AQUATIC RESOURCES MANAGEMENT, LLC

December 27, 2011

United States Army Corps of Engineers
Louisville District
845 Sassafras Creek Road
Sassafras, KY 41759-8806

Re: DNR# 866-0281 Am. 8 2007- 334

Dear Reviewer,

Please find enclosed one (1) original copy of the First Year Monitoring report for the House Branch (Highlands Property) Mitigation site.

Should you require any more information upon your review of this package or require a site visit feel free to contact me at 859-388-9595 or by e-mail at nbaker@aquaticresources.us.

Sincerely,

Nick Baker
Vice President and Environmental Scientist

2265 Harrodsburg Road • Suite 210 • Lexington • Kentucky • 40504
Office 859.388.9595 • Fax 859.381.1005 • Web www.aquaticresources.us

YEAR ONE MONITORING REPORT
UNITED STATES CORPS OF ENGINEERS
House Branch (Highlands Property) Mitigation
KDNR PERMIT NO. 866-0281 AM 8

ICG Hazard, LLC.

A SUBSIDARY OF:

ICG
International Coal Group, Inc.

Prepared:
December 27, 2010

Prepared by:

Aquatic Resources Management
2265 Harrodsburg Rd., Suite 200
Lexington, KY 40504
(859) 388-8585

ICG Hazard, LLC. House Branch (Highlands) Property Mitigation Year One Monitoring Report

Project Overview

This report is to notify the United States Army Corps of Engineers (USACE) of the completion on one full growing season for the ICG Hazard, LLC (ICG) House Branch (Highlands) Property Mitigation site. This USACE permit is an Individual Permit associated with ICG Permit #866-0281 AM. 8. Aquatic Resources Management is the agent responsible for conducting monitoring and producing reports on behalf of ICG. The inspection date of the field visit was conducted on December 22, 2011.

Purpose of the Approved Project

This mitigation project was conducted in order to offset stream impacts associated with ICG's 866-0281 Am. 8 mining project. Stream impacts occurred from the surface mining method of extraction of coal reserves. Four hollowfills were necessitated by this method to contain all overburden as well as in-stream ponds needed to control and treat the sediment runoff. The hollow fills associated with the mining project will be permanently impacting approximately 4,719 linear feet of intermittent stream and 4,425 linear feet of ephemeral stream. The in-stream ponds will be temporarily impacting 1,818 linear feet of intermittent stream. Utilizing the Eastern Kentucky Stream Assessment protocol the mitigation determined for the associated impacts to this permitting action equates to 1,195 linear feet of intermittent stream mitigation. The House Branch (Highlands) Property mitigation will provide the structural and functional aspects which were lost at the mining impact site.

Site Location

The House Branch (Highlands) Property is located 4.5 miles northwest of the intersection of State Highway 30 and State Highway 2469 on Highland-Big Rock Road in Breathitt County Kentucky. The latitude and longitude of the project is 37° 30' 32.9" and -83° 29' 39.7" respectively. Additionally, the House Branch (Highlands) Property is located in the Middle Fork of the Kentucky River watershed Hydrologic Unit Code (HUC) 05100202.

Mitigation Commencement and Completion Dates

Construction on Highland Property started in February of 2009 and was completed in June of 2009.

Performance Standards

After one full growing season, post construction completion, all performance standards are being met. However, some of the lower sections of the restored reach were impacted by heavy spring rains/flood event that occurred after the mitigation was completed. The stream banks in a few locations were eroded due to lack of well-established vegetation, several structures were altered or destroyed, and a small volume of sand was introduced to the riffle and pool habitat areas. The heavy rain/flood occurred at the stream's most vulnerable time, due to the lack of established vegetation. However all the impacts originating from the heavy rain/flood will be quickly ameliorated during the first quarter of 2012. ICG plans to reconstructed the stream to the pre-flood dimension pattern and profile. All the structures which had been altered or damaged will be repaired or replaced. The small amount of excess sediment will be removed after multiple rain events and new substrate more conducive for fish

and macroinvertebrate habitat will be installed in its place. Overall the restoration activities have achieved channel stability with enhanced fish and macroinvertebrate habitat.

Requirements

The requirements as stated in the approved Clean Water Act Section 404 permit are as follows; Mitigation efforts will be implemented by the applicant using their own qualified equipment operators to conduct the mitigation plan under Best Management Practices. The stream morphology will be deemed successful when the proposed structures are constructed in the approximate location proposed in this mitigation plan. Stream stability will be examined for successful erosion controls. The erosion controls will be considered successful if the stream and proposed stream structures are stable laterally and vertically. The limits of the mitigation sites will be delineated and flagged with surveyor's stake to indicate restored reaches.

The vegetation will be maintained at an 80% success rate for native species in the riparian corridors. It is also anticipated that natural succession of native species will occur on-site in the riparian zones. Non-native and invasive species will be kept to less than 20% overall on the project restoration area.

After stream restoration standards have been met for all areas the applicant or consultant will be responsible for conducting annual monitoring reports to inform the Louisville District of the United States Army Corps of Engineers of progress. The applicant is obligated to maintain the project area mitigation by following requirements set forth by DSMRE and USACE. Monitoring and maintenance of the mitigation site will continue until final mitigation approval is achieved.

The compensatory mitigation project site is successfully achieving the standards set forth in the approved USACE permit. The Rapid Bioassessment Protocol demonstrates trends toward the stated mitigation goals in Table 1.

Table 1.

House Branch (Highlands) Mitigation Monitoring						
RPB Habitat Parameters	Pre-mitigation	Year One	Year Two	Year Three	Year Four	Predicted Year Five
Epifaunal Substrate	5	12				15
Embeddedness	6	11				16
Velocity/Depth Regime	3	10				15
Sediment Deposition	8	12				13
Channel Flow Status	6	14				15
Channel Alteration	2	12				15
Frequency of Riffles	3	13				15
Bank Stability (both)	6	12				12
Veg. Protection (both)	6	12				14
Riparian Width (both)	8	14				12
Total Habitat Score	53	122				142

Summary Data

The success of the project is based on the stabilization of the stream as well as the creation of fish and macroinvertebrate habitat. The pre-mitigation vs. year-one post mitigation scores are listed in Table 1 above. The table shows the general trend toward the stated goals in the compensatory mitigation plan.

The House Branch (Highlands) stream restoration project had various challenges to overcome to ensure its success. Some of the major challenges were a five-

foot head cut and the creation of pools in solid bedrock. Additionally, the creation of a more natural sinuous pattern was established for the stream throughout the original drainage corridor and meandered through preexisting trees where possible which served as immediate riparian erosion control as well as providing stream canopy cover. This more natural stream design will not only maintain and enhance stream bank stability, but is expected to enhance the recolonization of macroinvertebrate and fish communities as well. Pictures of the mitigation site illustrating the current condition (figures 1-6), as well as a map showing the locations of the photos (figure 7), and map depicting the site location (figure 8) are included.

Figure 1. Looking Upstream Upper Reach 12/22/11 Pic. 019

Figure 2. Looking Upstream Trib. Upper Reach 12/22/11 Pic. 022

Figure 3. Looking Upstream Middle Reach 12/22/11 Pic. 030

Figure 4. Looking Upstream Middle Reach 12/22/11 Pic. 036

Figure 5. Looking Upstream Lower Reach 12/22/11 Pic. 046

Figure 6. Looking Upstream Lower Reach 12/22/11 Pic. 049

Conclusions

The House Branch (Highlands) property mitigation site will be meeting all performance standards set forth in the issued USACE 404 permit once repairs to damaged instream structures and a few eroded banks are made. Overall, the stabilization structures are currently maintaining stable stream banks, controlling the grade of the stream bed, stabilizing riffles and pools, and creating habitat for aquatic organisms. The natural heavy spring rain/flood events slowed the first year of recovery, however all issues are planned to be restored to their pre-flood state during the first quarter of 2012 and further problems are not anticipated. In the case that future problems do arise, ICG and/or a consultant will devise a strategy to ameliorate the issue.