

**Stephen L. Bessinger, Ph.D, P.E.**

---

**San Juan Coal Co. Exhibit No. 61**  
Before the Secretary, EMNRD  
Hearing Dates: February 10-11, 2003

**EDUCATION:**

- B.S., Mining Engineering, Colorado School of Mines
- M.S., Mining Engineering, Colorado School of Mines  
M.S. Thesis: Longwall Face Length Selection
- Ph.D., Mining Engineering, West Virginia University  
Ph.D. Dissertation: Engineering and Economic Risk  
Assessment for Longwall Coal Mining Systems

**CERTIFICATION:**

- Registered Professional Engineer: Colorado, New Mexico, West Virginia
- Coal Mine Foreman (First Class)/Fireboss: New Mexico, West Virginia
- MSHA Certified Mine Electrician, Surface and Underground, pending renewal
- USMSHA Part 48 Instructor, Surface and Underground, pending renewal

**INDUSTRIAL EXPERIENCE:**

During the course of my career, I have been involved with a wide variety of coal mining activities ranging from family-owned surface- and underground- mines to major mining companies and mining equipment manufacturers, with successively increasing responsibility. My corporate affiliations include Getty Coal Company, Consolidation Coal Company, Joy Mining Machinery and BHPBilliton. These activities have allowed me to develop significant expertise in a variety of subjects, with particular emphasis on longwall mining applications. These subjects include:

- Mine planning and development.
- Property evaluation and acquisitions, including economic feasibility analysis.
- Mining equipment specification, design, maintenance and operation.
- Project- and Production-management with unionized and union-free workforces.
- Engineering and Technical Resource management.
- Compliance activities relative to State and Federal mining regulations.
- Specialist knowledge about various topics including
  - Mine Ventilation
  - Hydraulic Equipment
  - Electrical Power Systems
  - Geology / Geophysics
  - Material Handling / Conveying
  - Steel Structural Fabrication
  - Automation / Remote Control
  - Ground Control / Geomechanics

My current position as Engineering Manager – San Juan Underground Mine (BHPBilliton- New Mexico Coal) has responsibility for the mining systems and major infrastructure of a new coal-mining complex with a 7 million ton per year capacity. This responsibility encompasses all aspects of the mining process, including production planning, risk-management, and economic forecasting / management.

In my past employment with Joy Mining Machinery as Director-Global Longwall Mining Applications, I had a variety of responsibilities for longwall installations where more than one of the major equipment elements had been supplied by Joy. These responsibilities included sales and marketing, customer-liaison for project development and equipment specification, equipment commissioning, and mining production/maintenance consultant. Also included are internal functions related to account management, budget and personnel administration, product development, and corporate policy development. This position reported to the Senior Vice-President, Global Sales and Field Operations. Some examples of project activity within these areas of responsibility include longwall installations at:

- Anglo-American, New Denmark Colliery
- Southern Utah Fuel Co.
- RAG, Willow Creek Mine
- Amcoal, Galatia Mine
- Ingwe Coal, Matla No. 2 Mine
- Blue Mountain Energy, Deserado Mine
- Energy-West Mining, Trail Mountain Mine
- Shell-Australia, Moranbah-North Mine
- Exxon, Monterey Mine
- Drummond, Shoal Creek Mine

Prior to appointment as Director – Global Longwall Mining Applications, I was Manager for Product Development and Centers for Technical Excellence at Joy. In that capacity I had responsibility for developments across all product lines on a global basis. Also, I managed the Centers of Technical Excellence, which are the "brain-trust" of Joy. Heading each center is a Senior Engineer who represents the peak of excellence in his respective area of expertise. Examples of these centers include:

- Hydraulics
- Electrical Control
- Electric Motors
- Approvals & Certifications
- Stress Analysis
- Metallurgy
- Gear Design
- Cutting & Chain Products

Other responsibilities included technical support of Joy customers on mining applications and mining engineering issues as well as management of Joy's "Integrated Longwall" team.

Previous to my employment with Joy, I worked for CONSOL, Inc. During that time, I had extensive involvement in the maintenance and operation of CONSOL's twenty-five longwall mining systems. Over the same period of time, CONSOL's longwall productivity improved by up to 500%; primarily as result of technologic advances in which I participated. I had significant responsibility for new longwall equipment placed in service at Blacksville II, Robinson Run, Loveridge, and Enlow Fork Mines, among others. These new installations exceeded existing longwall production performance by nearly 50 percent in several cases. This improvement was a direct result of enhanced equipment design and technical innovation.

Immediately prior to joining Joy, I managed CONSOL's advanced technology longwall systems program, which developed and implemented state-of-the-art technologies including:

- Company-wide conversion from Manual to Electrohydraulic Shield Controls
- Robotic Horizon Control for Longwall Shearers
- Serial Data Communication from Shearer to Headgate
- Shearer Initiated Support Advancement (SISA) Control for Shields
- Natural Gamma-Ray Background Based Coal Thickness Monitors
- Surface Data Station for Longwall Control and Monitoring

Several of these technologies have become standards in the present-day industry.

At various times in my mining career, I have functioned in different capacities including Senior Mining Applications Engineer, Longwall Productivity Engineer, Longwall Production - and Maintenance - Foreman and Coordinator. I have also worked as an underground laborer on mine-wide production, maintenance, and construction projects.

In my service with mining companies, I have been highly involved with mining equipment manufacturers in the United States and Europe. In the course of this activity I have developed a great familiarity with the design, operation, maintenance, and trouble-shooting of these manufacturer's equipment. As a result, I have made significant contributions in day-to-day operation and maintenance of the equipment as well as resolution of warranty disputes.

**ORGANIZATIONS/AFFILIATIONS:**

- Member, American Institute of Mining and Metallurgical Engineers, Society of Mining Engineers
- Chairman, Geomechanics Section, Mining and Exploration Div., Society of Mining Engineers of A.I.M.E., 1995
- Member, Mining Electro-Mechanical Maintenance Association; President - Morgantown Chapter, 1994
- Member, North-Central West Virginia Coal Mining Institute
- Member, Executive Council, West Virginia University College of Mineral and Energy Resources Alumni Chapter, Term: 1994-1996
- Member, Rocky Mountain Coal Mining Institute
- National Mining Association, various involvement

**PUBLICATIONS:**

More than thirty-five publications and patents, pending or issued, carry my name as a primary- or co-author. A complete listing is available upon request.

**REFERENCES:**

As a high-profile participant in the coal mining industry, I am well known by others in this relatively small community. Employment and character references are available upon request.

**RECENT EMPLOYMENT HISTORY:**

September, 2002- Present : BHPBILLITON- New Mexico Coal  
Engineering Manager- San Juan Underground Mine  
Reporting to General Manager- San Juan Underground Safety & Operations

August, 1998 – September, 2002: Joy Mining Machinery  
Director – Global Longwall Mining Applications  
Reporting to Senior Vice-President, Global Sales and Field Operations

December, 1996 – August, 1998: Joy Mining Machinery  
Manager – Product Development and Centers of Technical Excellence  
Manager – Integrated Longwall Face Team  
Reporting to Vice-President – Global Engineering

January, 1984 – December, 1998: CONSOL, Inc.  
Various positions, with last function as Senior Mining Applications Engineer/Manager – Advanced Technology Longwalls  
This position had dual reporting chains to Director – Mining Applications and Vice-President, Northern West Virginia Operations.