What is your assessment of the minerals business?

My experience with mining has been primarily in the coal sector until about 10 years ago, when I also became heavily involved in the aggregates and industrial minerals sectors. I have also had peripheral involvement through family and partners in the gold sector, with just enough exposure to gold to become fascinated. In 1994, I visited Ghana and considered the possibility of taking an expat assignment at a surface gold mine that had just been started.

It is not news that the coal sector in this country has suffered tremendously in recent years. Especially hard hit is the central Appalachian region, where a number of factors combined have had a devastating effect on production, jobs and the economy. These factors include federal regulations affecting coal production and use, higher production costs and decreasing market share of Appalachian coal by the switch from lower sulfur coal in favor of lower-cost, higher sulfur coal from the Illinois Basin, as utilities have installed scrubbers to comply with Phase II of the 1990 Clean Air Act Amendments.

Nationally, the lower cost of natural gas has been a huge factor affecting coal use. In Kentucky, for example, which exports to other states around 70 percent of its coal, those markets are disappearing, as utilities close coal units in favor of natural gas. This is a structural change in the electricity market, and one that will become more pronounced as federal greenhouse gas regulations are implemented.

We often hear the phrase, “the war on coal.” While there are certainly a number of market factors affecting coal production and use, this phrase captures a different element that is all too real. The attacks have come from environmental activist groups for many years; from some in the media and, in the last few years, from a White House administration that believes strongly in alternatives to coal. Then, there really is an alternative to coal in the form of the previously untapped unconventional gas reserves that allowed utilities to move away from coal.

Coal mining will continue in this country. In fact, it appears that our production is holding fairly steady at about a billion tons a year. And predictions that I have seen indicate this will continue for the next few years. What impact the Environmental Protection Agency’s Clean Power Plan will have beyond 2020 is another question.

What do you feel is the future of the minerals industry — near term and longer term?

Our society depends on the future of minerals in this country being strong. Near term, we are going through some of the typical cycles. Having also been involved in aggregates during the last few years, the business follows government infrastructure projects, such as highway construction and public and private sector development. Those sectors are heavily dependent upon government spending and a strong economy. Increased spending in those sectors, which appears to be on the horizon, should provide additional market shares for aggregates.

At one time, it was thought that Chinese consumption of raw materials was going to drive up prices and create shortages of materials coming out of China, such as rare earths and other industrial minerals. The Chinese economy has slowed considerably, which, in turn, is impacting prices in the United States. I became involved in an exploration project for an industrial mineral in the United States that is currently 100-percent supplied by imports. That resource’s price skyrocketed about five years ago, and then a downturn caused the
2015 SME President

Gardner brings a wealth of experience

J. Steven Gardner is president and chief executive officer of ECSI, an engineering consulting service based in Lexington, KY.

He is a Professional Engineer and Professional Surveyor with licenses in several states. He is a graduate of the University of Kentucky and holds an M.S. in mining engineering, a B.S. in agricultural engineering and holds a certificate in environmental systems from UK.

In 1983, he formed ECSI, and has been providing professional environmental and mining engineering services for more than 35 years. His consulting practice focuses on energy, natural resources, sensitive land use issues, reclamation liability, environmental, health and safety issues, mining and quarry operations, and industrial heritage projects.

Gardner’s first exposure to coal mining came at the University of Kentucky’s College of Agriculture job fair, and he was hooked when he was given a tour of an underground longwall mine, mountaintop surface mine and preparation plant.

He went to work with Bethlehem Steel Mining Operations and spent a summer working on Tenneco’s gas pipeline operations and a natural gas liquids recovery plant. That was followed by a consulting position with a firm in the Washington, D.C. area where he was able to work on his graduate degrees and work on research that enhanced mountaintop removal as encouraged in SMCRA, plus he contributed to the training program for the first OSM inspectors titled, “Surface Mining and the Natural Environment.”

Gardner moved from there to Tennessee where he served on the Tennessee Department of Labor’s “Volunteer” Mine Rescue Team, where he learned important lessons on the health and safety aspects of mining.

His first exposure to consulting engineering was when he worked for Bethlehem in the 1970s. He “was enamored with what I perceived to be the lifestyle, glamour and interesting variety of the work. A few years later, personal circumstances and a sudden unplanned career change gave me an opportunity to try independent consulting. My older daughter was in a serious car accident and came to live with me after recovery. Consulting gave me the flexibility to be with her more.”

It was as a parent of a sixth grader that Gardner became aware of the public’s lack of knowledge about mining when his daughter’s teacher spoke about how terrible coal mining was and how he could not understand why we still mined coal and why didn’t we just use electricity?

“That was the beginning of my involvement with SME’s GEM Committee, now MEC, and what in large part, involved in SME leadership leading now to the SME presidency.”

Since its inception, more than 30 years ago, ECSI has prepared and reviewed thousands of mining and reclamation coal permit actions in Kentucky, West Virginia, Ohio, Indiana, Tennessee and Virginia.

Gardner has consulted on projects throughout the United States as well as internationally in Colombia, Brazil, Morocco and Ghana. Additionally, he has served as an expert witness in numerous litigation actions involving environmental violations, accidental death and injury, hydrology and flooding, quarry and mine operations, landslides, subsidence and ground water contamination.

One of his signature projects is his role as project manager for a publically funded exhibition mine. Portal 31, Kentucky’s first exhibition coal mine, was the ACEC of Kentucky 2010 Grand Conceptor award winner and was in the top 24 national projects honored at the Engineering Excellence Award Dinner in Washington, DC.

Gardner currently serves on the advisory boards of the Kentucky Geological Survey and the University of Kentucky’s Mining Engineering Department. He and his sister inherited the tobacco farm where they were raised.

“My career, I can proudly say I have now been involved in the two most politically incorrect industries in the U.S., mining coal and raising tobacco,” Gardner said.
on the initiative to appoint the committee, headed by Hugh Miller, and all of the participants on that committee for devising a plan that is now well on its way to being implemented. I also want to thank the SME foundation for its efforts in raising the necessary funds.

Another challenge facing coal, and other mining sectors as well, are government efforts in the United States and other countries to combat climate change. We have already seen significant impacts on mining. In the November 2014 issue of Mining Engineering, John Marsden’s column on climate change stirred up some debate. We all know that climate change has natural causes, but human activities can contribute to the change. This issue is a major challenge to not only the mining industry, but to the public that we serve because now it is primarily a political issue. Regardless of one’s position on the issue of climate change, its causes or its consequences, the reality is the movement to reduce emissions linked to climate change is growing in the United States and in other countries. I agree with John’s analysis and reiterate that regardless of the accuracy of climate change predictions, SME needs to be part of the conversation so that, we can continue to use our coal resources in a carbon-constrained world.

What are your perspectives of SME and being SME president?

I have had the pleasure of getting to know several of SME’s past presidents. While traveling and talking with some of these former presidents, I have begun to dub them “The League of Past Presidents.” Past presidents represent a cross section of society from industry, government, academia and consulting. SME’s leadership structure encourages interaction between the president, past president, president-elect and presidential nominee. This gives us continuity to get things done that cannot be accomplished in just one year.

Many people know that my first boss and lifelong mentor was David A. Zegeer. When I began work in Jenkins, KY for Bethlehem Steel in 1975, Zegeer was the person who encouraged me to join SME and to become active. February marks my 40th year as an SME member thanks to him.

He had an extensive library and saved everything. We became partners in an office building in Lexington, KY when he was working as a consultant, and he moved much of his library into our building. When Dave passed away in December of 2012, I inherited the library and files that he had left in our office. Included in those files is almost every copy of Mining Engineering that he had received from 1949 forward. He also had nearly every copy from 1943 of Mining & Metallurgy. ME’s predecessor. This has given me a tremendous resource. I have compiled a notebook of all of the SME presidents from 1957 (when SME was founded) to the present and have read all of their articles and interviews. One observation that I have from the early days is, as much as things change, they stay the same. Reading through just the presidents’ columns has given me a perspective on the history of SME, a perspective that I plan to use throughout my year. Many of the issues discussed in those early articles are the same issues we face today.

Regarding the “future of the industry,” I am an optimist. Each industry sector faces its own challenges and opportunities. However, I have confidence in the overall resilience of the mining industry to ride out difficult times and position itself accordingly for the inevitable recovery. All five sectors (metals, coal, industrial minerals and aggregates, and underground construction) have their own economic pressure points and have their own independent triggers for recovery. SME is a central point that members can use to stay abreast of what is going on and be a resource to make a difference.

What do you feel the government’s role in the mining industry should be?

SME members work in all sectors: government, industry, academia and consulting. I know that many of our government-sector members pay their own dues, since many of their agencies will not support their professional society activities. I applaud them for their dedication and participation in SME. SME should be the bridge between all of these sectors. Many of our members have crossed over and worked in more than one sector, or all at one time or another in their careers.

I think we have seen that the government sometimes makes bad scientific decisions that incorrectly find environmental, safety or health problems associated with mining that are based on incomplete or misleading interpretation of data or in reaction to a public outcry on a particular incident. The mining industry has, at times, found it difficult to figure out what the rules are. Many times it is the public’s fear, due to misleading information from activists, that has led to a groundswell of vocal opposition to projects that results in them being delayed or canceled.

I believe SME’s efforts through its Government & Public Affairs Committee (GPAC) have been a great start to increasing our influence. John Hayden has done a great job coordinating those efforts. The briefing papers, our professional peer-review panels, SME’s Congressional Fellow, members willing to testify in government hearings all serve as a resource to help our elected officials shape policy for the good of the country. I encourage SME members to get involved in the political process.
across the country at whatever levels they feel comfortable. Use our fact sheets from the Minerals Education Coalition (MEC) and the GPAC briefing papers as a resource.

What do you see as SME's strengths and weaknesses?

I believe SME is in a good position financially and has a great staff, plus an active membership. I want to congratulate Dave Kanagy on his MMSA Gold Medal Award awarded in February for his accomplishments leading SME. I wholeheartedly supported his nomination and selection. SME now owns its headquarters building outright. We are seeing good international participation and hope to grow that sector. Onemine.org is a member benefit that continues to grow and one that more people worldwide want access to.

Another strength that SME has is the resources to promote the facts about mining so our stakeholders (members, media, elected officials, public) can make informed decisions. And a major strength is the Society's publications, Mining Engineering, Tunneling & Underground Construction, Minerals & Metallurgical Processing and Transactions and the numerous books that SME offers.

Another one of SME’s strengths in leadership is the continuity between presidents. The current president, past president, president elect and the presidential nominee work together as a team. There are a lot of requests for an SME president around the United States and the world. The four of us, Jessica Kogel, John Marsden, Tim Arnold and I, have teamed up to fulfill those requests. Past presidents have been a resource as well.

In surveys of members, two things that stand out that seem to be on their minds are the poor public perception of mining and a perceived disconnect between local sections and SME. These are two areas I want to focus on in my term as president. I came up through local section leadership before beginning to attend the annual meetings.

First, to address our local sections, I will appoint an ad hoc committee led by Tim Arnold, 2016 SME President; to study how SME can better serve its members through local sections. We will be soliciting comments and suggestions throughout the year.

Second, public perception of mining has been, and will continue to be, an ongoing issue that I will seek to address through the numerous SME activities that are grounded in the key stakeholder group that we serve, the public. I feel a key connection to helping address the problem is through our members and the local sections, the grassroots of the society.

One of SME’s big success stories in recent years was leading the effort to reinstate the Boy Scouts Mining in Society Merit Badge. I believe that, in the long term, this will go a long way to helping in the public perception battle and that SME should build on that success. I was proud to be a part of the almost 10-year process, culminated by surviving a trip to the Boy Scout Jamboree in 2013 and seeing the first badges awarded last year at the annual meeting.

Mining and sustainability are, for many people, an oxymoron. Sustainability in mining is a topic I have thought and written about quite a bit. Mining in and of itself is not sustainable. However, land uses after mining can certainly be sustainable. In many areas, there are beneficial reuses for mining that are higher and better than land uses before mining. In my native Appalachia, some of the most economically valuable lands in the coalfields are on reclaimed mine sites. They can be used for residential, commercial and recreational development. In that economically depressed region, a condition that has been exacerbated by the downturn of coal in Appalachia, I believe these reclaimed mountaintops hold promise for future development.

Jessica Kogel, during her term as president, reached out to nongovernmental organizations that were considered to be potentially constructive partners in natural resource development, as opposed to the not-in-my-backyard (NIMBY) or build-absolutely-nothing-anywhere-near-anything (BANANA) groups. I would like to continue this initiative, with SME reaching out to invite more interaction, whether hosting or participating in a summit on mining and sustainability or just continuing to meet with certain environmental groups. SME is involved in the World Federation of Engineering Organizations Task Force for Sustainable Mining that will be an ongoing effort.

Raising the level of health and safety in SME was an initiative that has also been underway. I feel it is important for SME to be viewed as the leader in promoting health and safety in the mining work place. That is another public perception issue that we are continually battling in the media and with activists.

In summary, the focus areas that I have identified for the year include:

- Continue the education sustainability initiative.
- Raise the level of health and safety within SME.
- Mining and sustainability initiative.
- Public perception of mining.
- Local sections = importance.

I am looking forward to my year as president and welcome anyone to contact me at any time.