

**Muchakinock Creek Watershed Project
WIRB Final Report**

Project Name: Muchakinock Creek Watershed Project

Project Number: 8013-009


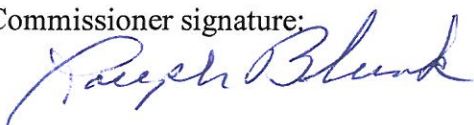
Soil and Water Conservation District: Mahaska

Reporting Period: January 1, 2009 – November 5, 2012

Date plan was prepared: 11/05/2012

Preparing individual: Dan Sorem

Preparer's signature: 

 Commissioner signature: 

Financial Ledgers: See attached financial ledgers.

Financial Accountability:

Watershed Improvement Funds:

| Grant Agreement Budget Line Item | Total Funds Approved(\$) | Total Funds Approved Amended (\$) | Total Funds Expended(\$) | Available Funds (\$) | |
|-------------------------------------|-----------------------------|---|-----------------------------|-------------------------|--|
| Westercamp#2 | \$167,000.00 | \$167,000.00 | \$167,000.00 | \$0.00 | |
| Harrison | \$167,000.00 | \$167,000.00 | \$167,000.00 | \$0.00 | |
| Burdock | \$166,000.00 | \$0.00 | \$0.00 | \$0.00 | |
| Groenendyk | \$0.00 | \$48,090.00 | \$10,216.96 | \$37,873.04 | |
| Totals | \$500,000.00 | \$382,090.00 | \$344,216.96 | \$37,873.04 | |
| Difference | | | | | |

The reason for the left over funding for the Groenendyk line item is due to changes in the location of the mine reclamation and size of the individual mine reclamation project. When the watershed application was originally submitted the Groenendyk project was not part of the plan. The Burdock project site, 55 acres, was part of the plan. The landowner backed out of the project. IDALS-AML staff then proposed the Groenendyk site, 30 acres. After the design phase 1 landowner on the Groenendyk site backed out reducing the size of the site to 11.9 acres.

Total Project Funding:

| Funding Source | Approved Application Budget (\$) | Actual Amount Spent (\$) | WIRB Contribution % Approved | WIRB Contribution % Actual |
|---------------------|--|--------------------------------|------------------------------------|----------------------------------|
| Project Name | | | | |
| Westercamp#2 | | | | |
| WIRB | \$167,000.00 | \$167,000.00 | | |
| IDALS-DSC | \$733,000.00 | \$450,223.22 | | |
| RC&D | \$100,000.00 | \$92,998.00 | | |
| Total | \$1,000,000.00 | \$710,221.22 | 17% | 23% |
| | | | | |
| Harrison | | | | |
| WIRB | \$167,000.00 | \$167,000.00 | | |
| IDALS-DSC | \$233,000.00 | \$274,849.70 | | |
| RC&D | \$100,000.00 | \$92,325.00 | | |
| Total | \$500,000.00 | \$534,174.70 | 34% | 31% |
| | | | | |
| Groenendyk* | | | | |
| WIRB | \$48,090.00 | \$10,216.96 | | |
| IDALS-DSC | \$684,000.00 | \$3,025.26 | | |
| RC&D | \$100,000.00 | \$91,977.20 | | |
| Total | \$832,090.00 | \$105,219.42 | 17% | 10% |
| Grand Totals | \$2,332,090.00 | \$1,349,615.34 | N/A | 25% |
| | | | | |

*The Groenendyk reclamation project funding amounts for IDALS-DSC and WIRB are significantly different due to changes in project location and acreage, as stated above.

During the completion of the Westercamp#2 project, WIRB funding exceeded 17%. This was due to WIRB funding being administered on the front end of the project, and savings being incurred towards the end of the project. Due to the lack of a Muchakinock Creek Watershed project coordinator, the error was not recognized until after the Westercamp#2 project had been completed and all expenses had been settled and paid.

Environmental Accountability:

Practices and Activities:

| Practice and Activity | Units | Approved Application Goal | Revised Goal* | Accomplishments | % Completion |
|-----------------------|-------|---------------------------|---------------|-----------------|--------------|
| Mine Reclamation | Acres | 122 | 78.9 | 78.9 | 100% |
| Press Releases | no. | 6 | N/A | 3 | 50% |
| Project Signage | no. | 3 | N/A | 3 | 100% |

*The original goal of the project was 122 acres. Due to landowner's decisions to back out on Burdock and Groenendyk projects, the acres were revised from 122 acres to 78.9 acres.

The positive environmental impact of the mine reclamation accomplished for this WIRB application is shown in the form of sediment delivery reduction in tons sediment per year. The figures were obtained using the sediment delivery calculator provided to watershed projects by IDALS-DSC and Iowa DNR. Sediment delivery reduction achievements for individual projects are listed below.

Westercamp#2: 333 tons/year

Harrison: 258 tons/year

Groenendyk: 92 tons/year

Total: 683 tons/year

The original application indicated a goal of 122 acres and that a sediment delivery reduction of up to 5,000 tons/year could be achieved through reclamation. The acres goal was not reached due to landowner's decisions to not participate after designs had been completed. The sediment delivery goal was not reached for multiple reasons. Since the original application was written, technology for estimating soil loss and sediment delivery has changed, thus generating different results. Also, it is difficult to predict soil loss for abandon coal mine sites due to topography, disconnected drainages, and nature of the soils on the site. Guidance was sought from technical staff and an average figure of 20 tons per acre per year for mine reclamation was decided on. That figure was used to generate the sediment delivery reduction accomplishments above.

Program Accountability:

The goals for this WIRB contract were straight forward in process and scope. The only challenges encountered during the process were timing and weather. Indiana bat compliance requirements delayed construction. Wet weather slowed construction on the Westercamp#2

project. Drought conditions were responsible for delays in certifying Harrison and Groenendyk projects at the end of the contract. Ultimately, all 3 projects were successfully completed and 78.9 acres of what was once highly erosive abandon coal mines is now shaped and seeded down to a more environmentally friendly and aesthetically pleasing landscape.

Project Photos:
Westercamp#2 Before



Westercamp#2 After



Harrison Before:



Harrison After:



Groenendyk Before:



Groenendyk After:

Project Site Map:

