5	7.1	UJ	7.1	6.6	UJ	6.6
SW6010	Arsenic	7440-38-2	mg/kg	1.9	J	1.1	27.4	J+	3.2	15.2		1.1	9.4		1.2	22.9		1.1
SW6010	Barium	7440-39-3	mg/kg	244		2.3	689	J	6.4	201		2.2	163		2.4	91.5		2.2
SW6010	Beryllium	7440-41-7	mg/kg	5.1		0.56	13.5		1.6	2.7		0.55	2.7		0.59	0.97		0.55
SW6010	Cadmium	7440-43-9	mg/kg	0.87		0.56	10.8		1.6	1.3		0.55	0.94		0.59	4.6		0.55
SW6010	Calcium	7440-70-2	mg/kg	161000		564	173000		532	139000	J	545	115000	J	594	122000	J	551
SW6010	Chromium (total)	7440-47-3	mg/kg	17.5		1.1	148		3.2	27	J	1.1	22.7	J	1.2	35.2	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.6	U	5.6	16	U	16	5.5	U	5.5	5.9	U	5.9	6.5		5.5
SW6010	Copper	7440-50-8	mg/kg	7.3	J	2.3	52.2		6.4	36.6	J	2.2	18.7	J	2.4	60.7	J	2.2
SW6010	Iron	7439-89-6	mg/kg	14300	J	11.3	87500		106	56800	J	109	29500	J	11.9	57600	J	110
SW6010	Lead	7439-92-1	mg/kg	23		0.56	56.2		1.6	45.5		5.5	41.2		5.9	288		5.5
SW6010	Magnesium	7439-95-4	mg/kg	36600	J	56.4	34000		53.2	30800	J	545	28700	J	618	35400	J	536
SW6010	Manganese	7439-96-5	mg/kg	3890		11.3	5240		10.6	2800		10.9	2090		11.9	991		1.1
SW6010	Nickel	7440-02-0	mg/kg	5.1		4.5	22		12.8	14.9		4.4	12.1		4.8	34.8		4.4
SW6010	Potassium	7440-09-7	mg/kg	2270		226	1590		213	1950		218	2460		238	1540		221
SW6010	Selenium	7782-49-2	mg/kg	4.6		1.1	9.5		3.2	16.4	U	16.4	17.8	U	17.8	16.5	U	16.5
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	3.2	U	3.2	1.1	U	1.1	1.2	U	1.2	1.4		1.1
SW6010	Sodium	7440-23-5	mg/kg	1130		56.4	1350		53.2	717		54.5	651		59.4	336		55.1
SW6010	Thallium	7440-28-0	mg/kg	22.6	U	22.6	47.9	U	47.9	16.4	U	16.4	17.8	U	17.8	16.5	U	16.5
SW6010	Vanadium	7440-62-2	mg/kg	22		5.6	133		16	22.1	J	5.5	25.6	J	5.9	37.9	J	5.5
SW6010	Zinc	7440-66-6	mg/kg	61.1		2.3	52.9		2.1	252		21.8	140		2.4	851		22.1
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.3	J	0.04	0.06	J	0.04	0.14	J	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	38	U	38	36	U	36	370	U	370	41	U	41	190	U	190
SW8082	Aroclor 1221	11104-28-2	ug/kg	78	U	78	73	U	73	750	U	750	83	U	83	380	U	380
SW8082	Aroclor 1232	11141-16-5	ug/kg	38	U	38	36	U	36	370	U	370	41	U	41	190	U	190
SW8082	Aroclor 1242	53469-21-9	ug/kg	38	U	38	36	U	36	370	U	370	41	U	41	190	U	190
SW8082	Aroclor 1248	12672-29-6	ug/kg	38	U	38	36	U	36	370	U	370	41	U	41	190	U	190
SW8082	Aroclor 1254	11097-69-1	ug/kg	38	U	38	36	U	36	370	U	370	41	U	41	190	U	190
SW8082	Aroclor 1260	11096-82-5	ug/kg	38	U	38	86		36	1500		370	31	J	41	910		190
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	0.89	J	4.3
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	0.3	J	4.3
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	2-Butanone	78-93-3	ug/kg	14	U	14	15	U	15	1.8	J	9.7	10	U	10	7.8	J	8.7
SW8260	2-Hexanone	591-78-6	ug/kg	14	U	14	15	U	15	9.7	U	9.7	10	U	10	1.2	J	8.7
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	14	U	14	15	U	15	9.7	U	9.7	10	U	10	8.7	U	8.7
SW8260	Acetone	67-64-1	ug/kg	28	U	28	29	U	29	14	J	19	15	J	20	65		17
SW8260	Benzene	71-43-2	ug/kg	7.1	U	7.1	19		7.3	0.63	J	4.8	1.1	J	5.1	0.98	J	4.3
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Bromoform	75-25-2	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Bromomethane	74-83-9	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Carbon disulfide	75-15-0	ug/kg	1	J	14	7.8	J	15	1.6	J	9.7	5.8	J	10	3.6	J	8.7
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Chlorobenzene	108-90-7	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Chloroethane	75-00-3	ug/kg	14	U	14	15	U	15	9.7	U	9.7	10	U	10	8.7	U	8.7
SW8260	Chloroform	67-66-3	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Chloromethane	74-87-3	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB4			BCSB5			BCSB6			BCSB7			BCSB8		
			start_depth:	0			0			0			0			0		
			end_depth:	0.5			2			1.5			1.5			2		
			sys_sample_code:	BCSB4AA			BCSB5AA			BCSB6AA			BCSB7AA			BCSB8AA		
			sample_date:	1/20/2006 9:25:00 AM			1/24/2006 11:53:00 AM			1/4/2006 10:05:00 AM			1/4/2006 8:45:00 AM			1/4/2006 7:40:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Cyclohexane	110-82-7	ug/kg	7.1	U	7.1	7.3	U	7.3	0.86	J	4.8	1.1	J	5.1	0.67	J	4.3
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Ethylbenzene	100-41-4	ug/kg	7.1	U	7.1	18		7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.1	U	7.1	3.1	J	7.3	4.8	U	4.8	5.1	U	5.1	2.9	J	4.3
SW8260	m+p-Xylene	XYLMP	ug/kg	7.1	U	7.1	12		7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Methyl acetate	79-20-9	ug/kg	14	U	14	15	U	15	9.7	U	9.7	10	U	10	8.7	U	8.7
SW8260	Methylcyclohexane	108-87-2	ug/kg	7.1	U	7.1	7.3	U	7.3	1.6	J	4.8	1.7	J	5.1	1.6	J	4.3
SW8260	Methylene chloride	75-09-2	ug/kg	7.1	U	7.1	7.3	U	7.3	0.37	J	4.8	5.1	UB	5.1	4.3	UB	4.3
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	o-Xylene	95-47-6	ug/kg	7.1	U	7.1	6.2	J	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Styrene	100-42-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.1	U	7.1	7.3	U	7.3	1.2	J	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Toluene	108-88-3	ug/kg	7.1	U	7.1	24		7.3	0.43	J	4.8	0.85	J	5.1	0.64	J	4.3
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Trichloroethene	79-01-6	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7.1	U	7.1	7.3	U	7.3	0.69	J	4.8	2.7	J	5.1	4.3	U	4.3
SW8260	Vinyl chloride	75-01-4	ug/kg	7.1	U	7.1	7.3	U	7.3	4.8	U	4.8	5.1	U	5.1	4.3	U	4.3
SW8270	1,1-Biphenyl	92-52-4	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	380	U	380	180	J	1400	1800	U	1800	74	J	410	110	J	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	40	J	370
SW8270	Acenaphthylene	208-96-8	ug/kg	380	U	380	1400	U	1400	1200	J	1800	99	J	410	130	J	370
SW8270	Acetophenone	98-86-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	380	U	380	2400		1400	1800	J	1800	84	J	410	210	J	370
SW8270	Atrazine	1912-24-9	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	130	J	380	7100		1400	4600		1800	330	J	410	720		370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	160	J	380	5500		1400	4200		1800	350	J	410	620		370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	190	J	380	4800		1400	3700		1800	400	J	410	740		370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	150	J	380	3400		1400	3300		1800	270	J	410	530		370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	150	J	380	5200		1400	4000		1800	350	J	410	700		370
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	79	J	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB4			BCSB5			BCSB6			BCSB7			BCSB8		
			start_depth:	0			0			0			0			0		
			end_depth:	0.5			2			1.5			1.5			2		
			sys_sample_code:	BCSB4AA			BCSB5AA			BCSB6AA			BCSB7AA			BCSB8AA		
			sample_date:	1/20/2006 9:25:00 AM			1/24/2006 11:53:00 AM			1/4/2006 10:05:00 AM			1/4/2006 8:45:00 AM			1/4/2006 7:40:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	380	U	380	890	J	1400	430	J	1800	410	U	410	110	J	370
SW8270	Chrysene	218-01-9	ug/kg	160	J	380	6900		1400	5300		1800	400	J	410	840		370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	53	J	380	1200	J	1400	830	J	1800	74	J	410	180	J	370
SW8270	Dibenzofuran	132-64-9	ug/kg	380	U	380	700	J	1400	200	J	1800	410	U	410	71	J	370
SW8270	Diethylphthalate	84-66-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	200	J	380	16000		1400	10000		1800	430		410	1600		370
SW8270	Fluorene	86-73-7	ug/kg	380	U	380	1100	J	1400	360	J	1800	410	U	410	83	J	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Hexachloroethane	67-72-1	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	130	J	380	3300		1400	2800		1800	250	J	410	480		370
SW8270	Isophorone	78-59-1	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	380	U	380	230	J	1400	220	J	1800	74	J	410	220	J	370
SW8270	Nitrobenzene	98-95-3	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	7500	U	7500	9500	U	9500	2100	U	2100	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	89	J	380	11000		1400	5200		1800	160	J	410	900		370
SW8270	Phenol	108-95-2	ug/kg	380	U	380	1400	U	1400	1800	U	1800	410	U	410	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	160	J	380	12000		1400	8200		1800	440		410	1200		370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	1.831	UB	0.078										13.964		0.044
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	6.665		0.068										70.198	B	0.128
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.188		0.11										1.485	J	0.062
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.288		0.026										6.428	J	0.079
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.143		0.023										1.61	J	0.033
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.203		0.027										2.855		0.083
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.222		0.023										5.148		0.032
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.033		0.033										0.599	J	0.102
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.367		0.022										5.281		0.031
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.021		0.021										3.405		0.035
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.024		0.024										2.569		0.049
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.029		0.029										0.788	J	0.088
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.102		0.02										4.587		0.033
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.617	U	0.617										6.544		3.129
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.018		0.018										1.108		0.037
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	4.064		0.118										21.022	B	0.064
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	39.705	JB	0.092										309.066	B	0.046
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg	1.16	U	1.16	1.44		1.1	4.28	J	1.11	6.43	J	1.24	3.4	J	1.12

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB9			BDSB1			BDSB1			BDSB2			BDSB2		
			start_depth:	0			0			0			0			0		
			end_depth:	2			0.4			0.4			0.8			1.5		
			sys_sample_code:	BCSB9AA			BDSB1AA			BDSB1AB			BDSB2AA			BDSB2AAR		
			sample_date:	1/3/2006 2:10:00 PM			10/31/2005 9:45:00 AM			10/31/2005 9:45:00 AM			10/28/2005 2:43:00 PM			12/21/2005 7:50:00 AM		
			sample_type_code:	N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	88.3			79.6		1.26	79.7		1.25	86.6		1.15			
SW6010	Aluminum	7429-90-5	mg/kg	22100		111	25000		12.6	22600		12.5	23300		11			
SW6010	Antimony	7440-36-0	mg/kg	6.5	UJ	6.5	7.5	UJ	7.5	7.5	UJ	7.5	6.6	UJ	6.6			
SW6010	Arsenic	7440-38-2	mg/kg	33.6		1.1	9.8		1.3	9.9		1.3	30.3		1.1			
SW6010	Barium	7440-39-3	mg/kg	191		2.2	279		2.5	235		2.5	235		2.2			
SW6010	Beryllium	7440-41-7	mg/kg	2.7		0.54	1.5		0.63	1.2		0.63	2		0.55			
SW6010	Cadmium	7440-43-9	mg/kg	9.3		0.54	1.8		0.63	2.1		0.63	2.5		0.55			
SW6010	Calcium	7440-70-2	mg/kg	90700	J	544	161000	J	628	158000	J	627	131000	J	550			
SW6010	Chromium (total)	7440-47-3	mg/kg	52.9	J	1.1	32.4		1.3	42.1		1.3	80.1	J	1.1			
SW6010	Cobalt	7440-48-4	mg/kg	8.8		5.4	6.3	U	6.3	6.3	U	6.3	5.5	U	5.5			
SW6010	Copper	7440-50-8	mg/kg	99.1	J	2.2	50.9		2.5	56.3		2.5	46.5		2.2			
SW6010	Iron	7439-89-6	mg/kg	118000	J	109	44200		12.6	46500		12.5	127000		110			
SW6010	Lead	7439-92-1	mg/kg	408		5.4	141	J	0.63	200	J	0.63	114	J	0.55			
SW6010	Magnesium	7439-95-4	mg/kg	21300	J	555	35200	J	62.8	36300	J	62.7	25600	J	55			
SW6010	Manganese	7439-96-5	mg/kg	3520		10.9	3610		12.6	3100		12.5	4920		11			
SW6010	Nickel	7440-02-0	mg/kg	36.7		4.4	17.2		5	13.6		5	11.7		4.4			
SW6010	Potassium	7440-09-7	mg/kg	2150		218	1930		251	2060		251	1880		220			
SW6010	Selenium	7782-49-2	mg/kg	16.3	U	16.3	1.7		1.3	1.3	U	1.3	1.1	U	1.1			
SW6010	Silver	7440-22-4	mg/kg	2.4		1.1	1.3	U	1.3	1.3	U	1.3	1.1	U	1.1			
SW6010	Sodium	7440-23-5	mg/kg	611		54.4	920		62.8	1090		62.7	906		55			
SW6010	Thallium	7440-28-0	mg/kg	16.3	U	16.3	6.3	U	6.3	6.3	U	6.3	5.5	U	5.5			
SW6010	Vanadium	7440-62-2	mg/kg	25.5	J	5.4	26.5		6.3	26.8		6.3	54.3		5.5			
SW6010	Zinc	7440-66-6	mg/kg	3790		21.8	329		25.1	340		25.1	343		22			
SW7470	Mercury	7439-97-6	mg/kg	4.4	J	0.18	0.62	J	0.04	0.28	J	0.04	0.32	J	0.04			
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	210	U	210	210	U	210	38	U	38			
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76	420	U	420	420	U	420	77	U	77			
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	210	U	210	210	U	210	38	U	38			
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	210	U	210	210	U	210	38	U	38			
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	210	U	210	210	U	210	38	U	38			
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	210	U	210	210	U	210	38	U	38			
SW8082	Aroclor 1260	11096-82-5	ug/kg	120		37	1200		210	1300		210	300		38			
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	2-Butanone	78-93-3	ug/kg	10	U	10	10	U	10				11	U	11			
SW8260	2-Hexanone	591-78-6	ug/kg	10	U	10	10	U	10				11	U	11			
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	U	10	10	U	10				11	U	11			
SW8260	Acetone	67-64-1	ug/kg	14	J	21	6.8	J	21				2.9	J	21			
SW8260	Benzene	71-43-2	ug/kg	5.2	U	5.2	0.44	J	5.2				5.3	U	5.3			
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Bromoform	75-25-2	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Bromomethane	74-83-9	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Carbon disulfide	75-15-0	ug/kg	2.3	J	10	0.88	J	10				11	U	11			
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Chlorobenzene	108-90-7	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Chloroethane	75-00-3	ug/kg	10	U	10	10	U	10				11	U	11			
SW8260	Chloroform	67-66-3	ug/kg	5.2	U	5.2	5.2	U	5.2				0.32	J	5.3			
SW8260	Chloromethane	74-87-3	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB9			BDSB1			BDSB1			BDSB2			BDSB2		
			start_depth:	0			0			0			0			0		
			end_depth:	2			0.4			0.4			0.8			1.5		
			sys_sample_code:	BCSB9AA			BDSB1AA			BDSB1AB			BDSB2AA			BDSB2AAR		
			sample_date:	1/3/2006 2:10:00 PM			10/31/2005 9:45:00 AM			10/31/2005 9:45:00 AM			10/28/2005 2:43:00 PM			12/21/2005 7:50:00 AM		
			sample_type_code:	N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Cyclohexane	110-82-7	ug/kg	1.1	J	5.2	1.2	J	5.2				0.38	J	5.3			
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Ethylbenzene	100-41-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	m+p-Xylene	XYLMP	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Methyl acetate	79-20-9	ug/kg	10	U	10	10	U	10				11	U	11			
SW8260	Methylcyclohexane	108-87-2	ug/kg	2.3	J	5.2	1.2	J	5.2				0.47	J	5.3			
SW8260	Methylene chloride	75-09-2	ug/kg	5.2	U	5.2	5.2	UB	5.2				5.3	U	5.3			
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	o-Xylene	95-47-6	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Styrene	100-42-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Toluene	108-88-3	ug/kg	0.32	J	5.2	0.36	J	5.2				5.3	U	5.3			
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Trichloroethene	79-01-6	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.2	U	5.2	5.2	U	5.2				0.42	J	5.3			
SW8260	Vinyl chloride	75-01-4	ug/kg	5.2	U	5.2	5.2	U	5.2				5.3	U	5.3			
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	150	J	370	250	J	2100	2100	U	2100	1900	U	1900			
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	2100	UJ	2100	2100	UJ	2100	1900	UJ	1900			
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	570	J	2100	2100	U	2100	1900	U	1900			
SW8270	Acenaphthylene	208-96-8	ug/kg	93	J	370	2100		2100	1400	J	2100	360	J	1900			
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Anthracene	120-12-7	ug/kg	69	J	370	3800		2100	1400	J	2100	450	J	1900			
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	U	1900	11000	UJ	11000	11000	UJ	11000	9800	UJ	9800			
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	180	J	370	10000		2100	5400		2100	1400	J	1900			
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	280	J	370	9300		2100	5600		2100	1300	J	1900			
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	370		370	8200		2100	5300		2100	1300	J	1900			
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	290	J	370	7000		2100	4900		2100	1200	J	1900			
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	320	J	370	8700		2100	5000		2100	1100	J	1900			
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BCSB9			BDSB1			BDSB1			BDSB2			BDSB2		
			start_depth:	0			0			0			0			0		
			end_depth:	2			0.4			0.4			0.8			1.5		
			sys_sample_code:	BCSB9AA			BDSB1AA			BDSB1AB			BDSB2AA			BDSB2AAR		
			sample_date:	1/3/2006 2:10:00 PM			10/31/2005 9:45:00 AM			10/31/2005 9:45:00 AM			10/28/2005 2:43:00 PM			12/21/2005 7:50:00 AM		
			sample_type_code:	N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	370	U	370	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	Carbazole	86-74-8	ug/kg	370	U	370	1500	J	2100	430	J	2100	1900	U	1900			
SW8270	Chrysene	218-01-9	ug/kg	290	J	370	11000	J	2100	6000	J	2100	1500	J	1900			
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	70	J	370	1800	J	2100	1200	J	2100	250	J	1900			
SW8270	Dibenzofuran	132-64-9	ug/kg	43	J	370	750	J	2100	230	J	2100	1900	U	1900			
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Fluoranthene	206-44-0	ug/kg	270	J	370	25000	J	2100	11000	J	2100	2400		1900			
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	1400	J	2100	250	J	2100	1900	U	1900			
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	260	J	370	6300		2100	4300		2100	1000	J	1900			
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Naphthalene	91-20-3	ug/kg	120	J	370	450	J	2100	290	J	2100	1900	U	1900			
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	11000	U	11000	11000	U	11000	9800	U	9800			
SW8270	Phenanthrene	85-01-8	ug/kg	180	J	370	14000	J	2100	4100	J	2100	1400	J	1900			
SW8270	Phenol	108-95-2	ug/kg	370	U	370	2100	U	2100	2100	U	2100	1900	U	1900			
SW8270	Pyrene	129-00-0	ug/kg	250	J	370	19000	J	2100	9200	J	2100	2200		1900			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										85.863	B	0.042	6.932		0.161
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										21.97	B	0.051	12.95	B	0.339
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										2.691		0.054	0.458	JK	0.225
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										19.813		0.036	1.373	JK	0.079
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										0.604	J	0.035	0.087	U	0.087
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										5.998		0.036	0.531	J	0.082
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										1.53	J	0.032	0.507	J	0.084
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.123	J	0.043	0.101	U	0.101
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										1.219	J	0.033	0.712	J	0.083
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										3.239		0.122	0.272	J	0.03
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										0.991	J	0.055	0.06	U	0.06
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										2.78		0.038	0.413	J	0.088
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										3.195		0.114	0.315	J	0.029
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										2.455		1.256	0.486	U	0.486
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										0.267	JK	0.04	0.047	U	0.047
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										96.875	B	0.048	9.848		0.185
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										104.205	B	0.049	81.451	B	0.402
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg	14.8	J	1.13	1.63		1.26	1.43		1.25	2.01		1.15			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BDSB3			BDSB5			BDSB6			BDSB7			BDSB8		
			start_depth:	0			0			0			0			0		
			end_depth:	1			1			0.6			0.8			0.8		
			sys_sample_code:	BDSB3AA			BDSB5AA			BDSB6AA			BDSB7AA			BDSB8AA		
			sample_date:	12/21/2005 9:50:00 AM			10/28/2005 2:00:00 PM			10/28/2005 1:36:00 PM			10/28/2005 1:10:00 PM			10/28/2005 2:21:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	83			86.1		1.16	83.8		1.19	86.1		1.16	80.8		1.24
SW6010	Aluminum	7429-90-5	mg/kg	10700	J	11.5	13600		11.1	19600		11.6	14300		11.5	28800		11.9
SW6010	Antimony	7440-36-0	mg/kg	6.9	U	6.9	6.6	UJ	6.6	7	UJ	7	6.9	UJ	6.9	7.1	UJ	7.1
SW6010	Arsenic	7440-38-2	mg/kg	10.5		1.1	11		1.1	11		1.2	9.3		1.1	7.8		1.2
SW6010	Barium	7440-39-3	mg/kg	79.4	J	2.3	145		2.2	252		2.3	163		2.3	373		2.4
SW6010	Beryllium	7440-41-7	mg/kg	0.84		0.57	0.55	U	0.55	1.8		0.58	0.57	U	0.57	1.6		0.6
SW6010	Cadmium	7440-43-9	mg/kg	0.73		0.57	1.1		0.55	1.3		0.58	1.1		0.57	2.3		0.6
SW6010	Calcium	7440-70-2	mg/kg	103000		574	46400	J	55.3	135000	J	579	86900	J	575	183000	J	595
SW6010	Chromium (total)	7440-47-3	mg/kg	14	J	1.1	41.5	J	1.1	47.7	J	1.2	150	J	1.1	35.5	J	1.2
SW6010	Cobalt	7440-48-4	mg/kg	5.7	U	5.7	7.6		5.5	5.8	U	5.8	6		5.7	6	U	6
SW6010	Copper	7440-50-8	mg/kg	15.7		2.3	62.9		2.2	164		2.3	57.8		2.3	41.1		2.4
SW6010	Iron	7439-89-6	mg/kg	45800		11.5	74300		111	69200		116	67200		115	23300		11.9
SW6010	Lead	7439-92-1	mg/kg	14.2		5.7	128	J	0.55	132	J	0.58	112	J	0.57	327	J	0.6
SW6010	Magnesium	7439-95-4	mg/kg	30400		591	11700	J	55.3	17300	J	57.9	11800	J	57.5	34200	J	59.5
SW6010	Manganese	7439-96-5	mg/kg	1090		1.1	1960		11.1	4270		11.6	4180		11.5	4800		11.9
SW6010	Nickel	7440-02-0	mg/kg	11.6		4.6	20.4		4.4	21.4		4.6	17.1		4.6	12.1		4.8
SW6010	Potassium	7440-09-7	mg/kg	1510	J-	229	1660		221	2040		232	1570		230	2280		238
SW6010	Selenium	7782-49-2	mg/kg	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1	2.4		1.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	292	J	57.4	228		55.3	581		57.9	359		57.5	1070		59.5
SW6010	Thallium	7440-28-0	mg/kg	22.9	U	22.9	5.5	U	5.5	5.8	U	5.8	5.7	U	5.7	6	U	6
SW6010	Vanadium	7440-62-2	mg/kg	19.2		5.7	37.2		5.5	35.8		5.8	42.8		5.7	19.8		6
SW6010	Zinc	7440-66-6	mg/kg	46.6		2.3	355		22.1	355		23.2	293		23	1050		23.8
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.5	J	0.04	0.24	J	0.04	0.33	J.	0.04	0.37	J	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	40	U	40	38	U	38	39	U	39	38	U	38	410	U	410
SW8082	Aroclor 1221	11104-28-2	ug/kg	81	U	81	78	U	78	80	U	80	78	U	78	830	U	830
SW8082	Aroclor 1232	11141-16-5	ug/kg	40	U	40	38	U	38	39	U	39	38	U	38	410	U	410
SW8082	Aroclor 1242	53469-21-9	ug/kg	40	U	40	38	U	38	39	U	39	38	U	38	410	U	410
SW8082	Aroclor 1248	12672-29-6	ug/kg	40	U	40	38	U	38	39	U	39	38	U	38	410	U	410
SW8082	Aroclor 1254	11097-69-1	ug/kg	40	U	40	38	U	38	39	U	39	38	U	38	410	U	410
SW8082	Aroclor 1260	11096-82-5	ug/kg	40	U	40	320	J	38	94		39	95		38	2000		410
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	2-Butanone	78-93-3	ug/kg	2.5	J	10	11	U	11	11	U	11	10	U	10	8	J	12
SW8260	2-Hexanone	591-78-6	ug/kg	10	U	10	11	U	11	11	U	11	10	U	10	12	U	12
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	U	10	11	U	11	11	U	11	10	U	10	12	U	12
SW8260	Acetone	67-64-1	ug/kg	13	J	20	60		22	11	J	22	63		20	170		24
SW8260	Benzene	71-43-2	ug/kg	0.67	J	5	0.81	J	5.5	5.4	U	5.4	5.1	U	5.1	0.45	J	6.1
SW8260	Bromodichloromethane	75-27-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Bromoform	75-25-2	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Bromomethane	74-83-9	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Carbon disulfide	75-15-0	ug/kg	1.2	J	10	1.5	J	11	0.73	J	11	0.41	J	10	0.56	J	12
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Chlorobenzene	108-90-7	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Chloroethane	75-00-3	ug/kg	10	U	10	11	U	11	11	U	11	10	U	10	12	U	12
SW8260	Chloroform	67-66-3	ug/kg	5	U	5	0.56	J	5.5	5.4	U	5.4	5.1	U	5.1	0.43	J	6.1
SW8260	Chloromethane	74-87-3	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BDSB3			BDSB5			BDSB6			BDSB7			BDSB8		
			start_depth:	0			0			0			0			0		
			end_depth:	1			1			0.6			0.8			0.8		
			sys_sample_code:	BDSB3AA			BDSB5AA			BDSB6AA			BDSB7AA			BDSB8AA		
			sample_date:	12/21/2005 9:50:00 AM			10/28/2005 2:00:00 PM			10/28/2005 1:36:00 PM			10/28/2005 1:10:00 PM			10/28/2005 2:21:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Cyclohexane	110-82-7	ug/kg	2.2	J	5	2	J	5.5	1.1	J	5.4	0.67	J	5.1	0.61	J	6.1
SW8260	Dibromochloromethane	124-48-1	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Ethylbenzene	100-41-4	ug/kg	0.3	J	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Isopropylbenzene	98-82-8	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	m+p-Xylene	XYLMP	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Methyl acetate	79-20-9	ug/kg	10	U	10	11	U	11	11	U	11	10	U	10	12	U	12
SW8260	Methylcyclohexane	108-87-2	ug/kg	2.5	J	5	2	J	5.5	1.1	J	5.4	0.89	J	5.1	0.59	J	6.1
SW8260	Methylene chloride	75-09-2	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	o-Xylene	95-47-6	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Styrene	100-42-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Tetrachloroethene	127-18-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Toluene	108-88-3	ug/kg	0.94	J	5	0.52	J	5.5	5.4	U	5.4	5.1	U	5.1	0.48	J	6.1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Trichloroethene	79-01-6	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8260	Vinyl chloride	75-01-4	ug/kg	5	U	5	5.5	U	5.5	5.4	U	5.4	5.1	U	5.1	6.1	U	6.1
SW8270	1,1-Biphenyl	92-52-4	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900		R	11000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2-Chlorophenol	95-57-8	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	47	J	400	1900	U	1900	2000	U	2000	260	J	1100	2000	U	2000
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900	11000	U	11000
SW8270	2-Nitrophenol	88-75-5	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	400	U	400	1900	UJ	1900	2000	UJ	2000	1100	UJ	1100	2000	UJ	2000
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900	11000	U	11000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900	11000	UJ	11000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	4-Chloroaniline	106-47-8	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	UJ	2000
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900	11000	U	11000
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900	11000	U	11000
SW8270	Acenaphthene	83-32-9	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Acenaphthylene	208-96-8	ug/kg	80	J	400	200	J	1900	880	J	2000	640	J	1100	530	J	2000
SW8270	Acetophenone	98-86-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Anthracene	120-12-7	ug/kg	83	J	400	1900	U	1900	1700	J	2000	1400		1100	500	J	2000
SW8270	Atrazine	1912-24-9	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	400	9900	UJ	9900	10000	UJ	10000	5900	UJ	5900	11000	UJ	11000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	310	J	400	1200	J	1900	4500		2000	2800		1100	1500	J	2000
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	370	J	400	1200	J	1900	3700		2000	2300		1100	1600	J	2000
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	460		400	1200	J	1900	3300		2000	2100		1100	1500	J	2000
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	300	J	400	1100	J	1900	2700		2000	1900		1100	1700	J	2000
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	370	J	400	1100	J	1900	3600		2000	2400		1100	1400	J	2000
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	5300		2000
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	1500	J	2000

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BDSB3			BDSB5			BDSB6			BDSB7			BDSB8		
			start_depth:	0			0			0			0			0		
			end_depth:	1			1			0.6			0.8			0.8		
			sys_sample_code:	BDSB3AA			BDSB5AA			BDSB6AA			BDSB7AA			BDSB8AA		
			sample_date:	12/21/2005 9:50:00 AM			10/28/2005 2:00:00 PM			10/28/2005 1:36:00 PM			10/28/2005 1:10:00 PM			10/28/2005 2:21:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	400	U	400	9900	U	9900	10000	U	10000	5900	U	5900	11000	U	11000
SW8270	Carbazole	86-74-8	ug/kg	400	U	400	1900	U	1900	240	J	2000	260	J	1100	2000	U	2000
SW8270	Chrysene	218-01-9	ug/kg	390	J	400	1300	J	1900	4500		2000	2800		1100	1700	J	2000
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	77	J	400	340	J	1900	840	J	2000	520	J	1100	350	J	2000
SW8270	Dibenzofuran	132-64-9	ug/kg	400	U	400	1900	U	1900	260	J	2000	390	J	1100	2000	U	2000
SW8270	Diethylphthalate	84-66-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Dimethylphthalate	131-11-3	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Fluoranthene	206-44-0	ug/kg	540		400	1700	J	1900	10000		2000	6000		1100	3000		2000
SW8270	Fluorene	86-73-7	ug/kg	47	J	400	1900	U	1900	490	J	2000	650	J	1100	2000	U	2000
SW8270	Hexachlorobenzene	118-74-1	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Hexachloroethane	67-72-1	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	280	J	400	930	J	1900	2400		2000	1600		1100	1400	J	2000
SW8270	Isophorone	78-59-1	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Naphthalene	91-20-3	ug/kg	51	J	400	1900	U	1900	210	J	2000	270	J	1100	2000	U	2000
SW8270	Nitrobenzene	98-95-3	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	9900	U	9900	10000	U	10000	5900	U	5900	11000	U	11000
SW8270	Phenanthrene	85-01-8	ug/kg	390	J	400	590	J	1900	6100		2000	4800		1100	1500	J	2000
SW8270	Phenol	108-95-2	ug/kg	400	U	400	1900	U	1900	2000	U	2000	1100	U	1100	2000	U	2000
SW8270	Pyrene	129-00-0	ug/kg	480		400	1600	J	1900	8100		2000	4500		1100	2500		2000
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				15.991	B	0.035							296.081	B	0.129
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				51.876	B	0.065							135.241	B	0.091
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				1.459	J	0.045							8.75		0.167
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				5.262		0.032							65.489		0.058
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.398	J	0.048							0.853	J	0.042
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				1.94	J	0.031							17.13		0.058
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				1.44	J	0.043							4.482		0.038
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				0.056	J	0.037							0.177	J	0.069
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				0.729	J	0.044							2.499	J	0.039
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				1.331	J	0.042							9.178		0.125
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				0.709	J	0.076							1.303	J	0.061
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				1.251	J	0.033							6.22		0.061
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				2.042	J	0.039							7.538		0.117
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				2.003		0.455							4.935		0.366
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.146	JK	0.058							0.611	J	0.052
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				36.058	B	0.066							401.017	B	0.094
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				575.917	B	0.079							1079.465	B	0.096
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg	1.37		1.2	1.66		1.16	1.19	U	1.19	1.16	U	1.16	2.76		1.24

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BDSB8			BESB1			BESB2			BESB3			BESB3		
			start_depth:	0			0			0			0			0		
			end_depth:	1.1			2			2			2			2		
			sys_sample_code:	BDSB8AAR			BESB1AA			BESB2AA			BESB3AA			BESB3AB		
			sample_date:	12/20/2005 8:13:00 AM			10/28/2005 11:15:00 AM			10/26/2005 10:24:00 AM			10/28/2005 10:44:00 AM			10/28/2005 10:44:00 AM		
			sample_type_code:	N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent				91.9		1.09	90.5			90.5		1.1	78.6		1.27
SW6010	Aluminum	7429-90-5	mg/kg				5350		10.8	5570		10.5	5780		10.5	6520		12.1
SW6010	Antimony	7440-36-0	mg/kg				6.5	UJ	6.5	6.3	U	6.3	6.3	UJ	6.3	7.3	UJ	7.3
SW6010	Arsenic	7440-38-2	mg/kg				4.6		1.1	4.9		1.1	4.9		1.1	5		1.2
SW6010	Barium	7440-39-3	mg/kg				53.1		2.2	53.1		2.1	54.8		2.1	63		2.4
SW6010	Beryllium	7440-41-7	mg/kg				0.54	U	0.54	0.53	U	0.53	0.53	U	0.53	0.61	U	0.61
SW6010	Cadmium	7440-43-9	mg/kg				0.54	U	0.54	0.53	U	0.53	0.53	U	0.53	0.61	U	0.61
SW6010	Calcium	7440-70-2	mg/kg				96000	J	539	83400		526	86100	J	526	86900	J	606
SW6010	Chromium (total)	7440-47-3	mg/kg				11.4	J	1.1	11.4		1.1	11.8		1.1	13		1.2
SW6010	Cobalt	7440-48-4	mg/kg				5.4	U	5.4	5.3	U	5.3	5.3	U	5.3	6.1	U	6.1
SW6010	Copper	7440-50-8	mg/kg				12.8		2.2	11.8		2.1	12.5		2.1	14.9		2.4
SW6010	Iron	7439-89-6	mg/kg				11000		10.8	11300		10.5	11000		10.5	12300		12.1
SW6010	Lead	7439-92-1	mg/kg				13	J	0.54	14.5	J	0.53	14.5		0.53	18.1		0.61
SW6010	Magnesium	7439-95-4	mg/kg				24100	J	53.9	25300		52.6	25200	J	52.6	27800	J	60.6
SW6010	Manganese	7439-96-5	mg/kg				351		1.1	372	J	1.1	343		1.1	400		1.2
SW6010	Nickel	7440-02-0	mg/kg				9.9		4.3	10.9		4.2	10.1		4.2	11.7		4.8
SW6010	Potassium	7440-09-7	mg/kg				862		215	794		210	905		210	1120		242
SW6010	Selenium	7782-49-2	mg/kg				1.1	U	1.1	1.1	UJ	1.1	1.1	U	1.1	1.2	U	1.2
SW6010	Silver	7440-22-4	mg/kg				1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg				133		53.9	128		52.6	128		52.6	149		60.6
SW6010	Thallium	7440-28-0	mg/kg				5.4	U	5.4	5.3	U	5.3	5.3	U	5.3	6.1	U	6.1
SW6010	Vanadium	7440-62-2	mg/kg				16.3		5.4	17.5		5.3	17.2		5.3	19.5		6.1
SW6010	Zinc	7440-66-6	mg/kg				46.3		2.2	45		2.1	46.3		2.1	54.6		2.4
SW7470	Mercury	7439-97-6	mg/kg				0.04	J	0.04	0.04		0.04	0.07		0.04	0.05		0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg				36	U	36				36	U	36	42	U	42
SW8082	Aroclor 1221	11104-28-2	ug/kg				73	U	73				74	U	74	85	U	85
SW8082	Aroclor 1232	11141-16-5	ug/kg				36	U	36				36	U	36	42	U	42
SW8082	Aroclor 1242	53469-21-9	ug/kg				36	U	36				36	U	36	42	U	42
SW8082	Aroclor 1248	12672-29-6	ug/kg				35	J	36				32	J	36	36	J	42
SW8082	Aroclor 1254	11097-69-1	ug/kg				36	U	36				36	U	36	42	U	42
SW8082	Aroclor 1260	11096-82-5	ug/kg				64		36				24	J	36	42	U	42
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,1-Dichloroethane	75-34-3	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,1-Dichloroethene	75-35-4	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,2-Dibromoethane	106-93-4	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,2-Dichloroethane	107-06-2	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,2-Dichloropropane	78-87-5	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	2-Butanone	78-93-3	ug/kg				10	U	10	10	U	10	9.6	U	9.6	11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg				10	U	10	10	U	10	9.6	U	9.6	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg				10	U	10	10	U	10	9.6	U	9.6	11	U	11
SW8260	Acetone	67-64-1	ug/kg				6	J	20	8.5	J	20	19	U	19	21	U	21
SW8260	Benzene	71-43-2	ug/kg				1	J	5	1.1	J	5	0.36	J	4.8	0.79	J	5.3
SW8260	Bromodichloromethane	75-27-4	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	Bromoform	75-25-2	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Bromomethane	74-83-9	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	Carbon disulfide	75-15-0	ug/kg				10	U	10	10	U	10	9.6	U	9.6	11	U	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Chlorobenzene	108-90-7	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Chloroethane	75-00-3	ug/kg				10	U	10	10	U	10	9.6	U	9.6	11	U	11
SW8260	Chloroform	67-66-3	ug/kg				0.42	J	5	0.34	J	5	0.31	J	4.8	0.34	J	5.3
SW8260	Chloromethane	74-87-3	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	BDSB8			BESB1			BESB2			BESB3			BESB3		
			start_depth:	0			0			0			0			0		
			end_depth:	1.1			2			2			2			2		
			sys_sample_code:	BDSB8AAR			BESB1AA			BESB2AA			BESB3AA			BESB3AB		
			sample_date:	12/20/2005 8:13:00 AM			10/28/2005 11:15:00 AM			10/26/2005 10:24:00 AM			10/28/2005 10:44:00 AM			10/28/2005 10:44:00 AM		
			sample_type_code:	N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Cyclohexane	110-82-7	ug/kg				2	J	5	2.9	J	5	1.2	J	4.8	2.4	J	5.3
SW8260	Dibromochloromethane	124-48-1	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	Ethylbenzene	100-41-4	ug/kg				0.38	J	5	0.53	J	5	4.8	U	4.8	5.3	U	5.3
SW8260	Isopropylbenzene	98-82-8	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	m+p-Xylene	XYLMP	ug/kg				0.64	J	5	0.77	J	5	4.8	U	4.8	5.3	U	5.3
SW8260	Methyl acetate	79-20-9	ug/kg				10	U	10	10	U	10	9.6	U	9.6	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg				2.6	J	5	3.5	J	5	1.8	J	4.8	3.1	J	5.3
SW8260	Methylene chloride	75-09-2	ug/kg				0.45	J	5	0.4	J	5	4.8	U	4.8	0.33	J	5.3
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	o-Xylene	95-47-6	ug/kg				5	U	5	0.33	J	5	4.8	U	4.8	5.3	U	5.3
SW8260	Styrene	100-42-5	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Tetrachloroethene	127-18-4	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Toluene	108-88-3	ug/kg				1.6	J	5	1.9	J	5	0.63	J	4.8	1.1	J	5.3
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg				5	U	5	5	UJ	5	4.8	U	4.8	5.3	U	5.3
SW8260	Trichloroethene	79-01-6	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	Trichlorofluoromethane	75-69-4	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8260	Vinyl chloride	75-01-4	ug/kg				5	U	5	5	U	5	4.8	U	4.8	5.3	U	5.3
SW8270	1,1-Biphenyl	92-52-4	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2-Chloronaphthalene	91-58-7	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2-Chlorophenol	95-57-8	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2-Methylnaphthalene	91-57-6	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	2-Nitroaniline	88-74-4	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	2-Nitrophenol	88-75-5	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg				360	UJ	360				360	UJ	360	420	UJ	420
SW8270	3-Nitroaniline	99-09-2	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	4-Chloroaniline	106-47-8	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	4-Nitroaniline	100-01-6	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	4-Nitrophenol	100-02-7	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	Acenaphthene	83-32-9	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Acenaphthylene	208-96-8	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Acetophenone	98-86-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Anthracene	120-12-7	ug/kg				360	U	360				39	J	360	420	U	420
SW8270	Atrazine	1912-24-9	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Benzaldehyde	100-52-7	ug/kg				1800	UJ	1800				1900	UJ	1900	2200	UJ	2200
SW8270	Benzo(a)anthracene	56-55-3	ug/kg				79	J	360				140	J	360	110	J	420
SW8270	Benzo(a)pyrene	50-32-8	ug/kg				74	J	360				120	J	360	110	J	420
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg				63	J	360				98	J	360	93	J	420
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg				57	J	360				85	J	360	90	J	420
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg				60	J	360				110	J	360	94	J	420
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Butylbenzylphthalate	85-68-7	ug/kg				360	U	360				360	U	360	420	U	420

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	BDSB8			BESB1			BESB2			BESB3			BESB3		
			start_depth:	0			0			0			0			0		
			end_depth:	1.1			2			2			2			2		
			sys_sample_code:	BDSB8AAR			BESB1AA			BESB2AA			BESB3AA			BESB3AB		
			sample_date:	12/20/2005 8:13:00 AM			10/28/2005 11:15:00 AM			10/26/2005 10:24:00 AM			10/28/2005 10:44:00 AM			10/28/2005 10:44:00 AM		
			sample_type_code:	N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	Carbazole	86-74-8	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Chrysene	218-01-9	ug/kg				79	J	360				140	J	360	120	J	420
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Dibenzofuran	132-64-9	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Diethylphthalate	84-66-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Dimethylphthalate	131-11-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Di-n-butylphthalate	84-74-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Di-n-octylphthalate	117-84-0	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Fluoranthene	206-44-0	ug/kg				150	J	360				270	J	360	200	J	420
SW8270	Fluorene	86-73-7	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Hexachlorobenzene	118-74-1	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Hexachlorobutadiene	87-68-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Hexachloroethane	67-72-1	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg				48	J	360				75	J	360	78	J	420
SW8270	Isophorone	78-59-1	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Naphthalene	91-20-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Nitrobenzene	98-95-3	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Pentachlorophenol	87-86-5	ug/kg				1800	U	1800				1900	U	1900	2200	U	2200
SW8270	Phenanthrene	85-01-8	ug/kg				87	J	360				120	J	360	93	J	420
SW8270	Phenol	108-95-2	ug/kg				360	U	360				360	U	360	420	U	420
SW8270	Pyrene	129-00-0	ug/kg				130	J	360				220	J	360	170	J	420
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	10.293		0.096	14.004	B	0.039									
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	6.342	B	0.136	57.622	B	0.075									
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	1.415	J	0.135	0.641	J	0.05									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	6.392		0.051	0.784	J	0.033									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.473	J	0.043	0.293	J	0.041									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	3.356		0.054	0.365	J	0.032									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	1.861	J	0.041	1.376	J	0.037									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.208	JK	0.066	0.039	U	0.039									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	1.37	J	0.041	0.841	J	0.038									
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	2.085	J	0.127	0.295	J	0.055									
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	1.23	J	0.083	0.227	J	0.049									
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	3.078		0.057	0.319	J	0.035									
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	3.517		0.123	0.29	J	0.052									
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	1.752	C	0.692	1.073	J	0.559									
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.24	JK	0.044	0.295	J	0.038									
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg															
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg															
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg															
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	6.968		0.13	21.143	B	0.064									
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	16.804	B	0.131	431.982	B	0.076									
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg															
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg															
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg															
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg															
SW9012A	CYANIDE	57-12-5	mg/kg				1.09	U	1.09	1.1	U	1.1	1.1	U	1.1	1.27	U	1.27

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BESB4			BESB5			BESB6			BESB7			BESB8		
			start_depth:	0			0			0			0			0		
			end_depth:	2			2			1.6			1			1		
			sys_sample_code:	BESB4AA			BESB5AA			BESB6AA			BESB7AA			BESB8AA		
			sample_date:	10/28/2005 10:14:00 AM			10/28/2005 3:24:00 PM			10/25/2005 3:08:00 PM			10/28/2005 9:34:00 AM			10/26/2005 11:41:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
E160.3	Total Solids	TSOLIDS	percent	76.6		1.31	91.8			87.7			85.7		1.17	86.2		
SW6010	Aluminum	7429-90-5	mg/kg	6560		12.4	7630		10.5	5700		11.2	18100		11.3	16800		11.5
SW6010	Antimony	7440-36-0	mg/kg	7.5	UJ	7.5	6.3	UJ	6.3	6.7	UJ	6.7	6.8	UJ	6.8	6.9	UJ	6.9
SW6010	Arsenic	7440-38-2	mg/kg	5.1		1.2	5.7		1	4.9		1.1	8.8		1.1	9.1		1.1
SW6010	Barium	7440-39-3	mg/kg	58.2		2.5	119		2.1	50.2		2.2	79.6		2.3	77.2		2.3
SW6010	Beryllium	7440-41-7	mg/kg	0.62	U	0.62	0.52	U	0.52	0.56	U	0.56	0.57	U	0.57	0.57	U	0.57
SW6010	Cadmium	7440-43-9	mg/kg	0.62	U	0.62	0.67		0.52	0.56	U	0.56	0.57	U	0.57	0.57	U	0.57
SW6010	Calcium	7440-70-2	mg/kg	83200	J	622	45300	J	52.4	84700	J	559	21300	J	56.6	20800	J	57.4
SW6010	Chromium (total)	7440-47-3	mg/kg	13.4	J	1.2	31.8		1	14.9		1.1	26.3	J	1.1	19.4		1.1
SW6010	Cobalt	7440-48-4	mg/kg	6.2	U	6.2	5.2	U	5.2	5.6	U	5.6	7.8		5.7	9.1		5.7
SW6010	Copper	7440-50-8	mg/kg	14.2		2.5	40.5		2.1	12.9		2.2	16.4		2.3	16.5		2.3
SW6010	Iron	7439-89-6	mg/kg	12500		12.4	35300		105	11500	J	11.2	24600		11.3	22000		11.5
SW6010	Lead	7439-92-1	mg/kg	14.9	J	0.62	48.5	J	0.52	14.7		0.56	15.5	J	0.57	16.4		0.57
SW6010	Magnesium	7439-95-4	mg/kg	26300	J	62.2	14300		52.4	25900		55.9	12200	J	56.6	8350		57.4
SW6010	Manganese	7439-96-5	mg/kg	385		1.2	1300	J	10.5	363	J	1.1	752		1.1	805		1.1
SW6010	Nickel	7440-02-0	mg/kg	13.3		5	20.8		4.2	11.6		4.5	20		4.5	17.1		4.6
SW6010	Potassium	7440-09-7	mg/kg	1040		249	792		209	835		224	1330		227	1340		230
SW6010	Selenium	7782-49-2	mg/kg	1.2	U	1.2	1	UJ	1	1.1	UJ	1.1	1.1	U	1.1	1.1	UJ	1.1
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1	U	1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	141		62.2	322		52.4	137		55.9	63.4		56.6	57.4	U	57.4
SW6010	Thallium	7440-28-0	mg/kg	6.2	U	6.2	5.2	U	5.2	5.6	U	5.6	5.7	U	5.7	5.7	U	5.7
SW6010	Vanadium	7440-62-2	mg/kg	20.3		6.2	20.3		5.2	18.3		5.6	45.8		5.7	41.4		5.7
SW6010	Zinc	7440-66-6	mg/kg	50.5		2.5	171		2.1	51.5		2.2	66.6		2.3	55.5		2.3
SW7470	Mercury	7439-97-6	mg/kg	0.05	J	0.04	0.04		0.03	0.04	U	0.04	0.04	UJ	0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	43	U	43	36	U	36	38	U	38	39	U	39			
SW8082	Aroclor 1221	11104-28-2	ug/kg	87	U	87	73	U	73	76	U	76	78	U	78			
SW8082	Aroclor 1232	11141-16-5	ug/kg	43	U	43	36	U	36	38	U	38	39	U	39			
SW8082	Aroclor 1242	53469-21-9	ug/kg	43	U	43	36	U	36	38	U	38	39	U	39			
SW8082	Aroclor 1248	12672-29-6	ug/kg	33	J	43	36	U	36	38	U	38	39	U	39			
SW8082	Aroclor 1254	11097-69-1	ug/kg	43	U	43	48		36	38	U	38	39	U	39			
SW8082	Aroclor 1260	11096-82-5	ug/kg	43	U	43	36	U	36	38	U	38	39	U	39			
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	2-Butanone	78-93-3	ug/kg	11	U	11	9	U	9	9	U	9	9.5	U	9.5	8.9	U	8.9
SW8260	2-Hexanone	591-78-6	ug/kg	11	U	11	9	U	9	9	U	9	9.5	U	9.5	8.9	U	8.9
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	11	U	11	9	U	9	9	U	9	9.5	U	9.5	8.9	U	8.9
SW8260	Acetone	67-64-1	ug/kg	6.8	J	22	15	J	18	18	U	18	8.3	J	19	26		18
SW8260	Benzene	71-43-2	ug/kg	0.93	J	5.5	1.6	J	4.5	0.48	J	4.5	1.1	J	4.7	2.1	J	4.5
SW8260	Bromodichloromethane	75-27-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Bromoform	75-25-2	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Bromomethane	74-83-9	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Carbon disulfide	75-15-0	ug/kg	11	U	11	9	U	9	9	U	9	9.5	U	9.5	8.9	U	8.9
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Chlorobenzene	108-90-7	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Chloroethane	75-00-3	ug/kg	11	U	11	9	U	9	9	U	9	9.5	U	9.5	8.9	U	8.9
SW8260	Chloroform	67-66-3	ug/kg	0.42	J	5.5	0.35	J	4.5	4.5	U	4.5	4.7	U	4.7	0.37	J	4.5
SW8260	Chloromethane	74-87-3	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BESB4			BESB5			BESB6			BESB7			BESB8		
			start_depth:	0			0			0			0			0		
			end_depth:	2			2			1.6			1			1		
			sys_sample_code:	BESB4AA			BESB5AA			BESB6AA			BESB7AA			BESB8AA		
			sample_date:	10/28/2005 10:14:00 AM			10/28/2005 3:24:00 PM			10/25/2005 3:08:00 PM			10/28/2005 9:34:00 AM			10/26/2005 11:41:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Cyclohexane	110-82-7	ug/kg	2.9	J	5.5	6.6		4.5	2.4	J	4.5	4.4	J	4.7	8.4		4.5
SW8260	Dibromochloromethane	124-48-1	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Ethylbenzene	100-41-4	ug/kg	0.43	J	5.5	0.78	J	4.5	4.5	U	4.5	0.88	J	4.7	1.9	J	4.5
SW8260	Isopropylbenzene	98-82-8	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	m+p-Xylene	XYLMP	ug/kg	0.72	J	5.5	1.1	J	4.5	4.5	U	4.5	1.4	J	4.7	2.7	J	4.5
SW8260	Methyl acetate	79-20-9	ug/kg	11	U	11	9	U	9	9	U	9	9.5	U	9.5	8.9	U	8.9
SW8260	Methylcyclohexane	108-87-2	ug/kg	3.7	J	5.5	7.8		4.5	2.5	J	4.5	5.4	J	4.7	10		4.5
SW8260	Methylene chloride	75-09-2	ug/kg	0.43	J	5.5	4.5	U	4.5	4.5	U	4.5	0.39	J	4.7	4.5	U	4.5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	o-Xylene	95-47-6	ug/kg	5.5	U	5.5	0.5	J	4.5	4.5	U	4.5	0.57	J	4.7	1.1	J	4.5
SW8260	Styrene	100-42-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Tetrachloroethene	127-18-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Toluene	108-88-3	ug/kg	1.6	J	5.5	2.9	J	4.5	0.99	J	4.5	2.6	J	4.7	5.3	J	4.5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Trichloroethene	79-01-6	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8260	Vinyl chloride	75-01-4	ug/kg	5.5	U	5.5	4.5	U	4.5	4.5	U	4.5	4.7	U	4.7	4.5	U	4.5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2-Chlorophenol	95-57-8	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	2-Nitroaniline	88-74-4	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	2-Nitrophenol	88-75-5	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	430	UJ	430	360	U	360	380	U	380	390	UJ	390			
SW8270	3-Nitroaniline	99-09-2	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	4-Chloroaniline	106-47-8	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	4-Nitroaniline	100-01-6	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	4-Nitrophenol	100-02-7	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	Acenaphthene	83-32-9	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Acenaphthylene	208-96-8	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Acetophenone	98-86-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Anthracene	120-12-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Atrazine	1912-24-9	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Benzaldehyde	100-52-7	ug/kg	2200	UJ	2200	1900	UJ	1900	1900	UJ	1900	2000	UJ	2000			
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	130	J	430	70	J	360	84	J	380	390	U	390			
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	130	J	430	70	J	360	100	J	380	390	U	390			
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	110	J	430	66	J	360	110	J	380	390	U	390			
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	100	J	430	59	J	360	92	J	380	390	U	390			
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	98	J	430	63	J	360	110	J	380	390	U	390			
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BESB4			BESB5			BESB6			BESB7			BESB8		
			start_depth:	0			0			0			0			0		
			end_depth:	2			2			1.6			1			1		
			sys_sample_code:	BESB4AA			BESB5AA			BESB6AA			BESB7AA			BESB8AA		
			sample_date:	10/28/2005 10:14:00 AM			10/28/2005 3:24:00 PM			10/25/2005 3:08:00 PM			10/28/2005 9:34:00 AM			10/26/2005 11:41:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit															
SW8270	Caprolactam	105-60-2	ug/kg	2200	U	2200	1900	U	1900	380	U	380	2000	U	2000			
SW8270	Carbazole	86-74-8	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Chrysene	218-01-9	ug/kg	140	J	430	83	J	360	100	J	380	390	U	390			
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Dibenzofuran	132-64-9	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Diethylphthalate	84-66-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Dimethylphthalate	131-11-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	430	U	430	360	U	360	1900	U	1900	390	U	390			
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Fluoranthene	206-44-0	ug/kg	230	J	430	140	J	360	130	J	380	47	J	390			
SW8270	Fluorene	86-73-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Hexachlorobenzene	118-74-1	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Hexachloroethane	67-72-1	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	87	J	430	50	J	360	82	J	380	390	U	390			
SW8270	Isophorone	78-59-1	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Naphthalene	91-20-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Nitrobenzene	98-95-3	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Pentachlorophenol	87-86-5	ug/kg	2200	U	2200	1900	U	1900	1900	U	1900	2000	U	2000			
SW8270	Phenanthrene	85-01-8	ug/kg	98	J	430	61	J	360	57	J	380	390	U	390			
SW8270	Phenol	108-95-2	ug/kg	430	U	430	360	U	360	380	U	380	390	U	390			
SW8270	Pyrene	129-00-0	ug/kg	220	J	430	110	J	360	110	J	380	40	J	390			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg													1.031	UB	0.03
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg													5.636	B	0.033
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg													0.042	U	0.042
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg													0.085	JK	0.022
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg													0.094	J	0.023
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg													0.023	U	0.023
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg													0.221	J	0.022
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg													0.029	U	0.029
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg													0.261	JK	0.022
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg													0.014	U	0.014
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg													0.02	U	0.02
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg													0.025	U	0.025
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg													0.014	U	0.014
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg													0.334	U	0.334
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg													0.09	JK	0.015
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg													2.807		0.03
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg													10.479		0.033
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg													1.004	J	0.022
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg													1.324	J	0.022
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg													4.034	UB	0.053
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg													36.937	B	0.043
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg													0.459	J	0.014
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg													0.02	U	0.02
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg													0.031	U	0.031
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg													0.015	U	0.015
SW9012A	CYANIDE	57-12-5	mg/kg	1.31	U	1.31	1.09	U	1.09	1.14	U	1.14	1.17	U	1.17	1.16	U	1.16

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BESB9		
			start_depth:	0		
			end_depth:	1.4		
			sys_sample_code:	BESB9AA		
			sample_date:	11/15/2005 12:11:00 PM		
			sample_type_code:	N		
analytic_method	chemical_name	cas_rn	report_result_unit			
E160.3	Total Solids	TSOLIDS	percent	87.4		
SW6010	Aluminum	7429-90-5	mg/kg	5690		11.2
SW6010	Antimony	7440-36-0	mg/kg	6.7	UJ	6.7
SW6010	Arsenic	7440-38-2	mg/kg	4.6		1.1
SW6010	Barium	7440-39-3	mg/kg	50.4		2.2
SW6010	Beryllium	7440-41-7	mg/kg	0.56	U	0.56
SW6010	Cadmium	7440-43-9	mg/kg	1.1	UJ	1.1
SW6010	Calcium	7440-70-2	mg/kg	74000		561
SW6010	Chromium (total)	7440-47-3	mg/kg	11.8	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.6	U	5.6
SW6010	Copper	7440-50-8	mg/kg	11.3		2.2
SW6010	Iron	7439-89-6	mg/kg	11900	J	11.2
SW6010	Lead	7439-92-1	mg/kg	12.6		0.56
SW6010	Magnesium	7439-95-4	mg/kg	27500	J	56.1
SW6010	Manganese	7439-96-5	mg/kg	382	J	1.1
SW6010	Nickel	7440-02-0	mg/kg	10.6		4.5
SW6010	Potassium	7440-09-7	mg/kg	687		224
SW6010	Selenium	7782-49-2	mg/kg	1.1	U	1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	117		56.1
SW6010	Thallium	7440-28-0	mg/kg	11.2	U	11.2
SW6010	Vanadium	7440-62-2	mg/kg	15.7		5.6
SW6010	Zinc	7440-66-6	mg/kg	43.2		2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	38	U	38
SW8082	Aroclor 1221	11104-28-2	ug/kg	77	U	77
SW8082	Aroclor 1232	11141-16-5	ug/kg	38	U	38
SW8082	Aroclor 1242	53469-21-9	ug/kg	38	U	38
SW8082	Aroclor 1248	12672-29-6	ug/kg	38	U	38
SW8082	Aroclor 1254	11097-69-1	ug/kg	38	U	38
SW8082	Aroclor 1260	11096-82-5	ug/kg	38	U	38
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	4.8	U	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	4.8	U	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	4.8	U	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	4.8	U	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	4.8	U	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	4.8	U	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	4.8	U	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	4.8	U	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	4.8	U	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	4.8	U	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	4.8	U	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	4.8	U	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	4.8	U	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	4.8	U	4.8
SW8260	2-Butanone	78-93-3	ug/kg	9.6	U	9.6
SW8260	2-Hexanone	591-78-6	ug/kg	9.6	U	9.6
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	9.6	U	9.6
SW8260	Acetone	67-64-1	ug/kg	19	U	19
SW8260	Benzene	71-43-2	ug/kg	1.4	J	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg	4.8	U	4.8
SW8260	Bromoform	75-25-2	ug/kg	4.8	U	4.8
SW8260	Bromomethane	74-83-9	ug/kg	4.8	U	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg	0.29	J	9.6
SW8260	Carbon tetrachloride	56-23-5	ug/kg	4.8	U	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg	4.8	U	4.8
SW8260	Chloroethane	75-00-3	ug/kg	9.6	U	9.6
SW8260	Chloroform	67-66-3	ug/kg	4.8	U	4.8
SW8260	Chloromethane	74-87-3	ug/kg	4.8	U	4.8

Appendix C-1 Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BESB9		
			start_depth:	0		
			end_depth:	1.4		
			sys_sample_code:	BESB9AA		
			sample_date:	11/15/2005 12:11:00 PM		
			sample_type_code:	N		
analytic_method	chemical_name	cas_rn	report_result_unit			
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	4.8	U	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	4.8	U	4.8
SW8260	Cyclohexane	110-82-7	ug/kg	5.8		4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg	4.8	U	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	4.8	U	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg	1	J	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg	4.8	U	4.8
SW8260	m+p-Xylene	XYLMP	ug/kg	1.5	J	4.8
SW8260	Methyl acetate	79-20-9	ug/kg	9.6	U	9.6
SW8260	Methylcyclohexane	108-87-2	ug/kg	6.2		4.8
SW8260	Methylene chloride	75-09-2	ug/kg	4.8	U	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	4.8	U	4.8
SW8260	o-Xylene	95-47-6	ug/kg	0.65	J	4.8
SW8260	Styrene	100-42-5	ug/kg	4.8	U	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg	4.8	U	4.8
SW8260	Toluene	108-88-3	ug/kg	3.3	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	4.8	U	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	4.8	U	4.8
SW8260	Trichloroethene	79-01-6	ug/kg	4.8	U	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	4.8	U	4.8
SW8260	Vinyl chloride	75-01-4	ug/kg	4.8	U	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg	380	U	380
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	380	U	380
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	380	U	380
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	380	U	380
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	380	U	380
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	380	U	380
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	380	U	380
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	380	U	380
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	380	U	380
SW8270	2-Chlorophenol	95-57-8	ug/kg	380	U	380
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	380	U	380
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	380	U	380
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	380	U	380
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	380	U	380
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	380	U	380
SW8270	4-Chloroaniline	106-47-8	ug/kg	380	U	380
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	380	U	380
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	380	U	380
SW8270	Acenaphthylene	208-96-8	ug/kg	380	U	380
SW8270	Acetophenone	98-86-2	ug/kg	380	U	380
SW8270	Anthracene	120-12-7	ug/kg	380	U	380
SW8270	Atrazine	1912-24-9	ug/kg	380	U	380
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	U	1900
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	380	U	380
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	380	U	380
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	380	U	380
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	380	U	380
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	380	U	380
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	380	U	380
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	380	U	380
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	380	U	380
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	380	U	380

			sys_loc_code:	BESB9		
			start_depth:	0		
			end_depth:	1.4		
			sys_sample_code:	BESB9AA		
			sample_date:	11/15/2005 12:11:00 PM		
			sample_type_code:	N		
analytic_method	chemical_name	cas_rn	report_result_unit			
SW8270	Caprolactam	105-60-2	ug/kg	380	U	380
SW8270	Carbazole	86-74-8	ug/kg	380	U	380
SW8270	Chrysene	218-01-9	ug/kg	380	U	380
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	380	U	380
SW8270	Dibenzofuran	132-64-9	ug/kg	380	U	380
SW8270	Diethylphthalate	84-66-2	ug/kg	380	U	380
SW8270	Dimethylphthalate	131-11-3	ug/kg	380	U	380
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	380	U	380
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	380	U	380
SW8270	Fluoranthene	206-44-0	ug/kg	380	U	380
SW8270	Fluorene	86-73-7	ug/kg	380	U	380
SW8270	Hexachlorobenzene	118-74-1	ug/kg	380	U	380
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	380	U	380
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	380	U	380
SW8270	Hexachloroethane	67-72-1	ug/kg	380	U	380
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	380	U	380
SW8270	Isophorone	78-59-1	ug/kg	380	U	380
SW8270	Naphthalene	91-20-3	ug/kg	380	U	380
SW8270	Nitrobenzene	98-95-3	ug/kg	380	U	380
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	380	U	380
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	380	U	380
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	380	U	380
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	380	U	380
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	380	U	380
SW8270	Phenol	108-95-2	ug/kg	380	U	380
SW8270	Pyrene	129-00-0	ug/kg	380	U	380
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	7.159		0.069
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	30.665	B	0.067
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.339	J	0.097
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.564	J	0.031
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.311	J	0.05
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.28	J	0.033
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.925	J	0.048
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.04	U	0.04
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.996	J	0.048
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.283	JK	0.023
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.247	J	0.035
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.183	JK	0.035
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.33	J	0.022
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.988	J	0.606
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.22	JK	0.018
SW8290	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	ng/kg			
SW8290	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	ng/kg			
SW8290	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	ng/kg			
SW8290	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	ng/kg			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	9.993	UB	0.111
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	207.123	B	0.077
SW8290	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	ng/kg			
SW8290	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	ng/kg			
SW8290	TETRACHLORINATED DIBENZOFURANS, (TOTAL)	TCDF	ng/kg			
SW8290	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	ng/kg			
SW9012A	CYANIDE	57-12-5	mg/kg	1.14	U	1.14

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA1			AOC1CA10			AOC1CA11			AOC1CA12			AOC1CA13			AOC1CA13		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC1CA1CAA			AOC1CA10CAA			AOC1CA11CAA			AOC1CA12CAA			AOC1CA13CAA			AOC1CA13CAB		
			sample_date:	1/3/2006 2:20:00 PM			1/12/2006 11:50:00 AM			1/25/2006 2:15:00 PM			1/11/2006 9:01:00 AM			1/11/2006 2:03:00 PM			1/11/2006 2:03:00 PM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	84.5			80.2			87.3			80.3			82.9			84.4		
SW6010	Aluminum	7429-90-5	mg/kg	11800	J	118	14400		12.1	20600		11.3	20100		12.1	13300		11.5	16700		11.4
SW6010	Antimony	7440-36-0	mg/kg	7.1	UJ	7.1	7.3	UJ	7.3	6.8	U	6.8	7.3	UJ	7.3	6.9	UJ	6.9	6.8	UJ	6.8
SW6010	Arsenic	7440-38-2	mg/kg	5.7	J	1.2	12.9	J	1.2	18	J	1.1	14	J	1.2	6.6	J	1.1	21.9	J	1.1
SW6010	Barium	7440-39-3	mg/kg	121		2.4	112	J	2.4	193		2.3	151	J	2.4	153	J	2.3	98.7	J	2.3
SW6010	Beryllium	7440-41-7	mg/kg	3		0.59	2.2		0.61	2.8		0.57	3		0.6	0.82		0.57	1.5		0.57
SW6010	Cadmium	7440-43-9	mg/kg	3		0.59	2		0.61	5.1		0.57	0.61		0.6	0.57	U	0.57	0.57	U	0.57
SW6010	Calcium	7440-70-2	mg/kg	82400		592	73600		605	112000	J	567	84000		605	120000		574	137000		570
SW6010	Chromium (total)	7440-47-3	mg/kg	59.4	J	1.2	65.9		1.2	50.6		1.1	66.7		1.2	19.7		1.1	22.9		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.9	U	5.9	6.6		6.1	7.2		5.7	6	U	6	7.2		5.7	6.6		5.7
SW6010	Copper	7440-50-8	mg/kg	35.7	J	2.4	39.7		2.4	66.1		2.3	23.2		2.4	16		2.3	19.3		2.3
SW6010	Iron	7439-89-6	mg/kg	103000	J	118	188000		1211	101000		113	129000	J	1209	27300	J	1149	45400	J	1139
SW6010	Lead	7439-92-1	mg/kg	144	J	5.9	316		6.2	101		0.57	233		6.2	27.4		6	25.3		5.8
SW6010	Magnesium	7439-95-4	mg/kg	22100		118	22100		60.5	24900		56.7	23000		60.5	22400	J	57.4	23400	J	57
SW6010	Manganese	7439-96-5	mg/kg	3360		11.8	4250	J	121	3260		11.3	4730	J	121	960	J	1.1	1890	J	114
SW6010	Nickel	7440-02-0	mg/kg	22		4.7	29.6		4.8	33.3		4.5	13.6		4.8	16.2		4.6	15.5		4.6
SW6010	Potassium	7440-09-7	mg/kg	1060		237	1170		242	1610		227	1960		242	2480		230	2450		228
SW6010	Selenium	7782-49-2	mg/kg	2.4	U	2.4	1.2	U	1.2	1.1	U	1.1	6.3		1.2	3.1		1.1	6.3		1.1
SW6010	Silver	7440-22-4	mg/kg	4.6		1.2	3.6	U	3.6	1.1	U	1.1	3.6	U	3.6	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	697		59.2	594		60.5	672		56.7	738		60.5	220		57.4	466		57
SW6010	Thallium	7440-28-0	mg/kg	1.2	UJ	1.2	12.1	U	12.1	11.3	U	11.3	12.1	U	12.1	11.5	U	11.5	11.4	U	11.4
SW6010	Vanadium	7440-62-2	mg/kg	42.2		5.9	39.9		6.1	28.7		5.7	45.1		6	23.8		5.7	23.6		5.7
SW6010	Zinc	7440-66-6	mg/kg	670	J	23.7	1630	J	242	525		22.7	942	J	24.2	73.5	J	2.3	124	J	2.3
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04		0.04	0.19		0.04	0.07		0.04	0.04	U	0.04	0.04		0.04
SW7471	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	210	U	210	190	U	190	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	420	U	420	380	U	380	83	U	83	81	U	81	79	U	79
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	210	U	210	190	U	190	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	210	U	210	190	U	190	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	480		210	190	U	190	34	J	41	40	U	40	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg	50		39	1100		210	480		190	41	U	41	40	U	40	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg	39	U	39	210	U	210	190	U	190	41	U	41	40	U	40	39	U	39
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	410	U	410	1100	U	1100	41	J	410	400	U	400	390	U	390
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	140	J	390	94	J	410	190	J	1100	160	J	410	400	U	400	390	U	390
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Acenaphthylene	208-96-8	ug/kg	71	J	390	190	J	410	400	J	1100	170	J	410	51	J	400	73	J	390
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Anthracene	120-12-7	ug/kg	93	J	390	310	J	410	620	J	1100	150	J	410	400	U	400	390	U	390
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	390	2100	U	410	5800	U	1100	2100	UJ	410	2100	U	400	2000	U	390
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	340	J	390	690		410	1300		1100	360	J	410	110	J	400	110	J	390
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	340	J	390	610		410	1100	J	1100	360	J	410	140	J	400	140	J	390
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	430		390	620		410	1100	J	1100	450		410	170	J	400	170	J	390
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	330	J	390	500		410	850	J	1100	410		410	130	J	400	150	J	390
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	330	J	390	560		410	1100		1100	370	J	410	130	J	400	170	J	390

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA1			AOC1CA10			AOC1CA11			AOC1CA12			AOC1CA13			AOC1CA13		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC1CA1CAA			AOC1CA10CAA			AOC1CA11CAA			AOC1CA12CAA			AOC1CA13CAA			AOC1CA13CAB		
			sample_date:	1/3/2006 2:20:00 PM			1/12/2006 11:50:00 AM			1/25/2006 2:15:00 PM			1/11/2006 9:01:00 AM			1/11/2006 2:03:00 PM			1/11/2006 2:03:00 PM		
			sample_type_code:	N			N			N			N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Caprolactam	105-60-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	95	J	410	160	J	1100	46	J	410	400	U	400	390	U	390
SW8270	Chrysene	218-01-9	ug/kg	430		390	760		410	1300		1100	460		410	160	J	400	150	J	390
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	110	J	390	120	J	410	220	J	1100	140	J	410	400	U	400	41	J	390
SW8270	Dibenzofuran	132-64-9	ug/kg	56	J	390	85	J	410	250	J	1100	71	J	410	400	U	400	390	U	390
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Fluoranthene	206-44-0	ug/kg	490		390	1600		410	3000		1100	600		410	140	J	400	150	J	390
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	120	J	410	340	J	1100	410	U	410	400	U	400	390	U	390
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	260	J	390	400	J	410	710	J	1100	310	J	410	110	J	400	120	J	390
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Naphthalene	91-20-3	ug/kg	120	J	390	200	J	410	610	J	1100	170	J	410	400	U	400	390	U	390
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	2100	U	2100	5800	U	5800	2100	U	2100	2100	U	2100	2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	360	J	390	1400		410	2500		1100	570		410	51	J	400	72	J	390
SW8270	Phenol	108-95-2	ug/kg	390	U	390	410	U	410	1100	U	1100	410	U	410	400	U	400	390	U	390
SW8270	Pyrene	129-00-0	ug/kg	440		390	1400		410	2400		1100	490		410	190	J	400	190	J	390
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	4.692		0.049	2.996		0.038												
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	23.726	B	0.071	15.209	B	0.054												
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.344	J	0.069	0.684	J	0.053												
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.478	J	0.049	1.826	UB	0.034												
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.22	JK	0.023	0.424	JK	0.034												
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.324	J	0.051	1.084	J	0.035												
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	1.812	J	0.022	2.097	J	0.033												
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.063	U	0.063	0.283	J	0.043												
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	1.035	J	0.022	1.369	J	0.033												
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.236	JK	0.018	0.928	J	0.028												
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.463	J	0.038	1.653	J	0.056												
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.227	J	0.055	0.348	J	0.038												
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.359	J	0.017	1.455	J	0.027												
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.58	J	0.57	3.587		2.72												
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.452	J	0.023	0.018	U	0.018												
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	12.094	B	0.065	3.729	UB	0.05												
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	193.512	B	0.062	67.322	B	0.051												
SW9012A	CYANIDE	57-12-5	mg/kg	4.56		1.18	6.46		1.25	2.31		1.15	1.25	U	1.25	1.21	U	1.21	1.18	U	1.18

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA2			AOC1CA3			AOC1CA4			AOC1CA5			AOC1CA6			AOC1CA7		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC1CA2CAA			AOC1CA3CAA			AOC1CA4CAA			AOC1CA5CAA			AOC1CA6CAA			AOC1CA7CAA		
			sample_date:	1/5/2006 5:05:00 PM			12/21/2005 11:05:00 AM			1/6/2006 4:10:00 PM			1/16/2006 11:30:00 AM			1/16/2006 10:00:00 AM			1/10/2006 8:35:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	87.2			89.6			87.3			87.8			85.4			88.4		
SW6010	Aluminum	7429-90-5	mg/kg	27200	J	112	25900		11.2	19200	J	113	15100		11.4	12700		11.6	13200		11
SW6010	Antimony	7440-36-0	mg/kg	6.7	UJ	6.7	6.7	U	6.7	6.8	UJ	6.8	6.8	U	6.8	7	U	7	6.6	UJ	6.6
SW6010	Arsenic	7440-38-2	mg/kg	1.1	UJ	1.1	7.4		1.1	8.1	J	1.1	12.4		1.1	11.9		1.2	5.4	J	1.1
SW6010	Barium	7440-39-3	mg/kg	216		2.2	249		2.2	152		2.3	143		2.3	125		2.3	158	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	6.6		0.56	3.5		0.56	3.5		0.57	2.4		0.57	1.9		0.58	1.3		0.55
SW6010	Cadmium	7440-43-9	mg/kg	1.9		0.56	2.7		0.56	1.6		0.57	1.2		0.57	0.84		0.58	0.55	U	0.55
SW6010	Calcium	7440-70-2	mg/kg	148000		562	179000		1116	124000		567	123000		569	96000		580	69200		549
SW6010	Chromium (total)	7440-47-3	mg/kg	29.7	J	1.1	29.9		1.1	41.5	J	1.1	30.2		1.1	48		1.2	16.1		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.6	U	5.6	5.6	U	5.6	5.8		5.7	6		5.7	5.8	U	5.8	5.5	U	5.5
SW6010	Copper	7440-50-8	mg/kg	15.2	J	2.2	27.8		2.2	51.9	J	2.3	22.5		2.3	17.9		2.3	12.6		2.2
SW6010	Iron	7439-89-6	mg/kg	70900	J	112	57100		223	57000	J	113	88400		114	142000		116	30200	J	1098
SW6010	Lead	7439-92-1	mg/kg	72.1	J	5.6	33.1		5.6	57	J	5.7	108		0.57	119		0.58	43		5.5
SW6010	Magnesium	7439-95-4	mg/kg	31900		112	41100		553	26100		113	23800		56.9	20900		58	14700		54.9
SW6010	Manganese	7439-96-5	mg/kg	3380		11.2	3740		22.3	2110		11.3	2740		11.4	2980		11.6	1870	J	110
SW6010	Nickel	7440-02-0	mg/kg	9.5		4.5	12		4.5	36.3		4.5	15.5		4.6	13		4.6	11.3		4.4
SW6010	Potassium	7440-09-7	mg/kg	1220		225	1970		223	1790		227	1700		228	1090		232	1940		220
SW6010	Selenium	7782-49-2	mg/kg	11.2	U	11.2	4.7		1.1	2.3	U	2.3	6.2		1.1	3.4		1.2	4.1		1.1
SW6010	Silver	7440-22-4	mg/kg	3.3		1.1	1.1	U	1.1	3		1.1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	841		56.2	1020		55.8	468		56.7	608		56.9	595		58	364		54.9
SW6010	Thallium	7440-28-0	mg/kg	1.1	UJ	1.1	11.2	U	11.2	1.1	UJ	1.1	5.7	U	5.7	5.8	U	5.8	11	U	11
SW6010	Vanadium	7440-62-2	mg/kg	28.9		5.6	21		5.6	27.6		5.7	25.5		5.7	36.8		5.8	17.4		5.5
SW6010	Zinc	7440-66-6	mg/kg	481	J	22.5	124		2.2	222	J	2.3	514		22.8	748		23.2	39.4	J	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.03	U	0.03	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.05		0.04
SW7471	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg	76	U	76	37	U	37	38	U	38	190	U	190	39	U	39	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	150	U	150	75	U	75	77	U	77	380	U	380	78	U	78	76	U	76
SW8082	Aroclor 1232	11141-16-5	ug/kg	76	U	76	37	U	37	38	U	38	190	U	190	39	U	39	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	76	U	76	37	U	37	38	U	38	190	U	190	39	U	39	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	310		76	37	U	37	38	U	38	840		190	78		39	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	520		76	77		37	38	U	38	190	U	190	39	U	39	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	76	U	76	37	U	37	52		38	190	U	190	39	U	39	37	U	37
SW8270	1,1-Biphenyl	92-52-4	ug/kg	45	J	380	370	U	370	42	J	380	46	J	380	57	J	390	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	380	UJ	380	370	U	370	57	J	380	380	U	380	390	U	390	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	250	J	380	98	J	370	340	J	380	140	J	380	190	J	390	71	J	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	UJ	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	UJ	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	UJ	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	380	U	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	380	UJ	380	370	U	370	48	J	380	380	U	380	390	U	390	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	38	J	380	120	J	370	45	J	380	110	J	380	60	J	390	52	J	370
SW8270	Acetophenone	98-86-2	ug/kg	380	U	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	110	J	380	220	J	370	180	J	380	170	J	380	150	J	390	100	J	370
SW8270	Atrazine	1912-24-9	ug/kg	380	U	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	38	J	380	1900	U	370	1900	U	380	1900	U	380	2000	U	390	1900	UJ	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	360	J	380	700		370	540		380	420		380	350	J	390	330	J	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	370	J	380	770		370	530		380	390		380	390	J	390	450		370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	440	J	380	800		370	480		380	420		380	530		390	480		370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	310	J	380	640		370	450		380	310	J	380	400		390	450		370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	330	J	380	650		370	440		380	330	J	380	300	J	390	410		370

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA2			AOC1CA3			AOC1CA4			AOC1CA5			AOC1CA6			AOC1CA7		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC1CA2CAA			AOC1CA3CAA			AOC1CA4CAA			AOC1CA5CAA			AOC1CA6CAA			AOC1CA7CAA		
			sample_date:	1/5/2006 5:05:00 PM			12/21/2005 11:05:00 AM			1/6/2006 4:10:00 PM			1/16/2006 11:30:00 AM			1/16/2006 10:00:00 AM			1/10/2006 8:35:00 AM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	45	J	380	45	J	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	380	U	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	380	UJ	380	73	J	370	65	J	380	41	J	380	40	J	390	40	J	370
SW8270	Chrysene	218-01-9	ug/kg	550	J	380	960		370	660		380	560		380	540		390	420		370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	110	J	380	200	J	370	140	J	380	100	J	380	120	J	390	140	J	370
SW8270	Dibenzofuran	132-64-9	ug/kg	95	J	380	63	J	370	100	J	380	62	J	380	89	J	390	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	540	J	380	1300		370	560		380	790		380	570		390	450		370
SW8270	Fluorene	86-73-7	ug/kg	44	J	380	41	J	370	78	J	380	91	J	380	48	J	390	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Hexachloroethane	67-72-1	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	250	J	380	510		370	320	J	380	260	J	380	300	J	390	360	J	370
SW8270	Isophorone	78-59-1	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	160	J	380	150	J	370	210	J	380	160	J	380	190	J	390	59	J	370
SW8270	Nitrobenzene	98-95-3	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	380	UJ	380	370	U	370	68	J	380	380	U	380	390	U	390	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	UJ	1900	1900	U	1900	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	500	J	380	790		370	720		380	600		380	610		390	350	J	370
SW8270	Phenol	108-95-2	ug/kg	380	UJ	380	370	U	370	380	U	380	380	U	380	390	U	390	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	450	J	380	1100		370	570		380	590		380	490		390	420		370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				27.235		0.08	4.6		0.051				0.061	U	0.061			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				20.431	B	0.063	59.021	B	0.075				0.345	UB	0.045			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				0.677	JK	0.112	0.623	J	0.072				0.085	U	0.085			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				1.886	J	0.112	0.477	J	0.026				0.014	U	0.014			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.545	J	0.049	0.16	J	0.032				0.038	U	0.038			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				1.269	J	0.116	0.262	J	0.027				0.015	U	0.015			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				1.923	J	0.047	1.061	J	0.031				0.037	U	0.037			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				0.288	JK	0.143	0.034	U	0.034				0.019	U	0.019			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				1.483	J	0.046	0.78	JK	0.031				0.036	U	0.036			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				1.14	J	0.044	0.26	JK	0.015				0.021	U	0.021			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				1.205	J	0.036	0.213	JK	0.037				0.028	U	0.028			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				0.891	J	0.125	0.433	J	0.029				0.035	J	0.016			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				1.365	J	0.043	0.348	J	0.014				0.02	U	0.02			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				1.637		0.287	0.688	J	0.668				0.024	U	0.024			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.718	J	0.019	0.216	JK	0.019				0.109	JK	0.021			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				15.656	B	0.074	31.684	B	0.065				0.071	U	0.071			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				79.499	B	0.102	556.219	B	0.054				2.183	UB	0.113			
SW9012A	CYANIDE	57-12-5	mg/kg	1.97		1.15	3.86		1.12	1.76		1.15	1.14	U	1.14	2.3		1.17	1.13	U	1.13

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA8			AOC1CA9			AOC20CA1			AOC20CA10			AOC20CA11			AOC20CA12		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC1CA8CAA			AOC1CA9CAA			AOC20A1CAA			AOC20CA10CAA			AOC20CA11CAA			AOC20CA12CAA		
			sample_date:	1/6/2006 8:42:00 AM			1/9/2006 4:00:00 PM			12/8/2005 4:00:00 PM			11/22/2005 1:55:00 PM			11/16/2005 4:44:00 PM			12/8/2005 4:40:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	82.9			76.4			89.2			88.7			84			88.6		
SW6010	Aluminum	7429-90-5	mg/kg	13000	J	118	16300		12.5	4730		11.2	25200		11.1	30400		11.4	25600		11
SW6010	Antimony	7440-36-0	mg/kg	7.1	UJ	7.1	7.5	UJ	7.5	6.7	UJ	6.7	6.7	UJ	6.7	7.1	U	7.1	6.6	UJ	6.6
SW6010	Arsenic	7440-38-2	mg/kg	1.2	UJ	1.2	9.6	J	1.2	7.3		1.1	11.9		1.1	7.3		1.2	5.3		1.1
SW6010	Barium	7440-39-3	mg/kg	134		2.4	174	J	2.5	46.9		2.2	280		2.2	266		2.3	303		2.2
SW6010	Beryllium	7440-41-7	mg/kg	2.4		0.59	1.6		0.62	0.56	U	0.56	2.3		0.56	0.84		0.59	3.5		0.55
SW6010	Cadmium	7440-43-9	mg/kg	5.1		0.59	6.1		0.62	4.8	J-	0.56	3.9		0.56	0.69		0.59	7.6	J-	0.55
SW6010	Calcium	7440-70-2	mg/kg	84000		591	107000		623	92400		1110	149000		553	195000		572	174000		537
SW6010	Chromium (total)	7440-47-3	mg/kg	86.6	J	1.2	32.2		1.2	61.4	J-	1.1	88.1		1.1	17		1.2	80.6	J-	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.9	U	5.9	8.1		6.2	6.8		5.6	5.6	U	5.6	7.3		5.9	5.6		5.5
SW6010	Copper	7440-50-8	mg/kg	93.7	J	2.4	35.6		2.5	35.9		2.2	30		2.2	17.7		2.4	44.8		2.2
SW6010	Iron	7439-89-6	mg/kg	190000	J	118	67900	J	1247	103000		222	78400		112	20800		118	170000		107
SW6010	Lead	7439-92-1	mg/kg	47.5	J	5.9	3430		64.2	438		5.6	319		0.56	19.2		0.59	5.5		5.5
SW6010	Magnesium	7439-95-4	mg/kg	13400		118	24700		62.3	33600	J	55.5	23400		55.8	14300		58.9	25100	J	53.7
SW6010	Manganese	7439-96-5	mg/kg	3250		11.8	1620	J	125	2510	J	22.2	2990	J	11.1	4290	J	11.4	7990	J	10.7
SW6010	Nickel	7440-02-0	mg/kg	38.7		4.7	21.7		5	17.3	J	4.5	14.5		4.5	14.7		4.7	17.1	J	4.4
SW6010	Potassium	7440-09-7	mg/kg	1240		237	2320		249	777		222	1600		221	2090		229	936		215
SW6010	Selenium	7782-49-2	mg/kg	23.7	U	23.7	6.9		1.2	11.2	U	11.2	5.2		2.2	2.4	U	2.4	21.9	U	21.9
SW6010	Silver	7440-22-4	mg/kg	4.7		1.2	1.5		1.2	2.1		1.1	1.1	U	1.1	1.2	U	1.2	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	370		59.1	391		62.3	152		55.5	1170		55.3	988		57.2	661		53.7
SW6010	Thallium	7440-28-0	mg/kg	1.2	UJ	1.2	12.5	U	12.5	22.4	UJ	22.4	27.9	U	27.9	5.9	U	5.9	21.9	UJ	21.9
SW6010	Vanadium	7440-62-2	mg/kg	38.1		5.9	29.8		6.2	31.4		5.6	66.2		5.6	25.7		5.9	30.4		5.5
SW6010	Zinc	7440-66-6	mg/kg	294	J	23.7	4610	J	249	1800		44.4	173		22.1	58		2.4	6.6		2.1
SW7470	Mercury	7439-97-6	mg/kg	0.05		0.04	0.13		0.04	0.04	U	0.04	0.04	U	0.04	0.04		0.04	0.04	U	0.04
SW7471	Mercury	7439-97-6	mg/kg													0.04		0.0396			
SW8082	Aroclor 1016	12674-11-2	ug/kg	40	U	40	22000	U	22000	180	U	180	37	U	37	39	U	39	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	81	U	81	44000	U	44000	380	U	380	76	U	76	80	U	80	76	U	76
SW8082	Aroclor 1232	11141-16-5	ug/kg	40	U	40	22000	U	22000	180	U	180	37	U	37	39	U	39	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	40	U	40	22000	U	22000	180	U	180	37	U	37	39	U	39	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	40	U	40	22000	U	22000	180	U	180	37	U	37	39	U	39	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	40	U	40	110000		22000	1100		180	37	U	37	39	U	39	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	33	J	40	22000	U	22000	180	U	180	320		37	39	U	39	37	U	37
SW8270	1,1-Biphenyl	92-52-4	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	240	J	400	22000	U	22000	49	J	370	50	J	370	390	U	390	370	U	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	100	J	400	22000	U	22000	370	U	370	350	J	370	150	J	390	370	U	370
SW8270	Acetophenone	98-86-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	230	J	400	22000	U	22000	67	J	370	210	J	370	130	J	390	370	U	370
SW8270	Atrazine	1912-24-9	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	100	J	400	110000	UJ	22000	1900	U	370	1900	U	370	2000	U	390	1900	U	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	740		400	22000	U	22000	190	J	370	1000		370	330	J	390	370	U	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	860		400	22000	U	22000	110	J	370	1100		370	350	J	390	370	U	370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	800		400	22000	U	22000	190	J	370	950		370	320	J	390	370	U	370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	700		400	22000	U	22000	110	J	370	820		370	260	J	390	370	U	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	700		400	22000	U	22000	130	J	370	1100		370	320	J	390	370	U	370

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC1CA8			AOC1CA9			AOC20CA1			AOC20CA10			AOC20CA11			AOC20CA12		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC1CA8CAA			AOC1CA9CAA			AOC20A1CAA			AOC20CA10CAA			AOC20CA11CAA			AOC20CA12CAA		
			sample_date:	1/6/2006 8:42:00 AM			1/9/2006 4:00:00 PM			12/8/2005 4:00:00 PM			11/22/2005 1:55:00 PM			11/16/2005 4:44:00 PM			12/8/2005 4:40:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	83	J	400	22000	U	22000	370	U	370	60	J	370	55	J	390	370	U	370
SW8270	Chrysene	218-01-9	ug/kg	920		400	22000	U	22000	350	J	370	1100		370	350	J	390	370	U	370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	220	J	400	22000	U	22000	370	U	370	210	J	370	65	J	390	370	U	370
SW8270	Dibenzofuran	132-64-9	ug/kg	92	J	400	22000	U	22000	370	U	370	370	U	370	62	J	390	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	950		400	22000	U	22000	450		370	1600		370	690		390	370	U	370
SW8270	Fluorene	86-73-7	ug/kg	400	U	400	22000	U	22000	370	U	370	46	J	370	100	J	390	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Hexachloroethane	67-72-1	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	570		400	22000	U	22000	77	J	370	760		370	240	J	390	370	U	370
SW8270	Isophorone	78-59-1	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	180	J	400	22000	U	22000	58	J	370	63	J	370	57	J	390	370	U	370
SW8270	Nitrobenzene	98-95-3	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	2100	U	2100	110000	U	110000	1900	U	1900	1900	U	1900	2000	U	2000	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	800		400	22000	U	22000	220	J	370	630		370	480		390	370	U	370
SW8270	Phenol	108-95-2	ug/kg	400	U	400	22000	U	22000	370	U	370	370	U	370	390	U	390	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	920		400	22000	U	22000	490		370	1500		370	550		390	370	U	370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg							10.294		0.048									
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg							75.488	B	0.049									
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg							0.744	JK	0.067									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg							2.068		0.018									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg							0.883	J	0.046									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg							1.592	J	0.018									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg							26.998		0.044									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg							0.14	JK	0.023									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg							12.819		0.044									
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg							1.151	J	0.056									
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg							7.077		0.029									
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg							1.659	J	0.02									
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg							1.692	J	0.054									
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg							1.471	J	0.412									
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg							4.898		0.011									
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg							6.926		0.059									
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg							78.139	B	0.063									
SW9012A	CYANIDE	57-12-5	mg/kg	1.36		1.21	10.8		1.31	1.13		1.12	2.36		1.13	1.19	UJ	1.19	2.36		1.13

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA13			AOC20CA2			AOC20CA3			AOC20CA4			AOC20CA5			AOC20CA6		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC20CA13CAA			AOC20CA2CAA			AOC20CA3CAA			AOC20CA4CAA			AOC20CA5CAA			AOC20CA6CAA		
			sample_date:	12/2/2005 10:40:00 AM			11/18/2005 5:24:00 PM			11/17/2005 2:01:00 PM			12/7/2005 5:10:00 PM			12/7/2005 4:12:00 PM			12/1/2005 1:07:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	85			83.6			85.9			92.5			86.8			89.2		
SW6010	Aluminum	7429-90-5	mg/kg	26600	J	11.5	26900	J	12	13400	J	11.1	35900		10.3	11800		11.3	30000	J	10.8
SW6010	Antimony	7440-36-0	mg/kg	6.9	UJ	6.9	7.1	UJ	7.1	7	UJ	7	6.2	UJ	6.2	6.8	UJ	6.8	6.5	UJ	6.5
SW6010	Arsenic	7440-38-2	mg/kg	3.3		1.2	8.7	J	1.2	9.4	J	1.2	1	U	1	9		1.1	2.7		1.1
SW6010	Barium	7440-39-3	mg/kg	326	J	2.3	229	J	2.4	145	J	2.2	321		2.1	111		2.3	245	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	3.4		0.58	3.3		0.59	1.3		0.58	10.1		0.51	1.8		0.56	5.1		0.54
SW6010	Cadmium	7440-43-9	mg/kg	2.1		0.58	2.6	J-	0.59	1.3	J-	0.58	0.58	J-	0.51	2	J-	0.56	2.1		0.54
SW6010	Calcium	7440-70-2	mg/kg	170000	J	577	143000		598	104000		554	237000		541	157000		565	179000	J	539
SW6010	Chromium (total)	7440-47-3	mg/kg	29.5	J	1.2	19.6		1.2	16.8		1.2	18.1	J-	1	36	J-	1.1	43.2	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.8	U	5.8	5.9	U	5.9	5.8	U	5.8	5.1	U	5.1	5.6	U	5.6	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	14		2.3	35.5	J	2.4	46.5	J	2.3	2.1	U	2.1	69.9		2.3	17		2.2
SW6010	Iron	7439-89-6	mg/kg	53200	J	115	29500		118	37100	J	116	15600		10.8	63200		113	56800	J	108
SW6010	Lead	7439-92-1	mg/kg	17.7	J	0.58	117	J	0.59	50	J	0.58	5.1	U	5.1	65.9		5.6	33.3	J	0.54
SW6010	Magnesium	7439-95-4	mg/kg	44600		57.7	29000		59.2	50100		58.2	47900	J	54.1	36800	J	56.5	37000		53.9
SW6010	Manganese	7439-96-5	mg/kg	4120	J	11.5	2290		12	1860		11.1	4650	J	10.8	2890	J	11.3	4980	J	10.8
SW6010	Nickel	7440-02-0	mg/kg	5.4		4.6	14.3		4.7	11.4		4.7	4.1	UJ	4.1	17	J	4.5	6.4		4.3
SW6010	Potassium	7440-09-7	mg/kg	1930		231	2580	J	239	1360	J	222	2360		216	3400		226	2310		216
SW6010	Selenium	7782-49-2	mg/kg	3.7	J	1.2	5.1	J	2.4	2.3	J	2.3	5.9		1	2.3	U	2.3	3.2	J	1.1
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.2	UJ	1.2	1.2	U	1.2	1.1		1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	1430	J	57.7	845	J	59.8	674	J	55.4	1740		54.1	710		56.5	1320	J	53.9
SW6010	Thallium	7440-28-0	mg/kg	34.6	U	34.6	29.6	U	29.6	5.8	U	5.8	20.6	UJ	20.6	22.6	UJ	22.6	32.3	U	32.3
SW6010	Vanadium	7440-62-2	mg/kg	24.7		5.8	18.6		5.9	13.9		5.8	21		5.1	16.8		5.6	49.3		5.4
SW6010	Zinc	7440-66-6	mg/kg	34.8	J	2.3	427	J	23.9	80.7	J	2.3	6.1		2.2	372		22.6	109	J	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.09	J	0.04	0.15		0.04	0.06		0.04	0.03	U	0.03	0.06		0.04	0.11	J	0.04
SW7471	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg	39	U	39	39	U	39	38	U	38	36	U	36	38	U	38	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	79	U	79	80	U	80	78	U	78	72	U	72	77	U	77	75	U	75
SW8082	Aroclor 1232	11141-16-5	ug/kg	39	U	39	39	U	39	38	U	38	36	U	36	38	U	38	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	39	U	39	39	U	39	38	U	38	36	U	36	38	U	38	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	39	U	39	39	U	39	38	U	38	36	U	36	38	U	38	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	39	U	39	39	U	39	38	U	38	36	U	36	38	U	38	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	39	U	39	39	U	39	38	U	38	36	U	36	370		38	43		37
SW8270	1,1-Biphenyl	92-52-4	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	390	U	390	1200	U	1200	270	J	380	360	U	360	120	J	1100	63	J	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	1200	U	1200	100	J	380	360	U	360	1100	U	1100	49	J	370
SW8270	Acenaphthylene	208-96-8	ug/kg	52	J	390	1200	U	1200	210	J	380	360	U	360	470	J	1100	120	J	370
SW8270	Acetophenone	98-86-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	58	J	390	1200	U	1200	170	J	380	67	J	360	540	J	1100	310	J	370
SW8270	Atrazine	1912-24-9	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	2000	U	390	6100	U	6100	2000	U	2000	1800	U	360	5900	U	1100	1900	U	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	350	J	390	380	J	1200	560		380	310	J	360	1400		1100	1200		370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	540		390	440	J	1200	710		380	310	J	360	1400		1100	1200		370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	420		390	440	J	1200	770		380	300	J	360	1500		1100	1200		370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	510		390	320	J	1200	610		380	250	J	360	1700		1100	1000		370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	450		390	370	J	1200	730		380	300	J	360	1400		1100	980		370

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA13			AOC20CA2			AOC20CA3			AOC20CA4			AOC20CA5			AOC20CA6		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC20CA13CAA			AOC20CA2CAA			AOC20CA3CAA			AOC20CA4CAA			AOC20CA5CAA			AOC20CA6CAA		
			sample_date:	12/2/2005 10:40:00 AM			11/18/2005 5:24:00 PM			11/17/2005 2:01:00 PM			12/7/2005 5:10:00 PM			12/7/2005 4:12:00 PM			12/1/2005 1:07:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	390	U	390	1200	U	1200	66	J	380	360	U	360	140	J	1100	65	J	370
SW8270	Chrysene	218-01-9	ug/kg	350	J	390	450	J	1200	730		380	380		360	1600		1100	1300		370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	140	J	390	1200	U	1200	160	J	380	85	J	360	330	J	1100	280	J	370
SW8270	Dibenzofuran	132-64-9	ug/kg	390	U	390	1200	U	1200	130	J	380	360	U	360	180	J	1100	46	J	370
SW8270	Diethylphthalate	84-66-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	400	J	390	660	J	1200	1000		380	510		360	3500		1100	2200		370
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	1200	U	1200	140	J	380	360	U	360	280	J	1100	38	J	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Hexachloroethane	67-72-1	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	440		390	290	J	1200	510		380	230	J	360	1200		1100	890		370
SW8270	Isophorone	78-59-1	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	62	J	390	1200	U	1200	240	J	380	38	J	360	180	J	1100	59	J	370
SW8270	Nitrobenzene	98-95-3	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	2000	U	2000	6100	U	6100	2000	U	2000	1800	U	1800	5900	U	5900	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	180	J	390	310	J	1200	640		380	190	J	360	2300		1100	830		370
SW8270	Phenol	108-95-2	ug/kg	390	U	390	1200	U	1200	380	U	380	360	U	360	1100	U	1100	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	360	J	390	550	J	1200	920		380	440		360	2600		1100	2000		370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg										0.708	J	0.031						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg										3.976	B	0.024						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg										0.043	U	0.043						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg										0.187	JK	0.026						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg										0.039	JK	0.019						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg										0.106	J	0.027						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg										0.229	J	0.018						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg										0.033	U	0.033						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg										0.355	J	0.018						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg										0.056	JK	0.016						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg										0.133	J	0.023						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg										0.081	JK	0.029						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg										0.068	JK	0.015						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg										0.038	U	0.038						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg										0.08	JK	0.014						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg										1.101	J	0.053						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg										31.68	B	0.038						
SW9012A	CYANIDE	57-12-5	mg/kg	8.19		1.18	12.6	J-	1.2	1.16	UJ	1.16	1.12		1.08	2.43		1.15	2.06		1.12

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA7			AOC20CA7			AOC20CA8			AOC20CA9			BACA1			BACA10		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC20CA7CAA			AOC20CA7CAA RE			AOC20CA8CAA			AOC20CA9CAA			BACA1CAA			BACA10CAA		
			sample_date:	11/30/2005 1:08:00 PM			11/30/2005 1:08:00 PM			11/29/2005 11:46:00 AM			11/22/2005 5:30:00 PM			11/16/2005 4:35:00 PM			12/14/2005 12:23:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	88.2						85.8			85.3			89.3			88.2		
SW6010	Aluminum	7429-90-5	mg/kg	27300	J	11.3				32300	J	11.3	15900		11.5	36400		11.2	17900		11
SW6010	Antimony	7440-36-0	mg/kg	6.8	UJ	6.8				6.8	UJ	6.8	6.9	UJ	6.9		R	6.7	6.6	UJ	6.6
SW6010	Arsenic	7440-38-2	mg/kg	6		1.1				4.7		1.1	10.5		1.1	3.8		1.1	9.4		1.1
SW6010	Barium	7440-39-3	mg/kg	223	J	2.3				328	J	2.3	163		2.3	300		2.2	129	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	3.8		0.57				5.2		0.57	2.3		0.57	7		0.56	1.6		0.55
SW6010	Cadmium	7440-43-9	mg/kg	1.7		0.57				1.8		0.57	3.1		0.57	2.7		0.56	1.8		0.55
SW6010	Calcium	7440-70-2	mg/kg	170000	J	567				214000	J	566	84700		575	232000		560	69700		550
SW6010	Chromium (total)	7440-47-3	mg/kg	45.6	J	1.1				46.8	J	1.1	76.6		1.1	43.9		1.1	38.3		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.7	U	5.7				5.7	U	5.7	7		5.7	5.6	U	5.6	6.7		5.5
SW6010	Copper	7440-50-8	mg/kg	27.8		2.3				38.8		2.3	359		2.3	7.9		2.2	39.8		2.2
SW6010	Iron	7439-89-6	mg/kg	40000	J	113				47600	J	113	90700		115	50000		112	87200		110
SW6010	Lead	7439-92-1	mg/kg	55.4	J	0.57				49.7	J	0.57	81.7		0.57	29.3		5.6	10.4		0.55
SW6010	Magnesium	7439-95-4	mg/kg	36300		56.7				38200		56.6	16500		57.5	44400		56	21000	J	55
SW6010	Manganese	7439-96-5	mg/kg	4300	J	11.3				6750	J	11.3	3170	J	11.5	5180		11.2	2880	J	11
SW6010	Nickel	7440-02-0	mg/kg	9.3		4.5				11.8		4.5	26.8		4.6	4.5	U	4.5	11.1		4.4
SW6010	Potassium	7440-09-7	mg/kg	1860		227				2560		226	1640		230	2250		224	1310		220
SW6010	Selenium	7782-49-2	mg/kg	3.9	J	1.1				4.1	J	1.1	4.9		2.3	8.5		1.1	1.1	U	1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1				1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	865	J	56.7				1150	J	56.6	505		57.5	1610		56	574		55
SW6010	Thallium	7440-28-0	mg/kg	34	U	34				33.9	U	33.9	28.7	U	28.7	28	UJ	28	5.5	U	5.5
SW6010	Vanadium	7440-62-2	mg/kg	30.9		5.7				20.8		5.7	21		5.7	28.7		5.6	39.6		5.5
SW6010	Zinc	7440-66-6	mg/kg	111	J	2.3				128	J	2.3	89.6		2.3	13.1		2.2	67.6		2.2
SW7470	Mercury	7439-97-6	mg/kg	0.06	J	0.04				0.4	J	0.04	0.04	U	0.04	0.04	U	0.04	0.03	U	0.03
SW7471	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37				38	U	38	39	U	39	37	U	37	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	76	U	76				78	U	78	79	U	79	75	U	75	76	U	76
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37				38	U	38	39	U	39	37	U	37	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37				38	U	38	39	U	39	37	U	37	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37				97		38	39	U	39	37	U	37	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37				38	U	38	39	U	39	37	U	37	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	360		37				340		38	39	U	39	37	U	37	37	U	37
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1100	U	1100				630	J	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	230	J	1100				2600	J	3100	3200		1200	370	U	370	370	U	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	480	J	1100				4300		3100	4500		1200	370	U	370	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	490	J	1100				4100		3100	1200	U	1200	69	J	370	370	U	370
SW8270	Acetophenone	98-86-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	900	J	1100				11000		3100	2200		1200	63	J	370	370	U	370
SW8270	Atrazine	1912-24-9	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	5800	UJ	1100				16000	U	3100	6000	U	1200	1900	U	370	1900	UJ	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	3400		1100				19000		3100	1200	J	1200	280	J	370	110	J	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	2500		1100				16000		3100	1000	J	1200	310	J	370	140	J	370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	3400		1100				15000		3100	1200		1200	370	J	370	140	J	370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	1400		1100				12000		3100	760	J	1200	320	J	370	120	J	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	2900		1100				15000		3100	1200		1200	350	J	370	110	J	370

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC20CA7			AOC20CA7			AOC20CA8			AOC20CA9			BACA1			BACA10		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	AOC20CA7CAA			AOC20CA7CAA RE			AOC20CA8CAA			AOC20CA9CAA			BACA1CAA			BACA10CAA		
			sample_date:	11/30/2005 1:08:00 PM			11/30/2005 1:08:00 PM			11/29/2005 11:46:00 AM			11/22/2005 5:30:00 PM			11/16/2005 4:35:00 PM			12/14/2005 12:23:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	69	J	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	180	J	1100				2300	J	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Chrysene	218-01-9	ug/kg	4300		1100				19000		3100	1200	J	1200	410		370	170	J	370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	400	J	1100				2900	J	3100	270	J	1200	86	J	370	370	U	370
SW8270	Dibenzofuran	132-64-9	ug/kg	240	J	1100				5100		3100	2300		1200	370	U	370	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	7700		1100				44000		3100	3200		1200	490		370	170	J	370
SW8270	Fluorene	86-73-7	ug/kg	310	J	1100				5000		3100	6200		1200	370	U	370	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Hexachloroethane	67-72-1	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	1400		1100				11000		3100	770	J	1200	270	J	370	91	J	370
SW8270	Isophorone	78-59-1	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	360	J	1100				2000	J	3100	2100		1200	370	U	370	370	U	370
SW8270	Nitrobenzene	98-95-3	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	5800	U	5800				16000	U	16000	6000	U	6000	1900	U	1900	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	1700		1100				40000		3100	13000		1200	190	J	370	120	J	370
SW8270	Phenol	108-95-2	ug/kg	1100	U	1100				3100	U	3100	1200	U	1200	370	U	370	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	7800		1100				36000		3100	2600		1200	490		370	160	J	370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg				20.626	B	0.208							1.525	J	0.039	0.876	UB	0.031
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg				50.923	B	0.203							34.716	B	0.052	4.868	B	0.049
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg				1.977	JK	0.292							0.352	J	0.055	0.044	U	0.044
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg				7.092	J	0.15							0.291	J	0.021	0.239	J	0.028
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg				0.836	J	0.094							0.449	J	0.025	0.041	JK	0.019
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg				2.933	J	0.156							0.248	J	0.022	0.121	J	0.029
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg				2.754	J	0.091							3.397		0.024	0.25	JK	0.018
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg				0.461	J	0.192							0.185	J	0.027	0.036	U	0.036
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg				2.162	J	0.09							1.765	J	0.024	0.271	J	0.018
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg				2.979	J	0.11							0.022	U	0.022	0.09	JK	0.014
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg				1.38	J	0.182							0.529	J	0.018	0.028	U	0.028
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg				0.689	J	0.167							0.232	JK	0.023	0.146	J	0.031
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg				3.54	J	0.106							0.021	U	0.021	0.152	J	0.013
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg				3.247		1.675							0.931	U	0.931	0.425	U	0.425
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg				0.553	JK	0.099							0.014	U	0.014	0.012	U	0.012
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg				35.24	B	0.171							7.182	B	0.068	2.018	UB	0.055
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg				325.294	B	0.176							108.295	B	0.058	28.832	UB	0.069
SW9012A	CYANIDE	57-12-5	mg/kg	1.56		1.13				4.11		1.17	1.17		1.17	2.16		1.12	1.13	U	1.13

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA11			BACA12			BACA13			BACA13			BACA2			BACA3		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	BACA11CAA			BACA12CAA			BACA13CAA			BACA13CAB			BACA2CAA			BACA3CAA		
			sample_date:	12/13/2005 12:15:00 PM			12/19/2005 4:14:00 PM			12/21/2005 9:29:00 AM			12/21/2005 9:29:00 AM			11/17/2005 3:45:00 PM			11/29/2005 12:48:00 PM		
			sample_type_code:	N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	90.2			81.8			80.3			83.1			82.4			80.1		
SW6010	Aluminum	7429-90-5	mg/kg	20200		10.8	26800		11.6	7070		12	6970		11.6	34300		11.6	32700		12.2
SW6010	Antimony	7440-36-0	mg/kg	6.5	UJ	6.5	7	U	7	7.2	U	7.2	6.9	U	6.9		R	6.9	7.3	UJ	7.3
SW6010	Arsenic	7440-38-2	mg/kg	6.2		1.1	1.2	U	1.2	1.6		1.2	1.2	U	1.2	2.7		1.2	1.2	U	1.2
SW6010	Barium	7440-39-3	mg/kg	166	J	2.2	230		2.3	113		2.4	108		2.3	309		2.3	294		2.4
SW6010	Beryllium	7440-41-7	mg/kg	2.3		0.54	5.2		0.58	0.98		0.6	1.6		0.58	5.6		0.58	5.4		0.61
SW6010	Cadmium	7440-43-9	mg/kg	0.54	U	0.54	5.1		0.58	11.3		0.6	12.6		0.58	2.8		0.58	0.7		0.61
SW6010	Calcium	7440-70-2	mg/kg	83700		538	210000	J	582	7740	J	599	13700	J	579	274000		578	252000		612
SW6010	Chromium (total)	7440-47-3	mg/kg	12.8		1.1	31.4		1.2	9.3		1.2	9.7		1.2	64.8		1.2	30.1		1.2
SW6010	Cobalt	7440-48-4	mg/kg	6.4		5.4	7.8		5.8	32		6	29.1		5.8	5.8	U	5.8	6.1	U	6.1
SW6010	Copper	7440-50-8	mg/kg	10.3		2.2	45.3		2.3	12.3		2.4	13.8		2.3	12.1		2.3	8.7		2.4
SW6010	Iron	7439-89-6	mg/kg	17200		10.8	101000		116	218000		120	245000		116	56100		116	18000		12.2
SW6010	Lead	7439-92-1	mg/kg	12.8		0.54	34.3	J	5.8	11.4	J	6	25.1	J	5.8	28.4		5.8	2.6	J	0.61
SW6010	Magnesium	7439-95-4	mg/kg	21800	J	53.8	60900	J	582	1610	J	59.9	3390	J	57.9	37600		57.8	63600		612
SW6010	Manganese	7439-96-5	mg/kg	1910	J	10.8	3830	J	11.6	10900	J	12	4400	J	11.6	7030		11.6	3310		12.2
SW6010	Nickel	7440-02-0	mg/kg	7.9		4.3	13.3		4.7	10.9		4.8	10.8		4.6	5.7		4.6	4.9	U	4.9
SW6010	Potassium	7440-09-7	mg/kg	1550		215	1150		233	798		239	551		231	1930		231	1800		245
SW6010	Selenium	7782-49-2	mg/kg	2.8		1.1	23.3	U	23.3	23.9	U	23.9	23.1	U	23.1	9		1.2	7.1		1.2
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	800		53.8	1980		58.2	77.4		59.9	157		57.9	1390		57.8	2090		61.2
SW6010	Thallium	7440-28-0	mg/kg	5.4	U	5.4	23.3	U	23.3	23.9	U	23.9	23.1	U	23.1	28.9	UJ	28.9	3.7	UJ	3.7
SW6010	Vanadium	7440-62-2	mg/kg	21.8		5.4	14.8		5.8	37.1		6	39.9		5.8	26.8		5.8	17.1		6.1
SW6010	Zinc	7440-66-6	mg/kg	28.6		2.2	27.4	J	2.3	46.5	J	2.4	88.3	J	2.3	7.3		2.3	2.4	U	2.4
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.11		0.04	0.04	U	0.04	0.04	U	0.04
SW7471	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	40	U	40	41	U	41	40	U	40	40	U	40	41	U	41
SW8082	Aroclor 1221	11104-28-2	ug/kg	74	U	74	82	U	82	83	U	83	81	U	81	81	U	81	84	U	84
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	40	U	40	41	U	41	40	U	40	40	U	40	41	U	41
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	40	U	40	41	U	41	40	U	40	40	U	40	41	U	41
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	120		40	41	U	41	40	U	40	40	U	40	41	U	41
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	40	U	40	41	U	41	40	U	40	40	U	40	41	U	41
SW8082	Aroclor 1260	11096-82-5	ug/kg	37	U	37	40	U	40	41	U	41	40	U	40	40	U	40	41	U	41
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400		R	400	410	U	410
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000		R	2100	2100	U	2100
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000	2100	U	2100	2100	U	2100
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000	2100	U	2100	2100	U	2100
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000		R	2100	2100	U	2100
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000	2100	U	2100	2100	U	2100
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000	2100	U	2100	2100	U	2100
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Acenaphthylene	208-96-8	ug/kg	64	J	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Anthracene	120-12-7	ug/kg	53	J	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	UJ	370	2100	U	400	2100	U	410	2000	U	400	2100	U	400	2100	U	410
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	220	J	370	130	J	400	410	U	410	400	U	400	74	J	400	410	U	410
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	270	J	370	150	J	400	410	U	410	400	U	400	86	J	400	410	U	410
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	300	J	370	160	J	400	410	U	410	400	U	400	75	J	400	410	U	410
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	240	J	370	160	J	400	410	U	410	400	U	400	66	J	400	410	U	410
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	280	J	370	170	J	400	410	U	410	400	U	400	83	J	400	410	U	410

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA11			BACA12			BACA13			BACA13			BACA2			BACA3		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	BACA11CAA			BACA12CAA			BACA13CAA			BACA13CAB			BACA2CAA			BACA3CAA		
			sample_date:	12/13/2005 12:15:00 PM			12/19/2005 4:14:00 PM			12/21/2005 9:29:00 AM			12/21/2005 9:29:00 AM			11/17/2005 3:45:00 PM			11/29/2005 12:48:00 PM		
			sample_type_code:	N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Caprolactam	105-60-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Carbazole	86-74-8	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Chrysene	218-01-9	ug/kg	290	J	370	170	J	400	410	U	410	400	U	400	89	J	400	410	U	410
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	59	J	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Dibenzofuran	132-64-9	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Fluoranthene	206-44-0	ug/kg	330	J	370	220	J	400	410	U	410	400	U	400	120	J	400	410	U	410
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	220	J	370	130	J	400	410	U	410	400	U	400	58	J	400	410	U	410
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Naphthalene	91-20-3	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	2100	U	2100	2100	U	2100	2000	U	2000		R	2100	2100	U	2100
SW8270	Phenanthrene	85-01-8	ug/kg	74	J	370	86	J	400	410	U	410	400	U	400	57	J	400	410	U	410
SW8270	Phenol	108-95-2	ug/kg	370	U	370	400	U	400	410	U	410	400	U	400	400	U	400	410	U	410
SW8270	Pyrene	129-00-0	ug/kg	350	J	370	230	J	400	410	U	410	400	U	400	110	J	400	410	U	410
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg																		
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg																		
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg																		
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg																		
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg																		
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg																		
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg																		
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg																		
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg																		
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg																		
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg																		
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg																		
SW9012A	CYANIDE	57-12-5	mg/kg	1.11	U	1.11	1.22	U	1.22	1.25	U	1.25	1.2	U	1.2	2.78		1.21	2.23		1.25

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA4			BACA5			BACA6			BACA7			BACA8			BACA9		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	BACA4CAA			BACA5CAA			BACA6CAA			BACA7CAA			BACA8CAA			BACA9CAA		
			sample_date:	11/29/2005 12:50:00 PM			11/30/2005 5:05:00 PM			12/2/2005 12:35:00 PM			12/8/2005 9:58:00 AM			12/9/2005 11:10:00 AM			12/6/2005 3:44:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	90.1			90			86.1			88.2			88			88.4		
SW6010	Aluminum	7429-90-5	mg/kg	35800		11	32400		11.1	36200		11.2	35900		11	12800		11.4	34000		11.1
SW6010	Antimony	7440-36-0	mg/kg	6.6	UJ	6.6	6.6	UJ	6.6	6.7	UJ	6.7	6.6	UJ	6.6	6.8	UJ	6.8	6.7	UJ	6.7
SW6010	Arsenic	7440-38-2	mg/kg	2.4		1.1	4.9		1.1	1.7		1.1	1.1	U	1.1	9.1		1.1	1.2		1.1
SW6010	Barium	7440-39-3	mg/kg	316		2.2	309		2.2	338		2.2	362	J	2.2	108	J	2.3	389	J	2.2
SW6010	Beryllium	7440-41-7	mg/kg	8		0.55	5.5		0.55	8.4		0.56	5.1		0.55	1.1		0.57	6		0.55
SW6010	Cadmium	7440-43-9	mg/kg	0.63		0.55	3.2		0.55	0.56	U	0.56	0.55	U	0.55	1.8		0.57	0.55	U	0.55
SW6010	Calcium	7440-70-2	mg/kg	246000		549	211000		553	249000		558	244000		550	48400		56.8	228000		555
SW6010	Chromium (total)	7440-47-3	mg/kg	25.6		1.1	170		1.1	15.5		1.1	25.3		1.1	51.1		1.1	23.2		1.1
SW6010	Cobalt	7440-48-4	mg/kg	5.5	U	5.5	5.5	U	5.5	5.6	U	5.6	5.5	U	5.5	5.7	U	5.7	5.5	U	5.5
SW6010	Copper	7440-50-8	mg/kg	2.6		2.2	35.6		2.2	2.2	U	2.2	8		2.2	28.4		2.3	6.8		2.2
SW6010	Iron	7439-89-6	mg/kg	21200		11	80800		111	8200		11.2	12200		11	83200		114	15700		11.1
SW6010	Lead	7439-92-1	mg/kg	3.9	J	0.55	6.5	J	0.55	3.5		0.56	18.5		0.55	26.8		0.57	15.2		0.55
SW6010	Magnesium	7439-95-4	mg/kg	58600		549	44500		55.3	60300		558	68700	J	550	12500	J	56.8	53300	J	55.5
SW6010	Manganese	7439-96-5	mg/kg	5400		11	5110		11.1	4730		11.2	5270	J	11	2180	J	11.4	4400	J	11.1
SW6010	Nickel	7440-02-0	mg/kg	4.4	U	4.4	24.9		4.4	4.5	U	4.5	4.4	U	4.4	15.3		4.5	4.4	U	4.4
SW6010	Potassium	7440-09-7	mg/kg	2380		220	1970		221	2310		223	2350		220	1090		227	2240		222
SW6010	Selenium	7782-49-2	mg/kg	10.2		1.1	10.6		1.1	8.8		1.1	8.7		1.1	1.1	U	1.1	7.3		1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	1860		54.9	1390		55.3	1970		55.8	1920		55	297		56.8	1550		55.5
SW6010	Thallium	7440-28-0	mg/kg	33	UJ	33	33.2	UJ	33.2	33.5	UJ	33.5	11	U	11	5.7	U	5.7	11.1	U	11.1
SW6010	Vanadium	7440-62-2	mg/kg	27.7		5.5	85.2		5.5	16.1		5.6	21.7		5.5	48		5.7	16		5.5
SW6010	Zinc	7440-66-6	mg/kg	11.1		2.2	9.5		2.2	6.2		2.2	32.8		2.2	140		2.3	12.1		2.2
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.08		0.04	0.04	U	0.04	0.04	U	0.04
SW7471	Mercury	7439-97-6	mg/kg																		
SW8082	Aroclor 1016	12674-11-2	ug/kg	37	U	37	37	U	37	38	U	38	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1221	11104-28-2	ug/kg	74	U	74	74	U	74	78	U	78	76	U	76	76	U	76	76	U	76
SW8082	Aroclor 1232	11141-16-5	ug/kg	37	U	37	37	U	37	38	U	38	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1242	53469-21-9	ug/kg	37	U	37	37	U	37	38	U	38	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1248	12672-29-6	ug/kg	37	U	37	37	U	37	38	U	38	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1254	11097-69-1	ug/kg	37	U	37	37	U	37	38	U	38	37	U	37	38	U	38	37	U	37
SW8082	Aroclor 1260	11096-82-5	ug/kg	37	U	37	37	U	37	38	U	38	37	U	37	31	J	38	37	U	37
SW8270	1,1-Biphenyl	92-52-4	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2-Chlorophenol	95-57-8	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	43	J	370	380	U	380	380	U	380	48	J	370	100	J	750	370	U	370
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	2-Nitrophenol	88-75-5	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	4-Chloroaniline	106-47-8	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	Acenaphthene	83-32-9	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Acenaphthylene	208-96-8	ug/kg	370	U	370	380	U	380	380	U	380	220	J	370	90	J	750	78	J	370
SW8270	Acetophenone	98-86-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Anthracene	120-12-7	ug/kg	97	J	370	380	U	380	380	U	380	85	J	370	240	J	750	100	J	370
SW8270	Atrazine	1912-24-9	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Benzaldehyde	100-52-7	ug/kg	1900	U	370	2000	U	380	2000	U	380	370	U	1900	3900	UJ	750	1900	U	370
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	400		370	200	J	380	160	J	380	250	J	370	990		750	370	J	370
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	380		370	170	J	380	150	J	380	340	J	370	1000		750	440		370
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	380		370	170	J	380	190	J	380	400		370	930		750	630		370
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	300	J	370	150	J	380	150	J	380	450		370	760		750	290	J	370
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	300	J	370	160	J	380	160	J	380	430		370	750		750	580		370

Appendix C-1 Surface Soil Analytical Data [Composites]
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BACA4			BACA5			BACA6			BACA7			BACA8			BACA9		
			composite_interval:	0-2			0-2			0-2			0-2			0-2			0-2		
			sys_sample_code:	BACA4CAA			BACA5CAA			BACA6CAA			BACA7CAA			BACA8CAA			BACA9CAA		
			sample_date:	11/29/2005 12:50:00 PM			11/30/2005 5:05:00 PM			12/2/2005 12:35:00 PM			12/8/2005 9:58:00 AM			12/9/2005 11:10:00 AM			12/6/2005 3:44:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	370	U	370	380	U	380	380	U	380	70	J	370	750	U	750	370	U	370
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Caprolactam	105-60-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Carbazole	86-74-8	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	96	J	370
SW8270	Chrysene	218-01-9	ug/kg	440		370	220	J	380	210	J	380	390		370	1400		750	740		370
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	77	J	370	44	J	380	380	U	380	100	J	370	250	J	750	78	J	370
SW8270	Dibenzofuran	132-64-9	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Diethylphthalate	84-66-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Dimethylphthalate	131-11-3	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Fluoranthene	206-44-0	ug/kg	700		370	370	J	380	270	J	380	350	J	370	1400		750	840		370
SW8270	Fluorene	86-73-7	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Hexachlorobenzene	118-74-1	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Hexachloroethane	67-72-1	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	270	J	370	130	J	380	130	J	380	350	J	370	590	J	750	280	J	370
SW8270	Isophorone	78-59-1	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Naphthalene	91-20-3	ug/kg	370	U	370	380	U	380	380	U	380	86	J	370	98	J	750	370	U	370
SW8270	Nitrobenzene	98-95-3	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	2000	U	2000	2000	U	2000	1900	U	1900	3900	U	3900	1900	U	1900
SW8270	Phenanthrene	85-01-8	ug/kg	370		370	140	J	380	120	J	380	170	J	370	750	J	750	140	J	370
SW8270	Phenol	108-95-2	ug/kg	370	U	370	380	U	380	380	U	380	370	U	370	750	U	750	370	U	370
SW8270	Pyrene	129-00-0	ug/kg	620		370	360	J	380	260	J	380	420		370	1300		750	880		370
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	0.454	J	0.047							2.043	B	0.038						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	4.466	B	0.105							5.838	B	0.084						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.067	U	0.067							0.212	J	0.053						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.158	J	0.017							0.797	J	0.025						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.167	JK	0.041							0.093	J	0.035						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.109	J	0.017							0.33	J	0.026						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.403	J	0.04							0.371	J	0.033						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.021	U	0.021							0.032	U	0.032						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.492	J	0.039							0.322	JK	0.033						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.021	U	0.021							0.171	J	0.024						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.18	J	0.026							0.088	JK	0.023						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.083	JK	0.018							0.403	J	0.028						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.02	U	0.02							0.235	J	0.023						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.811	U	0.811							0.353	U	0.353						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.015	U	0.015							0.022	U	0.022						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	1.51	UB	0.091							2.281	UB	0.083						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	27.715	UB	0.075							23.576	UB	0.083						
SW9012A	CYANIDE	57-12-5	mg/kg	1.28		1.11	1.43		1.15	1.89		1.16	2.36		1.13	1.14	U	1.14	1.47		1.13

Appendix C-2 Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SW6			AOC7SW6			AOC7SW7			AOC7SW8			AOC7SW9			GMRSD1		
			sys_sample_code:	AOC7SW6AA			AOC7SW6AB			AOC7SW7AA			AOC7SW8AA			AOC7SW9AA			GMRSW1AA		
			sample_date:	1/24/2006 9:55:00 AM			1/24/2006 9:55:00 AM			1/23/2006 2:30:00 PM			11/10/2005 1:10:00 PM			1/24/2006 10:42:00 AM			11/8/2005 3:30:00 PM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	1160		22.6	1140		22.6	3790		22.6	1900		19.9	866		22.6	714		19.9
SW6010	Antimony	7440-36-0	ug/l	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	8.1	U	8.1	7.6	U	7.6	8.1	U	8.1
SW6010	Arsenic	7440-38-2	ug/l	4.7	U	4.7	4.7	U	4.7	4.7	U	4.7	2.4	UJ	2.4	4.7	U	4.7	4.2	UJ	2.4
SW6010	Barium	7440-39-3	ug/l	54	U	9.6	52.7	U	9.6	56.5	U	9.6	102		6.7	51.5	U	9.6	101		6.7
SW6010	Beryllium	7440-41-7	ug/l	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.27	U	0.27	0.21	U	0.21	0.27	U	0.27
SW6010	Cadmium	7440-43-9	ug/l	0.43	U	0.43	0.43	U	0.43	0.57	U	0.43	0.42	U	0.42	0.43	U	0.43	0.42	U	0.42
SW6010	Calcium	7440-70-2	ug/l	71100		65.5	69700		65.5	54900		65.5	77400		60.1	68300		65.5	82900		60.1
SW6010	Chromium (total)	7440-47-3	ug/l	2.3	U	0.86	2	U	0.86	4.3	U	0.86	3.5	U	0.38	2.1	U	0.86	2.1	UJ	0.38
SW6010	Cobalt	7440-48-4	ug/l	3.7	U	3.7	3.7	U	3.7	3.7	U	3.7	1.5		1	3.7	U	3.7	1.1	UJ	1
SW6010	Copper	7440-50-8	ug/l	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4	4.7	U	4.7	5.4	U	5.4	4.7	U	4.7
SW6010	Iron	7439-89-6	ug/l	745		9.5	820		9.5	2650		9.5	1860		11.5	616		9.5	762	J	3.7
SW6010	Lead	7439-92-1	ug/l	2.4	UJ	2.4	2.4	UJ	2.4	2.4	J	2.4	3.3		1.7	2.4	UJ	2.4	2.8	J	1.7
SW6010	Magnesium	7439-95-4	ug/l	22900		58.6	22500		58.6	17400		58.6	30500		30.2	21800		58.6	34000		30.2
SW6010	Manganese	7439-96-5	ug/l	15.6		0.95	18.7		0.95	33.6		0.95	49.5		0.46	17.4		0.95	27.2		0.46
SW6010	Nickel	7440-02-0	ug/l	3.3	U	3.3	3.4	U	3.3	3.3	U	3.3	3.7		1.1	3.3	U	3.3	2.3	J	1.1
SW6010	Potassium	7440-09-7	ug/l	1420	J	84.1	1420	J	84.1	2220		84.1	4880		35.2	1320	J	84.1	3900	J	35.2
SW6010	Selenium	7782-49-2	ug/l	6	U	6	6	U	6	6	U	6	4	U	4	6	U	6	5.2	UJ	4
SW6010	Silver	7440-22-4	ug/l	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	1.1	U	1.1	0.8	U	0.8	1.1	U	1.1
SW6010	Sodium	7440-23-5	ug/l	16700		801	16200		801	12600		801	25400		25.2	16400		801	28600		25.2
SW6010	Thallium	7440-28-0	ug/l	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	3.3	U	3.3	4.1	U	4.1	3.3	U	3.3
SW6010	Vanadium	7440-62-2	ug/l	3.3	U	1.4	2.5	U	1.4	7.6	U	1.4	4.7		1.5	2.4	U	4.1	2.6	J	1.5
SW6010	Zinc	7440-66-6	ug/l	7.7	J	4.2	7.6	J	4.2	14.1	J	4.2	13.9		1.4	5.8	J	4.2	9.8	UJ	1.4
SW7470	Mercury	7439-97-6	ug/l	0.02	UJ	0.02	0.02	UJ	0.02	0.02	UJ	0.02	0.02	U	0.02	0.02	UJ	0.02	0.09	J	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	0.97	U	0.97	0.97	U	0.97	1	U	1	1	U	1	1	U	1	0.97	U	0.97
SW8082	Aroclor 1221	11104-28-2	ug/l	1.9	U	1.9	1.9	U	1.9	2	U	2	2	U	2	2	U	2	1.9	U	1.9
SW8082	Aroclor 1232	11141-16-5	ug/l	0.97	U	0.97	0.97	U	0.97	1	U	1	1	U	1	1	U	1	0.97	U	0.97
SW8082	Aroclor 1242	53469-21-9	ug/l	0.97	U	0.97	0.97	U	0.97	1	U	1	1	U	1	1	U	1	0.97	U	0.97
SW8082	Aroclor 1248	12672-29-6	ug/l	0.97	U	0.97	0.97	U	0.97	1	U	1	1	U	1	1	U	1	0.97	U	0.97
SW8082	Aroclor 1254	11097-69-1	ug/l	0.97	U	0.97	0.97	U	0.97	1	U	1	1	U	1	1	U	1	0.97	U	0.97
SW8082	Aroclor 1260	11096-82-5	ug/l	0.97	U	0.97	0.97	U	0.97	1	U	1	1	U	1	1	U	1	0.97	U	0.97
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	Acetone	67-64-1	ug/l	10	U	10	10	U	10	10	U	10	2.4	J	10	10	U	10	10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	UB	1	1	UB	1	1	UB	1	1	U	1	1	UB	1	1	U	1
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	10	U	10	10	U	10

Appendix C-2 Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SW6			AOC7SW6			AOC7SW7			AOC7SW8			AOC7SW9			GMRSD1		
			sys_sample_code:	AOC7SW6AA			AOC7SW6AB			AOC7SW7AA			AOC7SW8AA			AOC7SW9AA			GMRSW1AA		
			sample_date:	1/24/2006 9:55:00 AM			1/24/2006 9:55:00 AM			1/23/2006 2:30:00 PM			11/10/2005 1:10:00 PM			1/24/2006 10:42:00 AM			11/8/2005 3:30:00 PM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methylene chloride	75-09-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Toluene	108-88-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Chloronaphthalene	91-58-7	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Chlorophenol	95-57-8	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Methylnaphthalene	91-57-6	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Nitroaniline	88-74-4	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	2-Nitrophenol	88-75-5	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	3-Nitroaniline	99-09-2	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Chloroaniline	106-47-8	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Nitroaniline	100-01-6	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	4-Nitrophenol	100-02-7	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	Acetophenone	98-86-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Atrazine	1912-24-9	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Benzaldehyde	100-52-7	ug/l	48	U	9.6	47	U	9.3	4.8	U	9.6	9.3	U	9.3	47	U	9.3	47	UJ	47
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Butylbenzylphthalate	85-68-7	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Caprolactam	105-60-2	ug/l	9.6	UJ	9.6	9.3	UJ	9.3	9.6	UJ	9.6	47	UJ	50	9.3	UJ	9.3	47	UJ	47
SW8270	Carbazole	86-74-8	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Dibenzofuran	132-64-9	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Diethylphthalate	84-66-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Dimethylphthalate	131-11-3	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Di-n-butylphthalate	84-74-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Di-n-octylphthalate	117-84-0	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachlorobenzene	118-74-1	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachlorobutadiene	87-68-3	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachloroethane	67-72-1	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Isophorone	78-59-1	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Nitrobenzene	98-95-3	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Pentachlorophenol	87-86-5	ug/l	48	U	48	47	U	47	48	U	48	47	U	47	47	U	47	47	U	47
SW8270	Phenol	108-95-2	ug/l	9.6	U	9.6	9.3	U	9.3	9.6	U	9.6	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Anthracene	120-12-7	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.097	U	0.097	0.093	U	0.093	0.098	U	0.098	0.093	U	0.093	0.1	U	0.1	0.1	U	0.1
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	UJ	0.2	0.2	U	0.2
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	UJ	0.2	0.2	U	0.2

Appendix C-2 Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SW6			AOC7SW6			AOC7SW7			AOC7SW8			AOC7SW9			GMRSD1		
			sys_sample_code:	AOC7SW6AA			AOC7SW6AB			AOC7SW7AA			AOC7SW8AA			AOC7SW9AA			GMRSW1AA		
			sample_date:	1/24/2006 9:55:00 AM			1/24/2006 9:55:00 AM			1/23/2006 2:30:00 PM			11/10/2005 1:10:00 PM			1/24/2006 10:42:00 AM			11/8/2005 3:30:00 PM		
			sample_type_code:	N			FD			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	UJ	0.2	0.2	U	0.2
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	UJ	0.2	0.2	U	0.2
SW8270C.LL	Chrysene	218-01-9	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	UJ	0.2	0.2	U	0.2
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.056	J	0.19	0.2	U	0.2	0.05	J	0.2
SW8270C.LL	Fluorene	86-73-7	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	UJ	0.2	0.2	U	0.2
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.19	U	0.19	0.19	UB	0.19	0.2	UB	0.2	0.19	U	0.19	0.75	J	0.2	0.2	U	0.2
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	UB	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Pyrene	129-00-0	ug/l	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19	0.2	U	0.2	0.2	U	0.2
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l													0.529	U	0.529			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l													0.29	U	0.29			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l													0.742	U	0.742			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l													0.186	U	0.186			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l													0.233	U	0.233			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l													0.194	U	0.194			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l													0.224	U	0.224			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l													0.239	U	0.239			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l													0.222	U	0.222			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l													0.119	U	0.119			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l													0.211	U	0.211			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l													0.207	U	0.207			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l													0.115	U	0.115			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l													0.346	U	0.346			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l													0.165	U	0.165			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l													3.6	UJBK	0.662			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l													12.209	UB	0.691			
SW9012A	CYANIDE	57-12-5	mg/l	0.01	U	0.01	0.01	U	0.01	0.0104		0.01	0.01	U	0.01	0.01	U	0.01	0.01	U	0.01

Appendix C-2 Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD2			GMRSD3			GMRSD4			GMRSD8			GMRSW10		
			sys_sample_code:	GMRSW2AA			GMRSW3AA			GMRSW4AA			GMRSW5AA			GMRSW10AA		
			sample_date:	11/9/2005 12:30:00 PM			11/9/2005 2:45:00 PM			11/10/2005 4:30:00 PM			11/8/2005 3:30:00 PM			11/11/2005 9:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	616		19.9	702		19.9	674		19.9	696		19.9	3410		19.9
SW6010	Antimony	7440-36-0	ug/l	8.1	U	8.1	8.1	U	8.1	8.1	U	8.1	8.1	U	8.1	8.1	U	8.1
SW6010	Arsenic	7440-38-2	ug/l	2.4	U	2.4	5.8	UJ	2.4	4.4	UJ	2.4	4.8	UJ	2.4	3.7	UJ	2.4
SW6010	Barium	7440-39-3	ug/l	96.4		6.7	94.8		6.7	93.4		6.7	98.7		6.7	95.5		6.7
SW6010	Beryllium	7440-41-7	ug/l	0.27	U	0.27	0.27	U	0.27	0.27	U	0.27	0.27	U	0.27	0.27	U	0.27
SW6010	Cadmium	7440-43-9	ug/l	0.42	U	0.42	0.42	U	0.42	0.42	U	0.42	0.42	U	0.42	0.42	U	0.42
SW6010	Calcium	7440-70-2	ug/l	83600		60.1	82200		60.1	79800		60.1	81100		60.1	67500		60.1
SW6010	Chromium (total)	7440-47-3	ug/l	2.1	UJ	0.38	2.1	UJ	0.38	1.7	UJ	0.38	2.3	UJ	0.38	4.7	J	0.38
SW6010	Cobalt	7440-48-4	ug/l	1	U	1	1.1	UJ	1	1.1	UJ	1	1	U	1	1.7	UJ	1
SW6010	Copper	7440-50-8	ug/l	4.7	U	4.7	4.7	U	4.7	4.7	U	4.7	4.7	U	4.7	4.7	U	4.7
SW6010	Iron	7439-89-6	ug/l	686	J	3.7	773	J	3.7	728	J	3.7	690	J	3.7	2780	J	3.7
SW6010	Lead	7439-92-1	ug/l	2.8	J	1.7	2.5	J	1.7	2.3	J	1.7	2.3	J	1.7	3.8	J	1.7
SW6010	Magnesium	7439-95-4	ug/l	32400		30.2	31700		30.2	31000		30.2	34400		30.2	27000		30.2
SW6010	Manganese	7439-96-5	ug/l	23.9		0.46	25.2		0.46	23.6		0.46	25.7		0.46	53.6		0.46
SW6010	Nickel	7440-02-0	ug/l	1.7	J	1.1	2.1	J	1.1	2.3	J	1.1	2.5	J	1.1	4.1	J	1.1
SW6010	Potassium	7440-09-7	ug/l	4100	J	35.2	4340	J	35.2	4370	J	35.2	3880	J	35.2	5760	J	35.2
SW6010	Selenium	7782-49-2	ug/l	5.3	UJ	4	4	U	4	4	U	4	4	U	4	4	U	4
SW6010	Silver	7440-22-4	ug/l	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	ug/l	28500		25.2	28600		25.2	28700		25.2	29000		25.2	19000		25.2
SW6010	Thallium	7440-28-0	ug/l	4.1	UJ	3.3	3.3	U	3.3	4.4	UJ	3.3	3.3	U	3.3	3.3	U	3.3
SW6010	Vanadium	7440-62-2	ug/l	2.4	J	1.5	2.6	J	1.5	2.7	J	1.5	2.7	J	1.5	8.6	J	1.5
SW6010	Zinc	7440-66-6	ug/l	7	UJ	1.4	7.9	UJ	1.4	8.9	UJ	1.4	8.9	UJ	1.4	14.3	UJ	1.4
SW7470	Mercury	7439-97-6	ug/l	0.02	U	0.02	0.02	U	0.02	0.02	U	0.02	0.19	J	0.02	0.03	J	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	0.95	U	0.95	0.93	U	0.93	0.93	U	0.93	1	U	1	0.93	U	0.93
SW8082	Aroclor 1221	11104-28-2	ug/l	1.9	U	1.9	1.9	U	1.9	1.9	U	1.9	2	U	2	1.9	U	1.9
SW8082	Aroclor 1232	11141-16-5	ug/l	0.95	U	0.95	0.93	U	0.93	0.93	U	0.93	1	U	1	0.93	U	0.93
SW8082	Aroclor 1242	53469-21-9	ug/l	0.95	U	0.95	0.93	U	0.93	0.93	U	0.93	1	U	1	0.93	U	0.93
SW8082	Aroclor 1248	12672-29-6	ug/l	0.95	U	0.95	0.93	U	0.93	0.93	U	0.93	1	U	1	0.93	U	0.93
SW8082	Aroclor 1254	11097-69-1	ug/l	0.95	U	0.95	0.93	U	0.93	0.93	U	0.93	1	U	1	0.93	U	0.93
SW8082	Aroclor 1260	11096-82-5	ug/l	0.95	U	0.95	0.93	U	0.93	0.93	U	0.93	1	U	1	0.93	U	0.93
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	1.8	J	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	Acetone	67-64-1	ug/l	4.2	J	10	10	U	10	10	U	10	10	U	10	10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	10	U	10

Appendix C-2 Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD2			GMRSD3			GMRSD4			GMRSD8			GMRSW10		
			sys_sample_code:	GMRSW2AA			GMRSW3AA			GMRSW4AA			GMRSW5AA			GMRSW10AA		
			sample_date:	11/9/2005 12:30:00 PM			11/9/2005 2:45:00 PM			11/10/2005 4:30:00 PM			11/8/2005 3:30:00 PM			11/11/2005 9:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methylene chloride	75-09-2	ug/l	0.66	J	1	1	U	1	0.3	J	1	1	U	1	1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Toluene	108-88-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2-Chloronaphthalene	91-58-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2-Chlorophenol	95-57-8	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2-Methylnaphthalene	91-57-6	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	2-Nitroaniline	88-74-4	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	2-Nitrophenol	88-75-5	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	3-Nitroaniline	99-09-2	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	4-Chloroaniline	106-47-8	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	4-Nitroaniline	100-01-6	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	4-Nitrophenol	100-02-7	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	Acetophenone	98-86-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Atrazine	1912-24-9	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Benzaldehyde	100-52-7	ug/l	9.3	UJ	9.3	9.3	UJ	9.3	9.3	UJ	9.3	51	UJ	51	9.3	UJ	9.3
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Butylbenzylphthalate	85-68-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Caprolactam	105-60-2	ug/l	47	UJ	47	47	UJ	47	47	UJ	47	51	UJ	51	47	UJ	47
SW8270	Carbazole	86-74-8	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Dibenzofuran	132-64-9	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Diethylphthalate	84-66-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Dimethylphthalate	131-11-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Di-n-butylphthalate	84-74-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Di-n-octylphthalate	117-84-0	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Hexachlorobenzene	118-74-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Hexachlorobutadiene	87-68-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Hexachloroethane	67-72-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Isophorone	78-59-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Nitrobenzene	98-95-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270	Pentachlorophenol	87-86-5	ug/l	47	U	47	47	U	47	47	U	47	51	U	51	47	U	47
SW8270	Phenol	108-95-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3	10	U	10	9.3	U	9.3
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Anthracene	120-12-7	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.093	U	0.093	0.093	U	0.093	0.093	U	0.093	0.098	U	0.098	0.093	U	0.093
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19

Appendix C-2 Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD2			GMRSD3			GMRSD4			GMRSD8			GMRSW10		
			sys_sample_code:	GMRSW2AA			GMRSW3AA			GMRSW4AA			GMRSW5AA			GMRSW10AA		
			sample_date:	11/9/2005 12:30:00 PM			11/9/2005 2:45:00 PM			11/10/2005 4:30:00 PM			11/8/2005 3:30:00 PM			11/11/2005 9:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Chrysene	218-01-9	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Fluorene	86-73-7	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8270C.LL	Pyrene	129-00-0	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19	0.2	U	0.2	0.19	U	0.19
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l															
SW9012A	CYANIDE	57-12-5	mg/l	0.01	UJ	0.01	0.01	UJ	0.01	0.01	UJ	0.01	0.01	U	0.01	0.01	UJ	0.01

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SD10			AOC7SD10			AOC7SD10			AOC7SD10			AOC7SD11			AOC7SD12			AOC7SD13		
			sys_sample_code:	AOC7SD10AA			AOC7SD10AASEM			AOC7SD10AB			AOC7SD10ABSEM			AOC7SD11AA			AOC7SD12AA			AOC7SD13AA		
			sample_date:	11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:18:00 PM			11/14/2005 11:55:00 AM			11/14/2005 10:50:00 AM		
			sample_type_code:	N			N			FD			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
AVS/SEM SOP	Sulfide, acid-volatile	SULFIDE-AV	umoles/g				1.34	U	1.34				1.31	U	1.31									
E160.3	Total Solids	TSOLIDS	percent	76.5			74.8		1.34	75.6			76.5		1.31	82.8			84.1			68.6		
SW6010	Aluminum	7429-90-5	mg/kg	17900		12.9				17100		13				6030		11.9	9470		12.1	8820		14.2
SW6010	Antimony	7440-36-0	mg/kg	7.8	UJ	7.8				7.8	UJ	7.8				7.1	UJ	7.1	7.2	UJ	7.2	8.5	UJ	8.5
SW6010	Arsenic	7440-38-2	mg/kg	7.6		1.3				7		1.3				6.1		1.2	6.7		1.2	7.2		1.4
SW6010	Barium	7440-39-3	mg/kg	200		2.6				187		2.6				63.6		2.4	83.8		2.4	95.7		2.8
SW6010	Beryllium	7440-41-7	mg/kg	1.1		0.65				1		0.65				0.59	U	0.59	0.6	U	0.6	0.71	U	0.71
SW6010	Cadmium	7440-43-9	mg/kg	0.65	U	0.65				0.65	U	0.65				0.59	U	0.59	0.6	U	0.6	0.71	U	0.71
SW6010	Cadmium	7440-43-9	umoles/g				0.00151		0.000587				0.00133		0.000534									
SW6010	Calcium	7440-70-2	mg/kg	59900		64.7				53400		64.8				19100		59.4	16500		60.4	30000		70.8
SW6010	Chromium (total)	7440-47-3	mg/kg	23		1.3				21.7		1.3				14.5		1.2	15.2		1.2	14		1.4
SW6010	Cobalt	7440-48-4	mg/kg	6.8		6.5				6.5	U	6.5				5.9	U	5.9	6.2		6	7.1	U	7.1
SW6010	Copper	7440-50-8	mg/kg	22.2		2.6				21.3		2.6				12.9		2.4	14.8		2.4	17.9		2.8
SW6010	Copper	7440-50-8	umoles/g				0.164		0.00417				0.145		0.00381									
SW6010	Iron	7439-89-6	mg/kg	18000	J	12.9				16600	J	13				12200	J	11.9	16400	J	12.1	19200	J	14.2
SW6010	Lead	7439-92-1	mg/kg	35.3		0.65				31.2		0.65				16.2		0.59	18.7		0.6	25.4		0.71
SW6010	Lead	7439-92-1	umoles/g				0.0825		0.000319				0.0734		0.00029									
SW6010	Magnesium	7439-95-4	mg/kg	18000		64.7				15200		64.8				8530		59.4	7040		60.4	9680		70.8
SW6010	Manganese	7439-96-5	mg/kg	2660		12.9				2470		13				541		1.2	653		1.2	796		1.4
SW6010	Nickel	7440-02-0	mg/kg	14.5		5.2				13.7		5.2				13.7		4.8	15.1		4.8	15.4		5.7
SW6010	Nickel	7440-02-0	umoles/g				0.063		0.00901				0.0579		0.00825									
SW6010	Potassium	7440-09-7	mg/kg	1830		259				1800		259				837		238	1440		242	967		283
SW6010	Selenium	7782-49-2	mg/kg	1.4		1.3				1.4		1.3				1.2	U	1.2	1.2	U	1.2	1.4	U	1.4
SW6010	Silver	7440-22-4	mg/kg	1.3	U	1.3				1.3	U	1.3				1.2	U	1.2	1.2	U	1.2	1.4	U	1.4
SW6010	Sodium	7440-23-5	mg/kg	226		64.7				202		64.8				70.4		59.4	81.2		60.4	132		70.8
SW6010	Thallium	7440-28-0	mg/kg	64.7	U	64.7				64.8	U	64.8				5.9	U	5.9	6	U	6	7.1	U	7.1
SW6010	Vanadium	7440-62-2	mg/kg	28.4		6.5				27.2		6.5				18.4		5.9	25		6	20.2		7.1
SW6010	Zinc	7440-66-6	mg/kg	99.9		2.6				91.1		2.6				66.4		2.4	76.8		2.4	93.7		2.8
SW6010	Zinc	7440-66-6	umoles/g				0.757		0.0405				0.697	J+	0.037									
SW7470	Mercury	7439-97-6	mg/kg	0.09		0.04				0.14		0.04				0.04	U	0.04	0.04		0.04	0.05	U	0.05
SW7470	Mercury	7439-97-6	umoles/g				4.98E-05		0.000015				4.98E-05		9.97E-06									
SW8082	Aroclor 1016	12674-11-2	ug/kg	43	U	43				44	U	44				39	U	39	40	U	40	48	U	48
SW8082	Aroclor 1221	11104-28-2	ug/kg	88	U	88				89	U	89				79	U	79	81	U	81	98	U	98
SW8082	Aroclor 1232	11141-16-5	ug/kg	43	U	43				44	U	44				39	U	39	40	U	40	48	U	48
SW8082	Aroclor 1242	53469-21-9	ug/kg	43	U	43				44	U	44				39	U	39	40	U	40	48	U	48
SW8082	Aroclor 1248	12672-29-6	ug/kg	43	U	43				44	U	44				39	U	39	40	U	40	48	U	48
SW8082	Aroclor 1254	11097-69-1	ug/kg	43	U	43				44	U	44				39	U	39	40	U	40	48	U	48
SW8082	Aroclor 1260	11096-82-5	ug/kg	30	J	43				44	U	44				39	U	39	40	U	40	48	U	48
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	2-Butanone	78-93-3	ug/kg	13	U	13				13	U	13				11	U	11	11	U	11	13	U	13
SW8260	2-Hexanone	591-78-6	ug/kg	13	U	13				13	U	13				11	U	11	11	U	11	13	U	13
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	13	U	13				13	U	13				11	U	11	11	U	11	13	U	13
SW8260	Acetone	67-64-1	ug/kg	25	U	25				27	U	27				22	U	22	10	J	21	28	J	26
SW8260	Benzene	71-43-2	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	0.52	J	5.4	1	J	6.4
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Bromoform	75-25-2	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Bromomethane	74-83-9	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Carbon disulfide	75-15-0	ug/kg	0.76	J	13				13	U	13				11	U	11	11	U	11	0.7	J	13
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Chlorobenzene	108-90-7	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Chloroethane	75-00-3	ug/kg	13	U	13				13	U	13				11	U	11	11	U	11	13	U	13
SW8260	Chloroform	67-66-3	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Chloromethane	74-87-3	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Cyclohexane	110-82-7	ug/kg	2.6	J	6.3				0.74	J	6.7				1.2	J	5.5	3.9	J	5.4	6.1	J	6.4
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SD10			AOC7SD10			AOC7SD10			AOC7SD10			AOC7SD11			AOC7SD12			AOC7SD13		
			sys_sample_code:	AOC7SD10AA			AOC7SD10AASEM			AOC7SD10AB			AOC7SD10ABSEM			AOC7SD11AA			AOC7SD12AA			AOC7SD13AA		
			sample_date:	11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:18:00 PM			11/14/2005 11:55:00 AM			11/14/2005 10:50:00 AM		
			sample_type_code:	N			N			FD			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Ethylbenzene	100-41-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	0.46	J	5.4	0.66	J	6.4
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	m+p-Xylene	XYLMP	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	0.93	J	6.4
SW8260	Methyl acetate	79-20-9	ug/kg	13	U	13				13	U	13				11	U	11	11	U	11	13	U	13
SW8260	Methylcyclohexane	108-87-2	ug/kg	2.1	J	6.3				0.52	J	6.7				1.3	J	5.5	3.7	J	5.4	6.9	J	6.4
SW8260	Methylene chloride	75-09-2	ug/kg	6.3	U	6.3				0.42	J	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	o-Xylene	95-47-6	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	0.39	J	5.4	0.42	J	6.4
SW8260	Styrene	100-42-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Toluene	108-88-3	ug/kg	0.52	J	6.3				6.7	U	6.7				5.5	U	5.5	1.2	J	5.4	1.9	J	6.4
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Trichloroethene	79-01-6	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8260	Vinyl chloride	75-01-4	ug/kg	6.3	U	6.3				6.7	U	6.7				5.5	U	5.5	5.4	U	5.4	6.4	U	6.4
SW8270	1,1-Biphenyl	92-52-4	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2-Chlorophenol	95-57-8	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	310	J	2400
SW8270	2-Nitroaniline	88-74-4	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	2-Nitrophenol	88-75-5	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	3-Nitroaniline	99-09-2	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	4-Chloroaniline	106-47-8	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	4-Nitroaniline	100-01-6	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	4-Nitrophenol	100-02-7	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	Acenaphthene	83-32-9	ug/kg	430	U	430				440	U	440										2400	U	2400
SW8270	Acenaphthylene	208-96-8	ug/kg	67	J	430				70	J	440										4500		2400
SW8270	Acetophenone	98-86-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Anthracene	120-12-7	ug/kg	44	J	430				62	J	440										15000		2400
SW8270	Atrazine	1912-24-9	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Benzaldehyde	100-52-7	ug/kg	430	U	430				60	J	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	180	J	430				250	J	440				120	J	1200	110	J	400	17000		2400
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	220	J	430				280	J	440				140	J	1200	120	J	400	14000		2400
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	210	J	430				240	J	440				130	J	1200	160	J	400	12000		2400
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	180	J	430				210	J	440							100	J	400	9000		2400
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	180	J	430				250	J	440				140	J	1200	110	J	400	13000		2400
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	430	U	430				440	U	440				170	J	1200	400	U	400	2400	U	2400
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Caprolactam	105-60-2	ug/kg	2200	U	430				2200	U	440				6000	U	1200	2100	U	400	12000	U	2400
SW8270	Carbazole	86-74-8	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	3100		2400
SW8270	Chrysene	218-01-9	ug/kg	220	J	430				290	J	440				190	J	1200	140	J	400	17000		2400
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	50	J	430				60	J	440										2600		2400
SW8270	Dibenzofuran	132-64-9	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	1500	J	2400
SW8270	Diethylphthalate	84-66-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Dimethylphthalate	131-11-3	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Fluoranthene	206-44-0	ug/kg	420	J	430				580		440				400	J	1200	230	J	400	38000		2400
SW8270	Fluorene	86-73-7	ug/kg	430	U	430				440	U	440										5000		2400
SW8270	Hexachlorobenzene	118-74-1	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Hexachloroethane	67-72-1	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SD10			AOC7SD10			AOC7SD10			AOC7SD10			AOC7SD11			AOC7SD12			AOC7SD13		
			sys_sample_code:	AOC7SD10AA			AOC7SD10AASEM			AOC7SD10AB			AOC7SD10ABSEM			AOC7SD11AA			AOC7SD12AA			AOC7SD13AA		
			sample_date:	11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:32:00 PM			11/14/2005 12:18:00 PM			11/14/2005 11:55:00 AM			11/14/2005 10:50:00 AM		
			sample_type_code:	N			N			FD			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	160	J	430				190	J	440							89	J	400	8300		2400
SW8270	Isophorone	78-59-1	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Naphthalene	91-20-3	ug/kg	430	U	430				46	J	440										580	J	2400
SW8270	Nitrobenzene	98-95-3	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Pentachlorophenol	87-86-5	ug/kg	2200	U	2200				2200	U	2200				6000	U	6000	2100	U	2100	12000	U	12000
SW8270	Phenanthrene	85-01-8	ug/kg	170	J	430				220	J	440				400	J	1200	110	J	400	29000		2400
SW8270	Phenol	108-95-2	ug/kg	430	U	430				440	U	440				1200	U	1200	400	U	400	2400	U	2400
SW8270	Pyrene	129-00-0	ug/kg	330	J	430				450		440				320	J	1200	170	J	400	31000		2400
SW8270C.LL	Acenaphthene	83-32-9	ug/kg													40	U	40	39	U	39			
SW8270C.LL	Acenaphthylene	208-96-8	ug/kg													21	J	40	26	J	39			
SW8270C.LL	Anthracene	120-12-7	ug/kg													25	J	40	31	J	39			
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/kg																					
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/kg																					
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/kg																					
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/kg													65		40						
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/kg																					
SW8270C.LL	Chrysene	218-01-9	ug/kg																					
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/kg													18	J	40	20	J	39			
SW8270C.LL	Fluoranthene	206-44-0	ug/kg																					
SW8270C.LL	Fluorene	86-73-7	ug/kg													40	U	40	39	U	39			
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg													54		40						
SW8270C.LL	Naphthalene	91-20-3	ug/kg													40	U	40	24	J	39			
SW8270C.LL	Phenanthrene	85-01-8	ug/kg																					
SW8270C.LL	Pyrene	129-00-0	ug/kg																					
SW9012A	CYANIDE	57-12-5	mg/kg	1.31	U	1.31				1.75		1.32				1.19	U	1.19	1.21	U	1.21	1.46	U	1.46
TOC.LK	TOTAL CARBON	7440-44-0	mg/kg	30600	J	300				36800	J	300				8810	J	300	23800		300	15000	J	300

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SD13			GMRSD1			GMRSD14			GMRSD16			GMRSD16			GMRSD17			GMRSD17		
			sys_sample_code:	AOC7SD13AB			GMRSD1AA			GMRSD14AA			GMRSD16AA			GMRSD16AB			GMRSD17AA			GMRSD17AASEM		
			sample_date:	11/14/2005 10:50:00 AM			11/8/2005 3:50:00 PM			11/10/2005 12:30:00 PM			11/11/2005 10:30:00 AM			11/11/2005 10:30:00 AM			11/11/2005 11:30:00 AM			11/11/2005 11:30:00 AM		
			sample_type_code:	FD			N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
AVS/SEM SOP	Sulfide, acid-volatile	SULFIDE-AV	umoles/g																			1.27	U	1.27
E160.3	Total Solids	TSOLIDS	percent	68.6			74		1.35	76.8		1.3	84.1		1.19	83.1		1.2	75.4		1.33	78.9		1.27
SW6010	Aluminum	7429-90-5	mg/kg				5680		13.8	12500		13.2	2300		11.4	2690		12.2	4170		13.2			
SW6010	Antimony	7440-36-0	mg/kg				8.3	U	8.3	7.9	U	7.9	6.9	U	6.9	7.3	U	7.3	7.9	U	7.9			
SW6010	Arsenic	7440-38-2	mg/kg				2.9		1.4	9.1		1.3	2.1		1.1	3.1		1.2	3.5		1.3			
SW6010	Barium	7440-39-3	mg/kg				99.1	J	2.8	93.1	J	2.6	19	J	2.2	21.2	J	2.3	44.8	J	2.6			
SW6010	Beryllium	7440-41-7	mg/kg				0.69	U	0.69	0.66	U	0.66	0.57	U	0.57	0.61	U	0.61	0.66	U	0.66			
SW6010	Cadmium	7440-43-9	mg/kg				0.76		0.69	0.66	U	0.66	0.57	U	0.57	0.61	U	0.61	0.66	U	0.66			
SW6010	Cadmium	7440-43-9	umoles/g																			0.00116	J-	0.00056
SW6010	Calcium	7440-70-2	mg/kg				83200		688	88000		660	90600		571	112000		610	134000		661			
SW6010	Chromium (total)	7440-47-3	mg/kg				34.8	J	1.4	26.8	J	1.3	5.3	J	1.1	6.1	J	1.2	8.9	J	1.3			
SW6010	Cobalt	7440-48-4	mg/kg				6.9	U	6.9	10.6		6.6	5.7	U	5.7	6.1	U	6.1	6.6	U	6.6			
SW6010	Copper	7440-50-8	mg/kg				21.9		2.8	38.5		2.6	4.6		2.3	6.1		2.4	11.1		2.6			
SW6010	Copper	7440-50-8	umoles/g																			0.115		0.00397
SW6010	Iron	7439-89-6	mg/kg				12700		138	31200		132	7000		114	7870		122	10800		132			
SW6010	Lead	7439-92-1	mg/kg				224		0.69	18.9		0.66	4.6		0.57	5.4		0.61	9.1		0.66			
SW6010	Lead	7439-92-1	umoles/g																			0.0536	J-	0.000304
SW6010	Magnesium	7439-95-4	mg/kg				24300	J	69.4	27100	J	64.8	40900	J	55.5	28600	J	58.6	46000	J	64.2			
SW6010	Manganese	7439-96-5	mg/kg				285	J	1.4	564	J	1.3	379	J	1.1	289	J	1.2	481	J	1.3			
SW6010	Nickel	7440-02-0	mg/kg				10.9		5.5	27.9		5.3	4.6	U	4.6	4.9	U	4.9	9.2		5.3			
SW6010	Nickel	7440-02-0	umoles/g																			0.0511	J-	0.00859
SW6010	Potassium	7440-09-7	mg/kg				933		275	2370		264	512		228	635		244	663		264			
SW6010	Selenium	7782-49-2	mg/kg				1.4	U	1.4	1.3	U	1.3	1.1	U	1.1	1.2	U	1.2	1.3	U	1.3			
SW6010	Silver	7440-22-4	mg/kg				1.4	U	1.4	1.3	U	1.3	1.1	U	1.1	1.2	U	1.2	1.3	U	1.3			
SW6010	Sodium	7440-23-5	mg/kg				185		68.8	166		66	135		57.1	143		61	166		66.1			
SW6010	Thallium	7440-28-0	mg/kg				6.9	U	6.9	6.6	U	6.6	5.7	U	5.7	6.1	U	6.1	6.6	U	6.6			
SW6010	Vanadium	7440-62-2	mg/kg				15.1		6.9	26.6		6.6	9.5		5.7	10.8		6.1	10.3		6.6			
SW6010	Zinc	7440-66-6	mg/kg				151	J	2.8	70.2	J	2.6	15.5	J	2.3	19.5	J	2.4	39.8	J	2.6			
SW6010	Zinc	7440-66-6	umoles/g																			0.257	J	0.00385
SW7470	Mercury	7439-97-6	mg/kg				0.06		0.04	0.05		0.04	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.000015	UJ	0.000015
SW7470	Mercury	7439-97-6	umoles/g																					
SW8082	Aroclor 1016	12674-11-2	ug/kg				46	U	46	45	U	45	38	U	38				44	U	44			
SW8082	Aroclor 1221	11104-28-2	ug/kg				93	U	93	91	U	91	77	U	77				89	U	89			
SW8082	Aroclor 1232	11141-16-5	ug/kg				46	U	46	45	U	45	38	U	38				44	U	44			
SW8082	Aroclor 1242	53469-21-9	ug/kg				46	U	46	45	U	45	38	U	38				44	U	44			
SW8082	Aroclor 1248	12672-29-6	ug/kg				290		46	45	U	45	38	U	38				130		44			
SW8082	Aroclor 1254	11097-69-1	ug/kg				260		46	45	U	45	38	U	38				44	U	44			
SW8082	Aroclor 1260	11096-82-5	ug/kg				56		46	45	U	45	38	U	38				44	U	44			
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	UJ	5.8				6.7	U	6.7			
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	2-Butanone	78-93-3	ug/kg	13	U	13	15		14	14	UJ	14	12	UJ	12				13	U	13			
SW8260	2-Hexanone	591-78-6	ug/kg	13	U	13	14	U	14	14	U	14	12	UJ	12				13	U	13			
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	13	U	13	14	U	14	14	UJ	14	12	UJ	12				13	U	13			
SW8260	Acetone	67-64-1	ug/kg	26	U	26	86		28	28	UJ	28	23	UJ	23				27	U	27			
SW8260	Benzene	71-43-2	ug/kg	6.4	U	6.4	1.9	J	7.1	0.91	J	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Bromodichloromethane	75-27-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Bromoform	75-25-2	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Bromomethane	74-83-9	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Carbon disulfide	75-15-0	ug/kg	13	U	13	3.6	J	14	14	U	14	12	U	12				13	U	13			
SW8260	Carbon tetrachloride	56-23-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Chlorobenzene	108-90-7	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Chloroethane	75-00-3	ug/kg	13	U	13	14	U	14	14	U	14	12	U	12				13	U	13			
SW8260	Chloroform	67-66-3	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Chloromethane	74-87-3	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Cyclohexane	110-82-7	ug/kg	6.4	U	6.4	2.6	J	7.1	4.4	J	7	5.8	UJ	5.8				6.7	UJ	6.7			
SW8260	Dibromochloromethane	124-48-1	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			

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AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SD13			GMRSD1			GMRSD14			GMRSD16			GMRSD16			GMRSD17			GMRSD17		
			sys_sample_code:	AOC7SD13AB			GMRSD1AA			GMRSD14AA			GMRSD16AA			GMRSD16AB			GMRSD17AA			GMRSD17AASEM		
			sample_date:	11/14/2005 10:50:00 AM			11/8/2005 3:50:00 PM			11/10/2005 12:30:00 PM			11/11/2005 10:30:00 AM			11/11/2005 10:30:00 AM			11/11/2005 11:30:00 AM			11/11/2005 11:30:00 AM		
			sample_type_code:	FD			N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Ethylbenzene	100-41-4	ug/kg	6.4	U	6.4	0.5	J	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Isopropylbenzene	98-82-8	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	m+p-Xylene	XYLMP	ug/kg	6.4	U	6.4	1	J	7.1	0.91	J	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Methyl acetate	79-20-9	ug/kg	13	U	13	14	UJ	14	14	U	14	12	U	12				13	U	13			
SW8260	Methylcyclohexane	108-87-2	ug/kg	1.4	J	6.4	3.3	J	7.1	6.4	J	7	5.8	UJ	5.8				6.7	UJ	6.7			
SW8260	Methylene chloride	75-09-2	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	0.57	J	5.8				5.1	J	6.7			
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	o-Xylene	95-47-6	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Styrene	100-42-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Tetrachloroethene	127-18-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Toluene	108-88-3	ug/kg	6.4	U	6.4	2.4	J	7.1	1.9	J	7	0.47	J	5.8				0.57	J	6.7			
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Trichloroethene	79-01-6	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8260	Vinyl chloride	75-01-4	ug/kg	6.4	U	6.4	7.1	U	7.1	7	U	7	5.8	U	5.8				6.7	U	6.7			
SW8270	1,1-Biphenyl	92-52-4	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2-Chloronaphthalene	91-58-7	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2-Chlorophenol	95-57-8	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2-Methylnaphthalene	91-57-6	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	2-Nitroaniline	88-74-4	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	2-Nitrophenol	88-75-5	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	3-Nitroaniline	99-09-2	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	4-Chloroaniline	106-47-8	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	4-Nitroaniline	100-01-6	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	4-Nitrophenol	100-02-7	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	Acenaphthene	83-32-9	ug/kg																					
SW8270	Acenaphthylene	208-96-8	ug/kg																					
SW8270	Acetophenone	98-86-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Anthracene	120-12-7	ug/kg																					
SW8270	Atrazine	1912-24-9	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Benzaldehyde	100-52-7	ug/kg				12000	UJ	1200	2300	UJ	2300	2000	UJ	2000	2100	UJ	2100	6800	UJ	6800			
SW8270	Benzo(a)anthracene	56-55-3	ug/kg																160	J	1300			
SW8270	Benzo(a)pyrene	50-32-8	ug/kg																					
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg																					
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg																170	J	1300			
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg													52	J	400	190	J	1300			
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Butylbenzylphthalate	85-68-7	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Caprolactam	105-60-2	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	Carbazole	86-74-8	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Chrysene	218-01-9	ug/kg													62	J	400	230	J	1300			
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg																					
SW8270	Dibenzofuran	132-64-9	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Diethylphthalate	84-66-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Dimethylphthalate	131-11-3	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Di-n-butylphthalate	84-74-2	ug/kg				2300	U	2300	450	U	450	380	U	380	63	J	400	1300	U	1300			
SW8270	Di-n-octylphthalate	117-84-0	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Fluoranthene	206-44-0	ug/kg																430	J	1300			
SW8270	Fluorene	86-73-7	ug/kg																					
SW8270	Hexachlorobenzene	118-74-1	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Hexachlorobutadiene	87-68-3	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Hexachloroethane	67-72-1	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	AOC7SD13			GMRSD1			GMRSD14			GMRSD16			GMRSD16			GMRSD17			GMRSD17		
			sys_sample_code:	AOC7SD13AB			GMRSD1AA			GMRSD14AA			GMRSD16AA			GMRSD16AB			GMRSD17AA			GMRSD17AASEM		
			sample_date:	11/14/2005 10:50:00 AM			11/8/2005 3:50:00 PM			11/10/2005 12:30:00 PM			11/11/2005 10:30:00 AM			11/11/2005 10:30:00 AM			11/11/2005 11:30:00 AM			11/11/2005 11:30:00 AM		
			sample_type_code:	FD			N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg																150	J	1300			
SW8270	Isophorone	78-59-1	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Naphthalene	91-20-3	ug/kg																					
SW8270	Nitrobenzene	98-95-3	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Pentachlorophenol	87-86-5	ug/kg				12000	U	12000	2300	U	2300	2000	U	2000	2100	U	2100	6800	U	6800			
SW8270	Phenanthrene	85-01-8	ug/kg													50	J	400	210	J	1300			
SW8270	Phenol	108-95-2	ug/kg				2300	U	2300	450	U	450	380	U	380	400	U	400	1300	U	1300			
SW8270	Pyrene	129-00-0	ug/kg													96	J	400	360	J	1300			
SW8270C.LL	Acenaphthene	83-32-9	ug/kg				180	U	180	170	U	170	39	U	39	40	U	40	180	U	180			
SW8270C.LL	Acenaphthylene	208-96-8	ug/kg				180	UJ	180	78	J	170	39	UJ	39	40	UJ	40	180	UJ	180			
SW8270C.LL	Anthracene	120-12-7	ug/kg				88	J	180	330	J	170	39	UJ	39	23	J	40	180	UJ	180			
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/kg				230	J	89	510	J	86	34	J	20	45	J	20						
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/kg				310	J	180	460	J	170	67	J	39	77	J	40	280	J	180			
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/kg				310	J	180	480	J	170	62	J	39	77	J	40	250	J	180			
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/kg				180	UJ	180	230	J	170	39	J	39	48	J	40						
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/kg				110	J	180	160	J	170	19	J	39									
SW8270C.LL	Chrysene	218-01-9	ug/kg				270	J	180	440	J	170	48	J	39									
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/kg				180	UJ	180	66	J	170	39	U	39	12	J	40	180	U	180			
SW8270C.LL	Fluoranthene	206-44-0	ug/kg				620	J	180	1300	J	170	99	J	39	120	J	40						
SW8270C.LL	Fluorene	86-73-7	ug/kg				180	UJ	180	79	J	170	39	UJ	39	19	J	40	180	UJ	180			
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg				150	J	180	220	J	170	34	J	39	42	J	40						
SW8270C.LL	Naphthalene	91-20-3	ug/kg				180	UJ	180	170	UJ	170	39	UJ	39	40	UJ	40	180	UJ	180			
SW8270C.LL	Phenanthrene	85-01-8	ug/kg				280	UB	180	700	JB	170	39	UB	39									
SW8270C.LL	Pyrene	129-00-0	ug/kg				460	J	180	980	J	170	77	J	39									
SW9012A	CYANIDE	57-12-5	mg/kg				8.86		1.39	1.36	U	1.36	1.15	U	1.15	1.22	U	1.22	1.34	U	1.34			
TOC.LK	TOTAL CARBON	7440-44-0	mg/kg				9140	J	300	3590	J	300	24200	J	300	27800	J	300	9820	J	300			

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD18			GMRSD2			GMRSD3			GMRSD3			GMRSD4			GMRSD5			GMRSD5		
			sys_sample_code:	GMRSD18AA			GMRSD2AA			GMRSD3AA			GMRSD3AASEM			GMRSD4AA			GMRSD5AA			GMRSD5AASEM		
			sample_date:	11/11/2005 12:30:00 PM			11/9/2005 12:45:00 PM			11/9/2005 3:10:00 PM			11/9/2005 3:10:00 PM			11/9/2005 4:30:00 PM			11/9/2005 11:00:00 AM			11/9/2005 11:00:00 AM		
			sample_type_code:	N			N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
AVS/SEM SOP	Sulfide, acid-volatile	SULFIDE-AV	umoles/g										2.39		1.49							6.96		1.44
E160.3	Total Solids	TSOLIDS	percent	64.8		1.54	86.7		1.15	73		1.37	67.4		1.48	65.8		1.52	73.6		1.36	69.4		1.44
SW6010	Aluminum	7429-90-5	mg/kg	5230		15.6	2460		11.9	5570		14.7				5870		16.3	9600		13.9			
SW6010	Antimony	7440-36-0	mg/kg	9.4	U	9.4	7.2	U	7.2	8.8	U	8.8				9.8	U	9.8	8.4	U	8.4			
SW6010	Arsenic	7440-38-2	mg/kg	3.2		1.6	1.3		1.2	3.7		1.5				4.3		1.6	4.6		1.4			
SW6010	Barium	7440-39-3	mg/kg	70.7	J	3.2	13.5	J	2.3	56.2	J	2.9				73.7	J	3.2	523	J	2.8			
SW6010	Beryllium	7440-41-7	mg/kg	0.78	U	0.78	0.6	U	0.6	0.73	U	0.73				0.81	U	0.81	0.7	U	0.7			
SW6010	Cadmium	7440-43-9	mg/kg	0.78	U	0.78	0.6	U	0.6	0.73	U	0.73				0.81	U	0.81	1.8		0.7			
SW6010	Cadmium	7440-43-9	umoles/g										0.00142	J-	0.000552							0.00596	J-	0.000623
SW6010	Calcium	7440-70-2	mg/kg	86700		782	182000		597	101000		734				95800		814	111000		697			
SW6010	Chromium (total)	7440-47-3	mg/kg	12.1	J	1.6	5.9	J	1.2	12.6	J	1.5				14.9	J	1.6	37.8	J	1.4			
SW6010	Cobalt	7440-48-4	mg/kg	7.8	U	7.8	6	U	6	7.3	U	7.3				8.1	U	8.1	7	U	7			
SW6010	Copper	7440-50-8	mg/kg	21.8		3.1	4.8		2.4	14.9		2.9				17.6		3.3	163		2.8			
SW6010	Copper	7440-50-8	umoles/g										0.108		0.00389							0.252		0.00442
SW6010	Iron	7439-89-6	mg/kg	12700		156	7980		119	13800		147				17600		163	23700		139			
SW6010	Lead	7439-92-1	mg/kg	15.1		0.78	3.8		0.6	12.6		0.73				18.3		0.81	372		0.7			
SW6010	Lead	7439-92-1	umoles/g										0.0338	J-	0.000299							0.097	J-	0.000338
SW6010	Magnesium	7439-95-4	mg/kg	25900	J	79.7	36700	J	56.8	28100	J	72.7				26600	J	79.9	20200	J	69			
SW6010	Manganese	7439-96-5	mg/kg	279	J	1.6	259	J	1.2	295	J	1.5				326	J	1.6	349	J	1.4			
SW6010	Nickel	7440-02-0	mg/kg	9.9		6.3	5		4.8	9.7		5.9				10.9		6.5	19.9		5.6			
SW6010	Nickel	7440-02-0	umoles/g										0.0579	J-	0.00843							0.0988	J-	0.00956
SW6010	Potassium	7440-09-7	mg/kg	904		313	361		239	1030		294				1050		326	1020		279			
SW6010	Selenium	7782-49-2	mg/kg	1.6	U	1.6	1.2	U	1.2	1.5	U	1.5				1.7		1.6	1.4	U	1.4			
SW6010	Silver	7440-22-4	mg/kg	1.6	U	1.6	1.2	U	1.2	1.5	U	1.5				1.6	U	1.6	1.4	U	1.4			
SW6010	Sodium	7440-23-5	mg/kg	163		78.2	181		59.7	191		73.4				207		81.4	318		69.7			
SW6010	Thallium	7440-28-0	mg/kg	7.8	U	7.8	6	U	6	7.3	U	7.3				8.1	U	8.1	7	U	7			
SW6010	Vanadium	7440-62-2	mg/kg	15.5		7.8	8.3		6	16.9		7.3				17.3		8.1	17.9		7			
SW6010	Zinc	7440-66-6	mg/kg	59.3	J	3.1	16.8	J	2.4	59.6	J	2.9				61	J	3.3	681	J	27.9			
SW6010	Zinc	7440-66-6	umoles/g										0.367	J	0.00378							1.4	J-	0.0429
SW7470	Mercury	7439-97-6	mg/kg	0.05	U	0.05	0.04	U	0.04	0.05	U	0.05	9.97E-06	UJ	9.97E-06	0.06	U	0.06	0.12		0.05			
SW7470	Mercury	7439-97-6	umoles/g																			2.99E-05	J	0.000015
SW8082	Aroclor 1016	12674-11-2	ug/kg	53	U	53	39	U	39	49	U	49				55	U	55	46	U	46			
SW8082	Aroclor 1221	11104-28-2	ug/kg	110	U	110	80	U	80	99	U	99				110	U	110	93	U	93			
SW8082	Aroclor 1232	11141-16-5	ug/kg	53	U	53	39	U	39	49	U	49				55	U	55	46	U	46			
SW8082	Aroclor 1242	53469-21-9	ug/kg	53	U	53	39	U	39	49	U	49				55	U	55	46	U	46			
SW8082	Aroclor 1248	12672-29-6	ug/kg	240		53	95		39	220		49				240		55	440		46			
SW8082	Aroclor 1254	11097-69-1	ug/kg	53	U	53	39	U	39	49	U	49				55	U	55	46	U	46			
SW8082	Aroclor 1260	11096-82-5	ug/kg	53	U	53	39	U	39	49	U	49				55	U	55	25	J	46			
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	2-Butanone	78-93-3	ug/kg	16	UJ	16	11	U	11	13	J	13				17	J	17	13	U	13			
SW8260	2-Hexanone	591-78-6	ug/kg	16	U	16	11	U	11	13	U	13				17	U	17	13	U	13			
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	16	UJ	16	11	U	11	13	U	13				17	U	17	13	U	13			
SW8260	Acetone	67-64-1	ug/kg	9	J	32	22	U	22	65		26				86		34	6.4	J	27			
SW8260	Benzene	71-43-2	ug/kg	8.1	U	8.1	2.6	J	5.6	0.47	J	6.5				0.52	J	8.6	1.2	J	6.7			
SW8260	Bromodichloromethane	75-27-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Bromoform	75-25-2	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Bromomethane	74-83-9	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Carbon disulfide	75-15-0	ug/kg	16	U	16	5	J	11	1.1	J	13				0.97	J	17	13	U	13			
SW8260	Carbon tetrachloride	56-23-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Chlorobenzene	108-90-7	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Chloroethane	75-00-3	ug/kg	16	U	16	11	U	11	13	U	13				17	U	17	13	U	13			
SW8260	Chloroform	67-66-3	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Chloromethane	74-87-3	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Cyclohexane	110-82-7	ug/kg	8.1	UJ	8.1	8.7	J	5.6	1.4	J	6.5				1.5	J	8.6	1	J	6.7			
SW8260	Dibromochloromethane	124-48-1	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD18			GMRSD2			GMRSD3			GMRSD3			GMRSD4			GMRSD5			GMRSD5		
			sys_sample_code:	GMRSD18AA			GMRSD2AA			GMRSD3AA			GMRSD3AASEM			GMRSD4AA			GMRSD5AA			GMRSD5AASEM		
			sample_date:	11/11/2005 12:30:00 PM			11/9/2005 12:45:00 PM			11/9/2005 3:10:00 PM			11/9/2005 3:10:00 PM			11/9/2005 4:30:00 PM			11/9/2005 11:00:00 AM			11/9/2005 11:00:00 AM		
			sample_type_code:	N			N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Ethylbenzene	100-41-4	ug/kg	8.1	U	8.1	2	J	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Isopropylbenzene	98-82-8	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	m+p-Xylene	XYLMP	ug/kg	8.1	U	8.1	3.1	J	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Methyl acetate	79-20-9	ug/kg	16	U	16	11	U	11	13	U	13				17	U	17	13	U	13			
SW8260	Methylcyclohexane	108-87-2	ug/kg	8.1	UJ	8.1	13	J	5.6	2.2	J	6.5				2	J	8.6	1.7	J	6.7			
SW8260	Methylene chloride	75-09-2	ug/kg	2.6	J	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	o-Xylene	95-47-6	ug/kg	8.1	U	8.1	1.4	J	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Styrene	100-42-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Tetrachloroethene	127-18-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Toluene	108-88-3	ug/kg	0.72	J	8.1	6.6		5.6	1.1	J	6.5				1	J	8.6	0.84	J	6.7			
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Trichloroethene	79-01-6	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8260	Vinyl chloride	75-01-4	ug/kg	8.1	U	8.1	5.6	U	5.6	6.5	U	6.5				8.6	U	8.6	6.7	U	6.7			
SW8270	1,1-Biphenyl	92-52-4	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2-Chlorophenol	95-57-8	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	2-Nitroaniline	88-74-4	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	2-Nitrophenol	88-75-5	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	3-Nitroaniline	99-09-2	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	4-Chloroaniline	106-47-8	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	4-Nitroaniline	100-01-6	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	4-Nitrophenol	100-02-7	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	Acenaphthene	83-32-9	ug/kg																					
SW8270	Acenaphthylene	208-96-8	ug/kg																					
SW8270	Acetophenone	98-86-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Anthracene	120-12-7	ug/kg																					
SW8270	Atrazine	1912-24-9	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Benzaldehyde	100-52-7	ug/kg	8200	UJ	8200	2000	UJ	2000	7600	UJ	7600				2900	UJ	2900	2400	UJ	2400			
SW8270	Benzo(a)anthracene	56-55-3	ug/kg							340	J	1500							100	J	460			
SW8270	Benzo(a)pyrene	50-32-8	ug/kg							400	J	1500							130	J	460			
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg							430	J	1500							140	J	460			
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg							300	J	1500							110	J	460			
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	560	J	1600				330	J	1500				390	J	550	120	J	460			
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	1600	U	1600	390	U	390	1500	U	1500				72	J	550	460	U	460			
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Caprolactam	105-60-2	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	Carbazole	86-74-8	ug/kg	1600	U	1600	390	U	390	1500	U	1500				64	J	550	460	U	460			
SW8270	Chrysene	218-01-9	ug/kg	660	J	1600				420	J	1500							140	J	460			
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg																					
SW8270	Dibenzofuran	132-64-9	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Diethylphthalate	84-66-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Dimethylphthalate	131-11-3	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Fluoranthene	206-44-0	ug/kg				69	J	390	830	J	1500							240	J	460			
SW8270	Fluorene	86-73-7	ug/kg																					
SW8270	Hexachlorobenzene	118-74-1	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Hexachloroethane	67-72-1	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			

Appendix C-3 Surficial Sediment Analytical Data
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			sys_loc_code:	GMRSD18			GMRSD2			GMRSD3			GMRSD3			GMRSD4			GMRSD5			GMRSD5		
			sys_sample_code:	GMRSD18AA			GMRSD2AA			GMRSD3AA			GMRSD3AASEM			GMRSD4AA			GMRSD5AA			GMRSD5AASEM		
			sample_date:	11/11/2005 12:30:00 PM			11/9/2005 12:45:00 PM			11/9/2005 3:10:00 PM			11/9/2005 3:10:00 PM			11/9/2005 4:30:00 PM			11/9/2005 11:00:00 AM			11/9/2005 11:00:00 AM		
			sample_type_code:	N			N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg							250	J	1500							96	J	460			
SW8270	Isophorone	78-59-1	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Naphthalene	91-20-3	ug/kg																					
SW8270	Nitrobenzene	98-95-3	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	1600	U	1600	390	U	390	1500	U	1500				290	J	550	460	U	460			
SW8270	Pentachlorophenol	87-86-5	ug/kg	8200	U	8200	2000	U	2000	7600	U	7600				2900	U	2900	2400	U	2400			
SW8270	Phenanthrene	85-01-8	ug/kg	560	J	1600	42	J	390							490	J	550	100	J	460			
SW8270	Phenol	108-95-2	ug/kg	1600	U	1600	390	U	390	1500	U	1500				550	U	550	460	U	460			
SW8270	Pyrene	129-00-0	ug/kg				66	J	390	710	J	1500							200	J	460			
SW8270C.LL	Acenaphthene	83-32-9	ug/kg	510	U	510	38	U	38	140	U	140				71	J	150	45	U	45			
SW8270C.LL	Acenaphthylene	208-96-8	ug/kg	510	UJ	510	38	UJ	38	42	J	140				59	J	150	45	UJ	45			
SW8270C.LL	Anthracene	120-12-7	ug/kg	140	J	510	38	UJ	38	67	J	140				130	J	150	19	J	45			
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/kg	520	J	250	19	UJ	19							440	J	75						
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/kg	850	J	510	36	J	38							490	J	150						
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/kg	770	J	510	38	UJ	38							620	J	150						
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/kg	460	J	510	38	UJ	38							350	J	150						
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/kg				38	UJ	38															
SW8270C.LL	Chrysene	218-01-9	ug/kg				15	J	38							500	J	150						
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/kg	510	U	510	38	U	38	56	J	140				88	J	150	16	J	45			
SW8270C.LL	Fluoranthene	206-44-0	ug/kg	1400	J	510										1200	J	150						
SW8270C.LL	Fluorene	86-73-7	ug/kg	510	UJ	510	38	UJ	38	140	UJ	140				62	J	150	45	UJ	45			
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	400	J	510	38	UJ	38							300	J	150						
SW8270C.LL	Naphthalene	91-20-3	ug/kg	510	UJ	510	38	UJ	38	140	UJ	140				150	UJ	150	45	UJ	45			
SW8270C.LL	Phenanthrene	85-01-8	ug/kg							320	JB	140												
SW8270C.LL	Pyrene	129-00-0	ug/kg	1100	J	510										900	J	150						
SW9012A	CYANIDE	57-12-5	mg/kg	1.61	U	1.61	1.19	U	1.19	1.48	U	1.48				1.68	U	1.68	1.39	U	1.39			
TOC.LK	TOTAL CARBON	7440-44-0	mg/kg	18900	J	300	9800	J	300	19200	J	300				16200	J	300	14100	J	300			

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			sys_loc_code:	GMRSD6			GMRSD7			GMRSD8			GMRSD8			GMRSD9		
			sys_sample_code:	GMRSD6AA			GMRSD7AA			GMRSD8AA			GMRSD8AASEM			GMRSD9AA		
			sample_date:	11/9/2005 2:00:00 PM			11/9/2005 3:45:00 PM			11/8/2005 2:10:00 PM			11/8/2005 2:10:00 PM			11/10/2005 10:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
AVS/SEM SOP	Sulfide, acid-volatile	SULFIDE-AV	umoles/g										6.61		1.3			
E160.3	Total Solids	TSOLIDS	percent	71.8			65.6		1.52	79.6		1.26	76.9		1.3	67.3		1.49
SW6010	Aluminum	7429-90-5	mg/kg	6240		13.9	11100		15.5	2700		13.8				18100		16.8
SW6010	Antimony	7440-36-0	mg/kg	8.4	U	8.4	9.3	U	9.3	8.3	U	8.3				10.1	U	10.1
SW6010	Arsenic	7440-38-2	mg/kg	2.5		1.4	5.8		1.6	1.9		1.4				10.6		1.7
SW6010	Barium	7440-39-3	mg/kg	77.4	J	2.8	112	J	3.2	26.6	J	2.6				149	J	3.4
SW6010	Beryllium	7440-41-7	mg/kg	0.7	U	0.7	0.78	U	0.78	0.69	U	0.69				0.84	U	0.84
SW6010	Cadmium	7440-43-9	mg/kg	1.2		0.7	0.78	U	0.78	0.69	U	0.69				1.1	J+	0.84
SW6010	Cadmium	7440-43-9	umoles/g										0.000712	J-	0.000543			
SW6010	Calcium	7440-70-2	mg/kg	95100		696	100000		775	93600		692				63100		841
SW6010	Chromium (total)	7440-47-3	mg/kg	21.6	J	1.4	19.7	J	1.6	6.7	J	1.4				63.3	J	1.7
SW6010	Cobalt	7440-48-4	mg/kg	7	U	7	7.8	U	7.8	6.9	U	6.9				9.2		8.4
SW6010	Copper	7440-50-8	mg/kg	24.7		2.8	26.2		3.1	7		2.8				66.2		3.4
SW6010	Copper	7440-50-8	umoles/g										0.0582		0.00386			
SW6010	Iron	7439-89-6	mg/kg	14100		139	22700		155	6800		138				34700		168
SW6010	Lead	7439-92-1	mg/kg	31.3		0.7	22.7		0.78	5.8		0.69				54.2		0.84
SW6010	Lead	7439-92-1	umoles/g										0.0222	J-	0.000294			
SW6010	Magnesium	7439-95-4	mg/kg	24600	J	68.9	27200	J	79.9	26300	J	65.9				21000	J	84.1
SW6010	Manganese	7439-96-5	mg/kg	301	J	1.4	502	J	1.6	191	J	1.4				434	J	1.7
SW6010	Nickel	7440-02-0	mg/kg	12.5		5.6	16.8		6.2	5.7		5.5				31.5		6.7
SW6010	Nickel	7440-02-0	umoles/g										0.0426	J-	0.00836			
SW6010	Potassium	7440-09-7	mg/kg	881		279	1860		310	552		277				2820		337
SW6010	Selenium	7782-49-2	mg/kg	1.8		1.4	1.6	U	1.6	1.4	U	1.4				1.7		1.7
SW6010	Silver	7440-22-4	mg/kg	1.4	U	1.4	1.6	U	1.6	1.4	U	1.4				1.7	U	1.7
SW6010	Sodium	7440-23-5	mg/kg	221		69.6	199		77.5	167		69.2				179		84.1
SW6010	Thallium	7440-28-0	mg/kg	7	U	7	7.8	U	7.8	6.9	U	6.9				8.4	U	8.4
SW6010	Vanadium	7440-62-2	mg/kg	14.3		7	25.4		7.8	8.3		6.9				39.4		8.4
SW6010	Zinc	7440-66-6	mg/kg	107	J	2.8	96.8	J	3.1	25.3	J	2.8				210	J	3.4
SW6010	Zinc	7440-66-6	umoles/g										0.216	J	0.00375			
SW7470	Mercury	7439-97-6	mg/kg	0.19		0.05	0.05		0.05	0.04	U	0.04	9.97E-06	UJ	9.97E-06	0.16		0.05
SW7470	Mercury	7439-97-6	umoles/g															
SW8082	Aroclor 1016	12674-11-2	ug/kg	230	U	230	53	U	53	46	U	46				58	U	58
SW8082	Aroclor 1221	11104-28-2	ug/kg	470	U	470	110	U	110	93	U	93				120	U	120
SW8082	Aroclor 1232	11141-16-5	ug/kg	230	U	230	53	U	53	46	U	46				58	U	58
SW8082	Aroclor 1242	53469-21-9	ug/kg	230	U	230	53	U	53	46	U	46				58	U	58
SW8082	Aroclor 1248	12672-29-6	ug/kg	1300		230	140		53	280		46				86		58
SW8082	Aroclor 1254	11097-69-1	ug/kg	230	U	230	53	U	53	46	U	46				58	U	58
SW8082	Aroclor 1260	11096-82-5	ug/kg	940		230	53	U	53	46	U	46				36	J	58
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	2-Butanone	78-93-3	ug/kg	16	UJ	16	16	UJ	16	33		19				15	U	15
SW8260	2-Hexanone	591-78-6	ug/kg	16	U	16	16	U	16	19	U	19				15	U	15
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	16	U	16	16	UJ	16	19	U	19				15	U	15
SW8260	Acetone	67-64-1	ug/kg	26	J	31	33	UJ	33	170		38				30	U	30
SW8260	Benzene	71-43-2	ug/kg	9.7		7.8	8.2	U	8.2	1.1	J	9.4				7.4	U	7.4
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Bromoform	75-25-2	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Bromomethane	74-83-9	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Carbon disulfide	75-15-0	ug/kg	4.6	J	16	16	U	16	19	U	19				15	U	15
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Chlorobenzene	108-90-7	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Chloroethane	75-00-3	ug/kg	16	U	16	16	U	16	19	U	19				15	U	15
SW8260	Chloroform	67-66-3	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Chloromethane	74-87-3	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Cyclohexane	110-82-7	ug/kg	2.2	J	7.8	0.64	J	8.2	3.7	J	9.4				1.3	J	7.4
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD6			GMRSD7			GMRSD8			GMRSD8			GMRSD9		
			sys_sample_code:	GMRSD6AA			GMRSD7AA			GMRSD8AA			GMRSD8AASEM			GMRSD9AA		
			sample_date:	11/9/2005 2:00:00 PM			11/9/2005 3:45:00 PM			11/8/2005 2:10:00 PM			11/8/2005 2:10:00 PM			11/10/2005 10:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Ethylbenzene	100-41-4	ug/kg	7.8	U	7.8	8.2	U	8.2	0.79	J	9.4				7.4	U	7.4
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	m+p-Xylene	XYLMP	ug/kg	1.4	J	7.8	8.2	U	8.2	1.3	J	9.4				7.4	U	7.4
SW8260	Methyl acetate	79-20-9	ug/kg	16	U	16	16	U	16	19	U	19				15	U	15
SW8260	Methylcyclohexane	108-87-2	ug/kg	2.4	J	7.8	1	J	8.2	4	J	9.4				1.6	J	7.4
SW8260	Methylene chloride	75-09-2	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	o-Xylene	95-47-6	ug/kg	7.8	U	7.8	8.2	U	8.2	0.61	J	9.4				7.4	U	7.4
SW8260	Styrene	100-42-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Toluene	108-88-3	ug/kg	3.6	J	7.8	8.2	U	8.2	2.6	J	9.4				7.4	U	7.4
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Trichloroethene	79-01-6	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8260	Vinyl chloride	75-01-4	ug/kg	7.8	U	7.8	8.2	U	8.2	9.4	U	9.4				7.4	U	7.4
SW8270	1,1-Biphenyl	92-52-4	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2-Chlorophenol	95-57-8	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	2-Nitroaniline	88-74-4	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	2-Nitrophenol	88-75-5	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	3-Nitroaniline	99-09-2	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	4-Chloroaniline	106-47-8	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	4-Nitroaniline	100-01-6	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	4-Nitrophenol	100-02-7	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	Acenaphthene	83-32-9	ug/kg	13000	J	46000												
SW8270	Acenaphthylene	208-96-8	ug/kg	74000		46000												
SW8270	Acetophenone	98-86-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Anthracene	120-12-7	ug/kg	130000		46000												
SW8270	Atrazine	1912-24-9	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Benzaldehyde	100-52-7	ug/kg	240000	UJ	46000	8100	UJ	8100	4700	UJ	4700				3000	UJ	3000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	180000		46000				120	J	910						
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	170000		46000												
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	130000		46000												
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	110000		46000												
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	130000		46000										460	J	580
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Caprolactam	105-60-2	ug/kg	240000	UJ	46000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	Carbazole	86-74-8	ug/kg	17000	J	46000	1600	U	1600	910	U	910				85	J	580
SW8270	Chrysene	218-01-9	ug/kg	170000		46000												
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	26000	J	46000												
SW8270	Dibenzofuran	132-64-9	ug/kg	11000	J	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Diethylphthalate	84-66-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Dimethylphthalate	131-11-3	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Fluoranthene	206-44-0	ug/kg	430000		46000												
SW8270	Fluorene	86-73-7	ug/kg	36000	J	46000												
SW8270	Hexachlorobenzene	118-74-1	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Hexachloroethane	67-72-1	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580

Appendix C-3 Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD6			GMRSD7			GMRSD8			GMRSD8			GMRSD9		
			sys_sample_code:	GMRSD6AA			GMRSD7AA			GMRSD8AA			GMRSD8AASEM			GMRSD9AA		
			sample_date:	11/9/2005 2:00:00 PM			11/9/2005 3:45:00 PM			11/8/2005 2:10:00 PM			11/8/2005 2:10:00 PM			11/10/2005 10:45:00 AM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	92000		46000												
SW8270	Isophorone	78-59-1	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Naphthalene	91-20-3	ug/kg	14000	J	46000										95	J	580
SW8270	Nitrobenzene	98-95-3	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Pentachlorophenol	87-86-5	ug/kg	240000	U	240000	8100	U	8100	4700	U	4700				3000	U	3000
SW8270	Phenanthrene	85-01-8	ug/kg	380000		46000				120	J	910						
SW8270	Phenol	108-95-2	ug/kg	46000	U	46000	1600	U	1600	910	U	910				580	U	580
SW8270	Pyrene	129-00-0	ug/kg	380000		46000												
SW8270C.LL	Acenaphthene	83-32-9	ug/kg				69	J	200	66	U	66				160	J	200
SW8270C.LL	Acenaphthylene	208-96-8	ug/kg				210	J	200	66	UJ	66				120	J	200
SW8270C.LL	Anthracene	120-12-7	ug/kg				430	J	200	40	J	66				300	J	200
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/kg				1200	J	100							790	J	98
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/kg				1100	J	200	140	J	66				850	J	200
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/kg				1300	J	200	130	J	66				1100	J	200
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/kg				760	J	200	73	J	66				620	J	200
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/kg				560		200	45	J	66						
SW8270C.LL	Chrysene	218-01-9	ug/kg				1100	J	200	120	J	66				890	J	200
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/kg				200	J	200	66	U	66				150	J	200
SW8270C.LL	Fluoranthene	206-44-0	ug/kg				2700	J	200	280	J	66				1600	J	200
SW8270C.LL	Fluorene	86-73-7	ug/kg				85	J	200	19	J	66				150	J	200
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg				700	J	200	65	J	66				530	J	200
SW8270C.LL	Naphthalene	91-20-3	ug/kg				200	UJ	200	66	UJ	66						
SW8270C.LL	Phenanthrene	85-01-8	ug/kg				1300	JB	200							890	JB	200
SW8270C.LL	Pyrene	129-00-0	ug/kg				2100	J	200	230	J	66				1300	J	200
SW9012A	CYANIDE	57-12-5	mg/kg	1.39	U	1.39	1.6	U	1.6	1.38	U	1.38				1.77	U	1.77
TOC.LK	TOTAL CARBON	7440-44-0	mg/kg	33400	J	300	16200	J	300	12300	J	300				20200	J	300

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-11S			MW-12S			MW-12S			MW-19S			MW-20S			MW-21S		
			sys_sample_code:	MW11SGWA			MW12SGWA			MW12SGWAF			MW19SGWA			MW20SGWA			MW21SGWA		
			sample_date:	12/14/2005 8:42:00 AM			12/14/2005 11:05:00 AM			12/14/2005 11:05:00 AM			12/8/2005 8:55:00 AM			12/15/2005 2:03:00 PM			12/15/2005 3:48:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	83.9	U	35	13600		35	35	U	35	35	UJ	35	130	U	35	206	U	35
SW6010	Antimony	7440-36-0	ug/l	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6
SW6010	Arsenic	7440-38-2	ug/l	4.7	U	4.7	9.6	U	4.7	4.7	U	4.7	6.5	J	4.7	4.7	U	4.7	4.7	U	4.7
SW6010	Barium	7440-39-3	ug/l	60.8		9.6	153		9.6	75.7		9.6	50.2		9.6	36.3	U	9.6	38.6	U	9.6
SW6010	Beryllium	7440-41-7	ug/l	0.21	U	0.21	0.32	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21
SW6010	Cadmium	7440-43-9	ug/l	0.43	U	0.43	2.4	U	0.43	0.43	U	0.43	0.43	U	0.43	0.43	U	0.43	0.62	U	0.43
SW6010	Calcium	7440-70-2	ug/l	156000		65.5	220000		65.5	138000		65.5	173000		65.5	477000		65.5	301000		65.5
SW6010	Chromium (total)	7440-47-3	ug/l	3	U	0.86	22.6		0.86	5.4	U	0.86	2.2	U	0.86	2.2	U	0.86	2.3	U	0.86
SW6010	Cobalt	7440-48-4	ug/l	3.7	U	3.7	8.5	U	3.7	3.7	U	3.7	3.7	U	3.7	3.7	U	3.7	3.7	U	3.7
SW6010	Copper	7440-50-8	ug/l	5.4	U	5.4	20.9	U	5.4	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4
SW6010	Iron	7439-89-6	ug/l	135		36.9	19100		36.9	41.1	B	36.9	9.5	UJ	9.5	174		36.9	3420		36.9
SW6010	Lead	7439-92-1	ug/l	2.4	UJ	2.4	12.7	J-	2.4	2.4	UJ	2.4	2.4	UJ	2.4	2.4	UJ	2.4	2.4	UJ	2.4
SW6010	Magnesium	7439-95-4	ug/l	55200		154	75400		154	44800		154	64300		154	91600		154	113000		154
SW6010	Manganese	7439-96-5	ug/l	77.5		0.49	793		0.49	62.2		0.49	150	J	0.49	408		0.49	248		0.49
SW6010	Nickel	7440-02-0	ug/l	3.3	U	3.3	23.3	U	3.3	3.3	U	3.3	3.3	U	3.3	5.8	U	3.3	3.3	U	3.3
SW6010	Potassium	7440-09-7	ug/l	31100		84.1	14500		84.1	9010		84.1	27600		84.1	5360		84.1	3660		84.1
SW6010	Selenium	7782-49-2	ug/l	7.2	J	6	6.8	J	6	7.1	J	6	11.9		6	14.2		6	14.6		6
SW6010	Silver	7440-22-4	ug/l	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
SW6010	Sodium	7440-23-5	ug/l	35400		80.1	30400		80.1	29400		80.1	33100		80.1	57400		80.1	15100		80.1
SW6010	Thallium	7440-28-0	ug/l	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1
SW6010	Vanadium	7440-62-2	ug/l	1.4	U	1.4	27.5		1.4	1.4	U	1.4	1.4	U	1.4	1.4	U	1.4	1.4	U	1.4
SW6010	Zinc	7440-66-6	ug/l	4.2	U	4.2	63.4		4.2	4.2	U	4.2	4.2	U	4.2	4.2	U	4.2	4.2	U	4.2
SW7470	Mercury	7439-97-6	ug/l	0.02	U	0.02	0.02		0.02	0.02	U	0.02	0.02	UJ	0.02	0.02	U	0.02	0.02	U	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	0.95	U	0.95	1.1	U	1.1				1.1	U	1.1	1	U	1	1.1	U	1.1
SW8082	Aroclor 1221	11104-28-2	ug/l	1.9	U	1.9	2.1	U	2.1				2.1	U	2.1	2.1	U	2.1	2.1	U	2.1
SW8082	Aroclor 1232	11141-16-5	ug/l	0.95	U	0.95	1.1	U	1.1				1.1	U	1.1	1	U	1	1.1	U	1.1
SW8082	Aroclor 1242	53469-21-9	ug/l	0.95	U	0.95	1.1	U	1.1				1.1	U	1.1	1	U	1	1.1	U	1.1
SW8082	Aroclor 1248	12672-29-6	ug/l	0.95	U	0.95	1.1	U	1.1				1.1	U	1.1	1	U	1	1.1	U	1.1
SW8082	Aroclor 1254	11097-69-1	ug/l	0.95	U	0.95	1.1	U	1.1				1.1	U	1.1	1	U	1	1.1	U	1.1
SW8082	Aroclor 1260	11096-82-5	ug/l	0.95	U	0.95	1.1	U	1.1				1.1	U	1.1	1	U	1	1.1	U	1.1
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2				2	U	2	2	U	2	2	U	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5				5	U	5	5	U	5	5	U	5
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5				5	U	5	5	U	5	5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	5	U	5				5	U	5	5	U	5	5	U	5
SW8260	Acetone	67-64-1	ug/l	10	U	10	10	U	10				10	U	10	10	U	10	10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1				1	U	1	9.7		1	150		1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2				2	U	2	2	U	2	2	U	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	10		1
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2				2	U	2	2	U	2	2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2				2	U	2	2	U	2	2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	7.7		1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	9		1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1	U	1				1	U	1	2.9		1	190		1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10				10	U	10	10	U	10	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-11S			MW-12S			MW-12S			MW-19S			MW-20S			MW-21S		
			sys_sample_code:	MW11SGWA			MW12SGWA			MW12SGWAF			MW19SGWA			MW20SGWA			MW21SGWA		
			sample_date:	12/14/2005 8:42:00 AM			12/14/2005 11:05:00 AM			12/14/2005 11:05:00 AM			12/8/2005 8:55:00 AM			12/15/2005 2:03:00 PM			12/15/2005 3:48:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Methylene chloride	75-09-2	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1				1	U	1	1.5		1	47		1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1				1	U	1	0.48	J	1	5		1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Toluene	108-88-3	ug/l	0.5	J	1	0.36	J	1				1	U	1	5.3		1	86		1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1				1	U	1	1	U	1	1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	2.4	J	20
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	10	U	10	10	U	10				10	U	10	2.4	J	9.8	6	J	20
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2-Chloronaphthalene	91-58-7	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2-Chlorophenol	95-57-8	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	2-Methylnaphthalene	91-57-6	ug/l	10	U	10	10	U	10				10	U	10	1	J	9.8	15	J	20
SW8270	2-Nitroaniline	88-74-4	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	2-Nitrophenol	88-75-5	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	3-Nitroaniline	99-09-2	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	4-Chloroaniline	106-47-8	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	4-Nitroaniline	100-01-6	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	4-Nitrophenol	100-02-7	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	Acetophenone	98-86-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	2	J	20
SW8270	Atrazine	1912-24-9	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Benzaldehyde	100-52-7	ug/l	51	U	10	50	U	10				50	U	50	49	U	9.8	98	U	20
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Butylbenzylphthalate	85-68-7	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Caprolactam	105-60-2	ug/l	10	UJ	10	48	J	10				10	UJ	10	9.8	UJ	9.8	20	UJ	20
SW8270	Carbazole	86-74-8	ug/l	10	U	10	10	U	10				10	U	10	5.2	J	9.8	20	U	20
SW8270	Dibenzofuran	132-64-9	ug/l	10	U	10	10	U	10				10	U	10	2.6	J	9.8	2.4	J	20
SW8270	Diethylphthalate	84-66-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Dimethylphthalate	131-11-3	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Di-n-butylphthalate	84-74-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Di-n-octylphthalate	117-84-0	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Hexachlorobenzene	118-74-1	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Hexachlorobutadiene	87-68-3	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Hexachloroethane	67-72-1	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Isophorone	78-59-1	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	Nitrobenzene	98-95-3	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	20	U	20
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	10	U	10	10	U	10				10	U	10	8.8	J	9.8	3.2	J	20
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	10	U	10	10	U	10				10	U	10	2.5	J	9.8	9	J	20
SW8270	Pentachlorophenol	87-86-5	ug/l	51	U	51	50	U	50				50	U	50	49	U	49	98	U	98
SW8270	Phenol	108-95-2	ug/l	10	U	10	10	U	10				10	U	10	9.8	U	9.8	13	J	20
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.48		0.21	0.66		0.21
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	3.2		0.21	2.9		0.21
SW8270C.LL	Anthracene	120-12-7	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	UJ	0.19	0.58		0.21	0.39		0.21
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.097	U	0.097	0.1	U	0.1				0.093	U	0.093	0.063	J	0.11	0.11	U	0.11
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.18	J	0.21	0.21	U	0.21
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.21	U	0.21	0.21	U	0.21

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-11S			MW-12S			MW-12S			MW-19S			MW-20S			MW-21S		
			sys_sample_code:	MW11SGWA			MW12SGWA			MW12SGWAF			MW19SGWA			MW20SGWA			MW21SGWA		
			sample_date:	12/14/2005 8:42:00 AM			12/14/2005 11:05:00 AM			12/14/2005 11:05:00 AM			12/8/2005 8:55:00 AM			12/15/2005 2:03:00 PM			12/15/2005 3:48:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270C.LL	Chrysene	218-01-9	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.063	J	0.21	0.21	U	0.21
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.19	U	0.19	0.05	J	0.2				0.19	U	0.19	0.62		0.21	0.19	J	0.21
SW8270C.LL	Fluorene	86-73-7	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	3.8		0.21	0.97		0.21
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.19	U	0.19	0.2	U	0.2				0.19	U	0.19	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.19	UB	0.19	0.2	UB	0.2				0.19	JB	0.19	1.4		0.21	210		21
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.19	U	0.19	0.11	J	0.2				0.19	UJ	0.19	2.9		0.21	1.1		0.21
SW8270C.LL	Pyrene	129-00-0	ug/l	0.19	U	0.19	0.06	J	0.2				0.19	U	0.19	0.38		0.21	0.12	J	0.21
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l										0.225	U	0.225						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l										0.44	U	0.44						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l										0.316	U	0.316						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l										0.18	U	0.18						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l										0.291	U	0.291						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l										0.188	U	0.188						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l										0.28	U	0.28						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l										0.232	U	0.232						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l										0.276	U	0.276						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l										0.298	U	0.298						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l										0.322	U	0.322						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l										0.201	U	0.201						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l										0.287	U	0.287						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l										0.424	U	0.424						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l										0.242	U	0.242						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l										0.74	U	0.74						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l										2.439	UB	0.479						
SW9012A	CYANIDE	57-12-5	mg/l	0.0131		0.01	0.01	U	0.01				0.038		0.01	0.0652	J-	0.01	8.13	J-	0.5

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-2S			MW-4S			MW-4S			MW-4S			MW-4S			MW-5S		
			sys_sample_code:	MW2SGWA			MW4SGWA			MW4SGWAF			MW4SGWB			MW4SGWBF			MW5SGWA		
			sample_date:	12/7/2005 9:05:00 AM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/8/2005 12:34:00 PM		
			sample_type_code:	N			N			N			FD			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	35	UJ	35	3340	J	35	35	U	35	10900	J	35	35	U	35	35	UJ	35
SW6010	Antimony	7440-36-0	ug/l	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6
SW6010	Arsenic	7440-38-2	ug/l	4.7	U	4.7	4.7	U	4.7	4.7	U	4.7	6.8	J	4.7	6	J	4.7	4.7	U	4.7
SW6010	Barium	7440-39-3	ug/l	49.1	U	9.6	76.1		9.6	64.1		9.6	111		9.6	62.5		9.6	60.7		9.6
SW6010	Beryllium	7440-41-7	ug/l	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.29	U	0.21	0.21	U	0.21	0.21	U	0.21
SW6010	Cadmium	7440-43-9	ug/l	0.43	U	0.43	0.76	U	0.43	0.43	U	0.43	1.6	U	0.43	0.43	U	0.43	0.43	U	0.43
SW6010	Calcium	7440-70-2	ug/l	211000		65.5	179000		65.5	171000		65.5	208000		65.5	174000		65.5	152000		65.5
SW6010	Chromium (total)	7440-47-3	ug/l	2.1	U	0.86	17.9		0.86	1.4	U	0.86	15.6		0.86	1.4	U	0.86	1.9	U	0.86
SW6010	Cobalt	7440-48-4	ug/l	3.7	U	3.7	3.8	U	3.7	3.7	U	3.7	6.7	U	3.7	3.7	U	3.7	3.7	U	3.7
SW6010	Copper	7440-50-8	ug/l	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4	9.8	U	5.4	5.4	U	5.4	5.4	U	5.4
SW6010	Iron	7439-89-6	ug/l	9.5	UJ	9.5	3320	J	9.5	9.5	UJ	9.5	10800	J	9.5	9.5	UJ	9.5	9.5	UJ	9.5
SW6010	Lead	7439-92-1	ug/l	2.4	UJ	2.4	2.4	UJ	2.4	2.4	UJ	2.4	4	J-	2.4	2.4	UJ	2.4	2.4	UJ	2.4
SW6010	Magnesium	7439-95-4	ug/l	72200		154	64500		154	61200		154	74200		154	60300		154	47300		154
SW6010	Manganese	7439-96-5	ug/l	27.5	J	0.49	276	J	0.49	213		0.49	447	J	0.49	208		0.49	38.5	J	0.49
SW6010	Nickel	7440-02-0	ug/l	3.5	U	3.3	14	U	3.3	3.3	U	3.3	13.7	U	3.3	3.3	U	3.3	3.3	U	3.3
SW6010	Potassium	7440-09-7	ug/l	23900		84.1	24100		84.1	23200		84.1	26900		84.1	23700		84.1	22300		84.1
SW6010	Selenium	7782-49-2	ug/l	21.2		6	6	U	6	6	U	6	6	U	6	6	U	6	12.2		6
SW6010	Silver	7440-22-4	ug/l	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
SW6010	Sodium	7440-23-5	ug/l	12900		80.1	26300		80.1	26400		80.1	26600		80.1	26900		80.1	21500		80.1
SW6010	Thallium	7440-28-0	ug/l	6.3	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1
SW6010	Vanadium	7440-62-2	ug/l	1.4	U	1.4	5.5	U	1.4	1.4	U	1.4	18.2	J	1.4	1.4	U	1.4	1.4	U	1.4
SW6010	Zinc	7440-66-6	ug/l	466		4.2	9.8	U	4.2	4.2	U	4.2	27.1		4.2	4.2	U	4.2	4.2	U	4.2
SW7470	Mercury	7439-97-6	ug/l	0.02	UJ	0.02	0.02	UJ	0.02	0.02	UJ	0.02	0.02	UJ	0.02	0.05	J-	0.02	0.02	UJ	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	1	U	1	0.93	U	0.93				1.1	U	1.1				0.96	U	0.96
SW8082	Aroclor 1221	11104-28-2	ug/l	2.1	U	2.1	1.9	U	1.9				2.2	U	2.2				1.9	U	1.9
SW8082	Aroclor 1232	11141-16-5	ug/l	1	U	1	0.93	U	0.93				1.1	U	1.1				0.96	U	0.96
SW8082	Aroclor 1242	53469-21-9	ug/l	1	U	1	0.93	U	0.93				1.1	U	1.1				0.96	U	0.96
SW8082	Aroclor 1248	12672-29-6	ug/l	1	U	1	0.93	U	0.93				1.1	U	1.1				0.96	U	0.96
SW8082	Aroclor 1254	11097-69-1	ug/l	1	U	1	0.93	U	0.93				1.1	U	1.1				0.96	U	0.96
SW8082	Aroclor 1260	11096-82-5	ug/l	1	U	1	0.93	U	0.93				1.1	U	1.1				0.96	U	0.96
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2				2	U	2				2	U	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5				5	U	5				5	U	5
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5				5	U	5				5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	5	U	5				5	U	5				5	U	5
SW8260	Acetone	67-64-1	ug/l	10	U	10	10	U	10				10	U	10				10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2				2	U	2				2	U	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2				2	U	2				2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2				2	U	2				2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10				10	U	10				10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1				1	U	1				1	U	1

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-2S			MW-4S			MW-4S			MW-4S			MW-4S			MW-5S		
			sys_sample_code:	MW2SGWA			MW4SGWA			MW4SGWAF			MW4SGWB			MW4SGWBF			MW5SGWA		
			sample_date:	12/7/2005 9:05:00 AM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/8/2005 12:34:00 PM		
			sample_type_code:	N			N			N			FD			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Methylene chloride	75-09-2	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Toluene	108-88-3	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1				1	U	1				1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2-Chloronaphthalene	91-58-7	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2-Chlorophenol	95-57-8	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2-Methylnaphthalene	91-57-6	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	2-Nitroaniline	88-74-4	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	2-Nitrophenol	88-75-5	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	3-Nitroaniline	99-09-2	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	4-Chloroaniline	106-47-8	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	4-Nitroaniline	100-01-6	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	4-Nitrophenol	100-02-7	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	Acetophenone	98-86-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Atrazine	1912-24-9	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Benzaldehyde	100-52-7	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Butylbenzylphthalate	85-68-7	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Caprolactam	105-60-2	ug/l	7.2	J	10	17	J	9.3				18	J	9.3				10	UJ	10
SW8270	Carbazole	86-74-8	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Dibenzofuran	132-64-9	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Diethylphthalate	84-66-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Dimethylphthalate	131-11-3	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Di-n-butylphthalate	84-74-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Di-n-octylphthalate	117-84-0	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Hexachlorobenzene	118-74-1	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Hexachlorobutadiene	87-68-3	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Hexachloroethane	67-72-1	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Isophorone	78-59-1	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Nitrobenzene	98-95-3	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270	Pentachlorophenol	87-86-5	ug/l	50	U	50	47	U	47				47	U	47				50	U	50
SW8270	Phenol	108-95-2	ug/l	10	U	10	9.3	U	9.3				9.3	U	9.3				10	U	10
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.2	U	0.2	0.065	J	0.19				0.056	J	0.19				0.2	U	0.2
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.2	U	0.2	0.074	J	0.19				0.056	J	0.19				0.2	U	0.2
SW8270C.LL	Anthracene	120-12-7	ug/l	0.2	UJ	0.2	0.19	UJ	0.19				0.19	UJ	0.19				0.2	UJ	0.2
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.099	U	0.099	0.093	U	0.093				0.093	U	0.093				0.1	U	0.1
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-2S			MW-4S			MW-4S			MW-4S			MW-4S			MW-5S		
			sys_sample_code:	MW2SGWA			MW4SGWA			MW4SGWAF			MW4SGWB			MW4SGWBF			MW5SGWA		
			sample_date:	12/7/2005 9:05:00 AM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/7/2005 12:12:00 PM			12/8/2005 12:34:00 PM		
			sample_type_code:	N			N			N			FD			FD			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270C.LL	Chrysene	218-01-9	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.2	U	0.2	0.093	J	0.19				0.065	J	0.19				0.2	U	0.2
SW8270C.LL	Fluorene	86-73-7	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.2	U	0.2	0.19	U	0.19				0.19	U	0.19				0.2	U	0.2
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.33	UJB	0.2	1.2	JB	0.19				0.21	UJB	0.19				0.2	JB	0.2
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.2	UJ	0.2	0.056	J	0.19				0.074	J	0.19				0.2	UJ	0.2
SW8270C.LL	Pyrene	129-00-0	ug/l	0.2	U	0.2	0.074	J	0.19				0.056	J	0.19				0.2	U	0.2
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l																1.48	U	0.438
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l																0.377	U	0.377
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l																0.615	U	0.615
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l																0.274	U	0.274
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l																0.243	U	0.243
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l																0.287	U	0.287
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l																0.234	U	0.234
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l																0.353	U	0.353
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l																0.232	U	0.232
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l																0.281	U	0.281
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l																0.348	U	0.348
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l																0.306	U	0.306
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l																0.271	U	0.271
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l																0.502	U	0.502
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l																0.225	U	0.225
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l																0.767	U	0.767
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l																4.967	UB	0.696
SW9012A	CYANIDE	57-12-5	mg/l	0.0113		0.01	0.0216		0.01				0.0205		0.01				0.0343		0.01

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-7S			MW-8S			MW-8S			MW-9S			MW-9S		
			sys_sample_code:	MW7SGWA			MW8SGWA			MW8SGWAF			MW9SGWA			MW9SGWAF		
			sample_date:	12/8/2005 3:41:00 PM			12/16/2005 9:32:00 AM			12/16/2005 9:32:00 AM			12/13/2005 12:37:00 PM			12/13/2005 12:37:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	98.1	J	35	3620		35	35	U	35	3140	J	35	83.3	J	35
SW6010	Antimony	7440-36-0	ug/l	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6	7.6	U	7.6
SW6010	Arsenic	7440-38-2	ug/l	4.7	U	4.7	7.5	U	4.7	10.2	U	4.7	6.7	J	4.7	4.7	U	4.7
SW6010	Barium	7440-39-3	ug/l	79.8		9.6	444		9.6	418		9.6	91.9		9.6	49.7		9.6
SW6010	Beryllium	7440-41-7	ug/l	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21
SW6010	Cadmium	7440-43-9	ug/l	0.43	U	0.43	0.76	U	0.43	0.43	U	0.43	1.6	U	0.43	1.3	U	0.43
SW6010	Calcium	7440-70-2	ug/l	121000		65.5	165000		65.5	155000		65.5	242000		65.5	195000		65.5
SW6010	Chromium (total)	7440-47-3	ug/l	1.3	U	0.86	6.8	B	0.86	2	U	0.86	3.3	U	0.86	0.86	U	0.86
SW6010	Cobalt	7440-48-4	ug/l	3.7	U	3.7	3.7	U	3.7	3.7	U	3.7	4.3	U	3.7	3.7	U	3.7
SW6010	Copper	7440-50-8	ug/l	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4	5.4	U	5.4
SW6010	Iron	7439-89-6	ug/l	1080	J	9.5	4460		36.9	420		36.9	11600	J	9.5	9450	J	9.5
SW6010	Lead	7439-92-1	ug/l	2.4	UJ	2.4	2.4	UJ	2.4	2.4	UJ	2.4	2.4	UJ	2.4	2.4	UJ	2.4
SW6010	Magnesium	7439-95-4	ug/l	50900		154	45700		154	42200		154	21700		154	18900		154
SW6010	Manganese	7439-96-5	ug/l	221	J	0.49	152		0.49	92.7		0.49	241	J	0.49	39.9		0.49
SW6010	Nickel	7440-02-0	ug/l	3.3	U	3.3	5.2	U	3.3	3.3	U	3.3	3.3	U	3.3	3.3	U	3.3
SW6010	Potassium	7440-09-7	ug/l	9450		84.1	20500		84.1	19500		84.1	10600		84.1	9910		84.1
SW6010	Selenium	7782-49-2	ug/l	6	U	6	6	U	6	6	U	6	15.7		6	6	U	6
SW6010	Silver	7440-22-4	ug/l	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8	0.8	U	0.8
SW6010	Sodium	7440-23-5	ug/l	43800		80.1	113000		80.1	114000		80.1	10000		80.1	9560		80.1
SW6010	Thallium	7440-28-0	ug/l	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1	4.1	U	4.1
SW6010	Vanadium	7440-62-2	ug/l	1.4	U	1.4	8.1	U	1.4	2	U	1.4	4.4	U	1.4	1.8	U	1.4
SW6010	Zinc	7440-66-6	ug/l	4.2	U	4.2	9.4	U	4.2	4.2	U	4.2	6.8	U	4.2	4.2	U	4.2
SW7470	Mercury	7439-97-6	ug/l	0.02	UJ	0.02	0.02	U	0.02	0.02	U	0.02	0.04	J-	0.02	0.03	J-	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	0.99	U	0.99	0.99	U	0.99				1.1	U	1.1			
SW8082	Aroclor 1221	11104-28-2	ug/l	2	U	2	2	U	2				2.2	U	2.2			
SW8082	Aroclor 1232	11141-16-5	ug/l	0.99	U	0.99	0.99	U	0.99				1.1	U	1.1			
SW8082	Aroclor 1242	53469-21-9	ug/l	0.99	U	0.99	0.99	U	0.99				1.1	U	1.1			
SW8082	Aroclor 1248	12672-29-6	ug/l	0.99	U	0.99	0.99	U	0.99				1.1	U	1.1			
SW8082	Aroclor 1254	11097-69-1	ug/l	0.99	U	0.99	0.99	U	0.99				1.1	U	1.1			
SW8082	Aroclor 1260	11096-82-5	ug/l	0.99	U	0.99	0.99	U	0.99				1.1	U	1.1			
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	10	U	10				400	U	400			
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	25	U	25				1000	U	1000			
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	25	U	25				1000	U	1000			
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	25	U	25				1000	U	1000			
SW8260	Acetone	67-64-1	ug/l	10	U	10	21	J	50				2000	U	2000			
SW8260	Benzene	71-43-2	ug/l	1	U	1	2800		25				11000		200			
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Bromoform	75-25-2	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	10	U	10				400	U	400			
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	10	U	10				400	U	400			
SW8260	Chloroform	67-66-3	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	10	U	10				400	U	400			
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	630		5				470		200			
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	22		5				94	J	200			
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1200		5				5900		200			
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	50	U	50				2000	U	2000			
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	5	U	5				200	U	200			

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-7S			MW-8S			MW-8S			MW-9S			MW-9S		
			sys_sample_code:	MW7SGWA			MW8SGWA			MW8SGWAF			MW9SGWA			MW9SGWAF		
			sample_date:	12/8/2005 3:41:00 PM			12/16/2005 9:32:00 AM			12/16/2005 9:32:00 AM			12/13/2005 12:37:00 PM			12/13/2005 12:37:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Methylene chloride	75-09-2	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	520		5				1800		200			
SW8260	Styrene	100-42-5	ug/l	1	U	1	5	U	5				280		200			
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Toluene	108-88-3	ug/l	1	U	1	890		5				21000		200			
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	5	U	5				200	U	200			
SW8270	1,1-Biphenyl	92-52-4	ug/l	10	U	10	98		96				210	U	210			
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	10	U	10	3000		1900				210	U	210			
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2-Chloronaphthalene	91-58-7	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2-Chlorophenol	95-57-8	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	2-Methylnaphthalene	91-57-6	ug/l	10	U	10	760		96				40	J	210			
SW8270	2-Nitroaniline	88-74-4	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	2-Nitrophenol	88-75-5	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	3-Nitroaniline	99-09-2	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	4-Chloroaniline	106-47-8	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	4-Nitroaniline	100-01-6	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	4-Nitrophenol	100-02-7	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	Acetophenone	98-86-2	ug/l	10	U	10	50	J	96				210	U	210			
SW8270	Atrazine	1912-24-9	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Benzaldehyde	100-52-7	ug/l	51	U	51	480	U	96				1000	U	1000			
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Butylbenzylphthalate	85-68-7	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Caprolactam	105-60-2	ug/l	36	J	10	96	UJ	96				210	UJ	210			
SW8270	Carbazole	86-74-8	ug/l	10	U	10	300		96				210	U	210			
SW8270	Dibenzofuran	132-64-9	ug/l	10	U	10	210		96				210	U	210			
SW8270	Diethylphthalate	84-66-2	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Dimethylphthalate	131-11-3	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Di-n-butylphthalate	84-74-2	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Di-n-octylphthalate	117-84-0	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Hexachlorobenzene	118-74-1	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Hexachlorobutadiene	87-68-3	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Hexachloroethane	67-72-1	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Isophorone	78-59-1	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	Nitrobenzene	98-95-3	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	10	U	10	96	U	96				210	U	210			
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	10	U	10	470		96				27	J	210			
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	10	U	10	120		96				26	J	210			
SW8270	Pentachlorophenol	87-86-5	ug/l	51	U	51	480	U	480				1000	U	1000			
SW8270	Phenol	108-95-2	ug/l	10	U	10	45	J	96				38	J	210			
SW8270C.LL	Acenaphthene	83-32-9	ug/l	4.2		0.19	430		20				6		2.1			
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.19	U	0.19	34		20				9.4		2.1			
SW8270C.LL	Anthracene	120-12-7	ug/l	0.16	J	0.19	120		20				2.1	UB	2.1			
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.097	U	0.097	61		9.8				1.1	U	1.1			
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.19	U	0.19	45		20				2.1	U	2.1			
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.19	U	0.19	41		20				2.1	U	2.1			
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.19	U	0.19	17	J	20				2.1	U	2.1			
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.19	U	0.19	16	J	20				2.1	U	2.1			

Appendix C-4 Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-7S			MW-8S			MW-8S			MW-9S			MW-9S		
			sys_sample_code:	MW7SGWA			MW8SGWA			MW8SGWAF			MW9SGWA			MW9SGWAF		
			sample_date:	12/8/2005 3:41:00 PM			12/16/2005 9:32:00 AM			12/16/2005 9:32:00 AM			12/13/2005 12:37:00 PM			12/13/2005 12:37:00 PM		
			sample_type_code:	N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270C.LL	Chrysene	218-01-9	ug/l	0.19	U	0.19	49		20				2.1	U	2.1			
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.19	U	0.19	4.9	J	20				2.1	U	2.1			
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.19	U	0.19	240		20				2.1	UB	2.1			
SW8270C.LL	Fluorene	86-73-7	ug/l	0.19	U	0.19	290		20				2.3		2.1			
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.19	U	0.19	16	J	20				2.1	U	2.1			
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.19	UJB	0.19	13000	D	470				2800		130			
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.068	J	0.19	490		20				5.1	UB	2.1			
SW8270C.LL	Pyrene	129-00-0	ug/l	0.19	U	0.19	160		20				2.1	UB	2.1			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l															
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l															
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l															
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l															
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l															
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l															
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l															
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l															
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l															
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l															
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l															
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l															
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l															
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l															
SW9012A	CYANIDE	57-12-5	mg/l	0.0598		0.01	0.0316		0.01				22.6	J	1			

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BG-1			BGCOG1			BGCOG2			BGCOG3			BGPRK5			BGRR2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	BG-1AA			BGCOG1AA			BGCOG2AA			BGCOG3AA			BGPRK5AA			BGRR2AA		
			sample_date:	3/28/2006 9:30:00 AM			3/30/2006 8:54:00 AM			3/30/2006 10:02:00 AM			3/30/2006 10:42:00 AM			3/29/2006 11:13:00 AM			3/29/2006 2:09:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	84.7			89			77.2			86.5			86.4			76.9		
SW6010	Aluminum	7429-90-5	mg/kg	12700		11.7	4390		11	8790		12.6	7350		11.4	7260		11	7620		12.4
SW6010	Antimony	7440-36-0	mg/kg	7	UJ	7	6.6	U	6.6	7.5	U	7.5	6.9	U	6.9	6.6	UJ	6.6	7.4	UJ	7.4
SW6010	Arsenic	7440-38-2	mg/kg	12.7		1.2	68.5		1.1	10.9		1.3	8.3		1.1	5.9		1.1	31.8		1.2
SW6010	Barium	7440-39-3	mg/kg	86.3	J-	2.3	75.6		2.2	126		2.5	74.8		2.3	54.6	J-	2.2	107	J-	2.5
SW6010	Beryllium	7440-41-7	mg/kg	0.77		0.58	0.55	U	0.55	0.63	U	0.63	0.57	U	0.57	0.55	U	0.55	1.1		0.62
SW6010	Cadmium	7440-43-9	mg/kg	0.58	U	0.58	0.55	U	0.55	0.63	U	0.63	0.57	U	0.57	0.55	U	0.55	3		0.62
SW6010	Calcium	7440-70-2	mg/kg	17900		117	31400	J	1102	4140	J	126	36400	J	114	75600		1102	34900		124
SW6010	Chromium (total)	7440-47-3	mg/kg	18		1.2	11.9		1.1	13.5		1.3	11.3		1.1	13.1		1.1	50.7		1.2
SW6010	Cobalt	7440-48-4	mg/kg	7.9		5.8	5.8		5.5	9.2		6.3	10		5.7	5.5	U	5.5	9.5		6.2
SW6010	Copper	7440-50-8	mg/kg	16.8		2.3	122		2.2	23.8		2.5	10.9		2.3	14.3		2.2	85.7		2.5
SW6010	Iron	7439-89-6	mg/kg	20200	J	11.7	21800		11	16900		12.6	14600		11.4	14300	J	11	132000	J	124
SW6010	Lead	7439-92-1	mg/kg	16.2		5.8	93.6	J	0.55	30	J	0.63	15	J	0.57	23.9		5.5	227		6.2
SW6010	Magnesium	7439-95-4	mg/kg	10600		117	13300	J	55.1	1630	J	62.9	6060	J	57.2	25900		110	15100		124
SW6010	Manganese	7439-96-5	mg/kg	649		1.2	278		1.1	857		1.3	930		1.1	485		1.1	2270		12.4
SW6010	Nickel	7440-02-0	mg/kg	18.2		4.7	12.7		4.4	14.3		5	13.8		4.6	11.6		4.4	30.8		5
SW6010	Potassium	7440-09-7	mg/kg	1420		234	637		220	1500		252	1230		229	1290		220	954		248
SW6010	Selenium	7782-49-2	mg/kg	4.8		1.2	3.2		1.1	2.4		1.3	2.4		1.1	2		1.1	14.8		1.2
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	1.1	U	1.1	1.3	U	1.3	1.1	U	1.1	1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	117	U	117	129		110	126	U	126	114	U	114	118		110	124	U	124
SW6010	Thallium	7440-28-0	mg/kg	5.8	U	5.8	5.5	U	5.5	6.3	U	6.3	5.7	U	5.7	5.5	U	5.5	6.2	U	6.2
SW6010	Vanadium	7440-62-2	mg/kg	30.8		5.8	17.5		5.5	24.2		6.3	21.2		5.7	17.4		5.5	26.7		6.2
SW6010	Zinc	7440-66-6	mg/kg	64.6		2.3	107	J-	2.2	75.3	J-	2.5	37.3	J-	2.3	196		2.2	903		24.8
SW7470	Mercury	7439-97-6	mg/kg		R	0.04	0.4		0.04	0.08		0.04	0.04	U	0.04	0.04	J-	0.04	0.23	J-	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg																		
SW8082	Aroclor 1221	11104-28-2	ug/kg																		
SW8082	Aroclor 1232	11141-16-5	ug/kg																		
SW8082	Aroclor 1242	53469-21-9	ug/kg																		
SW8082	Aroclor 1248	12672-29-6	ug/kg																		
SW8082	Aroclor 1254	11097-69-1	ug/kg																		
SW8082	Aroclor 1260	11096-82-5	ug/kg																		
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg																		
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg																		
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg																		
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg																		
SW8260	1,1-Dichloroethane	75-34-3	ug/kg																		
SW8260	1,1-Dichloroethene	75-35-4	ug/kg																		
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg																		
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg																		
SW8260	1,2-Dibromoethane	106-93-4	ug/kg																		
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg																		
SW8260	1,2-Dichloroethane	107-06-2	ug/kg																		
SW8260	1,2-Dichloropropane	78-87-5	ug/kg																		
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg																		
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg																		
SW8260	2-Butanone	78-93-3	ug/kg																		
SW8260	2-Hexanone	591-78-6	ug/kg																		
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg																		
SW8260	Acetone	67-64-1	ug/kg																		
SW8260	Benzene	71-43-2	ug/kg																		
SW8260	Bromodichloromethane	75-27-4	ug/kg																		
SW8260	Bromoform	75-25-2	ug/kg																		
SW8260	Bromomethane	74-83-9	ug/kg																		
SW8260	Carbon disulfide	75-15-0	ug/kg																		
SW8260	Carbon tetrachloride	56-23-5	ug/kg																		
SW8260	Chlorobenzene	108-90-7	ug/kg																		
SW8260	Chloroethane	75-00-3	ug/kg																		
SW8260	Chloroform	67-66-3	ug/kg																		
SW8260	Chloromethane	74-87-3	ug/kg																		
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg																		
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg																		
SW8260	Cyclohexane	110-82-7	ug/kg																		
SW8260	Dibromochloromethane	124-48-1	ug/kg																		
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg																		
SW8260	Ethylbenzene	100-41-4	ug/kg																		
SW8260	Isopropylbenzene	98-82-8	ug/kg																		

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BG-1			BGCOG1			BGCOG2			BGCOG3			BGPRK5			BGRR2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	BG-1AA			BGCOG1AA			BGCOG2AA			BGCOG3AA			BGPRK5AA			BGRR2AA		
			sample_date:	3/28/2006 9:30:00 AM			3/30/2006 8:54:00 AM			3/30/2006 10:02:00 AM			3/30/2006 10:42:00 AM			3/29/2006 11:13:00 AM			3/29/2006 2:09:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg																		
SW8260	Methyl acetate	79-20-9	ug/kg																		
SW8260	Methylcyclohexane	108-87-2	ug/kg																		
SW8260	Methylene chloride	75-09-2	ug/kg																		
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg																		
SW8260	o-Xylene	95-47-6	ug/kg																		
SW8260	Styrene	100-42-5	ug/kg																		
SW8260	Tetrachloroethene	127-18-4	ug/kg																		
SW8260	Toluene	108-88-3	ug/kg																		
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg																		
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg																		
SW8260	Trichloroethene	79-01-6	ug/kg																		
SW8260	Trichlorofluoromethane	75-69-4	ug/kg																		
SW8260	Vinyl chloride	75-01-4	ug/kg																		
SW8270	1,1-Biphenyl	92-52-4	ug/kg																		
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg																		
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg																		
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg																		
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg																		
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg																		
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg																		
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg																		
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg																		
SW8270	2-Chloronaphthalene	91-58-7	ug/kg																		
SW8270	2-Chlorophenol	95-57-8	ug/kg																		
SW8270	2-Methylnaphthalene	91-57-6	ug/kg																		
SW8270	2-Nitroaniline	88-74-4	ug/kg																		
SW8270	2-Nitrophenol	88-75-5	ug/kg																		
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg																		
SW8270	3-Nitroaniline	99-09-2	ug/kg																		
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg																		
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg																		
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg																		
SW8270	4-Chloroaniline	106-47-8	ug/kg																		
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg																		
SW8270	4-Nitroaniline	100-01-6	ug/kg																		
SW8270	4-Nitrophenol	100-02-7	ug/kg																		
SW8270	Acenaphthene	83-32-9	ug/kg	390	U	390	740	U	740	430	U	430	380	U	380	380	U	380	300	J	1700
SW8270	Acenaphthylene	208-96-8	ug/kg	390	U	390	380	J	740	46	J	430	380	U	380	52	J	380	1700	J	1700
SW8270	Acetophenone	98-86-2	ug/kg																		
SW8270	Anthracene	120-12-7	ug/kg	390	U	390	320	J	740	430	U	430	380	U	380	380	U	380	3800		1700
SW8270	Atrazine	1912-24-9	ug/kg																		
SW8270	Benzaldehyde	100-52-7	ug/kg																		
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	390	U	390	800		740	200	J	430	52	J	380	170	J	380	8600		1700
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	390	U	390	880		740	240	J	430	53	J	380	190	J	380	7200		1700
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	390	U	390	1100		740	220	J	430	55	J	380	170	J	380	6300		1700
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	390	U	390	880		740	160	J	430	40	J	380	140	J	380	3600		1700
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	390	U	390	900		740	200	J	430	53	J	380	160	J	380	6500		1700
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg																		
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg																		
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg																		
SW8270	Butylbenzylphthalate	85-68-7	ug/kg																		
SW8270	Caprolactam	105-60-2	ug/kg																		
SW8270	Carbazole	86-74-8	ug/kg																		
SW8270	Chrysene	218-01-9	ug/kg	390	U	390	1100		740	300	J	430	70	J	380	190	J	380	7500		1700
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	390	U	390	220	J	740	430	U	430	380	U	380	44	J	380	1300	J	1700
SW8270	Dibenzofuran	132-64-9	ug/kg																		
SW8270	Diethylphthalate	84-66-2	ug/kg																		
SW8270	Dimethylphthalate	131-11-3	ug/kg																		
SW8270	Di-n-butylphthalate	84-74-2	ug/kg																		
SW8270	Di-n-octylphthalate	117-84-0	ug/kg																		
SW8270	Fluoranthene	206-44-0	ug/kg	390	U	390	1700		740	510		430	130	J	380	360	J	380	16000		1700
SW8270	Fluorene	86-73-7	ug/kg	390	U	390	98	J	740	430	U	430	380	U	380	380	U	380	1200	J	1700
SW8270	Hexachlorobenzene	118-74-1	ug/kg																		
SW8270	Hexachlorobutadiene	87-68-3	ug/kg																		
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg																		

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BG-1			BGCOG1			BGCOG2			BGCOG3			BGPRK5			BGRR2		
			start_depth:	0			0			0			0			0			0		
			end_depth:	1			1			1			1			1			1		
			sys_sample_code:	BG-1AA			BGCOG1AA			BGCOG2AA			BGCOG3AA			BGPRK5AA			BGRR2AA		
			sample_date:	3/28/2006 9:30:00 AM			3/30/2006 8:54:00 AM			3/30/2006 10:02:00 AM			3/30/2006 10:42:00 AM			3/29/2006 11:13:00 AM			3/29/2006 2:09:00 PM		
			sample_type_code:	N			N			N			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg																		
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	390	U	390	730	J	740	140	J	430	380	U	380	130	J	380	3700		1700
SW8270	Isophorone	78-59-1	ug/kg																		
SW8270	Naphthalene	91-20-3	ug/kg	390	U	390	990		740	250	J	430	380	U	380	380	U	380	1500	J	1700
SW8270	Nitrobenzene	98-95-3	ug/kg																		
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg																		
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg																		
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg																		
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg																		
SW8270	Pentachlorophenol	87-86-5	ug/kg																		
SW8270	Phenanthrene	85-01-8	ug/kg	390	U	390	1600		740	430		430	83	J	380	150	J	380	11000		1700
SW8270	Phenol	108-95-2	ug/kg																		
SW8270	Pyrene	129-00-0	ug/kg	390	U	390	1400		740	450		430	120	J	380	300	J	380	12000		1700
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	0.61	UB	0.03	29.746	B	0.038	4.977	B	0.109	3.324		0.075	37.473	B	0.055	83.908	JB	0.059
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	1.644	UB	0.023	78.166	B	0.046	33.216	B	0.108	10.572	B	0.068	96.701	B	0.067	100.321	JB	0.056
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	0.156	UB	0.041	7.73		0.053	0.631	JK	0.153	0.392	J	0.105	6.374	B	0.077	7.013	JB	0.083
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	0.233	J	0.018	9.355		0.077	0.552	JK	0.056	0.313	JK	0.112	3.471		0.088	30.545	J	0.171
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	0.092	J	0.026	10.211		0.034	0.695	J	0.105	0.227	JK	0.084	1.374	J	0.035	2.134	J	0.225
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	0.133	JK	0.019	10.65	B	0.081	0.55	UB	0.058	0.341	UB	0.117	2.004	J	0.092	12.526	J	0.178
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	0.531	J	0.025	12.022		0.033	1.658	J	0.102	0.601	J	0.081	4.338		0.033	6.711	J	0.217
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.023	U	0.023	7.515		0.099	0.072	U	0.072	0.144	U	0.144	0.114	U	0.114	0.659	J	0.219
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	0.527	J	0.025	7.312		0.033	1.799	J	0.1	0.692	J	0.08	3.839		0.033	2.688	J	0.214
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	0.186	JK	0.015	10.866		0.047	0.052	U	0.052	0.055	U	0.055	4.324	UK	0.038	13.672	J	0.075
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	0.377	J	0.019	52.4		0.051	0.793	J	0.069	0.065	U	0.065	0.94	J	0.033	3.242	J	0.209
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	0.192	UB	0.02	9.309		0.086	0.69	J	0.062	0.125	U	0.125	2.378	UB	0.099	15.354	JB	0.191
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	0.208	J	0.014	10.738		0.046	0.05	U	0.05	0.053	U	0.053	0.905	J	0.037	18.88		0.072
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	0.751	U	0.751	5.068		1.784	0.135	UJ	0.135	1.681	UJ	1.681	0.418	U	0.418	18.015		0.522
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	0.299	JK	0.02	31.527		0.041	0.567	JK	0.073	0.427	J	0.04	0.269	JK	0.035	0.856	JK	0.13
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	0.921	UB	0.042	52.987	B	0.08	9.142	B	0.143	7.728	U	0.147	123.58	B	0.078	116.685	B	0.07
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	6.567	B	0.033	455.195	B	0.064	272.668	B	0.113	77.04	B	0.098	543.702	B	0.072	631.858	B	0.062
SW9012A	CYANIDE	57-12-5	mg/kg																		

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
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			sys_loc_code:	BGRR3			BGRR3			BGRR4			BGRR4			MW-10S			MW-14S		
			start_depth:	0			1.2			0			0			0			0		
			end_depth:	1			1.5			1			1			2			2		
			sys_sample_code:	BGRR3AA			BGRR3BA			BGRR4AA			BGRR4AB			MW10SAA			MW14SAA		
			sample_date:	3/29/2006 1:16:00 PM			3/29/2006 1:24:00 PM			3/30/2006 8:13:00 AM			3/30/2006 8:13:00 AM			11/30/2005 8:01:00 AM			12/8/2005 8:45:00 AM		
			sample_type_code:	N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	92.6			87.8			83.9			85.3			88.4			83.9		
SW6010	Aluminum	7429-90-5	mg/kg	6390		10.3	4560		11.1	13400		116	12700		116	24400		11	10100		11.8
SW6010	Antimony	7440-36-0	mg/kg	6.2	UJ	6.2	6.6	UJ	6.6	6.9	U	6.9	7	U	7	6.6	U	6.6	7.1	UJ	7.1
SW6010	Arsenic	7440-38-2	mg/kg	14.8		1	40.6		1.1	7.5		1.2	8.1		1.2	7.2	J-	1.1	8.5	J	1.2
SW6010	Barium	7440-39-3	mg/kg	65.2	J-	2.1	50.4	J-	2.2	71.5		2.3	67.6		2.3	274		2.2	99.5		2.4
SW6010	Beryllium	7440-41-7	mg/kg	0.98		0.51	0.64		0.55	0.58	U	0.58	0.58	U	0.58	4.4	J	0.55	0.59	U	0.59
SW6010	Cadmium	7440-43-9	mg/kg	0.51	U	0.51	0.55	U	0.55	0.58	U	0.58	0.58	U	0.58	1.1		0.55	0.59	U	0.59
SW6010	Calcium	7440-70-2	mg/kg	120000		1028	106000		1106	3360	J	1157	12800	J	1161	163000	J	549	4280		59
SW6010	Chromium (total)	7440-47-3	mg/kg	16.2		1	11.9		1.1	15.8		1.2	14.1		1.2	8.5	J	1.1	14		1.2
SW6010	Cobalt	7440-48-4	mg/kg	5.1	U	5.1	5.5	U	5.5	11		5.8	32.3		17.4	5.5	U	5.5	9.9		5.9
SW6010	Copper	7440-50-8	mg/kg	16.5		2.1	30.2		2.2	12.4		2.3	12		2.3	15.4	J	2.2	12	J	2.4
SW6010	Iron	7439-89-6	mg/kg	17000	J	10.3	18300	J	11.1	17400		116	17400		116	22700	J	11	17500		11.8
SW6010	Lead	7439-92-1	mg/kg	81.7		5.1	57		5.5	13	J	0.58	13.5	J	0.58	20.8	J	0.55	17		5.9
SW6010	Magnesium	7439-95-4	mg/kg	42400		103	34900		111	2780	J	57.9	3400	J	58	52500	J	54.9	2580		59
SW6010	Manganese	7439-96-5	mg/kg	820		1	611		1.1	916		11.6	853		11.6	2450	J	11	1080	J	1.2
SW6010	Nickel	7440-02-0	mg/kg	8.6		4.1	9.7		4.4	46.3	U	46.3	46.4	U	46.4	5.7		4.4	12.7		4.7
SW6010	Potassium	7440-09-7	mg/kg	771		206	713		221	1070		231	3090		696	1280		220	792	J	236
SW6010	Selenium	7782-49-2	mg/kg	1	U	1	2.2		1.1	2.3		1.2	2.2		1.2	3.9		1.1	1.2	U	1.2
SW6010	Silver	7440-22-4	mg/kg	1	U	1	1.1	U	1.1	1.2	U	1.2	1.2	U	1.2	1.1	U	1.1	1.2	U	1.2
SW6010	Sodium	7440-23-5	mg/kg	282		103	184		111	116	U	116	348	U	348	1160	J	54.9	59	UJ	59
SW6010	Thallium	7440-28-0	mg/kg	5.1	U	5.1	5.5	U	5.5	5.8	U	5.8	5.8	U	5.8	27.5	U	27.5	5.9	U	5.9
SW6010	Vanadium	7440-62-2	mg/kg	12.2		5.1	10.7		5.5	30.9		5.8	28.8		5.8	15.3		5.5	27		5.9
SW6010	Zinc	7440-66-6	mg/kg	109		2.1	81.6		2.2	41.8	J-	2.3	41.1	J-	2.3	91.9	J+	2.2	45.1	J	2.4
SW7470	Mercury	7439-97-6	mg/kg		R	0.03		R	0.04	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg													37	U	37	39	U	39
SW8082	Aroclor 1221	11104-28-2	ug/kg													76	U	76	80	U	80
SW8082	Aroclor 1232	11141-16-5	ug/kg													37	U	37	39	U	39
SW8082	Aroclor 1242	53469-21-9	ug/kg													37	U	37	39	U	39
SW8082	Aroclor 1248	12672-29-6	ug/kg													37	U	37	39	U	39
SW8082	Aroclor 1254	11097-69-1	ug/kg													40		37	39	U	39
SW8082	Aroclor 1260	11096-82-5	ug/kg													37	U	37	39	U	39
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,1-Dichloroethane	75-34-3	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,1-Dichloroethene	75-35-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,2-Dibromoethane	106-93-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,2-Dichloroethane	107-06-2	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,2-Dichloropropane	78-87-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	2-Butanone	78-93-3	ug/kg													10	UJ	10	21		9.7
SW8260	2-Hexanone	591-78-6	ug/kg													10	UJ	10	9.7	U	9.7
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg													10	UJ	10	9.7	U	9.7
SW8260	Acetone	67-64-1	ug/kg													19	J	20	150		19
SW8260	Benzene	71-43-2	ug/kg													5	UJ	5	0.38	J	4.8
SW8260	Bromodichloromethane	75-27-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Bromoform	75-25-2	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Bromomethane	74-83-9	ug/kg													5	UJ	5	0.38	J	4.8
SW8260	Carbon disulfide	75-15-0	ug/kg													0.79	J	10	9.7	U	9.7
SW8260	Carbon tetrachloride	56-23-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Chlorobenzene	108-90-7	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Chloroethane	75-00-3	ug/kg													10	UJ	10	9.7	U	9.7
SW8260	Chloroform	67-66-3	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Chloromethane	74-87-3	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Cyclohexane	110-82-7	ug/kg													0.68	J	5	4.8	U	4.8
SW8260	Dibromochloromethane	124-48-1	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg													5	UJ	5	4.8	UJ	4.8
SW8260	Ethylbenzene	100-41-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Isopropylbenzene	98-82-8	ug/kg													5	UJ	5	4.8	U	4.8

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGRR3			BGRR3			BGRR4			BGRR4			MW-10S			MW-14S		
			start_depth:	0			1.2			0			0			0			0		
			end_depth:	1			1.5			1			1			2			2		
			sys_sample_code:	BGRR3AA			BGRR3BA			BGRR4AA			BGRR4AB			MW10SAA			MW14SAA		
			sample_date:	3/29/2006 1:16:00 PM			3/29/2006 1:24:00 PM			3/30/2006 8:13:00 AM			3/30/2006 8:13:00 AM			11/30/2005 8:01:00 AM			12/8/2005 8:45:00 AM		
			sample_type_code:	N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg													0.37	J	5	4.8	U	4.8
SW8260	Methyl acetate	79-20-9	ug/kg													10	UJ	10	9.7	U	9.7
SW8260	Methylcyclohexane	108-87-2	ug/kg													1.1	J	5	4.8	U	4.8
SW8260	Methylene chloride	75-09-2	ug/kg													1.5	J	5	4.8	U	4.8
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	o-Xylene	95-47-6	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Styrene	100-42-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Tetrachloroethene	127-18-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Toluene	108-88-3	ug/kg													5	UJ	5	0.38	J	4.8
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Trichloroethene	79-01-6	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Trichlorofluoromethane	75-69-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8260	Vinyl chloride	75-01-4	ug/kg													5	UJ	5	4.8	U	4.8
SW8270	1,1-Biphenyl	92-52-4	ug/kg													1900	U	1900	390	U	390
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg													1900	U	1900	390	U	390
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg													1900	U	1900	390	U	390
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg													1900	U	1900	390	U	390
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg													1900	U	1900	390	U	390
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg													1900	U	1900	390	U	390
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg													9600	U	9600	2000	U	2000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg													1900	U	1900	390	U	390
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg													1900	U	1900	390	U	390
SW8270	2-Chloronaphthalene	91-58-7	ug/kg													1900	U	1900	390	U	390
SW8270	2-Chlorophenol	95-57-8	ug/kg													1900	U	1900	390	U	390
SW8270	2-Methylnaphthalene	91-57-6	ug/kg													270	J	1900	390	U	390
SW8270	2-Nitroaniline	88-74-4	ug/kg													9600	U	9600	2000	U	2000
SW8270	2-Nitrophenol	88-75-5	ug/kg													1900	U	1900	390	U	390
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg													1900	U	1900	390	U	390
SW8270	3-Nitroaniline	99-09-2	ug/kg													9600	U	9600	2000	U	2000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg													9600	U	9600	2000	U	2000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg													1900	U	1900	390	U	390
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg													1900	U	1900	390	U	390
SW8270	4-Chloroaniline	106-47-8	ug/kg													1900	U	1900	390	U	390
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg													1900	U	1900	390	U	390
SW8270	4-Nitroaniline	100-01-6	ug/kg													9600	U	9600	2000	U	2000
SW8270	4-Nitrophenol	100-02-7	ug/kg													9600	U	9600	2000	U	2000
SW8270	Acenaphthene	83-32-9	ug/kg	180	J	1100				390	U	390	390	U	390	1900	U	1900	390	U	390
SW8270	Acenaphthylene	208-96-8	ug/kg	360	J	1100				390	U	390	390	U	390	1800	J	1900	390	U	390
SW8270	Acetophenone	98-86-2	ug/kg													1900	U	1900	390	U	390
SW8270	Anthracene	120-12-7	ug/kg	550	J	1100				46	J	390	390	U	390	1100	J	1900	390	U	390
SW8270	Atrazine	1912-24-9	ug/kg													1900	U	1900	390	U	390
SW8270	Benzaldehyde	100-52-7	ug/kg													9600	UJ	9600	2000	U	390
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	2400		1100				210	J	390	50	J	390	6600		1900	390	U	390
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	2500		1100				220	J	390	50	J	390	10000		1900	390	U	390
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	2300		1100				230	J	390	53	J	390	7600		1900	390	U	390
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	1700		1100				170	J	390	390	U	390	7800		1900	390	U	390
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	2300		1100				220	J	390	53	J	390	7900		1900	390	U	390
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg													1900	U	1900	390	U	390
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg													1900	U	1900	390	U	390
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg													1900	U	1900	390	U	390
SW8270	Butylbenzylphthalate	85-68-7	ug/kg													1900	U	1900	390	U	390
SW8270	Caprolactam	105-60-2	ug/kg													9600	U	9600	390	U	390
SW8270	Carbazole	86-74-8	ug/kg													1900	U	1900	390	U	390
SW8270	Chrysene	218-01-9	ug/kg	2700		1100				250	J	390	63	J	390	6900		1900	390	U	390
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	480	J	1100				58	J	390	390	U	390	1700	J	1900	390	U	390
SW8270	Dibenzofuran	132-64-9	ug/kg													230	J	1900	390	U	390
SW8270	Diethylphthalate	84-66-2	ug/kg													1900	U	1900	390	U	390
SW8270	Dimethylphthalate	131-11-3	ug/kg													1900	U	1900	390	U	390
SW8270	Di-n-butylphthalate	84-74-2	ug/kg													1900	U	1900	390	U	390
SW8270	Di-n-octylphthalate	117-84-0	ug/kg													1900	U	1900	390	U	390
SW8270	Fluoranthene	206-44-0	ug/kg	5300		1100				500	J	390	110	J	390	8900		1900	390	U	390
SW8270	Fluorene	86-73-7	ug/kg	160	J	1100				390	U	390	390	U	390	210	J	1900	390	U	390
SW8270	Hexachlorobenzene	118-74-1	ug/kg													1900	U	1900	390	U	390
SW8270	Hexachlorobutadiene	87-68-3	ug/kg													1900	U	1900	390	U	390
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg													1900	U	1900	390	U	390

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	BGRR3			BGRR3			BGRR4			BGRR4			MW-10S			MW-14S		
			start_depth:	0			1.2			0			0			0			0		
			end_depth:	1			1.5			1			1			2			2		
			sys_sample_code:	BGRR3AA			BGRR3BA			BGRR4AA			BGRR4AB			MW10SAA			MW14SAA		
			sample_date:	3/29/2006 1:16:00 PM			3/29/2006 1:24:00 PM			3/30/2006 8:13:00 AM			3/30/2006 8:13:00 AM			11/30/2005 8:01:00 AM			12/8/2005 8:45:00 AM		
			sample_type_code:	N			N			N			FD			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg													1900	U	1900	390	U	390
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	1600		1100				160	J	390	390	U	390	6700		1900	390	U	390
SW8270	Isophorone	78-59-1	ug/kg													1900	U	1900	390	U	390
SW8270	Naphthalene	91-20-3	ug/kg	110	J	1100				56	J	390	390	U	390	380	J	1900	390	U	390
SW8270	Nitrobenzene	98-95-3	ug/kg													1900	U	1900	390	U	390
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg													1900	U	1900	390	U	390
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg													1900	U	1900	390	U	390
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg													1900	U	1900	390	U	390
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg													1900	U	1900	390	U	390
SW8270	Pentachlorophenol	87-86-5	ug/kg													9600	U	9600	2000	U	2000
SW8270	Phenanthrene	85-01-8	ug/kg	2700		1100				290	J	390	57	J	390	2300		1900	390	U	390
SW8270	Phenol	108-95-2	ug/kg													1900	U	1900	390	U	390
SW8270	Pyrene	129-00-0	ug/kg	4400		1100				460	J	390	110	J	390	9000		1900	390	U	390
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg	23.015	JB	0.031				4.727		0.061	2.787	UB	0.071	1.334	J	0.038			
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg	31.093	B	0.039				16.023	JB	0.06	9.637	JB	0.063	3.474	B	0.032			
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg	2.88	JB	0.044				0.086	U	0.086	0.1	U	0.1	0.124	J	0.053			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg	6.557	J	0.269				0.389	J	0.049	0.037	U	0.037	0.528	JK	0.029			
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg	1.227	J	0.024				0.355	J	0.071	0.14	J	0.06	0.17	J	0.018			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg	8.485	J	0.281				0.404	UB	0.051	0.039	U	0.039	0.347	J	0.03			
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg	4.303	J	0.024				0.677	JK	0.068	0.426	J	0.057	0.331	J	0.017			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg	0.346	U	0.346				0.062	U	0.062	0.048	U	0.048	0.037	U	0.037			
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg	1.262	J	0.023				0.848	JK	0.067	0.569	J	0.057	0.343	J	0.017			
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg	1.781	J	0.229				0.038	U	0.038	0.034	U	0.034	0.21	JK	0.017			
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg	2.342	J	0.041				0.041	U	0.041	0.047	U	0.047	0.234	JK	0.024			
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg	33.418	JB	0.3				0.516	J	0.054	0.041	U	0.041	0.507	J	0.032			
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg	7.91		0.22				0.036	U	0.036	0.033	U	0.033	0.455	J	0.016			
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg	3.61		0.627				0.078	U	0.078	0.069	UJ	0.069	0.432	U	0.432			
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg	3.889		0.03				0.192	JK	0.039	0.04	U	0.04	0.013	U	0.013			
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg	32.983	B	0.057				10.717	B	0.119	6.307	UB	0.085	1.753	U	0.044			
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg	214.499	JB	0.043				121.978	JB	0.113	63.814	JB	0.097	19.84	B	0.055			
SW9012A	CYANIDE	57-12-5	mg/kg													1.57		1.13	1.19	U	1.19

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-6S			MW-6S		
			start_depth:	0			0		
			end_depth:	2			2		
			sys_sample_code:	MW6SAA			MW6SAB		
			sample_date:	11/22/2005 3:13:00 PM			11/22/2005 3:13:00 PM		
			sample_type_code:	N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
E160.3	Total Solids	TSOLIDS	percent	91.8			91.6		
SW6010	Aluminum	7429-90-5	mg/kg	17500	J	10.7	35200	J	10.8
SW6010	Antimony	7440-36-0	mg/kg		R	6.4		R	6.5
SW6010	Arsenic	7440-38-2	mg/kg	25.8	J	1.1	3.6	J	1.1
SW6010	Barium	7440-39-3	mg/kg	425		2.1	425		2.2
SW6010	Beryllium	7440-41-7	mg/kg	2.6		0.53	5.9		0.54
SW6010	Cadmium	7440-43-9	mg/kg	1.7		0.53	0.54	U	0.54
SW6010	Calcium	7440-70-2	mg/kg	114000	J	534	249000	J	540
SW6010	Chromium (total)	7440-47-3	mg/kg	132	J	1.1	31.6	J	1.1
SW6010	Cobalt	7440-48-4	mg/kg	13.8		5.3	5.4	U	5.4
SW6010	Copper	7440-50-8	mg/kg	222	J	2.1	17.4	J	2.2
SW6010	Iron	7439-89-6	mg/kg	131000	J	107	13200	J	10.8
SW6010	Lead	7439-92-1	mg/kg	117	J	0.53	28.1	J	0.54
SW6010	Magnesium	7439-95-4	mg/kg	24500	J	53.4	45300	J	54
SW6010	Manganese	7439-96-5	mg/kg	12600	J	53.4	5790	J	10.8
SW6010	Nickel	7440-02-0	mg/kg	138	J	4.3	7.4	J	4.3
SW6010	Potassium	7440-09-7	mg/kg	1480		214	2520		216
SW6010	Selenium	7782-49-2	mg/kg	1.1	U	1.1	5.6		1.1
SW6010	Silver	7440-22-4	mg/kg	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	mg/kg	904	J	53.4	2400	J	54
SW6010	Thallium	7440-28-0	mg/kg	107	U	107	108	U	108
SW6010	Vanadium	7440-62-2	mg/kg	34.2		5.3	25.8		5.4
SW6010	Zinc	7440-66-6	mg/kg	356	J	21.4	28.7	J	2.2
SW7470	Mercury	7439-97-6	mg/kg	0.14		0.04	0.04	U	0.04
SW8082	Aroclor 1016	12674-11-2	ug/kg	36	U	36	72	U	72
SW8082	Aroclor 1221	11104-28-2	ug/kg	73	U	73	150	U	150
SW8082	Aroclor 1232	11141-16-5	ug/kg	36	U	36	72	U	72
SW8082	Aroclor 1242	53469-21-9	ug/kg	36	U	36	72	U	72
SW8082	Aroclor 1248	12672-29-6	ug/kg	36	U	36	72	U	72
SW8082	Aroclor 1254	11097-69-1	ug/kg	36	U	36	72	U	72
SW8082	Aroclor 1260	11096-82-5	ug/kg	36	UJ	36	590	J	72
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	2-Butanone	78-93-3	ug/kg	14	U	14	11	U	11
SW8260	2-Hexanone	591-78-6	ug/kg	14	U	14	11	U	11
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	14	U	14	11	U	11
SW8260	Acetone	67-64-1	ug/kg	20	J	29	12	J	22
SW8260	Benzene	71-43-2	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Bromodichloromethane	75-27-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Bromoform	75-25-2	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Bromomethane	74-83-9	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Carbon disulfide	75-15-0	ug/kg	10	J	14	2.4	J	11
SW8260	Carbon tetrachloride	56-23-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Chlorobenzene	108-90-7	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Chloroethane	75-00-3	ug/kg	14	U	14	11	U	11
SW8260	Chloroform	67-66-3	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Chloromethane	74-87-3	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Cyclohexane	110-82-7	ug/kg	7.2	U	7.2	0.48	J	5.5
SW8260	Dibromochloromethane	124-48-1	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Ethylbenzene	100-41-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Isopropylbenzene	98-82-8	ug/kg	7.2	U	7.2	5.5	U	5.5

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-6S			MW-6S		
			start_depth:	0			0		
			end_depth:	2			2		
			sys_sample_code:	MW6SAA			MW6SAB		
			sample_date:	11/22/2005 3:13:00 PM			11/22/2005 3:13:00 PM		
			sample_type_code:	N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	m+p-Xylene	XYLMP	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Methyl acetate	79-20-9	ug/kg	14	U	14	11	U	11
SW8260	Methylcyclohexane	108-87-2	ug/kg	0.68	J	7.2	1.1	J	5.5
SW8260	Methylene chloride	75-09-2	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	o-Xylene	95-47-6	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Styrene	100-42-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Tetrachloroethene	127-18-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Toluene	108-88-3	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Trichloroethene	79-01-6	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8260	Vinyl chloride	75-01-4	ug/kg	7.2	U	7.2	5.5	U	5.5
SW8270	1,1-Biphenyl	92-52-4	ug/kg	360	U	360	720	U	720
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	360	U	360	720	U	720
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	360	U	360	720	U	720
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	360	U	360	720	U	720
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	360	U	360	720	U	720
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	360	U	360	720	U	720
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	1900	U	1900	3700	U	3700
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	360	U	360	720	U	720
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	360	U	360	720	U	720
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	360	U	360	720	U	720
SW8270	2-Chlorophenol	95-57-8	ug/kg	360	U	360	720	U	720
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	360	U	360	200	J	720
SW8270	2-Nitroaniline	88-74-4	ug/kg	1900	U	1900	3700	U	3700
SW8270	2-Nitrophenol	88-75-5	ug/kg	360	U	360	720	U	720
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	360	U	360	720	U	720
SW8270	3-Nitroaniline	99-09-2	ug/kg	1900	U	1900	3700	U	3700
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	1900	U	1900	3700	U	3700
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	360	U	360	720	U	720
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	360	U	360	720	U	720
SW8270	4-Chloroaniline	106-47-8	ug/kg	360	U	360	720	U	720
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	360	U	360	720	U	720
SW8270	4-Nitroaniline	100-01-6	ug/kg	1900	U	1900	3700	U	3700
SW8270	4-Nitrophenol	100-02-7	ug/kg	1900	U	1900	3700	U	3700
SW8270	Acenaphthene	83-32-9	ug/kg	360	U	360	720	U	720
SW8270	Acenaphthylene	208-96-8	ug/kg	360	U	360	270	J	720
SW8270	Acetophenone	98-86-2	ug/kg	360	U	360	720	U	720
SW8270	Anthracene	120-12-7	ug/kg	360	U	360	260	J	720
SW8270	Atrazine	1912-24-9	ug/kg	360	U	360	720	U	720
SW8270	Benzaldehyde	100-52-7	ug/kg	360	U	360	720	U	720
SW8270	Benzo(a)anthracene	56-55-3	ug/kg	360	U	360	640	J	720
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	360	U	360	800		720
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg	360	U	360	1100		720
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg	360	U	360	680	J	720
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg	360	U	360	920		720
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	360	U	360	720	U	720
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	360	U	360	720	U	720
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	360	U	360	150	J	720
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	360	U	360	720	U	720
SW8270	Caprolactam	105-60-2	ug/kg	1900	U	360	3700	U	720
SW8270	Carbazole	86-74-8	ug/kg	360	U	360	720	U	720
SW8270	Chrysene	218-01-9	ug/kg	360	U	360	850		720
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg	360	U	360	200	J	720
SW8270	Dibenzofuran	132-64-9	ug/kg	360	U	360	100	J	720
SW8270	Diethylphthalate	84-66-2	ug/kg	360	U	360	720	U	720
SW8270	Dimethylphthalate	131-11-3	ug/kg	360	U	360	720	U	720
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	360	U	360	720	U	720
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	360	U	360	720	U	720
SW8270	Fluoranthene	206-44-0	ug/kg	360	U	360	930		720
SW8270	Fluorene	86-73-7	ug/kg	360	U	360	720	U	720
SW8270	Hexachlorobenzene	118-74-1	ug/kg	360	U	360	720	U	720
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	360	U	360	720	U	720
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	360	U	360	720	U	720

Appendix C-5 Background Surface Soil Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-6S			MW-6S		
			start_depth:	0			0		
			end_depth:	2			2		
			sys_sample_code:	MW6SAA			MW6SAB		
			sample_date:	11/22/2005 3:13:00 PM			11/22/2005 3:13:00 PM		
			sample_type_code:	N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Hexachloroethane	67-72-1	ug/kg	360	U	360	720	U	720
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	360	U	360	620	J	720
SW8270	Isophorone	78-59-1	ug/kg	360	U	360	720	U	720
SW8270	Naphthalene	91-20-3	ug/kg	360	U	360	210	J	720
SW8270	Nitrobenzene	98-95-3	ug/kg	360	U	360	720	U	720
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	360	U	360	720	U	720
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	360	U	360	720	U	720
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	360	U	360	720	U	720
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	360	U	360	720	U	720
SW8270	Pentachlorophenol	87-86-5	ug/kg	1900	U	1900	3700	U	3700
SW8270	Phenanthrene	85-01-8	ug/kg	360	U	360	400	J	720
SW8270	Phenol	108-95-2	ug/kg	360	U	360	720	U	720
SW8270	Pyrene	129-00-0	ug/kg	360	U	360	860		720
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	ng/kg						
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	ng/kg						
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	ng/kg						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	ng/kg						
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	ng/kg						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	ng/kg						
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	ng/kg						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	ng/kg						
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	ng/kg						
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	ng/kg						
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	ng/kg						
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	ng/kg						
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	ng/kg						
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	ng/kg						
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	ng/kg						
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	ng/kg						
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	ng/kg						
SW9012A	CYANIDE	57-12-5	mg/kg	1.61		1.09	1.09	U	1.09

Appendix C-6 Background Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSW11			GMRSW9			GMRSW9		
			sys_sample_code:	GMRSW11AA			GMRSW9AA			GMRSW9AB		
			sample_date:	11/11/2005 1:00:00 PM			11/10/2005 2:00:00 PM			11/10/2005 2:00:00 PM		
			sample_type_code:	N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	3240		19.9	1990		19.9	1920		19.9
SW6010	Antimony	7440-36-0	ug/l	8.1	U	8.1	8.1	U	8.1	8.1	U	8.1
SW6010	Arsenic	7440-38-2	ug/l	2.6	UJ	2.4	2.7	UJ	2.4	2.4	U	2.4
SW6010	Barium	7440-39-3	ug/l	93.7		6.7	100		6.7	101		6.7
SW6010	Beryllium	7440-41-7	ug/l	0.27	U	0.27	0.27	U	0.27	0.27	U	0.27
SW6010	Cadmium	7440-43-9	ug/l	0.42	U	0.42	0.42	U	0.42	0.42	U	0.42
SW6010	Calcium	7440-70-2	ug/l	67800		60.1	77800		60.1	81200		60.1
SW6010	Chromium (total)	7440-47-3	ug/l	4.3	J	0.38	3.9	J	0.38	3.1	J	0.38
SW6010	Cobalt	7440-48-4	ug/l	1.9	UJ	1	1.2	UJ	1	1.5	UJ	1
SW6010	Copper	7440-50-8	ug/l	4.7	U	4.7	4.7	U	4.7	4.7	U	4.7
SW6010	Iron	7439-89-6	ug/l	2770	J	3.7	1820	J	3.7	1920	J	3.7
SW6010	Lead	7439-92-1	ug/l	3.6	J	1.7	3.4	J	1.7	3	J	1.7
SW6010	Magnesium	7439-95-4	ug/l	26300		30.2	30800		30.2	31700		30.2
SW6010	Manganese	7439-96-5	ug/l	49.3		0.46	49.7		0.46	51.9		0.46
SW6010	Nickel	7440-02-0	ug/l	3.9	J	1.1	3	J	1.1	2.8	J	1.1
SW6010	Potassium	7440-09-7	ug/l	5710	J	35.2	4930	J	35.2	5050	J	35.2
SW6010	Selenium	7782-49-2	ug/l	4.2	UJ	4	4.8	UJ	4	4	U	4
SW6010	Silver	7440-22-4	ug/l	1.1	U	1.1	1.1	U	1.1	1.1	U	1.1
SW6010	Sodium	7440-23-5	ug/l	18500		25.2	25300		25.2	26200		25.2
SW6010	Thallium	7440-28-0	ug/l	3.3	U	3.3	3.3	U	3.3	3.3	U	3.3
SW6010	Vanadium	7440-62-2	ug/l	8	J	1.5	5.3	J	1.5	5.2	J	1.5
SW6010	Zinc	7440-66-6	ug/l	13.4	UJ	1.4	14.6	UJ	1.4	15.2	UJ	1.4
SW7470	Mercury	7439-97-6	ug/l	0.02	U	0.02	0.02	U	0.02	0.02	U	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	0.93	U	0.93	0.93	U	0.93	0.93	U	0.93
SW8082	Aroclor 1221	11104-28-2	ug/l	1.9	U	1.9	1.9	U	1.9	1.9	U	1.9
SW8082	Aroclor 1232	11141-16-5	ug/l	0.93	U	0.93	0.93	U	0.93	0.93	U	0.93
SW8082	Aroclor 1242	53469-21-9	ug/l	0.93	U	0.93	0.93	U	0.93	0.93	U	0.93
SW8082	Aroclor 1248	12672-29-6	ug/l	0.93	U	0.93	0.93	U	0.93	0.93	U	0.93
SW8082	Aroclor 1254	11097-69-1	ug/l	0.93	U	0.93	0.93	U	0.93	0.93	U	0.93
SW8082	Aroclor 1260	11096-82-5	ug/l	0.93	U	0.93	0.93	U	0.93	0.93	U	0.93
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1	1	UJ	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1	1	UJ	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1	1	UJ	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2	2	UJ	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1	1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1	1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5	10	U	10
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5	5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	5	U	5	10	U	10
SW8260	Acetone	67-64-1	ug/l	10	U	10	10	U	10	10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2	2	UJ	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	1	U	1	2	U	2
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2	2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2	2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1	1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1	1	U	1

Appendix C-6 Background Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSW11			GMRSW9			GMRSW9		
			sys_sample_code:	GMRSW11AA			GMRSW9AA			GMRSW9AB		
			sample_date:	11/11/2005 1:00:00 PM			11/10/2005 2:00:00 PM			11/10/2005 2:00:00 PM		
			sample_type_code:	N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1	1	UJ	1
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1	1	UJ	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1	1	U	1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	0.4	J	1	0.36	J	1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1	1	UJ	1
SW8260	Methylene chloride	75-09-2	ug/l	0.44	J	1	1	U	1	1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Toluene	108-88-3	ug/l	1	U	1	0.5	J	1	0.56	J	1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1	1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1	1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1	1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	47	U	47	47	U	47	47	U	47
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Chloronaphthalene	91-58-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Chlorophenol	95-57-8	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Methylnaphthalene	91-57-6	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	2-Nitroaniline	88-74-4	ug/l	47	U	47	47	U	47	47	U	47
SW8270	2-Nitrophenol	88-75-5	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	3-Nitroaniline	99-09-2	ug/l	47	U	47	47	U	47	47	U	47
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	47	U	47	47	U	47	47	U	47
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Chloroaniline	106-47-8	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	4-Nitroaniline	100-01-6	ug/l	47	U	47	47	U	47	47	U	47
SW8270	4-Nitrophenol	100-02-7	ug/l	47	U	47	47	U	47	47	U	47
SW8270	Acetophenone	98-86-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Atrazine	1912-24-9	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Benzaldehyde	100-52-7	ug/l	9.3	UJ	9.3	9.3	UJ	9.3	9.3	UJ	9.3
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Butylbenzylphthalate	85-68-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Caprolactam	105-60-2	ug/l	47	UJ	47	47	UJ	47	47	UJ	47
SW8270	Carbazole	86-74-8	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Dibenzofuran	132-64-9	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Diethylphthalate	84-66-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Dimethylphthalate	131-11-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Di-n-butylphthalate	84-74-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Di-n-octylphthalate	117-84-0	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachlorobenzene	118-74-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachlorobutadiene	87-68-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Hexachloroethane	67-72-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3

Appendix C-6 Background Surface Water Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSW11			GMRSW9			GMRSW9		
			sys_sample_code:	GMRSW11AA			GMRSW9AA			GMRSW9AB		
			sample_date:	11/11/2005 1:00:00 PM			11/10/2005 2:00:00 PM			11/10/2005 2:00:00 PM		
			sample_type_code:	N			N			FD		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Isophorone	78-59-1	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Nitrobenzene	98-95-3	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270	Pentachlorophenol	87-86-5	ug/l	47	U	47	47	U	47	47	U	47
SW8270	Phenol	108-95-2	ug/l	9.3	U	9.3	9.3	U	9.3	9.3	U	9.3
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19
SW8270C.LL	Anthracene	120-12-7	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.093	U	0.093	0.093	UJ	0.093	0.093	UJ	0.093
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.19	U	0.19		R	0.19		R	0.19
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8270C.LL	Chrysene	218-01-9	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.19	U	0.19		R	0.19		R	0.19
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.19	U	0.19	0.19	U	0.19	0.065	J	0.19
SW8270C.LL	Fluorene	86-73-7	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.19	U	0.19		R	0.19		R	0.19
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.19	U	0.19	0.056	J	0.19	0.19	U	0.19
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.19	U	0.19	0.19	U	0.19	0.19	U	0.19
SW8270C.LL	Pyrene	129-00-0	ug/l	0.19	U	0.19	0.19	UJ	0.19	0.19	UJ	0.19
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l									
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l									
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l									
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l									
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l									
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l									
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l									
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l									
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l									
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l									
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l									
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l									
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l									
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l									
SW9012A	CYANIDE	57-12-5	mg/l	0.01	UJ	0.01	0.01	UJ	0.01	0.01	UJ	0.01

Appendix C-7 Background Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD15			GMRSD19		
			sys_sample_code:	GMRSD15AA			GMRSD19AA		
			sample_date:	11/10/2005 2:40:00 PM			11/11/2005 1:00:00 PM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
AVS/SEM SOP	Sulfide, acid-volatile	SULFIDE-AV	umoles/g						
E160.3	Total Solids	TSOLIDS	percent	79.1		1.26	55.1		1.81
SW6010	Aluminum	7429-90-5	mg/kg	2330		11.9	22200		20
SW6010	Antimony	7440-36-0	mg/kg	7.1	U	7.1	12	U	12
SW6010	Arsenic	7440-38-2	mg/kg	1.7		1.2	15.4		2
SW6010	Barium	7440-39-3	mg/kg	13.9	J	2.4	446	J	3.9
SW6010	Beryllium	7440-41-7	mg/kg	0.59	U	0.59	1	U	1
SW6010	Cadmium	7440-43-9	mg/kg	0.59	U	0.59	4.9		1
SW6010	Cadmium	7440-43-9	umoles/g						
SW6010	Calcium	7440-70-2	mg/kg	90900		594	46400		998
SW6010	Chromium (total)	7440-47-3	mg/kg	7.1	J	1.2	224	J	2
SW6010	Cobalt	7440-48-4	mg/kg	5.9	U	5.9	11.9		10
SW6010	Copper	7440-50-8	mg/kg	6.9		2.4	275		4
SW6010	Copper	7440-50-8	umoles/g						
SW6010	Iron	7439-89-6	mg/kg	13400		119	57700		200
SW6010	Lead	7439-92-1	mg/kg	4.2		0.59	224		1
SW6010	Lead	7439-92-1	umoles/g						
SW6010	Magnesium	7439-95-4	mg/kg	27600	J	60	13700	J	97.8
SW6010	Manganese	7439-96-5	mg/kg	217	J	1.2	488	J	2
SW6010	Nickel	7440-02-0	mg/kg	6.3		4.8	73.7		8
SW6010	Nickel	7440-02-0	umoles/g						
SW6010	Potassium	7440-09-7	mg/kg	373		238	2580		399
SW6010	Selenium	7782-49-2	mg/kg	1.2	U	1.2	2	U	2
SW6010	Silver	7440-22-4	mg/kg	1.2	U	1.2	2	U	2
SW6010	Sodium	7440-23-5	mg/kg	156		59.4	184		99.8
SW6010	Thallium	7440-28-0	mg/kg	5.9	U	5.9	10	U	10
SW6010	Vanadium	7440-62-2	mg/kg	12.9		5.9	44.1		10
SW6010	Zinc	7440-66-6	mg/kg	19.4	J	2.4	686	J	39.9
SW6010	Zinc	7440-66-6	umoles/g						
SW7470	Mercury	7439-97-6	mg/kg	0.04	U	0.04	0.63		0.07
SW7470	Mercury	7439-97-6	umoles/g						
SW8082	Aroclor 1016	12674-11-2	ug/kg	41	U	41	66	U	66
SW8082	Aroclor 1221	11104-28-2	ug/kg	84	U	84	130	U	130
SW8082	Aroclor 1232	11141-16-5	ug/kg	41	U	41	66	U	66
SW8082	Aroclor 1242	53469-21-9	ug/kg	41	U	41	66	U	66
SW8082	Aroclor 1248	12672-29-6	ug/kg	230		41	66	U	66
SW8082	Aroclor 1254	11097-69-1	ug/kg	41	U	41	66	U	66
SW8082	Aroclor 1260	11096-82-5	ug/kg	41	U	41	66	U	66
SW8260	1,1,1-Trichloroethane	71-55-6	ug/kg	5	U	5	10	U	10
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/kg	5	U	5	10	U	10
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/kg	5	U	5	10	U	10
SW8260	1,1,2-Trichloroethane	79-00-5	ug/kg	5	U	5	10	U	10
SW8260	1,1-Dichloroethane	75-34-3	ug/kg	5	U	5	10	U	10
SW8260	1,1-Dichloroethene	75-35-4	ug/kg	5	U	5	10	U	10
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/kg	5	U	5	10	U	10
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/kg	5	U	5	10	U	10
SW8260	1,2-Dibromoethane	106-93-4	ug/kg	5	U	5	10	U	10
SW8260	1,2-Dichlorobenzene	95-50-1	ug/kg	5	U	5	10	U	10
SW8260	1,2-Dichloroethane	107-06-2	ug/kg	5	U	5	10	U	10
SW8260	1,2-Dichloropropane	78-87-5	ug/kg	5	U	5	10	U	10
SW8260	1,3-Dichlorobenzene	541-73-1	ug/kg	5	U	5	10	U	10
SW8260	1,4-Dichlorobenzene	106-46-7	ug/kg	5	U	5	10	U	10
SW8260	2-Butanone	78-93-3	ug/kg	10	U	10	15	J	20
SW8260	2-Hexanone	591-78-6	ug/kg	10	U	10	20	U	20
SW8260	4-Methyl-2-pentanone	108-10-1	ug/kg	10	U	10	20	UJ	20
SW8260	Acetone	67-64-1	ug/kg	20	U	20	96	J	40
SW8260	Benzene	71-43-2	ug/kg	1.2	J	5	10	U	10
SW8260	Bromodichloromethane	75-27-4	ug/kg	5	U	5	10	U	10
SW8260	Bromoform	75-25-2	ug/kg	5	U	5	10	U	10
SW8260	Bromomethane	74-83-9	ug/kg	5	U	5	10	U	10

Appendix C-7 Background Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD15			GMRSD19		
			sys_sample_code:	GMRSD15AA			GMRSD19AA		
			sample_date:	11/10/2005 2:40:00 PM			11/11/2005 1:00:00 PM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Carbon disulfide	75-15-0	ug/kg	1	J	10	2.2	J	20
SW8260	Carbon tetrachloride	56-23-5	ug/kg	5	U	5	10	U	10
SW8260	Chlorobenzene	108-90-7	ug/kg	5	U	5	10	U	10
SW8260	Chloroethane	75-00-3	ug/kg	10	U	10	20	U	20
SW8260	Chloroform	67-66-3	ug/kg	5	U	5	10	U	10
SW8260	Chloromethane	74-87-3	ug/kg	5	U	5	10	U	10
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/kg	5	U	5	10	U	10
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/kg	5	U	5	10	U	10
SW8260	Cyclohexane	110-82-7	ug/kg	4.4	J	5	10	UJ	10
SW8260	Dibromochloromethane	124-48-1	ug/kg	5	U	5	10	U	10
SW8260	Dichlorodifluoromethane	75-71-8	ug/kg	5	U	5	10	U	10
SW8260	Ethylbenzene	100-41-4	ug/kg	0.69	J	5	10	U	10
SW8260	Isopropylbenzene	98-82-8	ug/kg	5	U	5	10	U	10
SW8260	m+p-Xylene	XYLMP	ug/kg	1.2	J	5	10	U	10
SW8260	Methyl acetate	79-20-9	ug/kg	10	U	10	20	U	20
SW8260	Methylcyclohexane	108-87-2	ug/kg	6.2	J	5	1.2	J	10
SW8260	Methylene chloride	75-09-2	ug/kg	5	U	5	6.4	J	10
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/kg	5	U	5	10	U	10
SW8260	o-Xylene	95-47-6	ug/kg	0.47	J	5	10	U	10
SW8260	Styrene	100-42-5	ug/kg	5	U	5	10	U	10
SW8260	Tetrachloroethene	127-18-4	ug/kg	5	U	5	10	U	10
SW8260	Toluene	108-88-3	ug/kg	2.5	J	5	0.82	J	10
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/kg	5	U	5	10	U	10
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/kg	5	U	5	10	U	10
SW8260	Trichloroethene	79-01-6	ug/kg	5	U	5	10	U	10
SW8260	Trichlorofluoromethane	75-69-4	ug/kg	5	U	5	10	U	10
SW8260	Vinyl chloride	75-01-4	ug/kg	5	U	5	10	U	10
SW8270	1,1-Biphenyl	92-52-4	ug/kg	410	U	410	3300	U	3300
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/kg	410	U	410	3300	U	3300
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/kg	410	U	410	3300	U	3300
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/kg	410	U	410	3300	U	3300
SW8270	2,4-Dichlorophenol	120-83-2	ug/kg	410	U	410	3300	U	3300
SW8270	2,4-Dimethylphenol	105-67-9	ug/kg	410	U	410	3300	U	3300
SW8270	2,4-Dinitrophenol	51-28-5	ug/kg	2100	U	2100	17000	U	17000
SW8270	2,4-Dinitrotoluene	121-14-2	ug/kg	410	U	410	3300	U	3300
SW8270	2,6-Dinitrotoluene	606-20-2	ug/kg	410	U	410	3300	U	3300
SW8270	2-Chloronaphthalene	91-58-7	ug/kg	410	U	410	3300	U	3300
SW8270	2-Chlorophenol	95-57-8	ug/kg	410	U	410	3300	U	3300
SW8270	2-Methylnaphthalene	91-57-6	ug/kg	410	U	410	3300	U	3300
SW8270	2-Nitroaniline	88-74-4	ug/kg	2100	U	2100	17000	U	17000
SW8270	2-Nitrophenol	88-75-5	ug/kg	410	U	410	3300	U	3300
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/kg	410	U	410	3300	U	3300
SW8270	3-Nitroaniline	99-09-2	ug/kg	2100	U	2100	17000	U	17000
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/kg	2100	U	2100	17000	U	17000
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/kg	410	U	410	3300	U	3300
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/kg	410	U	410	3300	U	3300
SW8270	4-Chloroaniline	106-47-8	ug/kg	410	U	410	3300	U	3300
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/kg	410	U	410	3300	U	3300
SW8270	4-Nitroaniline	100-01-6	ug/kg	2100	U	2100	17000	U	17000
SW8270	4-Nitrophenol	100-02-7	ug/kg	2100	U	2100	17000	U	17000
SW8270	Acenaphthene	83-32-9	ug/kg						
SW8270	Acenaphthylene	208-96-8	ug/kg						
SW8270	Acetophenone	98-86-2	ug/kg	410	U	410	3300	U	3300
SW8270	Anthracene	120-12-7	ug/kg						
SW8270	Atrazine	1912-24-9	ug/kg	410	U	410	3300	U	3300
SW8270	Benzaldehyde	100-52-7	ug/kg	2100	UJ	2100	17000	UJ	17000
SW8270	Benzo(a)anthracene	56-55-3	ug/kg						
SW8270	Benzo(a)pyrene	50-32-8	ug/kg	42	J	410			
SW8270	Benzo(b)fluoranthene	205-99-2	ug/kg						
SW8270	Benzo(g,h,i)perylene	191-24-2	ug/kg						

Appendix C-7 Background Surficial Sediment Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	GMRSD15			GMRSD19		
			sys_sample_code:	GMRSD15AA			GMRSD19AA		
			sample_date:	11/10/2005 2:40:00 PM			11/11/2005 1:00:00 PM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	Benzo(k)fluoranthene	207-08-9	ug/kg				680	J	3300
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/kg	410	U	410	3300	U	3300
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/kg	410	U	410	3300	U	3300
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/kg	410	U	410	3300	U	3300
SW8270	Butylbenzylphthalate	85-68-7	ug/kg	410	U	410	3300	U	3300
SW8270	Caprolactam	105-60-2	ug/kg	2100	U	2100	17000	U	17000
SW8270	Carbazole	86-74-8	ug/kg	410	U	410	3300	U	3300
SW8270	Chrysene	218-01-9	ug/kg	47	J	410			
SW8270	Dibenz(a,h)anthracene	53-70-3	ug/kg						
SW8270	Dibenzofuran	132-64-9	ug/kg	410	U	410	3300	U	3300
SW8270	Diethylphthalate	84-66-2	ug/kg	410	U	410	3300	U	3300
SW8270	Dimethylphthalate	131-11-3	ug/kg	410	U	410	3300	U	3300
SW8270	Di-n-butylphthalate	84-74-2	ug/kg	410	U	410	3300	U	3300
SW8270	Di-n-octylphthalate	117-84-0	ug/kg	410	U	410	3300	U	3300
SW8270	Fluoranthene	206-44-0	ug/kg	96	J	410			
SW8270	Fluorene	86-73-7	ug/kg						
SW8270	Hexachlorobenzene	118-74-1	ug/kg	410	U	410	3300	U	3300
SW8270	Hexachlorobutadiene	87-68-3	ug/kg	410	U	410	3300	U	3300
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/kg	410	U	410	3300	U	3300
SW8270	Hexachloroethane	67-72-1	ug/kg	410	U	410	3300	U	3300
SW8270	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg						
SW8270	Isophorone	78-59-1	ug/kg	410	U	410	3300	U	3300
SW8270	Naphthalene	91-20-3	ug/kg						
SW8270	Nitrobenzene	98-95-3	ug/kg	410	U	410	3300	U	3300
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/kg	410	U	410	3300	U	3300
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/kg	410	U	410	3300	U	3300
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/kg	410	U	410	3300	U	3300
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/kg	410	U	410	3300	U	3300
SW8270	Pentachlorophenol	87-86-5	ug/kg	2100	U	2100	17000	U	17000
SW8270	Phenanthrene	85-01-8	ug/kg	47	J	410	1100	J	3300
SW8270	Phenol	108-95-2	ug/kg	410	U	410	3300	U	3300
SW8270	Pyrene	129-00-0	ug/kg	84	J	410			
SW8270C.LL	Acenaphthene	83-32-9	ug/kg	25	U	25	1200	U	1200
SW8270C.LL	Acenaphthylene	208-96-8	ug/kg	25	UJ	25	1200	UJ	1200
SW8270C.LL	Anthracene	120-12-7	ug/kg	14	J	25	530	J	1200
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/kg	25	J	13	910	J	600
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/kg				1600	J	1200
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/kg	33	J	25	1200	J	1200
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/kg	20	J	25	620	J	1200
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/kg	11	J	25			
SW8270C.LL	Chrysene	218-01-9	ug/kg				1700	J	1200
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/kg	25	U	25	1200	U	1200
SW8270C.LL	Fluoranthene	206-44-0	ug/kg				2500	J	1200
SW8270C.LL	Fluorene	86-73-7	ug/kg	7.7	J	25	330	J	1200
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/kg	18	J	25	580	J	1200
SW8270C.LL	Naphthalene	91-20-3	ug/kg	25	UJ	25	1200	UJ	1200
SW8270C.LL	Phenanthrene	85-01-8	ug/kg						
SW8270C.LL	Pyrene	129-00-0	ug/kg				2500	J	1200
SW9012A	CYANIDE	57-12-5	mg/kg	1.25	U	1.25	2	U	2
TOC.LK	TOTAL CARBON	7440-44-0	mg/kg	1470	J	300	30500	J	300

Appendix C-8 Background Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-10M			MW-10M			MW-10S			MW-14M			MW-14S		
			sys_sample_code:	MW10MGWA			MW10MGWB			MW10SGWA			MW14MGWA			MW14SGWA		
			sample_date:	4/5/2006 9:10:00 AM			4/5/2006 9:12:00 AM			12/13/2005 2:48:00 PM			4/4/2006 3:28:00 PM			12/15/2005 8:42:00 AM		
			sample_type_code:	N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	24.9	J	22.6	22.6	U	22.6	35	UJ	35	222		22.6	37	U	35
SW6010	Antimony	7440-36-0	ug/l	9.3	U	9.3	9.3	U	9.3	7.6	U	7.6	9.3	U	9.3	7.6	U	7.6
SW6010	Arsenic	7440-38-2	ug/l	5.4	U	5.4	5.4	U	5.4	4.7	U	4.7	5.4	U	5.4	4.7	U	4.7
SW6010	Barium	7440-39-3	ug/l	113		6.7	115		6.7	94.9		9.6	1950		6.7	50.4		9.6
SW6010	Beryllium	7440-41-7	ug/l	0.24	U	0.24	0.24	U	0.24	0.21	U	0.21	0.24	U	0.24	0.21	U	0.21
SW6010	Cadmium	7440-43-9	ug/l	0.3	U	0.3	0.3	U	0.3	0.43	U	0.43	0.3	U	0.3	0.43	U	0.43
SW6010	Calcium	7440-70-2	ug/l	137000		65.5	141000		65.5	139000		65.5	271000		65.5	118000		65.5
SW6010	Chromium (total)	7440-47-3	ug/l	4.9	J	0.48	0.48	UJ	0.48	1.8	U	0.86	1.3	J	0.48	1.8	U	0.86
SW6010	Cobalt	7440-48-4	ug/l	3.2	U	3.2	3.2	U	3.2	3.7	U	3.7	3.2	U	3.2	3.7	U	3.7
SW6010	Copper	7440-50-8	ug/l	4.3	U	4.3	4.3	U	4.3	5.4	U	5.4	4.3	U	4.3	5.4	U	5.4
SW6010	Iron	7439-89-6	ug/l	33	J	9.5	31.2	J	9.5	9.5	UJ	9.5	2070		9.5	128		36.9
SW6010	Lead	7439-92-1	ug/l	3.4	U	3.4	3.4	U	3.4	2.4	UJ	2.4	3.4	U	3.4	2.4	UJ	2.4
SW6010	Magnesium	7439-95-4	ug/l	40000		58.6	41100		58.6	43800		154	117000		58.6	31000		154
SW6010	Manganese	7439-96-5	ug/l	22.1		0.95	22.5		0.95	283	J	0.49	299		0.95	13.9	U	0.49
SW6010	Nickel	7440-02-0	ug/l	2	U	2	2	U	2	3.3	U	3.3	2	U	2	7	U	3.3
SW6010	Potassium	7440-09-7	ug/l	3160		84.1	3040		84.1	7540		84.1	30100		84.1	3690		84.1
SW6010	Selenium	7782-49-2	ug/l	4.6	U	4.6	6.8	J	4.6	7.7	J	6	4.6	U	4.6	6	U	6
SW6010	Silver	7440-22-4	ug/l	0.5	UJ	0.5	0.5	UJ	0.5	0.8	U	0.8	0.5	UJ	0.5	0.8	U	0.8
SW6010	Sodium	7440-23-5	ug/l	24900		80.1	24100		80.1	47200		80.1	623000		801	63200		80.1
SW6010	Thallium	7440-28-0	ug/l	3.5	U	3.5	3.5	U	3.5	4.1	U	4.1	3.5	U	3.5	4.1	U	4.1
SW6010	Vanadium	7440-62-2	ug/l	1.8	U	1.8	1.8	U	1.8	1.4	U	1.4	1.8	U	1.8	1.4	U	1.4
SW6010	Zinc	7440-66-6	ug/l	4.4	U	4.4	4.4	U	4.4	4.2	U	4.2	8.1	J	4.4	4.2	U	4.2
SW7470	Mercury	7439-97-6	ug/l	0.01	U	0.01	0.01	U	0.01	0.02	UJ	0.02	0.01	U	0.01	0.02	U	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	1.1	U	1.1	1.1	U	1.1	0.93	U	0.93	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1221	11104-28-2	ug/l	2.2	U	2.2	2.1	U	2.1	1.9	U	1.9	2	U	2	2	U	2
SW8082	Aroclor 1232	11141-16-5	ug/l	1.1	U	1.1	1.1	U	1.1	0.93	U	0.93	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1242	53469-21-9	ug/l	1.1	U	1.1	1.1	U	1.1	0.93	U	0.93	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1248	12672-29-6	ug/l	1.1	U	1.1	1.1	U	1.1	0.93	U	0.93	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1254	11097-69-1	ug/l	1.1	U	1.1	1.1	U	1.1	0.93	U	0.93	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1260	11096-82-5	ug/l	1.1	U	1.1	1.1	U	1.1	0.93	U	0.93	0.99	U	0.99	0.99	U	0.99
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	5	U	5	5	U	5	5	U	5	5	U	5
SW8260	Acetone	67-64-1	ug/l	10	U	10	1.7	J	10	10	U	10	3.2	J	10	10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1	1.4		1	1	U	1	1	U	1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2	2	U	2	2	U	2	2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1

Appendix C-8 Background Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-10M			MW-10M			MW-10S			MW-14M			MW-14S		
			sys_sample_code:	MW10MGWA			MW10MGWB			MW10SGWA			MW14MGWA			MW14SGWA		
			sample_date:	4/5/2006 9:10:00 AM			4/5/2006 9:12:00 AM			12/13/2005 2:48:00 PM			4/4/2006 3:28:00 PM			12/15/2005 8:42:00 AM		
			sample_type_code:	N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1	U	1	3.3		1	1	U	1	1	U	1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methylene chloride	75-09-2	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1	0.74	J	1	1	U	1	1	U	1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Toluene	108-88-3	ug/l	1	U	1	1	U	1	5.4		1	1	U	1	1	U	1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1	1	U	1	1	U	1	1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2-Chloronaphthalene	91-58-7	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2-Chlorophenol	95-57-8	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2-Methylnaphthalene	91-57-6	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	2-Nitroaniline	88-74-4	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	2-Nitrophenol	88-75-5	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	3-Nitroaniline	99-09-2	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	4-Chloroaniline	106-47-8	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	4-Nitroaniline	100-01-6	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	4-Nitrophenol	100-02-7	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	Acetophenone	98-86-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Atrazine	1912-24-9	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Benzaldehyde	100-52-7	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	9.8
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Butylbenzylphthalate	85-68-7	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Caprolactam	105-60-2	ug/l	10	UJ	10	10	UJ	10	10	UJ	10	10	UJ	10	9.8	UJ	9.8
SW8270	Carbazole	86-74-8	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Dibenzofuran	132-64-9	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Diethylphthalate	84-66-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Dimethylphthalate	131-11-3	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Di-n-butylphthalate	84-74-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Di-n-octylphthalate	117-84-0	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Hexachlorobenzene	118-74-1	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Hexachlorobutadiene	87-68-3	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Hexachloroethane	67-72-1	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Isophorone	78-59-1	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Nitrobenzene	98-95-3	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8

Appendix C-8 Background Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-10M			MW-10M			MW-10S			MW-14M			MW-14S		
			sys_sample_code:	MW10MGWA			MW10MGWB			MW10SGWA			MW14MGWA			MW14SGWA		
			sample_date:	4/5/2006 9:10:00 AM			4/5/2006 9:12:00 AM			12/13/2005 2:48:00 PM			4/4/2006 3:28:00 PM			12/15/2005 8:42:00 AM		
			sample_type_code:	N			FD			N			N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270	Pentachlorophenol	87-86-5	ug/l	51	U	51	52	U	52	50	U	50	50	U	50	49	U	49
SW8270	Phenol	108-95-2	ug/l	10	U	10	10	U	10	10	U	10	10	U	10	9.8	U	9.8
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Anthracene	120-12-7	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.1	U	0.1	0.11	U	0.11	0.1	U	0.1	0.1	U	0.1	0.1	U	0.1
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Chrysene	218-01-9	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Fluorene	86-73-7	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.2	U	0.2	0.21	U	0.21	2.8		0.2	0.14	J	0.21	0.62	J	0.21
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	UB	0.2	0.21	U	0.21	0.21	U	0.21
SW8270C.LL	Pyrene	129-00-0	ug/l	0.2	U	0.2	0.21	U	0.21	0.2	U	0.2	0.21	U	0.21	0.21	U	0.21
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	0.558	U	0.558	0.34	U	0.34							0.316	U	0.316
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	0.36	U	0.36	0.44	U	0.44							0.401	U	0.401
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	0.784	U	0.784	0.477	U	0.477							0.408	U	0.408
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	0.285	U	0.285	0.227	U	0.227							0.18	U	0.18
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	0.392	U	0.392	0.387	U	0.387							0.287	U	0.287
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	0.298	U	0.298	0.237	U	0.237							0.178	U	0.178
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	0.377	U	0.377	0.372	U	0.372							0.258	U	0.258
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	0.367	U	0.367	0.292	U	0.292							0.213	U	0.213
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	0.373	U	0.373	0.368	U	0.368							0.267	U	0.267
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	0.288	U	0.288	0.323	U	0.323							0.231	U	0.231
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	0.457	U	0.457	0.45	U	0.45							0.31	U	0.31
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	0.319	U	0.319	0.254	U	0.254							0.19	U	0.19
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	0.277	U	0.277	0.311	U	0.311							0.216	U	0.216
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	0.438	U	0.438	0.658	U	0.658							0.364	U	0.364
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	0.329	U	0.329	0.447	U	0.447							0.342	U	0.342
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	1.025	U	1.025	1.004	U	1.004							1.072	U	1.072
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	4.205	UB	0.703	3.014	UJBK	0.614							2.389	UB	0.832
SW9012A	CYANIDE	57-12-5	mg/l	0.01	U	0.01	0.01	U	0.01		UR	0.01	0.01	U	0.01	0.01	U	0.01

Appendix C-8 Background Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-6M			MW-6S		
			sys_sample_code:	MW6MGWA			MW6SGWA		
			sample_date:	4/5/2006 2:35:00 PM			12/13/2005 8:28:00 AM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW6010	Aluminum	7429-90-5	ug/l	115		22.6	46.5	J	35
SW6010	Antimony	7440-36-0	ug/l	9.3	U	9.3	7.6	U	7.6
SW6010	Arsenic	7440-38-2	ug/l	5.4	U	5.4	4.8	J	4.7
SW6010	Barium	7440-39-3	ug/l	228		6.7	78.2		9.6
SW6010	Beryllium	7440-41-7	ug/l	0.24	U	0.24	0.21	U	0.21
SW6010	Cadmium	7440-43-9	ug/l	0.3	U	0.3	0.43	U	0.43
SW6010	Calcium	7440-70-2	ug/l	92600		65.5	158000		65.5
SW6010	Chromium (total)	7440-47-3	ug/l	0.48	UJ	0.48	1.8	U	0.86
SW6010	Cobalt	7440-48-4	ug/l	3.2	U	3.2	3.7	U	3.7
SW6010	Copper	7440-50-8	ug/l	4.3	U	4.3	5.4	U	5.4
SW6010	Iron	7439-89-6	ug/l	538		9.5	68.8	J-	9.5
SW6010	Lead	7439-92-1	ug/l	3.4	U	3.4	2.4	UJ	2.4
SW6010	Magnesium	7439-95-4	ug/l	31500		58.6	44600		154
SW6010	Manganese	7439-96-5	ug/l	258		0.95	423	J	0.49
SW6010	Nickel	7440-02-0	ug/l	2	U	2	5.4	U	3.3
SW6010	Potassium	7440-09-7	ug/l	1640	J	84.1	5610		84.1
SW6010	Selenium	7782-49-2	ug/l	4.6	U	4.6	6	U	6
SW6010	Silver	7440-22-4	ug/l	0.5	UJ	0.5	0.8	U	0.8
SW6010	Sodium	7440-23-5	ug/l	9370		80.1	8040		80.1
SW6010	Thallium	7440-28-0	ug/l	3.5	U	3.5	4.1	U	4.1
SW6010	Vanadium	7440-62-2	ug/l	1.8	U	1.8	1.4	U	1.4
SW6010	Zinc	7440-66-6	ug/l	4.4	U	4.4	4.2	U	4.2
SW7470	Mercury	7439-97-6	ug/l	0.01	U	0.01	0.02	UJ	0.02
SW8082	Aroclor 1016	12674-11-2	ug/l	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1221	11104-28-2	ug/l	2	U	2	2	U	2
SW8082	Aroclor 1232	11141-16-5	ug/l	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1242	53469-21-9	ug/l	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1248	12672-29-6	ug/l	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1254	11097-69-1	ug/l	0.99	U	0.99	0.99	U	0.99
SW8082	Aroclor 1260	11096-82-5	ug/l	0.99	U	0.99	0.99	U	0.99
SW8260	1,1,1-Trichloroethane	71-55-6	ug/l	1	U	1	6		1
SW8260	1,1,2,2-Tetrachloroethane	79-34-5	ug/l	1	U	1	1	U	1
SW8260	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ug/l	1	U	1	1	U	1
SW8260	1,1,2-Trichloroethane	79-00-5	ug/l	1	U	1	1	U	1
SW8260	1,1-Dichloroethane	75-34-3	ug/l	1	U	1	1	U	1
SW8260	1,1-Dichloroethene	75-35-4	ug/l	1	U	1	1	U	1
SW8260	1,2,4-Trichlorobenzene	120-82-1	ug/l	1	U	1	1	U	1
SW8260	1,2-Dibromo-3-chloropropane	96-12-8	ug/l	2	U	2	2	U	2
SW8260	1,2-Dibromoethane	106-93-4	ug/l	1	U	1	1	U	1
SW8260	1,2-Dichlorobenzene	95-50-1	ug/l	1	U	1	1	U	1
SW8260	1,2-Dichloroethane	107-06-2	ug/l	1	U	1	1	U	1
SW8260	1,2-Dichloropropane	78-87-5	ug/l	1	U	1	1	U	1
SW8260	1,3-Dichlorobenzene	541-73-1	ug/l	1	U	1	1	U	1
SW8260	1,4-Dichlorobenzene	106-46-7	ug/l	1	U	1	1	U	1
SW8260	2-Butanone	78-93-3	ug/l	5	U	5	5	U	5
SW8260	2-Hexanone	591-78-6	ug/l	5	U	5	5	U	5
SW8260	4-Methyl-2-pentanone	108-10-1	ug/l	5	U	5	5	U	5
SW8260	Acetone	67-64-1	ug/l	16		10	10	U	10
SW8260	Benzene	71-43-2	ug/l	1	U	1	1	U	1
SW8260	Bromodichloromethane	75-27-4	ug/l	1	U	1	1	U	1
SW8260	Bromoform	75-25-2	ug/l	1	U	1	1	U	1
SW8260	Bromomethane	74-83-9	ug/l	2	U	2	2	U	2
SW8260	Carbon disulfide	75-15-0	ug/l	1	U	1	1	U	1
SW8260	Carbon tetrachloride	56-23-5	ug/l	1	U	1	1	U	1
SW8260	Chlorobenzene	108-90-7	ug/l	1	U	1	1	U	1
SW8260	Chloroethane	75-00-3	ug/l	2	U	2	2	U	2
SW8260	Chloroform	67-66-3	ug/l	1	U	1	1	U	1
SW8260	Chloromethane	74-87-3	ug/l	2	U	2	2	U	2
SW8260	cis-1,2-Dichloroethene	156-59-2	ug/l	1	U	1	1	U	1
SW8260	cis-1,3-Dichloropropene	10061-01-5	ug/l	1	U	1	1	U	1
SW8260	Cyclohexane	110-82-7	ug/l	1	U	1	1	U	1

Appendix C-8 Background Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
Screening Level Ecological Risk Assessment

			sys_loc_code:	MW-6M			MW-6S		
			sys_sample_code:	MW6MGWA			MW6SGWA		
			sample_date:	4/5/2006 2:35:00 PM			12/13/2005 8:28:00 AM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8260	Dibromochloromethane	124-48-1	ug/l	1	U	1	1	U	1
SW8260	Dichlorodifluoromethane	75-71-8	ug/l	1	U	1	1	U	1
SW8260	Ethylbenzene	100-41-4	ug/l	1	U	1	1	U	1
SW8260	Isopropylbenzene	98-82-8	ug/l	1	U	1	1	U	1
SW8260	m+p-Xylene	XYLMP	ug/l	1	U	1	1	U	1
SW8260	Methyl acetate	79-20-9	ug/l	10	U	10	10	U	10
SW8260	Methylcyclohexane	108-87-2	ug/l	1	U	1	1	U	1
SW8260	Methylene chloride	75-09-2	ug/l	1	U	1	1	U	1
SW8260	Methyl-tert-butyl-ether	1634-04-4	ug/l	1	U	1	1	U	1
SW8260	o-Xylene	95-47-6	ug/l	1	U	1	1	U	1
SW8260	Styrene	100-42-5	ug/l	1	U	1	1	U	1
SW8260	Tetrachloroethene	127-18-4	ug/l	1	U	1	1	U	1
SW8260	Toluene	108-88-3	ug/l	1	U	1	1	U	1
SW8260	trans-1,2-Dichloroethene	156-60-5	ug/l	1	U	1	1	U	1
SW8260	trans-1,3-Dichloropropene	10061-02-6	ug/l	1	U	1	1	U	1
SW8260	Trichloroethene	79-01-6	ug/l	1	U	1	1	U	1
SW8260	Trichlorofluoromethane	75-69-4	ug/l	1	U	1	1	U	1
SW8260	Vinyl chloride	75-01-4	ug/l	1	U	1	1	U	1
SW8270	1,1-Biphenyl	92-52-4	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,2'-Oxybis(1-Chloropropane)	108-60-1	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,4,5-Trichlorophenol	95-95-4	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,4,6-Trichlorophenol	88-06-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,4-Dichlorophenol	120-83-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,4-Dimethylphenol	105-67-9	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,4-Dinitrophenol	51-28-5	ug/l	47	U	47	48	U	48
SW8270	2,4-Dinitrotoluene	121-14-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2,6-Dinitrotoluene	606-20-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2-Chloronaphthalene	91-58-7	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2-Chlorophenol	95-57-8	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2-Methylnaphthalene	91-57-6	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	2-Nitroaniline	88-74-4	ug/l	47	U	47	48	U	48
SW8270	2-Nitrophenol	88-75-5	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	3,3'-Dichlorobenzidine	91-94-1	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	3-Nitroaniline	99-09-2	ug/l	47	U	47	48	U	48
SW8270	4,6-Dinitro-2-methylphenol	534-52-1	ug/l	47	U	47	48	U	48
SW8270	4-Bromophenylphenyl ether	101-55-3	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	4-Chloro-3-methylphenol	59-50-7	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	4-Chloroaniline	106-47-8	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	4-Chlorophenylphenyl ether	7005-72-3	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	4-Nitroaniline	100-01-6	ug/l	47	U	47	48	U	48
SW8270	4-Nitrophenol	100-02-7	ug/l	47	U	47	48	U	48
SW8270	Acetophenone	98-86-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Atrazine	1912-24-9	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Benzaldehyde	100-52-7	ug/l	47	U	47	48	U	48
SW8270	Bis(2-Chloroethoxy)methane	111-91-1	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Bis(2-Chloroethyl)ether	111-44-4	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Bis(2-Ethylhexyl)phthalate	117-81-7	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Butylbenzylphthalate	85-68-7	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Caprolactam	105-60-2	ug/l	9.3	UJ	9.3	9.6	UJ	9.6
SW8270	Carbazole	86-74-8	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Dibenzofuran	132-64-9	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Diethylphthalate	84-66-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Dimethylphthalate	131-11-3	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Di-n-butylphthalate	84-74-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Di-n-octylphthalate	117-84-0	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Hexachlorobenzene	118-74-1	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Hexachlorobutadiene	87-68-3	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Hexachlorocyclopentadiene	77-47-4	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Hexachloroethane	67-72-1	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Isophorone	78-59-1	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Nitrobenzene	98-95-3	ug/l	9.3	U	9.3	9.6	U	9.6

Appendix C-8 Background Groundwater Analytical Data
AK Steel Former ARMCO Hamilton Plant
New Miami, Butler County, Ohio
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			sys_loc_code:	MW-6M			MW-6S		
			sys_sample_code:	MW6MGWA			MW6SGWA		
			sample_date:	4/5/2006 2:35:00 PM			12/13/2005 8:28:00 AM		
			sample_type_code:	N			N		
analytic_method	chemical_name	cas_rn	report_result_unit	Result	Qualifier	RL	Result	Qualifier	RL
SW8270	N-Nitroso-di-n-propylamine	621-64-7	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	N-Nitrosodiphenylamine	86-30-6	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	o-Cresol (2-Methylphenol)	95-48-7	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	p-Cresol (4-Methylphenol)	106-44-5	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270	Pentachlorophenol	87-86-5	ug/l	47	U	47	48	U	48
SW8270	Phenol	108-95-2	ug/l	9.3	U	9.3	9.6	U	9.6
SW8270C.LL	Acenaphthene	83-32-9	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Acenaphthylene	208-96-8	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Anthracene	120-12-7	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Benzo(a)anthracene	56-55-3	ug/l	0.1	U	0.1	0.1	U	0.1
SW8270C.LL	Benzo(a)pyrene	50-32-8	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Benzo(b)fluoranthene	205-99-2	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Benzo(g,h,i)perylene	191-24-2	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Benzo(k)fluoranthene	207-08-9	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Chrysene	218-01-9	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Dibenz(a,h)anthracene	53-70-3	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Fluoranthene	206-44-0	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Fluorene	86-73-7	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Naphthalene	91-20-3	ug/l	0.2	U	0.2	0.2	UB	0.2
SW8270C.LL	Phenanthrene	85-01-8	ug/l	0.2	U	0.2	0.2	U	0.2
SW8270C.LL	Pyrene	129-00-0	ug/l	0.2	U	0.2	0.2	U	0.2
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	0.285	U	0.285	0.425	U	0.425
SW8290	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	0.313	U	0.313	0.37	U	0.37
SW8290	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	0.4	U	0.4	0.596	U	0.596
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	0.405	U	0.405	0.189	U	0.189
SW8290	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	0.316	U	0.316	0.267	U	0.267
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	0.423	U	0.423	0.197	U	0.197
SW8290	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	0.305	U	0.305	0.257	U	0.257
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	0.52	U	0.52	0.243	U	0.243
SW8290	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	0.301	U	0.301	0.254	U	0.254
SW8290	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	0.325	U	0.325	0.251	U	0.251
SW8290	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	0.475	U	0.475	0.386	U	0.386
SW8290	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	0.452	U	0.452	0.211	U	0.211
SW8290	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	0.313	U	0.313	0.242	U	0.242
SW8290	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	0.702	U	0.702	0.455	U	0.455
SW8290	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	0.426	U	0.426	0.195	U	0.195
SW8290	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	0.804	U	0.804	0.764	U	0.764
SW8290	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	3.771	UB	0.626	3.591	UB	0.536
SW9012A	CYANIDE	57-12-5	mg/l	0.01	U	0.01	0.0268	J	0.01

D

D

Appendix D

Soil Map and Chemical Soil Properties

711600
712000
712400
712800
713200
713600
714000
4369600
4369200
4368800
4368400
4368000
4367600
4367200
4366800
HAMILTON EATON RD
JACKSONBURG RD
SUMMIT ST
WEHR AVE
Overpeck
TRIEBER RD
TRENTON RD
SAVITZ DR
JACKSON RD
ELLEN CIR
WARDLOW DR
FENTON ST
CALDWELL ST
NORTH ST
N RIVERSIDE DR
SIPPS LN
JOHN ST
CENTER ST
Williamsdale
CLARK ST
WILLIAMS ST
SOUTH ST
AUGSPURGER RD
FOX AVE
ELLIOTT AVE
SEVEN MILE AVE
CAIN AVE
New Miami
MORRIS AVE
WHITTAKER AVE
AUGSPURGER AVE
BUTLER AVE
UNION AVE
HIGHLAND AVE
HOWMAN AVE
S RIVERSIDE DR
HEADGATES RD
CANAL RD
ElA
TpA
ElB2
XeB
EIA
CdE
UpA
W
Go
Meters
0
250
500
1,000
1,500
Feet
0
1,000
2,000
4,000
6,000
N

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Gully

Short Steep Slope

Other

Political Features

Municipalities

Cities

Urban Areas

Water Features

Oceans

Streams and Canals

Transportation

Rails

Roads

Interstate Highways

US Routes

State Highways

Local Roads

Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 16N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Butler County, Ohio
Survey Area Data: Version 5, Dec 8, 2006

Date(s) aerial images were photographed: 1994

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Butler County, Ohio (OH017)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CdE	Casco and Rodman gravelly loams, 18 to 35 percent slopes	10.1	3.9%
EIA	Eldean loam, 0 to 2 percent slopes	17.9	6.9%
EIB2	Eldean loam, 2 to 6 percent slopes, moderately eroded	37.3	14.4%
Go	Genesee-Urban land complex	0.1	0.0%
TpA	Tippecanoe silt loam, 0 to 2 percent slopes	1.8	0.7%
UpA	Urban land-Eldean complex, nearly level	178.9	69.3%
W	Water	0.1	0.0%
XeB	Xenia silt loam, 2 to 6 percent slopes	12.2	4.7%
Totals for Area of Interest (AOI)		258.3	100.0%

Chemical Soil Properties

This table shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced saturated hydraulic conductivity and aeration, and a general degradation of soil structure.

Report—Chemical Soil Properties

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	meq/100g	pH	Pct	Pct	mmhos/cm	
CdE—Casco and Rodman gravelly loams, 18 to 35 percent slopes								
Casco	0-8	4.0-20	—	5.6-7.3	0	0	0	0
	8-18	4.0-30	—	5.6-7.8	0-3	0	0	0
	18-60	0.0-3.0	—	7.4-8.4	1-25	0	0	0
Rodman	0-7	6.0-10	—	6.6-7.8	0-15	0	0	0
	7-12	10-14	—	6.6-7.8	0-15	0	0	0
	12-60	1.0-8.0	—	7.4-8.4	10-45	0	0	0
ElA—Eldean loam, 0 to 2 percent slopes								
Eldean	0-6	8.0-21	—	5.6-7.3	0	0	0	0
	6-26	20-30	—	5.6-7.8	0	0	0	0
	26-32	20-30	—	6.6-8.4	10-50	0	0	0
	32-60	1.0-8.0	—	6.6-8.4	40-65	0	0	0
ElB2—Eldean loam, 2 to 6 percent slopes, moderately eroded								
Eldean	0-6	8.0-21	—	5.6-7.3	0	0	0	0
	6-26	20-30	—	5.6-7.8	0	0	0	0
	26-32	20-30	—	6.6-8.4	10-50	0	0	0
	32-60	1.0-8.0	—	6.6-8.4	40-65	0	0	0

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100g	meq/100g	pH	Pct	Pct	mmhos/cm	
Go—Genesee-Urban land complex								
Genesee	0-8	9.0-23	—	6.1-7.8	0-10	0	0	0
	8-34	8.0-19	—	6.1-8.4	0-25	0	0	0
	34-60	4.0-14	—	7.4-8.4	5-40	0	0	0
Urban land	—	—	—	—	—	—	—	—
TpA—Tippecanoe silt loam, 0 to 2 percent slopes								
Tippecanoe	0-13	11-27	—	5.1-6.5	0	0	0	0
	13-38	10-25	—	5.1-6.5	0	0	0	0
	38-61	9.0-23	—	5.6-6.5	0	0	0	0
	61-83	1.0-6.0	—	7.9-8.4	5-20	0	0	0
UpA—Urban land-Eldean complex, nearly level								
Urban land	—	—	—	—	—	—	—	—
Eldean	0-6	8.0-21	—	5.6-7.3	0	0	0	0
	6-26	20-30	—	5.6-7.8	0	0	0	0
	26-52	20-30	—	6.6-8.4	10-50	0	0	0
	52-80	1.0-30	—	8.0-8.4	40-85	0	0	0
W—Water								
Water	—	—	—	—	—	—	—	—
XeB—Xenia silt loam, 2 to 6 percent slopes								
Xenia	0-6	6.0-20	—	6.6-7.3	0	0	0	0
	6-33	10-23	—	5.1-6.0	0	0	0	0
	33-72	4.0-13	—	7.9-8.4	15-50	0	0	0

Data Source Information

Soil Survey Area: Butler County, Ohio
Survey Area Data: Version 5, Dec 8, 2006