ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST



In February 1975, Mr. Stagg founded Alan K. Stagg & Associates, Inc., to provide geologic consulting services to the natural resource industry. In September 1979, he founded Stagg Engineering Services, Inc., to provide engineering and surveying services. Shortly thereafter all services were consolidated into the engineering company. To more accurately reflect the broad-based range of services now provided by the company, Stagg Engineering's name was changed to Stagg Resource Consultants, Inc., in 2001. Mr. Stagg is experienced in the development, implementation, and management of large, complex

consulting projects involving the selection and coordination of a variety of professionals and support staff. With 54 years' experience in the mining industry, he is the firm's lead professional on jobs relating to the appraisal of natural resource-bearing properties and operations.; the economic evaluation of mineral and energy fuel deposits; litigation support and expert testimony; and industry cost, capacity, and pricing studies. He is a registered professional geologist in 14 states, a certified minerals appraiser, and an SME Registered Member.

PROFESSIONAL EXPERIENCE

For 43 years, Mr. Stagg has continued to expand his consulting firm's services in the areas of property and reserve evaluation; the operational, economic, and financial analysis of natural resource producing operations and companies; the preparation of marketing, cost, and pricing studies for a variety of mineral resources and fuels; the preparation of environmental site assessments and audits; the appraisal of mineral properties and operations; and litigation support and expert testimony.

His experience in the **evaluation and analysis** of mining operations has been acquired from the numerous acquisition programs in which he has participated during both his tenure in industry and from projects conducted in his consulting practice. His experience ranges from preliminary evaluations of operations that are potential candidates for acquisition through in-depth evaluations made during option phases and the extremely detailed evaluations required during due diligence programs. Specific areas of experience gained through this work include reserve and environmental assessments and audits, the evaluation of operating and management practices, the preparation of detailed pro forma cost and cash flow projections, and the preparation of comprehensive mine feasibility studies. Recent activities in this area of practice involve the preparation of independent technical reports for base and precious metals, industrial rocks and minerals, and coal mining operations in China for filings on the Stock Exchange of Hong Kong, and conducting detailed due diligence activities in the proposed acquisitions of United Coal Company and Black Diamond Mining Company, LLC in the U.S.

Mr. Stagg was instrumental in establishing his firm's service area involving the preparation of **industry cost, capacity, and pricing studies** on both local and regional bases. The development of this service area was accomplished by incorporating such

3/15/2018

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

disciplines as statistics, economics, and financial analysis into the firm's existing professional and technical expertise. Examples of such studies include a coal cost/capacity study and a ten-year coal cost and pricing study—both covering the central portion of the Appalachian Coal Field, and the preparation of numerous supply and demand analyses during his career for a variety of commodities.

His experience in conducting **environmental site assessments and audits**, generally restricted to mining- and natural resource-related sites, includes a diversity of properties located throughout the U.S. with an emphasis on large properties with complex operating histories. He has designed, implemented, and supervised Phase I Environmental Site Assessments on properties ranging in size from less than an acre to an acquisition containing 300 thousand acres of surface and five million acres of mineral ownership lying in five states and an acquisition containing approximately ten million acres of mineral ownership lying in 31 states.

Mr. Stagg is particularly experienced in **project development and management**. Examples of his larger projects include the development of a coal-mining operation in West Virginia; the investigation, evaluation, and development of an oil and gas acquisition program in Oklahoma and Texas for a corporate client; the filing of concession applications and the development and implementation of a placer gold prospecting and sampling program in the Republic of Ecuador; and the management of a small gold-mining operation in Colorado.

Mr. Stagg's experience in **appraisals** ranges from work completed on a variety of coal, oil and natural gas, base and precious metal, and industrial mineral-bearing and producing properties; operations involving surface and underground mines for a wide variety of minerals and energy fuels; and equity and partnership interests in a variety of landholding and mining entities. Appraisals which he has conducted include those of the Rock of Ages granite quarries in Vermont and Quebec, the kaolin operations of Freeport Minerals in Georgia, the trona operations of a major U.S. producer, the mineral properties involved in an exchange of assets between Hanson Industries and Santa Fe Pacific Corporation, the shares in a construction and quarrying company in Kentucky, the simultaneous appraisal of 36 crushed stone and aggregate producing properties in 11 states; the phosphate and potash reserves in the merger of IMC Global and Cargill Crop Nutrition's operations; the land holdings of Great Northern Property LP comprising more than 200,000 acres of surface and five million acres of mineral ownership lying in five states; and the appraisal of assets for use in the allocation of purchase price in the acquisition of Bluestone Industries, Inc. by Mechel OAO.

Mr. Stagg provides **expert witness and litigation support** for law firms and government agencies involved in natural resource litigation, arbitration, and administrative hearings.

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

He has participated as an expert witness in more than a hundred matters, testifying on reserve/resource determination, lost and sterilized resource issues, operational and cost issues, sales and market issues, contractual issues, hydrologic issues, economic feasibility, and valuation issues in a variety of venues throughout the U.S. Examples of cases in which he has provided these services include three complex suits involving the Kaiser Steel bankruptcy, two suits involving a series of coal-related limited partnerships, a variety of lost coal claims, the valuation of the shares in a natural resource-holding company in a dissenting shareholder's action; a number of condemnation and takings cases; a claim of tortious interference and resulting damages in the breach of a coal sales contract, and a claim of breach of contract and fraud in a matter involving a series of force majeure declarations under a long-term coal supply agreement between Wheeling-Pittsburgh Steel Company and Massey Energy. He has also served as a party-selected arbitrator in several arbitration proceedings.

During the early life of his firm, Mr. Stagg developed and implemented coal acquisition programs for major corporate clients, conducted detailed reserve studies on various coal properties, and conducted a variety of regional studies involving coal transportation, marketing, and related items. Other work during this period included such projects as the investigation and evaluation of uranium and tungsten prospects in the western United States and providing consulting services in the central Tennessee zinc district.

In the late 1970's, Mr. Stagg expanded his consulting activities and diversified the services his firm provided. In January 1980, he incorporated Stagg Engineering Services, Inc. and simultaneously acquired a professional surveying firm in Tennessee. The affiliated consulting firms provided geologic, engineering, surveying, acquisition, and technical services to a broad spectrum of the natural resource industry. In 2001, Mr. Stagg changed his firm's name to Stagg Resource Consultants, Inc., a name that more adequately reflected the expansion of the firm's services in economic evaluation and analysis, appraisal, litigation support, and cost, capacity and pricing studies.

Prior to beginning his consulting practice, Mr. Stagg was employed by the New Jersey Zinc Company from June 1964 to January 1975. His initial assignment was geologist in the company's newly begun zinc exploration program in central Tennessee and southern Kentucky, where his responsibilities included supervising diamond core drills, logging and sampling core, logging and interpreting cuttings, and negotiating for mineral leases. In July 1968, having become resident geologist, he was given the responsibility for the supervision of an exploration program that included twenty-five diamond core drills and involved the management of three field offices. These offices employed approximately twenty-five professional, technical, and secretarial personnel and as many as fifteen contract landmen. In the course of this program, more than 600,000 acres of mineral

3/15/2018

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

rights were leased and approximately one million feet of core drilled. This program resulted in the discovery and development of the Gordonsville – Elmwood zinc district.

During 1971, Mr. Stagg designed and implemented a coal acquisition program in the Appalachian Coal Field for the Zinc Company and was responsible for locating, evaluating, and negotiating for the acquisition of coal properties. In September 1972, he was appointed regional geologist, and the coal program was expanded to include the western United States. In October 1974, he was appointed manager – coal. During the course of the coal program, Mr. Stagg also worked with several of the Zinc Company's affiliated companies in their coal programs.

EDUCATION

Mr. Stagg received the Bachelor of Science degree in geology from the University of Tennessee in 1963. He was enrolled in the university's master's program in geology for one year prior to beginning his professional career. Continuing education includes the following short courses, seminars, and workshops:

- Basics of Water Resources: Wetlands Basics Red Vector On-Line Course (2017)
- Fracking: The Operations Red Vector On-Line Course (2017)
- Fracking: Environmental Consequences Red Vector On-Line Course (2017)
- Professional Geoscientists Ethic Training Video Texas Board of Professional Geoscientists (2017)
- Groundwater For Engineers and Scientist Red Vector On-Line Course (2017)
- Basics of Water Resources: Groundwater Hydrology Red Vector On-Line Course (2017)
- Professional Geoscientists Ethic Training Video Texas Board of Professional Geoscientists (2016)
- The Impact of Utica-Marcellus on American Gas Resource—Potential Gas Committee and Petroleum Technology Transfer Committee (2016)
- Fifth Annual Board Sponsored Continuing Education Class Alabama Board of Licensure for Professional Geologists (2016)
- Professional Geoscientists Ethic Training Video Texas Board of Professional Geoscientists (2015)
- The Expanding World of Unconventional Shale Hydrocarbon Resources The American Institute of Professional Geologists (2015)
- 2014 2015 7-Hour National USPAP Equivalent Course Appraisal Institute (2015)
- Fourth Annual Board Sponsored Continuing Education Class Alabama Board of Licensure for Professional Geologists (2015)

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

- Appraisal of Oil and Gas Properties Gustavson Associates (2015)
- Professional Geoscientists Ethic Training Video Texas Board of Professional Geoscientists (2014)
- Modern Shale Gas Development RedVector On-Line Course (2014)
- The Petroleum Industry Crude Oil Classification and Benchmarks RedVector On-Line Course (2014)
- Professional Geoscientists Ethic Training Video Texas Board of Professional Geoscientists (2013)
- Wetland Delineation 1: The Basics RedVector On-Line Course (2013)
- Wetland Delineation 2: Methodology RedVector On-Line Course (2013)
- Introduction to Mineral Soils RedVector On-Line Course (2013)
- Upcoming Revisions to ASTM E1527: Are You Prepared for E1527-13 BrightTALK Webinar (2013)
- Second Annual Board Sponsored Continuing Education Class Alabama Board of Licensure for Professional Geologists (2013)
- Epithermal Deposits: Geological Characteristic and Genetic Processes for Exploration and Discovery – Colorado School of Mines / Society of Economic Geologists Short Course (2011)
- Fundamentals of Coalbed Methane (CBM) Evaluation and Development –
 Petroleum Institute for Continuing Education (2011)
- Karst Hydrogeology and Contaminated Site Assessment; Karst Hydrogeology, Geomorphology, and Tracer Demonstration - American Institute of Professional Geologists (Kentucky Section) Professional Development Program (2011)
- NACVA/IBA Annual Consultants Conference consisting of the following sessions (2011):
 - Case Law Update
 - Industry Standards: Ready to Protect and Serve
 - Normalizing Financial Statements: Normal or Not? Factors to Consider
 - The Heat is On: A Cost of Capital Pressure Cooker
 - A Premium Perspective on Discounts
 - The "New Economy" What it Means for Businesses and Values
 - Private Cost of Capital
 - State of Middle Market Mergers and Acquisitions Today
 - Measuring Liabilities at Fair Value
 - M&A and the Management Buy-Out and Financial Investors and M&A
 - Business Valuation, DLOM and Daubert: The Issue of Redundancy
 - Value Maps/Value Enhancement
 - When Retaining Counsel Becomes and Experts Greatest Risk
 - Navigating the Intersection of Truth and Advocacy

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

 An Overview of Contaminated Site Investigation and Remediation -- American Institute of Professional Geologists (Kentucky Section) Professional Development Conference (2011)

- The Use and Application of Data for Control Premiums and Discounts, Business Valuation Advisors, LLC teleconference (2011)
- Discounts for Lack of Marketability Valuation of Illiquid Securities and Business Interests—Consultants Training Institute, in conjunction with National Association of Certified Valuation Analysts, webinar (2010)
- The Use and Application of Option Price Modeling—Business Valuation Resources, LLC teleconference (2010)
- Goodwill and Intangible Asset Impairment—The Knowledge Congress on-line conference (2010)
- Mastering the Art of Normalization Adjustments—Business Valuation Resources, LLC teleconference (2010)
- Professional Ethics for Geoscientists—Texas Board of Professional Geoscientists internet course (2010)
- The Effect of Taxes on Value in Private Capital Markets—Business Valuation Resources webinar (2009)
- Coastal Engineering: Sea Level Rise—RedVector On-Line Course (2009)
- Earth Dynamics: Geothermal Energy—RedVector On-Line Course (2009)
- Coastal Engineering: Tides—RedVector On-Line Course (2009)
- Coastal Geology: Terminology & Geologic Environments—Red Vector internet course (2009)
- Coastal Engineering: Tsunami—RedVector On-Line Course (2009)
- Earthquakes: The Basics—RedVector On-Line Course (2009)
- Earth Dynamics: Volcanoes—RedVector On-Line Course (2009)
- Basics of Soil Resources 1: Classification, Mapping and Data Base—RedVector On-Line Course (2009)
- Site Characterization in Support of Fractured Rock Remediation Projects— National Ground Water Association short course (2007)
- Comparative Anatomy of Devonian Shale Plays, Appalachian, Illinois, and Michigan Basins—Petroleum Technology Transfer Council workshop (2007)
- Business Valuations, Fundamentals, Techniques, and Theory—National Association of Certified Valuation Analysts short course (2006)
- AAI and Liability: Prepare, Preserve and Protect—Environmental Data Resources, Inc. workshop (2005)
- Basic Carbonate Geology—Petroleum Technology Transfer Council workshop (2005)

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

 Taxation of Mining Operations—Ernst & Young LLP annual short course (2004)

- *Economic and Financial Analysis*—Stagg Resource Consultants, Inc. workshop for its staff and associates (2004)
- Economic and Financial Analysis Successful Development, Practical Application—Rocky Mountain Coal Mining Institute annual short course (2004)
- Taxation of Mining Operations—Ernst & Young LLP annual short course (2003)
- Mining Costs: Identifying, Understanding, and Controlling Them—Rocky Mountain Coal Mining Institute annual short course (2003)
- Fundamentals of Geology and Applied Geology—Pennsylvania Council of Professional Geologists annual short course (2003)
- Environmental Issues in an Evolving World: Staying Abreast of Mining Industry Needs—Rocky Mountain Coal Mining Institute annual short course (2002)
- Mining Hydrology—Society for Mining, Metallurgy, and Exploration short course (2001)
- A Review of Geology for the Practicing Geologist—Pennsylvania Council of Professional Geologists annual short course (2001)
- Powder River Basin Coal Use—Western Coal Council and PHB Hagler Bailly seminar (2000)
- Standards of Professional Practice—Part A (USPAP)—Utah Chapter of the Appraisal Institute course (1995)
- Mine and Quarry Valuation—The International Association of Assessing Officers workshop (1994)
- Karst Hydrogeology—Environmental Education Enterprises short course (1993)
- The Legal Implications of Environmental Site Assessments—The National Water Well Association short course (1992)
- Environmental Auditing—Federal Publications short course (1989)
- Coal Property Acquisition and Technical Updates—Kentucky Institute for Mining and Mineral Research seminar
- Annual mineral law seminars—University of Kentucky College of Law
- Cost Estimating—West Virginia University short course (1981)
- Finance and Accounting for the Non-Financial Executive—Wharton School of Business short course (1979)
- Economic Evaluation and Investment Decision-Making Methods—Colorado School of Mines short course (1978)

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

- Well logging Techniques and Analysis—University of Tennessee at Nashville short course (1972)
- Three-hour college course in statistics—Middle Tennessee State University (1967)
- Carbonate Petrology—University of Missouri short course (1966)

PROFESSIONAL MEMBERSHIPS

Mr. Stagg holds membership in the following professional organizations:

- The Society of Economic Geologists
- Society for Mining, Metallurgy, and Exploration, Inc.
- The Appalachian Geological Society
- International Institute of Minerals Appraisers,
 American Institute of Minerals Appraisers Chapter
 (Treasurer 2004, 2005)

ASSOCIATION MEMBERSHIPS

Through his firm or individually, Mr. Stagg holds membership in the following industry associations:

- American Exploration & Mining Association
- Colorado Mining Association
- Illinois Mining Institute
- Kanawha Valley Mining Institute, Inc.
- Kentucky Coal Association
 (Member Board of Directors, 1991 through 2003)
- National Stone, Sand and Gravel Association
- Rocky Mountain Coal Mining Institute (Continuing Education Chair, 2002 through 2004)
- West Virginia Coal Association

Mr. Stagg is a former member and director of the American Coal Council.

PROFESSIONAL STATE REGISTRATIONS

Mr. Stagg is a Registered or Licensed Professional Geologist in the following states:

Alabama — Registration No. 623
 Arkansas — Registration No. 1258

• Illinois — Registration No. 196-000820

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

Indiana — Registration No. 2059
 Kentucky — Registration No. 953
 Louisiana — Registration No. 439
 North Carolina — Registration No. 943

• Pennsylvania — Registration No. PG-000787-G

Tennessee — Registration No. 607
 Texas — Registration No. 1191

• Utah — Registration No. 5326440-2250

Virginia — Registration No. 512
 Washington — Registration No. 1937
 Wyoming — Registration No. PG-761

PROFESSIONAL CERTIFICATIONS AND REGISTRATIONS

Mr. Stagg holds the following certifications and registrations:

- Certified Minerals Appraiser No. 2003-01
 International Institute of Minerals Appraisers
- SME Registered Member No. 306355RM
 Society of Mining, Metallurgy, and Exploration (SME)

WORKSHOP AND SEMINAR INSTRUCTION

Mr. Stagg has participated as an instructor at the following short courses and workshops:

- Short Course Reserve Estimation and Reporting
 - Instructor on reserve estimation and reporting, including study units on the formation of coal deposits, case study, classification systems, the development of reserve estimation criteria, the estimation process, and selected public reporting standards in a short course presented for employees of Stagg Resource Consultants, Inc. and Environmental Resources Management Consulting Company in Lexington, Kentucky, October 2008.
- Short Course *Taxation of Mining Operations*
 - Presenter on resource/reserve classification systems, public reporting issues, and reserve valuation techniques at annual short course Ernst & Young LLP, Tempe, Arizona, November, 2004.
- Short Course Economic and Financial Analysis Successful Development, Practical Application
 - Chairman and instructor for an IACET-accredited short course presented at the Rocky Mountain Coal Mining Institute's 100th Annual Meeting and Convention, Snowbird Resort, Utah, June 2004.

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

- Short Course Taxation of Mining Operations
 Presenter on resource/reserve classification systems, public reporting issues, and reserve valuation techniques at the annual short course –Ernst & Young LLP, San Francisco, California, October 2003.
- Short Course Mining Costs: Identifying, Understanding, and Controlling Them
 - Chairman and an instructor for an IACET-accredited short course presented at the Rocky Mountain Coal Mining Institute's 99th Annual Meeting and Convention, Copper Mountain, Colorado, June 2003.
- Short Course Environmental Issues in an Evolving World: Staying Abreast of Mining Industry Needs
 - Chairman and an instructor for an IACET-accredited short course presented at the Rocky Mountain Coal Mining Institute's 98th Annual Meeting and Convention, Breckenridge, Colorado, June 2002.
- Workshop The Economic Evaluation of Mineral Properties
 Instructor to representatives of the Ministry of Mines and Geology, People's Republic of China, Beijing, China, December 1997.
- Workshop The Economic Evaluation of Mineral Properties
 Instructor to delegation from the Ministry of Mines and Geology, People's Republic of China, Helena, Montana, October 1997.

Additionally, Mr. Stagg has participated as a course instructor in the following seminar:

 ES 300 Environmental Science Seminar II
 Two modules on Environmental Site Assessments and Audits Marshall University, Huntington, West Virginia

PUBLICATIONS/PROFESSIONAL PAPERS

Mr. Stagg has authored the following published papers:

- Coal as a Competing Fuel Source, Natural Gas & Electricity, Hoboken, New Jersey, January 2006, pp. 13-18.
- The Appraisal of Mining Enterprises: Understanding and Meeting the Challenges, The Journal of Business Valuation, Toronto, Ontario, Canada, October 2002, pp. 255-269.
- Safety in the Coal Industry A Perspective, American Coal, Arvada, Colorado, April 2003, pp. 39-41.
- Industry Review, End of a Century, World Coal, Farnham, Surrey, UK, December 1999, pp. 8-13.

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

• U.S. East Coast Report, World Coal, Farnham, Surrey, UK, August 1999, pp. 10-16.

- Western U.S. Coal: Investing in the Future, World Coal, Farnham, Surrey, UK, June 1998, pp. 12-20.
- Supply & Cost Dynamics for U.S. Coal, World Coal, Dorking, Surrey, UK, June 1996, pp. 40-47.
- A Contemporary View of Compliance Steam Coal, The Mining Record, Englewood, Colorado, July 1995, p. 8.

Mr. Stagg has authored or co-authored the following unpublished papers and presentations:

- The Use of Appraisal Standards and Techniques Outside the Mineral Appraisal Process; presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Minneapolis, Minnesota, February 27, 2018.
- The Implications of the Use of a Single Financial Model in the Income Approach to Value; presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Denver, Colorado, February 21, 2017.
- Conservation Easements and The Income Approach to Value: Are You Kidding Me?; presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Phoenix, Arizona, February 23, 2016.
- Basin to Basin Analysis PRB, ILB, NAPP, CAPP (Just Another Day In Paradise); presented at Platts' 38th Annual Coal Marketing Days Conference, Pittsburgh, Pennsylvania, September 17, 2015
- U.S. Coal Basins How They Relate, presented at Leadership West Virginia, Natural Resource Partners' Coal Session, Logan, West Virginia; May 15, 2015
- Price Versus Value: Was Oscar Wilde Right?, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Denver, Colorado, February 17, 2015
- *U.S. Coal An Industry in Flux*, presented in the Reed Smith teleseminar series *The Coal Industry A New Reality*, on February 11, 2015.
- The Kentucky Coal Industry A Tale of Two Basins, presented at the 2014
 Annual Meeting of the Kentucky Coal Association, Lexington, Kentucky,
 October 24, 2014
- Domestic Coal Basin Outlooks Powder River Basin, Illinois Basin, NAPP, and CAPP, presented at Platts' 37th Annual Coal Marketing Days Conference, Pittsburgh, Pennsylvania, September 22, 2014

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

 U.S. Metallurgical Coal – An Industry Sector in Transition, presented at Platts' 22nd Annual Coal Properties and Investment Conference, Palm Beach Gardens, Florida, March 17, 2014

- MPEEM The New and Improved Residual Technique of Reserve Valuation, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Salt Lake City, Utah, February 25, 2014
- Domestic Coal Basin Outlooks Powder River Basin, Illinois Basin, NAPP, and CAPP, presented at Platt's 36th Annual Coal Marketing Days Conference, Pittsburgh, Pennsylvania, September 23, 2013
- Powder River Basin and Northern/Central Appalachia Production Outlook, presented at Platt's 35th Annual Coal Marketing Days Conference, Pittsburgh, Pennsylvania, September 21, 2012
- Valuing Coal Assets -- The Intersection of Perception and Reality, presented at Platt's 20th Annual Coal Properties and Investment Conference, Ft. Lauderdale, Florida, March 15, 2012
- Regional Coal Quality Issues Technical Issues Impacting Coal Finance and Investment, presented at Platt's 19th Annual Coal Properties and Investment Conference, Palm Beach Gardens, Florida, March 16, 2011.
- Federal Condemnations and Takings A Journey Down the Yellow Book Road, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Denver, Colorado, March 1, 2011.
- Update on the State of the Coal Industry in the Appalachian Region presented at a meeting of the National Association of Credit Management, Appalachian Coal Group, Huntington, West Virginia; January 14, 2010.
- Coal Still Important After All These Years, presented at Platt's Coal Marketing Days Conference, Pittsburgh, Pennsylvania; September 16, 2008.
- Regional Coal Supply and Reserve Issues, presented at Platt's 16th Annual Coal Property and Investment Conference, Fort Lauderdale, Florida, March 13, 2008.
- Current State of the Coal Industry in the Appalachian Region, presented at a meeting of the National Association of Credit Management, Appalachian Coal Group, Charleston, West Virginia, October 13, 2007.
- The Big Picture: Current and Future Coal Economics, presented at the Institute for Rural Journalism and Community Issues' conference titled "Covering Coal A Conference for Journalists in Central Appalachia," South Charleston, West Virginia, November 18, 2005.
- Factors Influencing Fuel Supply Patterns, presented at EUCl's conference titled "Coal: Volatile Markets & New Fuel Supply Patterns, Strategies for Addressing Coal Markets in Flux," Denver, Colorado, February 23, 2005.

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

• The Next Generation of Coal Reserves: Will We Know Them When We See Them, presented at Platts' 12th Annual Coal Properties and Investment Conference, Bal Harbour, Florida, March 15, 2004.

- Reserves: The Cornerstone of Any Mineral Appraisal, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Denver, Colorado, February 24, 2004.
- The Appraisal of Mining Enterprises: Understanding and Meeting the Challenges, presented at the ASA/CICBV 5th Joint Advanced Business Valuation Conference, Orlando, Florida, October 25, 2002.
- Leasehold Estates and the Right to Mine: Obtaining Full Value in the Condemnation of Mining Properties, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Phoenix, Arizona, March 2, 2002.
- Coal Supply Developments in Utah and Western Colorado; presented at Western Coal Council's 2001 Spring Pacific Coal Forum, Park City, Utah, June 5, 2001.
- Standards of Value and Appraisal Techniques—Making the Appropriate Selection; presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Denver, Colorado, February 27, 2001.
- Operating Issues Related to Mountaintop Removal and Reclamation in West Virginia, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Salt Lake City, Utah, March 1, 2000.
- Powder River Basin Coal Leases: The Next Generation, presented at the Western Coal Council 1999 Coal Market Strategies meeting, Santa Fe, New Mexico, October 12, 1999.
- Montana's Northern Powder River Basin: Whither Thou Goest?, presented at the Western Coal Council 1998 Spring Coal Forum, Billings, Montana, June 18, 1998.
- Below Drainage Coal Beds: The Past or the Future?, presented at Coal Outlook's Coal Properties: Evaluating, Buying, and Selling meeting, St. Petersburg, Florida, March 26, 1998.
- The Appraisal of Mineral Properties: Selecting the Appropriate Technique, presented at Valuation Research Corporation's Pan American Affiliates Annual Meeting, San Juan, Puerto Rico, October 13, 1997.
- Preparation of Coal Reserve/Resource Estimates A Consultant's Perspective, presented at the Eastern Section of the American Association of Petroleum Geologists and TSOP Joint Meeting, Lexington, Kentucky, September 29, 1997.
- Overview of Western U.S. Coal Production and Export Potential, presented at the 1997 Pacific Coal Forum, Park City, Utah, June 25, 1997.

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

• U.S. Coal Mine Production and Productivity: How Did We Get Here and Where Are We Going?, presented at the National Energy Modeling System, Energy Information Administration, Annual Energy Outlook Conference, Crystal City, Virginia, March 1997.

- Montana's Coal Industry—What Does The Future Hold? presented at the Montana Coal Council's annual meeting, Whitefish, Montana, July 16, 1996.
- Coal Supply Developments in Montana—A Current Perspective, presented at the Western Coal Council Spring Meeting, Gillette, Wyoming, May 1996.
- U.S. Coal Production for the Next Decade: Where Will It Come From & What Will It Cost?, presented at the Mississippi Valley Coal Trade & Transport Council, Fourteenth Annual World Coal Conference, New Orleans, Louisiana, February 1996.
- Overview of the Russian Coal Industry, presented at Coal Outlook's Evaluating, Buying and Selling Coal Properties meeting in Pittsburgh, Pennsylvania, March 1994.
- Environmental Site Assessments in the Acquisition of Industrial Mineral Assets, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Albuquerque, New Mexico, February 1994.
- Investment Value Versus Fair Market Value, The Appraisal of Mineral Properties, presented at the fall meeting of the Central Appalachian Section of the Society of Mining, Metallurgy, and Exploration, Inc., White Sulphur Springs, West Virginia, October 1993.
- Environmental Site Assessments and Audits, The What, Whys, and Hows of Conducting Them, presented at the annual meeting of the National Council of Coal Lessors, Inc., Washington, D.C., April 1993.
- Investment Value Versus Fair Market Value, The Appraisal of Mineral Properties, presented at the annual meeting of the Society of Mining, Metallurgy, and Exploration, Inc., Reno, Nevada, February 1993.
- Acquisitions and Sales: The Consultant's Role on Each Side of the Fence— Buyer and Seller, presented at the Annual Convention & Judicial Conference of the Kentucky Bar Association, Louisville, Kentucky, June 1991.
- A paper on exploration methods and procedures for coal, presented at the fall meeting of the Central Appalachian Section of the Society of Mining, Engineers of the AIME, White Sulphur Springs, West Virginia, October 1979.
- Spring Field Trip Guide Book, Flynn Creek Structure, Jackson County Tennessee, Safford Centennial Society, Tennessee Academy of Science Geology Division Field Trip, with Fischer, F.T., March 1973.

ALAN K. STAGG, PG, CMA PRINCIPAL ECONOMIC GEOLOGIST

• Stones River Group Stratigraphy of Middle Tennessee, presented at the Tennessee Academy of Science fall meeting, Murfreesboro, Tennessee, November 1971.

• Upper Knox Stratigraphy of Central Tennessee and Southern Kentucky, presented at the Geological Society of America annual meeting, Milwaukee, Wisconsin, October 1971.

Mr. Stagg estimates he has authored or co-authored more than 750 unpublished reports covering the entire spectrum of his consulting activities.