Mitigation Monitoring Report

Coal-Mac, Inc.

Phoenix No. 3 Surface Mine
(Permit No. S-5015-98)

April 2009

Prepared By:

Compliance
Monitoring
Labs Inc.
50 Caney Branch Road Suite #1
Oceanville, WV 25506
304-855-0140
304-855-0141 fax

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 Project Overview

1.1 Permit Numbers

WV DEP Permit No. S-5015-98

1.2 Contact Information

Permittee: Coal-Mac, Inc
22 Mine Road
Holden, WV 25625

Consultant: Compliance Monitoring Labs Inc.
50 Caney Branch Road, Suite 1
Chapmanville, WV 25508

1.3 Parties

Compliance Monitoring Labs, Inc. (CMLI) has been hired to evaluate the Coal-Mac, Inc., As Built Compensatory Mitigation Plan developed by CMLI in July 2003. The mitigation sites were evaluated in April 2009.

1.4 Project Purpose and Summary

As stated in the approved as built compensatory mitigation plan (ABCMP), the purpose of the plan is to replace the aquatic resources that may be lost or adversely impacted as a result of the activities associated with the Phoenix No. 3 Branch Surface Mine (S-5015-98). Coal-Mac is required to mitigate for 5,049 feet of permanent impacts associated with the sediment ponds and accompanying drainage control structures for Valley Fills 2, 3, and 4.

1.5 Location Description

Mitigation projects required as a result of authorized activities on Phoenix No. 3 Surface Mine are located within the Buffalo Creek watershed. Mitigation for the Phoenix No. 3 Surface Mine will utilize previously mined areas on an adjacent permit, Mingo Logan Phoenix No. 2 Surface Mine (S-000-00). The CMP proposes the creation/establishment of approximately 3,650 feet of ephemeral and 1,500 feet of intermittent stream channel in the Cow Creek watershed. Cow Creek is a tributary of Island Creek; Island Creek is a tributary of the Guyandotte River, and the Guyandotte River is a tributary of the Ohio River. These watersheds are located on the Barnabus, West Virginia United States Geological Survey (USGS) topographical quadrangle.

1.6 Mitigation Site Directions

From Interstate 64 eastbound, take Exit 58A onto US-119 South toward Logan/Oakwood Road for approximately 60.4 miles. Take State Route (SR) 44 south and go approximately 10 miles toward Barnabus. Turn left onto County Road (CR) 13 west and go approximately 4.0 miles. The mitigation area is located south of CR 13. The mitigation area of Phoenix No. 3 is a tributary of Cow Creek. The site is located approximately 2.5 miles west of Stirrat, West Virginia (Figure 9).

1.7 Commencement/Completion Dates

The implementation plan provides general time frames for each part of the mitigation plan. The creation/establishment of stream channel is divided into three parts and is presented in Table 1.

Table 1. Mitigation Plan.

Part	Activity
I	Creation/establishment of 4,000 feet of stream channel referenced as - Main Channel.
I	Creation/establishment of 681 feet of stream channel referenced as – Natural Drain Way.
III	Creation/establishment of 648 feet of stream channel referenced as – Left Tributary.

1.8 Performance Standard Compliance

Because mitigation activities are not fully completed, success as it relates to meeting specific performance standards cannot be quantified. However, upon completion of the mitigation projects, a professional biologist and a professional engineer shall certify to the U.S. Army Corps of Engineers (USACE) that construction met or exceeded the specifications applicable under the Clean Water Act (CWA) Section 404 Permit.

During years 1, 3 & 5, only benthic macroinvertebrate and habitat assessments will be conducted. This will allow time for enhancement and other in stream mitigation activities to stabilize. This will also allow for more accurate sampling and the determination of the success of enhancement and mitigation activities. During years 2 & 4, all performance standards will be addressed (Section 2.2) to determine if mitigation and enhancement activities are in place and having the desired effect. This time frame will also allow for any corrective/maintenance activities that may be required prior to the end of the monitoring period.

1.9 Corrective/Maintenance Activity Dates

The approved mitigation plan states that the restoration areas shall be maintained in accordance with all permit requirements for a period of five (5) years. All construction, maintenance, and monitoring shall be the responsibility of the environmental engineer with Coal-Mac, Inc. That person will ensure that qualified personnel, particularly engineers and biologists are used during all phases of the restoration work. To date, due to loss of adequate water supply, a section of the stream channel has been re-engineered and relocated.

1.10 Recommendations

The off-site creation/establishment is complete (Parts 1-3). The relocated section will require additional time to determine if the new location will maintain sufficient flow for establishment of the riparian habitat.

2.0 REQUIREMENTS

2.1 Monitoring requirements

1. Channel establishment and restoration, EPA Rapid Bioassessment Protocol Habitat Assessment Parameters: Epifaunal Substrate/Cover, Embeddedness, Velocity/Depth Regime, Sediment Deposition, Channel Flow Status, Channel Alteration, and Frequency of Riffles.
2. Erosion control and bank stability, EPA Rapid Bioassessment Protocol Habitat Assessment Parameter: Bank Stability
3 Establishment of riparian vegetation, EPA Rapid Bioassessment Protocol Habitat Assessment Parameters: Vegetation Protection and Riparian Zone Width

2.2 Performance Standards

Parameter/Observation	Success Standard	Method of Determination
Macroinvertebrate	Report Only	Benthic Survey
Epifaunal Substrate	Minimum 70% favorable Substrate	Pebble count; Estimate of available cover
Embeddedness	Minimum 20% embeddedness	Pebble count; measure embeddedness
Velocity/Depth Regime	Maintain step-pool or riffle-pool sequences in accordance with as-built	Longitudinal profile
Sediment Deposition	Little or no enlargement of islands or point bars and <5% of the bottom affected by sediment deposition	Pebble count in pools
Channel Flow Status	Maintain width/depth ratio in accordance with as-built	Determine from x-sections
Channel Alteration	Maintain minimal channelization in accordance with as-built	Longitudinal profile: x-sections
Frequency of Riffles	Maintain step-pool or riffle-pool sequences in accordance with as-built	Longitudinal profile
Bank Stability	Banks Stable	Bank Erosion Index; observe density & depth of plant roots, near bank shear stress
Vegetative Protection	Approved width of riparian zone planted with min. 805 stems/acre surviving	Quadrangle and transect surveys for species composition and abundance
Riparian Zone	Riparian zone with a variety of species alive and healthy	Quadrangle and transect surveys for species composition and abundance

2.3 Success of Performance Standards

Because mitigation activities are not fully completed, success as it relates to meeting specific performance standards cannot be quantified. However, upon completion of the mitigation projects, a professional biologist and a professional engineer shall certify to the USACE that construction met or exceeded the specifications applicable under the Clean Water Act (CWA) Section 404 Permit.

3.0 SUMMARY OF DATA

3.1 Data at the Phoenix No. 3 Mitigation Site

No samples or measurements were collected at this time due to the area having to be re-created because of the loss of adequate water flow. The created stream channels were to be supplied with water from a seep located near the top of the site. The water from this seep changed course after the completion of the original stream creation activities. A section of the original stream creation (600-700 feet) has been re-engineered and relocated to the new outflow of the original seep (Figures 1 -8). This area will be allowed to stand until sufficient time has passed to determine if adequate water flow can be maintained.

Because of the problems in maintaining adequate water supply to the created stream segments, normal data collection (benthic, habitat assessment) has not been done at time this report was written. The original CMP (Mingo Logan Coal Company – As Built Compensatory Mitigation Plan) has been included in Appendix A to reference the construction and enhancement activities through 2004.

3.2 Site photos of stream re-engineering and relocation.

Figure 1. Station 0+00 (seep).

Figure 2. Station 1+00.

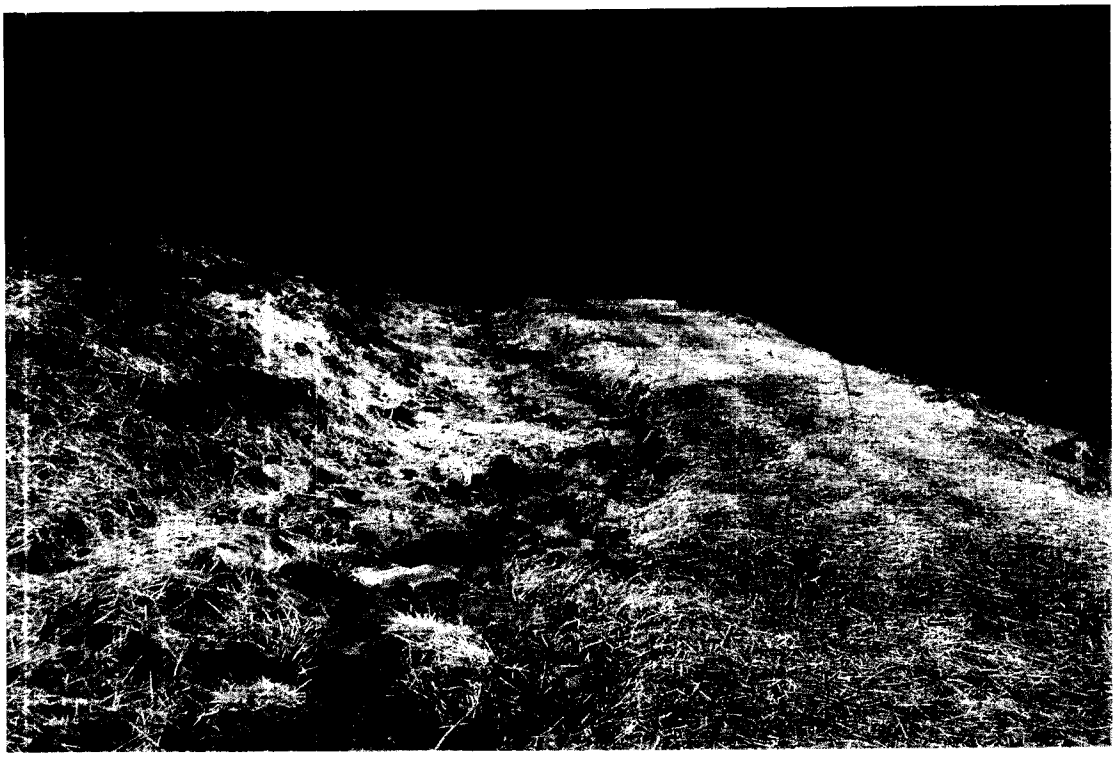

Figure 3. Station 2+00.

Figure 4. Station 3+00.

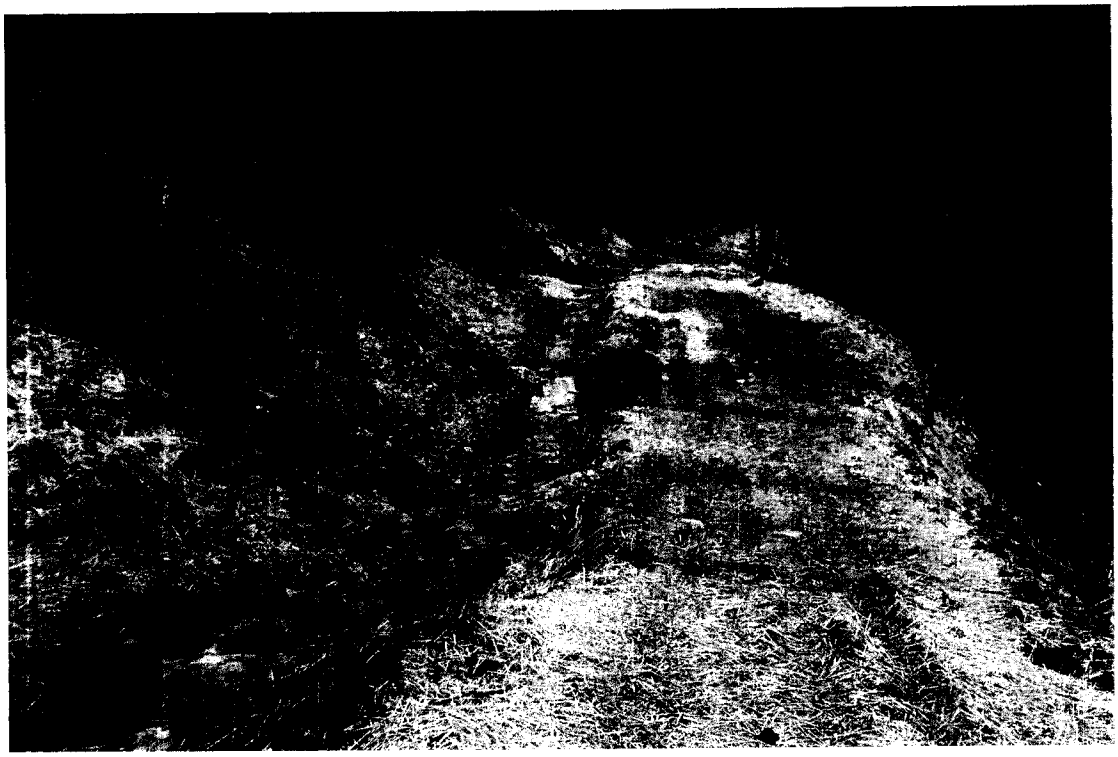

Figure 5. Station 4+00.

Figure 6. Station 5+00.

Figure 7. Station 6+00.

Figure 8. Station 7+00.

4.0 MAPS

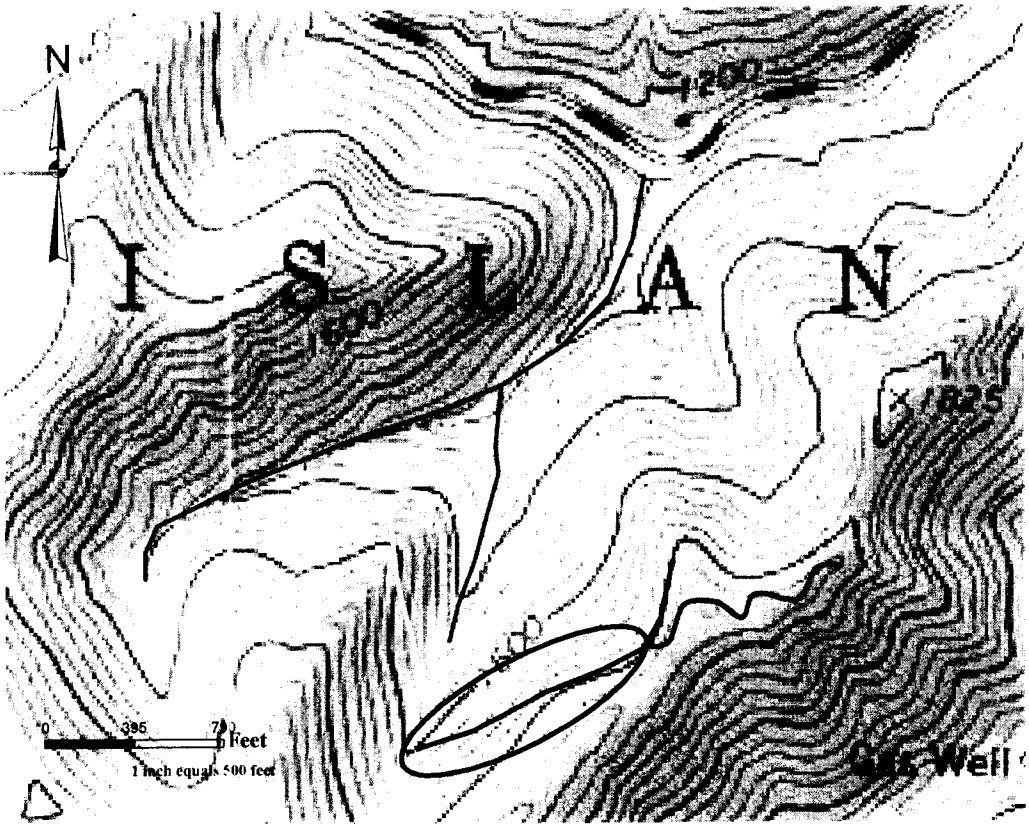

Figure 9. Location of re-engineered area (black oval) for Coal-Mac Phoenix No. 3.

5.0 CONCLUSIONS

The approved Compensatory Mitigation Plan (CMP) for Coal-Mac Inc., Phoenix No 3 Surface Mine proposes to create/establish 5,150 feet of stream channel in the Cow Creek watershed (Parts 1 - 3). This creation/establishment is to occur on a previously mined area on an adjoining permit. The stream creation/establishment is somewhat complete and construction photos can be seen in Appendix A.

The development of this area has encountered a problem of adequate water supply to establish a riparian habitat. The seep that was to supply the water to the created stream channel relocated itself after the completion of the mitigation activities. It appears that this seep dropped to a lower level bypassing the newly created stream channel. This prompted the re-engineering and relocation of a test section of the channel to determine if the seep would remain and supply satisfactory flow for the project. Because of this, the newly created stream channel has not had sufficient time to establish and normal measurements were not collected at this time. If the test section proves successful, the area will be sampled in subsequent years. Given time, the riparian buffer zones will re-establish and these areas should provide adequate cover to stabilize the stream banks.