



December 6, 2007

Mr. Steve Dopuch  
Baard Energy, LLC  
6080 Center Street  
Mentor, Ohio 44060

Dear Mr. Dopuch:

Subject: Addendum to Wetland and Stream Delineation Report  
Abdalla Property - Approximately 37 Acres  
Ohio River Clean Fuels Facility  
Saline Township, Jefferson Township, Ohio  
CEC Project 061-933.0023

This letter report presents the findings of a wetland and stream delineation completed by Civil & Environmental Consultants, Inc. (CEC) on approximately 37-acres located in Saline Township, Jefferson County, Ohio (see Figure 1). The acreage, referred to as the Abdalla property, has been prepared as an Addendum to the original wetland and stream delineation report prepared by CEC titled Wetland and Stream Delineation Report, Proposed Ohio River Clean Fuels Facility, dated April 10, 2007. The additional area was needed to account for site development requirements of the proposed Ohio River Clean Fuels (ORCF) facility.

## 1.0 METHODOLOGY

CEC performed the fieldwork on August 3, 2007. Prior to the onsite inspection to determine if potential jurisdictional wetlands and other waters were present, CEC conducted a literature review which included the following sources of information:

- U.S.G.S. Geological Survey (USGS) 7.5 min Quadrangle map;
- U.S. Fish & Wildlife Service (USF&WS) National Wetland Inventory (NWI) map;
- U.S. Department of Agriculture (USDA, 1995)
- USDA, Jefferson County, Ohio hydric soils list

The wetland determination was performed using the technical criteria presented in the *U.S. Army Corps of Engineers Wetland Determination Manual* (USACE 1987) as well as our professional

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judgment. The three criteria used to determine if an area is a wetland include hydrophytic (wetland) vegetation, hydric soils, and wetland hydrology (e.g. inundation, saturated soils, drainage patterns, etc.). Areas that exhibit these three characteristics are typically considered wetlands. CEC also looked at any on-site drainage features and provided an opinion regarding the potential jurisdictional nature of these areas. The stream determination was performed by using physical and biological indicators of the stream including flow, stream substrate and type and composition, the existence of defined "bed and banks", and evidence of groundwater seepage.

## **2.0 GENERAL SITE CHARACTERISTICS**

The 37-acre investigation area is a ridgeline which extends south into Jefferson County from the Columbiana County line. Also included is a small portion of forested hillside required for proposed grading activities. The investigation area is composed mostly of an undeveloped deciduous hardwood forest with some scrub/shrub vegetation. Dominant tree species on the site consists of black locust (*Robinia pseudoacacia*), staghorn sumac (*Rhus typhina*), and pawpaw (*Asimina triloba*). The dominant understory species consist of spicebush (*Lindera benzoin*), grape (*Vitis sp.*), and white snakeroot (*Eupatorium rugosum*).

The Abdalla site is situated immediately to the south, and adjacent to, a primitive campground/all-terrain vehicle (ATV) park. Numerous off-road trails traverse the area. During the site visit, CEC did not observe any structures or any other development within the site. Representative photographs of the area are attached as Appendix A.

## **3.0 REVIEW OF BACKGROUND INFORMATION**

The U.S. Fish & Wildlife Service, National Wetland Inventory (NWI) map did not identify any wetlands or other waters within the investigation area (Figure 3). The closest NWI identified wetland is the Ohio River, located approximately 1,000 feet to the east. The Ohio River is identified as a Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded Waterway (R2UBH) on the NWI map.



The USDA *Soil Survey of Jefferson County, Ohio* identifies five different soil mapping units within the property (Figure 2). None of these soil mapping units are identified as hydric soils. These soils are summarized in the following table.

Soil Mapping Unit Symbol <sup>(1)</sup>	Soil Mapping Unit Name	Drainage Class	Hydric Soil List Designation <sup>(2)</sup>
BeC	Berks channery silt loam, 6 to 15% slopes	Well drained	Non-hydric
GpD	Gilpin-Lowell silt loams, 15 to 25% slopes	Well drained	Non-hydric
HfE	Hazelton-Summitville complex, 15 to 40% slopes	Moderately Well to Well drained	Non-hydric
WtE	Westmoreland-Berks complex, 25 to 40% slopes	Well drained	Non-hydric
WtF	Westmoreland-Berks complex, 40 to 70% slopes	Well drained	Non-hydric

(1) USDA, 1995

(2) USDA, 1991

#### 4.0 WETLAND AND STREAM FINDINGS

During the August 3, 2007 site visit, CEC did not observe any areas within the approximate 37-acre Abdalla site that met the technical criteria to be considered wetlands. The rocky, ridge top topography and steeply sloping hillsides to the east, south and west preclude the development of wetlands or other aquatic features. Lastly, no streams were observed within the investigation area.

#### 5.0 CONCLUSIONS

Based upon a literature review and onsite inspection, CEC did not identify any wetlands, streams, or other potentially jurisdictional waters within the approximate 37-acre Abdalla site. The entire site consists of an upland deciduous hardwood forest with numerous ATV trails. No additional wetland or stream delineation work is warranted or recommended.

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## 6.0 REFERENCES

Cowardin, L. M., V. Carter, and F. C. Golet. 1979. *Classification of Wetlands and Deep Water Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service. Washington D. C. FWS/OBS-79/31.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1*, U.S. Army Engineer Waterway Experiment Station, Vicksburg, Mississippi.

U.S. Fish and Wildlife Service. 1988. *National List of Vascular Plant Species that Occur in Wetlands*. Region 1. US Fish & Wildlife Service Biological Report 88 (24).

United States Department of Agriculture Soil Conservation Service (USDA). 1991. *Hydric Soils of the United States*, 1991. In cooperation with the National Technical Committee for Hydric Soils. USDA-SCS, Washington, D.C.

United States Department of Agriculture Soil Conservation Service (USDA), 1995. *Soil Survey of Jefferson County, Ohio*. Soil Conservation Services. Washington, D.C.

## 7.0 CLOSING

CEC appreciates the opportunity to provide you with ecological services. Please call us at (412) 429-2324 should you have any questions or require additional information.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Will Trimbath  
Environmental Scientist

Daniel A. Maltese  
Senior Project Manager

Attachments

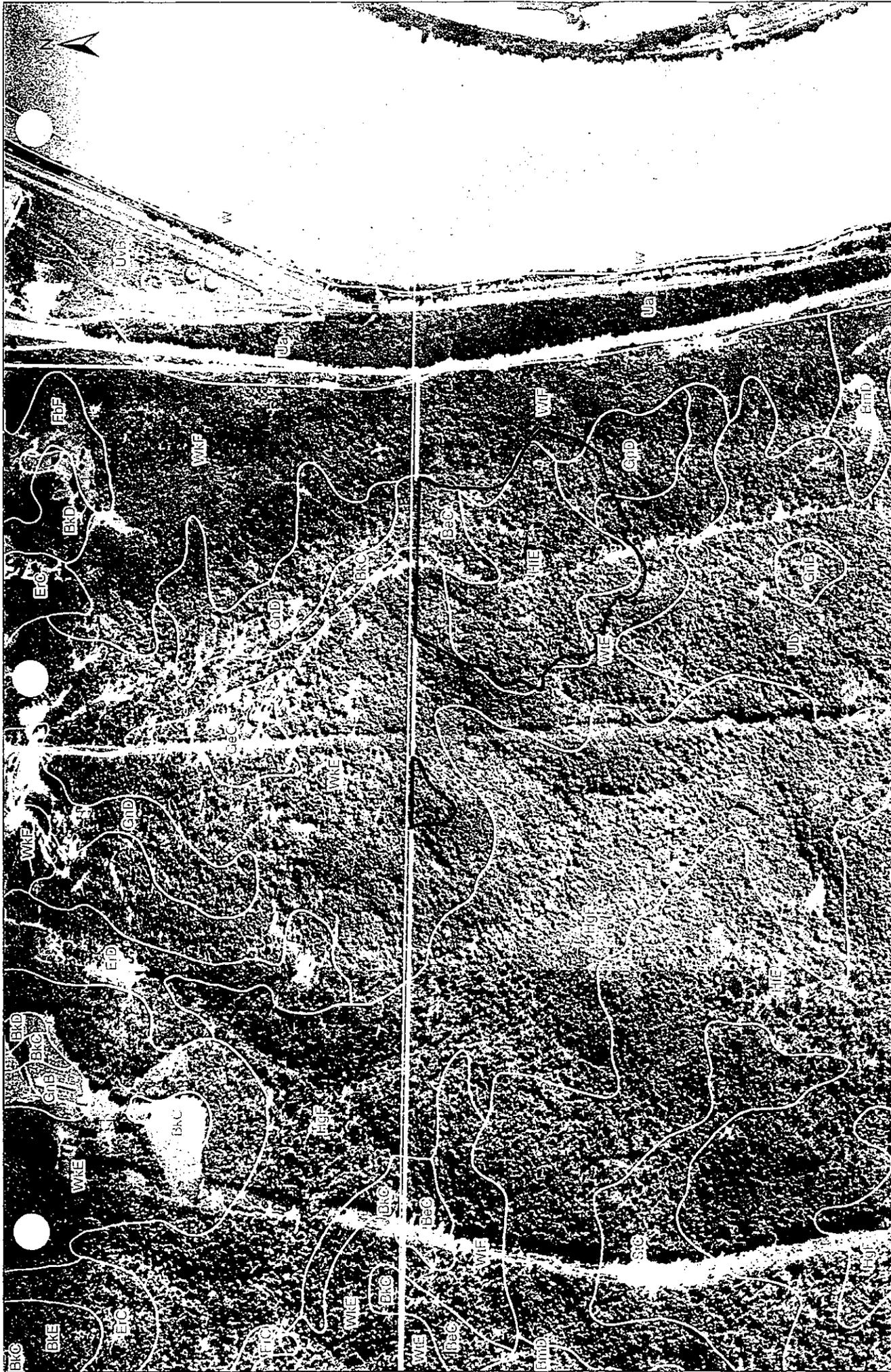
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## FIGURES

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U.S.D.A. SOILS MAP  
 ADDITIONAL SURVEY AREA  
 OHIO RIVER CLEAN FUELS FACILITY  
 OHIO RIVER CLEAN FUELS, LLC  
 WELLSVILLE, JEFFERSON COUNTY, OHIO

ISSUED FOR: OHIO RIVER CLEAN FUELS LLC.  
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 Pittsburgh, PA 15205 9702  
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 Columbia, OH • Cincinnati, OH • Indianapolis, IN • Nashville, TN • Chicago, IL • St. Louis, MO • Export, PA • Detroit, MI

Map: 2004  
 Columbiana County,  
 Ohio

Scale: 1 inch equals 200 feet

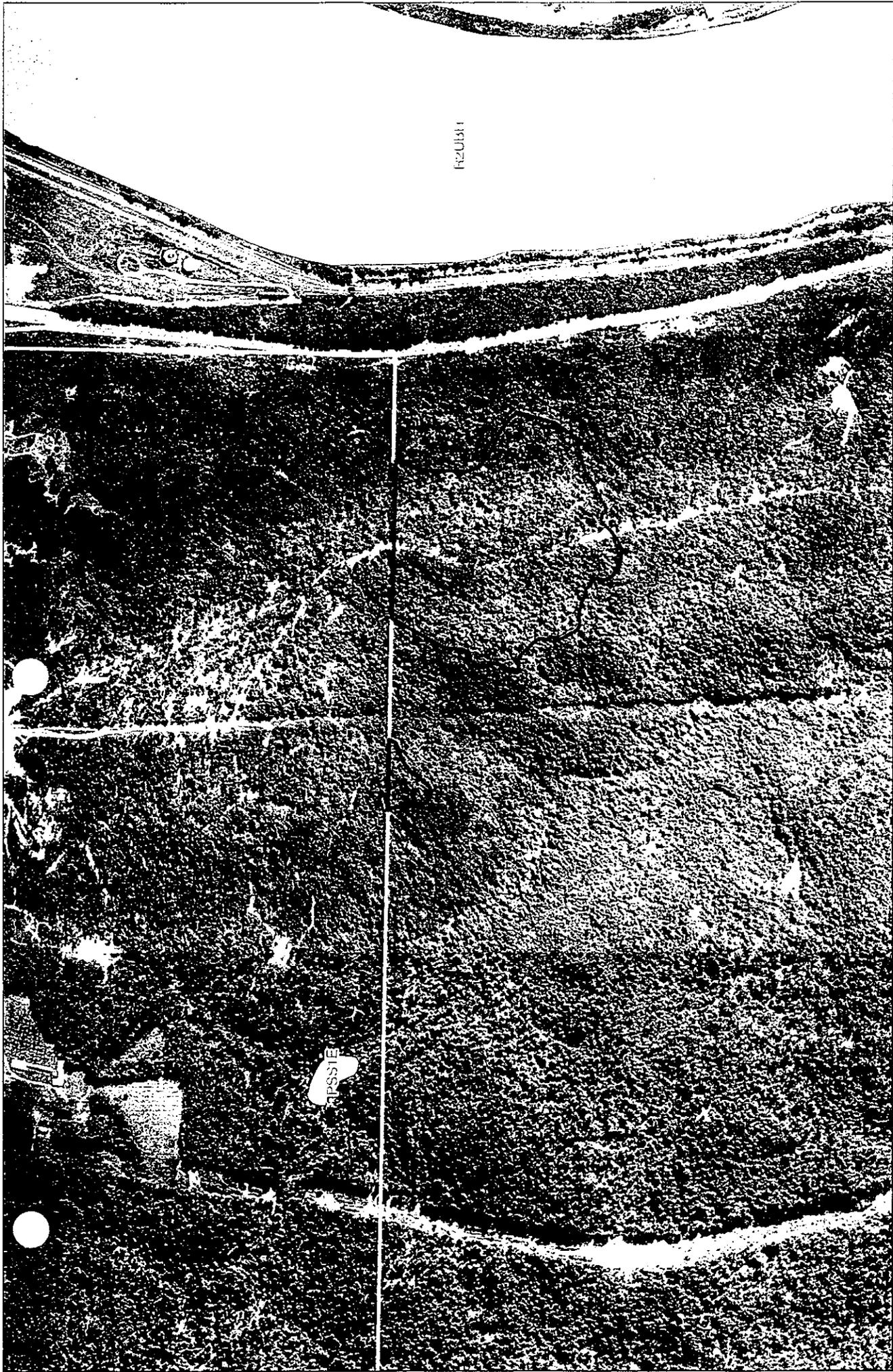
Legend  
 [Solid Line] Additional Survey Area  
 [Dashed Line] Original Survey Area  
 USDA Soil Mapping Unit

DATE: 11/29/07

PROJECT NO.: 061-9833.0023

FIGURE: 2

www.frd.gov/programs/soils/soilsmap.html



NATIONAL AND OHIO WETLAND INVENTORY MAP  
 ADDITIONAL SURVEY AREA  
 OHIO RIVER CLEAN FUELS FACILITY  
 OHIO RIVER CLEAN FUELS, LLC.  
 WELLSVILLE, JEFFERSON COUNTY, OHIO

ISSUED FOR: OHIO RIVER CLEAN FUELS LLC.  
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 Columbus, OH • Cincinnati, OH • Indianapolis, IN • Nashville, TN • Chicago, IL • St. Louis, MO • Espino, PA • Detroit, MI  
 PROJECT NO.: 0611-933.0023 FIGURE: 3

MAP 5014  
 COLUMBIANA COUNTY  
 OHIO

DATE: 11/28/07

1 inch equals 610 feet

Legend

- Additional Survey Area
- Original Survey Area
- National Wetland Inventory

Scale: 0 100 200 Feet

Very preliminary. Do not use for any other purpose. Map is not a warranty, offer, or contract. © 2007 C&E

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**APPENDIX A**

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Site Photographs  
Abdalla Property. 1110' Countor Addition  
CEC Project 061-933



Photo 1: Looking south on ridgeline of investigation area



Photo 2: Looking east onto ATV trail

Site Photographs  
Abdalla Property, 1110' Countor Addition

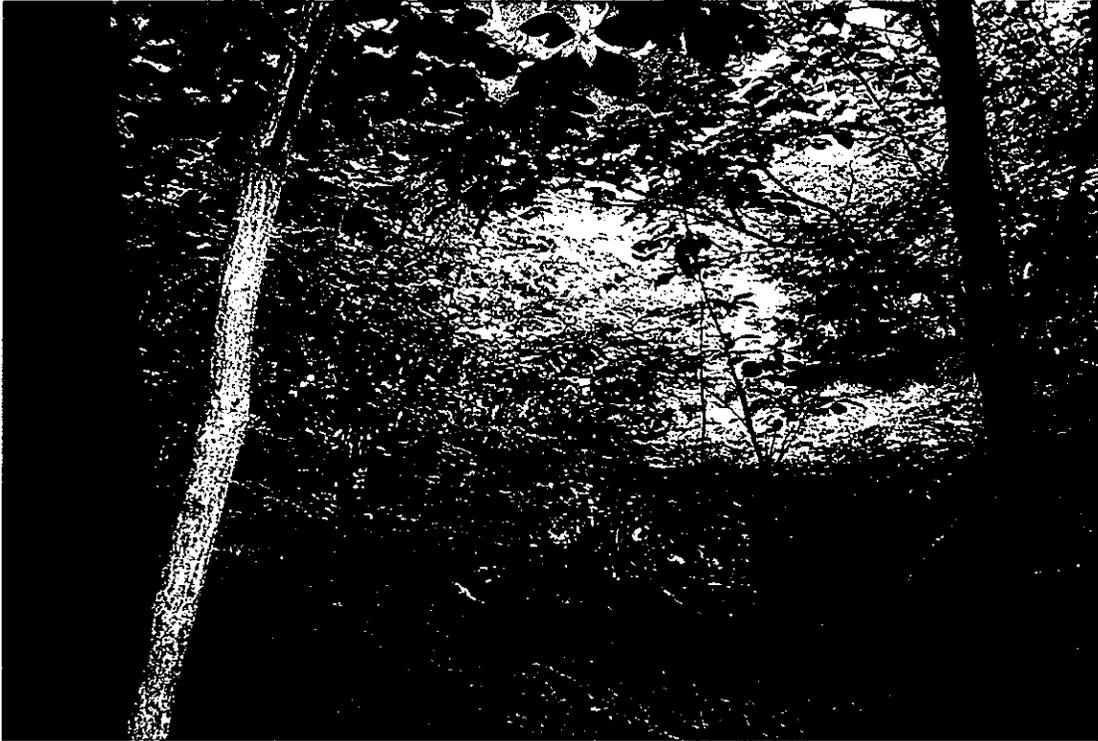


Photo 3: Representation of site vegetation