APPENDIX U-14

EXECUTIVE SUMMARY OF INVESTIGATION OF PYOTT BOONE CO MONITORS

U.S. Department of Labor

Mine Safety and Health Administration
Approval and Certification Center
765 Technology Drive
Triadelphia, West Virginia 26059

November 17, 2011

MEMORANDUM FOR NORMAN G. PAGE
Accident Investigation Team Leader

FROM: JOHN P. FAINI
Chief, Approval and Certification Center

SUBJECT: Executive Summary of Investigation of Pyott Boone CO Monitors Recovered from Performance Coal Company's Upper Big Branch – South Mine

The Approval and Certification Center (A&CC), as requested by Upper Big Branch Mine Accident Investigation Team Leader, Norman Page, conducted a laboratory investigation associated with respect to Carbon Monoxide (CO) Monitors recovered from a fatal mine explosion at the Upper Big Branch Mine-South on April 5, 2010.

The components received were:

1. Exhibit No. PE-0207, Pyott Boone Model 2103 CO Monitor, MSHA Sensor Classification G Issue Number 113.
2. Exhibit No. PE-0178, Pyott Boone Model 1703 CO Monitor.
3. Exhibit No. PE-0482, Pyott Boone Model 2103 Partial Circuit Board, Unknown MSHA Approval Number.

The investigation began with preliminary inspection of Exhibit Nos. PE-0207 and PE-0178. The preliminary inspection included documenting visual observations, and photographing as-received conditions of the components. None of the exhibits were operated during the preliminary inspection. The exhibits both presented discoloration and were covered in a black dusty substance. The bottom lower half of the rear of the case was missing on Exhibit No. PE-0178. Exhibit No. PE-0482 was inspected and is a partial Smart Remote CPU Printed Circuit Board (PCB).

The next phase of the investigation included a detailed inspection and performance test of Exhibit Nos. PE-0207 and PE-0178. Both exhibits were able to be powered using a bench power supply. Both exhibits initially reported CO readings when no CO was provided. After calibration, both exhibits reported CO readings correctly at 0 ppm, 50 ppm and 100 ppm. After disassembling and inspecting all the exhibits, no signs of arcing, sparking, or electrical heating were observed.

Exhibit Nos. PE-0207 and PE-0482 were compared to the drawings on file with MSHA. Exhibit No. PE-0178 is a non-approved and non-permissible CO Monitor; as such, there are no drawings on file with MSHA.