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Seismic Solutions
How Mines is gathering valuable data on carbon sequestration as it helps the energy industry recover oil from depleted reservoirs.

Humanitarianism Reengineered
Mines has taken the lessons of history and designed a one-of-a-kind humanitarian engineering program.

Hard Rock Gold Mining
Seven Mines alumni work Colorado’s only active underground gold mine, which is situated only a stone’s throw from one of the first Rocky Mountain gold strikes.

Cover photo: Shutterstock

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Dear Readers,

Warm weather has pushed winter aside for many of you around the country, but at Colorado School of Mines it is still quite cold. It starts—once day it snows, the next it is 70s. Some things don’t change.

The same cannot be said of Mines magazine. As you may have read in Inbox, we received lots of feedback from the readership survey, and this issue reflects our response to some of it. Several respondents said they wanted to read about outstanding students. As a result, two very active members of the student body—Emily Wilson and Zach Allen—are profiled on page 14. Their stories are impressive and a source of inspiration and pride. Several respondents expressed an interest in reading about current faculty. We’ve provided three engaging profiles of faculty on pages 10-13 that are reprinted from the School’s research publications, Energy and the Earth. Researchers profiled include Elinne Poettler, Tissa Ilangasankke and David Matlock. And for the many who asked us to write about alumni in non-traditional careers, don’t miss the profile of Jose Moreno ’96, whose office window in the American Embassy in Moscow looks out at the Russian White House. The feature stories in this issue cover a broad spectrum. “Seismic Solutions,” by Nicole Branan, reports on how the Reservoir Characterization Project tracks carbon dioxide as it migrates through deep underground oil reservoirs—work that is of interest to both energy companies wishing to enhance oil recovery operations, and environmental organizations interested in sequestering carbon dioxide. “Hard Rock Gold Mining,” by Brennan Harrington and myself, tells the story of six alumni working in the only underground hard rock gold mine that remains active in Colorado. Is that just the “who,” but the “here” and “where” that make this an engaging tale. And “Humanitarianism Reengineered,” by Doug McPherson, details the work of a popular engineering program that is making a difference for students at Mines and for communities in developing countries around the world.

In Network, you can read about the Alumni Association’s growing Mentoring Program, regional receptions and a little E-Days history. In place of last Word, we have Parting Shutes: two pictures of Golden, both taken from South Table Mountain, one around 1938, the other in 2008. We didn’t receive a Last Word submission. If you have considered writing a Last Word essay, please get in touch. The survey feedback shows this is one of the most popular elements in the magazine, but it requires involvement by readers.

Lastly, everyone here at the Alumni Association is looking forward to Reunion 2008. You’ll find some details on page 37, but a much more comprehensive program is found at minesonline.net. There you can complete your registration and sign up for special events. There’s a lively weekend planned and we hope to see you there!

Best wishes,

Nick Sutcliffe
Editor and Director of Communications, CSMAA

Eric M. May ’93
President, CSM Alumni Association

Arnt Pariake
Executive Director
CSM Alumni Association

M.W. “Bill” Spogulis
President, Mines Alumni Association

Inbox

An online readership survey was conducted prior to the distribution of the Winter 07/08 issue. It was sent by e-mail to all 10,995 alumni, of whom 1,750 responded—an excellent response rate in the world of online surveys.

A hearty thank you goes out to all who participated. We received several comments along the lines of Warren Hildebrand’s ’59: “I took that your Dec 2007 survey was well-designed and correctly targeted. This second point was particularly good to hear, as we worked hard on brevity and will continue to do so with each survey. I found the results follow, although a more comprehensive report will be posted on the Mines magazine website http://www.mines.edu/magazine.

Results Summary

The magazine appears to be quite well-read. Over 73% of respondents report that they read “some of it,” and 28% report they read “all of it.” Although not including feature stories, the most popular section of the magazine is Past Forward/Class Notes (no surprise). Runners up (in order of popularity) were Inside Mines, The Last Word, New Frontiers and The Network. To the statement, “Feature stories are well-written,” 47% responded “strongly agree,” 40% “somewhat agree.” And to the statement, “I felt that your Dec 2007 survey was well-conceived,” 53% “strongly agreed,” 32% “somewhat agreed.”

One of the most positive responses as the survey concerned the new look of the magazine—in all categories respondents were pleased with recent changes in design. In a question aimed at identifying which subjects were of the greatest interest to the top three were, “Mines’ accomplishments/successes,” “interesting or prominent alumni” and “alternative energy research.” A total of 128 respondents submitted subjects they would like Mines to cover—a sampling is provided below.

In addition to providing some valuable pointers for the future, the survey also raised awareness about the magazine website. The month following the survey was its busiest so far, although a more comprehensive report will be posted on the Mines magazine website http://www.mines.edu/magazine.

Research Survey

Welcome!

Research Survey

Welcome!
$2.5 Million Challenge Grant Kick-Starts K-5 Education Initiative

Mines is launching an exciting education outreach initiative with a $2.5 million challenge grant from Stephen D. Bechtel, Jr., retired chairman and director of the worldwide engineering and construction firm, Bechtel Group, Inc. The Bechtel K-5 Educational Excellence Initiative will address the problem of why large numbers of children lose interest in math and science during elementary school. By sponsoring programs that have been shown to promote interest and enhance teaching in these areas, the grant is expected to make a substantial impact in area schools. The Colorado School of Mines Foundation is working to raise $2.5 million in matching funds over the five-year grant period, which began in January.

“Our premise is that if K-12 students learn about exciting applications of science, mathematics and engineering, they are more likely to enter related fields. They need to tackle real experiments and not just read about them in a book,” said Barb Moskal, associate professor of mathematical and computer sciences at Mines and director of the Center for the Assessment of Science, Technology, Engineering and Mathematics.

Through the Bechtel Initiative, Mines faculty are helping educators improve science and math instruction in kindergarten through fifth grade in Adams County District 50 and Aurora Public Schools. Moskal expects the program to have a real impact, particularly among females, minorities and other groups who have been underrepresented in these critical fields. And, the program will help inform similar initiatives at other institutions.

“Engaging elementary students in science and math is a growing component of Mines’ outreach mission,” said President Bill Scoggins. “This initiative will help spark student interest and help teachers create effective strategies for schools nationwide.”

For Bechtel, an early focus on science and math education is critical to developing a strong, vital society. In an address at Mines in 2007, he discussed challenges to U.S. technical competitiveness, asking graduates to serve as role models for young people. “Our economic leadership, our standard of living, our way of life, our innovative edge depend upon your help in ensuring that there will be many more boys and girls following in your footsteps here at Mines and in other engineering and science programs across this country,” he said.

For more information on the Bechtel Group, visit www.bechtel.com.

Emergency Alert System Launched

Campus officials recently implemented Mines Emergency Alerts—a new voice and text messaging system that will notify the campus community in the event of a declared emergency. The new alert will work in conjunction with Mines’ current campus broadcast voice mail and e-mail systems.

When an emergency situation is identified, the text and cell phone voice messaging system can be accessed by authorized officials through a web-based launch site. While on the site, the user can quickly send an emergency notification to all campus subscribers. With the vast majority of people carrying cell phones, the system will quickly reach across campus in the event of an emergency.

Over the past year, Keith Turney, Mines chief of police, has been involved with reviewing procedures and plans for potential campus emergency situations. “Extensive work has been done on the School’s Emergency Operations Plan, including campus emergency declaration, notifications and incident command setup,” he wrote in a recent e-mail to the campus community.

Currently the residence halls and housing system operate on 24-hour Blastercard access. Turney said this will remain in place indefinitely. Additionally, school officials are developing in-service training for faculty and staff on subjects such as classroom management and the identification of troubled students and staff.

For more information on Mines Emergency Alerts, go to http://www. mines.edu/med/.

Campus Newspaper Extends Reach

Just as the newspaper industry as a whole is undergoing change, Mines’ student publication, The Oredigger, has recently re-focused its mission and initiated a redesign.

The current newspaper staff is taking news-gathering and publication in a new direction, and editor-in-chief, Zach Aman, recalled how “Square one of the shift concerned structure and responsibility.”

“Our former system drew on the standard ‘one-editor-per-section’ approach that most newspapers employ,” said Aman. “We quickly realized that being students at an engineering institution called for a creative approach to news and, subsequently, a creative take on organizational structures.”

Instead of having a hierarchical management structure, the team focused on creating concentric circles of responsibility. The paper’s editorial board supervises the vision, direction, budget, personnel and content programming for the organization. In addition, content management groups focus on a team approach to story assignments and photography.

“The team is designed to be cross-functional,” said Sara Post, copy editor. “Each role facilitates a different function, but communication must flow between them at all times.”

Aman and the staff’s hard work is paying off. According to Aman, The Oredigger’s reach has increased by approximately 600 percent over the past year. And Hilary Brown, the newspaper’s managing editor, said The Oredigger staff has doubled the production schedule, offering updated print and online editions on a weekly basis.

“The community, along with the general public, has taken notice. We don’t have a journalism school here at Mines, but we certainly have a committed group of students who are producing a quality publication—both in print and online. People look forward to each issue of The Oredigger, which they know will be full of great information and photos, thought-provoking and sometimes laugh-out-loud funny.” Recently, the CSMA has sent links to its online version to alumni and the feedback is positive.

Additionally, The Oredigger staff has developed and plans to maintain a five-year strategic plan. The goal is to centralize and direct the staff’s focus and demonstrate commitment to its organizational partners.

The current plan runs through 2011 and outlines leadership models, methods to ensure continuity and quality feedback channels. For more details, visit The Oredigger’s updated website at www.oredigger.net.

When asked to pose for this photograph, these four students chosen at random were all able to produce cell phones capable of receiving a broadcast text message sent by the Emergency Alert System.
New VP for Advancement Named

Molly Williams has been named Mines’ vice president for university advancement. Williams comes to Mines from Northern Arizona University, where she served as vice president for university advancement and president of the NAU Foundation. She previously served as associate vice president for institutional advancement and campaign director at the University of Wyoming and held positions in development at the Denver Botanic Gardens and the University of Denver. Between 1986 and 1993, she served Mines as director of major gifts and associate director of corporate and foundation relations.

Peter Han, outgoing vice president for university advancement, will continue serving Mines as senior advisor to the president and chief of staff. Under his leadership in university advancement, the School completed its most ambitious fundraising campaign to date, which brought in a record $135 million.

Career Day Beats All Records

“You have taken all the fun out of going to other schools’ career days! There is just no comparison,” exclaims Gene Keylan of Boecore. “We were totally impressed with the intellectual quality and professionalism of your students—you all should be very proud!”

Post-event feedback such as this poured into the Career Center after the staff wrapped up the record breaking Spring 2008 Career Day. It was the largest Spring Career Day in Mines history, with 176 companies bringing 540 recruiters to campus. One third of these recruiters were alumni, proud of the opportunity to recruit Mines students for their companies. And the Career Center had a waitlist of over 30 employees hoping for the same opportunity, despite holding the event in the spacious new Student Recreation Center.

The event elicited high praise from the National Renewable Energy Laboratory based in Golden: “This is the most well run and professional career day I have attended at any college. The staff is superb, and the quality of students very high.” Similarly, the Northrop Grumman recruiting team wrote, “[Mines] has the best technical students in the region. Our managers are always impressed with the caliber of interns and college hires that we have on staff.”

In addition to technical competence, several companies reported they found Mines students particularly well rounded. Olsson Associates wrote, “Not only are the students top-notch technically, but they are also well prepared in important business aspects such as communication, relationship-building and teamwork. We will continually recruit talented students from Colorado School of Mines.”

And students seem to be aware that recruiters are looking for more than good grades. “I’ve heard many companies say they come to Mines because they are looking for people and not just engineers,” states Carly Wegher, a senior majoring in civil engineering. “They really appreciate people skills and a positive personality. I talked with nine different companies and feel confident about hearing back from them.”

Already the Career Center is preparing for the Fall 2008 Career Day, which is likely to be an encore performance. It is scheduled on Tuesday, September 9 at the Student Recreation Center.

In Brief...

Physics Professor Tom Furtak has been appointed head of the Department of Physics. This appointment comes after Professor Jim McNeill stepped down from the position in late 2007. McNeill held the post since 2000, leading the department through a period of robust expansion and growth. Furtak and McNeill both joined the Mines faculty in 1986.

John Pezot, vice president of research and technology transfer, has been selected for recognition by the Materials Research Society as an MRS fellow. The inaugural class of fellows were recognized in March at the 2008 MRS spring meeting in San Francisco. The title honors MRS members for distinguished research accomplishments, TOP 10? outstanding contributions to the advancement of materials research worldwide.

Tracy Camp, mathematical and computer sciences professor, has been awarded the prestigious Mines Board of Trustees Outstanding Faculty Award. Camp was chosen for her creative achievements; contributing to students’ classroom learning; significant achievements outside the classroom, such as mentoring; actively fostering a learning community; and the development and implementation of practices that align with the current trends in higher education. Camp is internationally known for her efforts to support women in computer science, and her work has been reported in newspaper and magazine articles, including the N.Y. Times, the Chicago Tribune, USA Today and Scientific American.

Wendy Harrison, geology and geological engineering professor, has been named associate provost at Mines. Harrison’s husband, Richard F. Wendlandt, is a professor in the Geology and Geological Engineering Department and her son, Piers Wendlandt, graduated from Mines with a degree in mining engineering in 2005. Her daughter, Alison Wendlandt, is a PhD candidate in inorganic chemistry. Harrison has a bachelor’s and doctorate degree in geology from the University of Manchester.

Vicki J. Cowart of Denver and James R. Spanastra of Lakewood have joined the Mines Board of Trustees and will serve terms effective from the beginning of this year through December 31, 2011. Cowart, who received a master’s degree in geophysics from Mines in 1977, serves as president and chief executive officer of Planned Parenthood of the Rocky Mountains. Previously she was state geologist for Colorado and director of the Colorado Geological Survey for 10 years. Prior to that time, she spent 19 years working in the oil and gas industry. Spanastra is a partner at the Denver law firm of Faegre & Benson, one of the largest and most diverse environmental practices in the Rocky Mountain region.

Eul-Soo Pang, professor in the Division of Liberal Arts and International Studies, has been appointed Visiting Professorial Fellow for 2008 at the Institute of Southeast Asian Studies, a government-funded think tank in Singapore. He will work on a book-length project titled ‘Embedding Security into Free Trade: The Case of the United States-Singapore Free Trade Agreement.’ Only 13 other scholars have held this position in the institute’s 40-year history.

Tina Gianquinto, assistant professor in the Division of Liberal Arts and International Studies, has been awarded a one-year National Endowment for the Humanities (NEH) Fellowship. Gianquinto’s fellowship—one of 94 granted out of 1,200 applications—will allow her to begin research for a new project, “Dear Mr. Darwin: Women and the Epistolary Tradition in the Nineteenth-Century Sciences.”

MLK Events Draw Large Crowds

The 2008 Martin Luther King Jr. Day celebration at Mines broke records.

The events, sponsored by the President’s Diversity Committee, included a faculty and staff breakfast featuring thoughts on the occasion by President Bill Scoggins and other members of the campus community.

“I am particularly struck by the relevance of Dr. King’s message in today’s increasingly globalized, international society and of the applicability of his message to us at Mines. It is fitting that we take this day to remember this great American and his fight for freedom, equality and dignity for all races and peoples,” Scoggins said.

Three people were honored for their efforts to promote tolerance and diversity at Mines: Leslie Gilbreath, director of International Student & Scholar Services; Rue Yocom, Arthur Lakes Library technician; and Scott Cowley, associate chemistry professor.

The evening program included food, student poetry and music by Reverb and the Verse, a progressive hip-hop group that includes Jahi Simbai, director of graduate recruiting and admissions.

The event was attended by approximately 400 people. Historically the event has attracted less than 100 attendees.
A Cycle of Life—Wastewater Used to Make Fish Food

In an effort to turn an unused byproduct of the beverage industry into a sustainable, protein-rich feed ingredient for the aquaculture industry, two Mines environmental science and engineering alums, an assistant professor and a graduate student have formed an interesting collaboration.

After both graduating with doctorates in environmental science and engineering from Mines in 2002, Seth Terry and Andy Logan founded Oberon FMR, a company that focuses on turning food industry byproducts into protein for use in animal feed.

“We seek to develop and commercialize a sustainable high-protein feed ingredient for animals made from unutilized byproducts of food processing operations,” Terry summed up. “Because the byproduct is often viewed as an environmental liability to food manufacturers, our process can provide significant benefits.”

Wastewater from food processing operations is frequently too nutrient-rich to discharge into municipal water treatment plants, where it would overwhelm the delicate balance of microbial life. Instead, industries must treat it themselves, employing the same principles, but engineering the environment to better handle the nutrient-rich wastewater. The real work of purifying the water is done by microbes, which metabolize the nutrients in which they are bathed. In the process, they multiply, creating a supply stream of biomass rich in protein. Currently, this biomass is composted or buried in landfills. The goal of Oberon is to cultivate the right combination of microbes in these specialized treatment plants so that, once the biomass is dried, they have useable fish food.

To this end, Terry, Logan and environmental science and engineering assistant professor, John Spear, teamed up with collaborators from the University of Colorado at Boulder to land a $1.1 million grant from the National Science Foundation to get the project rolling.

“[Terry and Logan’s] side of the grant work is to scale up the technology,” Spear explained. “Our side of the grant work is to have a doctoral student further the science aspects.” Jackson Lee, a graduate student in environmental science and engineering, will be researching the microbial composition of the biomass.

“Having actually lived off farm-raised tilapia as a Peace Corps volunteer in the Philippines, I definitely see the possibility of food-waste-derived fish food serving a sustainable purpose in numerous countries, not just our own—particularly in societies where protein primarily comes from fish,” Lee said.

Spear noted that common fish farming practices, including fish feeding on other fish, are environmentally problematic. “Fish farming is not sustainable. That is the main problem,” said Spear. “If you feed fish dried microbial biomass, which most eat anyway as a significant source of their natural diet, they get protein to build their own biomass. It is way more sustainable, perfectly healthy and takes an existing waste stream and puts it to beneficial use. It is a great environmental engineering project.”

The team is currently operating pilot facilities at New Belgium Brewery in Fort Collins, where it is using the beer manufacturer’s wastewater to produce hundreds of pounds of protein-rich biomass material for feeding trials that will be conducted by feed manufacturers in the near future.
Eileen Poeter
Research: Water

Eileen Poeter, director of the International Ground Water Modeling Center (IGWMC) and professor of geology and geological engineering, has earned the esteem of students and colleagues alike. The National Ground Water Research and Educational Foundation (NGWREF) honored Poeter in 2006 when she was selected by a panel of scientists and engineers to be the 2006 Henry Darcy Distinguished Lecturer. Each year, an outstanding ground water professional is chosen to give the Darcy Lecture Series and share their research with peers and students. The series, established in 1986, now reaches more than 50,000 ground water students, faculty and professionals.

Through the lecture series, Poeter presented her research on ground water modeling in 11 countries on five continents in a lecture titled “All Models are Wrong, How Do We Know Which are Useful?”

Poeter’s research focuses on ground water modeling and resource evaluation. The models are used to predict ground water conditions under alternative management scenarios. Her research is unique in that rather than developing a single model for a given ground water system, she develops multiple conceptual models, effectively capturing more of the uncertainty in the system. Poeter then helps hydrologists evaluate the models to estimate the uncertainty of their predictions. This provides ground water decision-makers with more information and helps them to achieve a sustainable system.

According to her students, Poeter takes education very seriously. “As a teaching assistant for Eileen, I was amazed at how much time and effort she put into each of her classes,” said graduate student Stephanie Schmidt.

“The material is challenging, so the class can be intimidating, but that is exactly what makes it fun—because she is encouraging and will answer any question,” said Lucy Jones, one of Poeter’s students. “I really respect Dr. Poeter and enjoy her class.”

Major’s graduate student Clint Camney called Poeter one of the “most influential people in my life.”

“She has challenged me to be a better hydrologist and to see problems from many different angles,” Camney said.

—Reprinted from the School’s research magazine, Energy and the Earth

David Matlock
Research: Mechanical Properties

A member of the National Academy of Engineering, David Matlock has built a world-class research center and a worldwide reputation for his vast contributions to mechanical properties research, as well as his outstanding teaching. Matlock is the director of the Advanced Steel Processing and Products Research Center (ASPPRC) and a professor of metallurgical and materials engineering.

Matlock joined the Mines faculty in 1972, and along with colleague George Krauss, founded ASPPRC in 1984. The center has since been recognized as one of the most successful centers of its kind and draws an annual budget of more than $1.5 million. The majority of the center’s funding comes from industrial support.

“Research in the center is unique because it brings together competing companies as well as suppliers and customers to work together on research projects that are mutually beneficial to a variety of companies that do not normally work together,” Matlock said.

The center’s research focuses on microstructural development and the effects of microstructure on the mechanical properties of steel.

“One important area of research is the development of new advanced high strength sheet steels for use in affordable lightweight automobiles. The drive to reduce fuel usage and maintain safety propels this critical research. Development of high-strength pipeline steels for the oil and gas industry is a second area of energy-related research, driven by the need to produce either oil in deep-sea locations or natural gas from remote locations.

New pipelines will require steels with significantly improved mechanical properties. Improvements based on ASPPRC research efforts will impact oil and gas production and “in some cases make previously unavailable energy resources viable,” said Matlock.

To support the extensive research conducted by members of ASPPRC, Matlock has developed first-rate mechanical testing laboratories, including a high strain rate mechanical system. Extremely rare in a university laboratory, this system has the capability to simulate material behaviors in a car crashing into a concrete wall at 35 miles per hour and then assess the damage and properties of automotive structural steels.

Matlock’s laboratories are also available to students through many lab-based classes. Matlock says he likes having “the opportunity to continually learn and, where possible, pass on the information to students.”

“Professor David Matlock is easily the best instructor I have ever had. He instills in his students the capacity to learn and understand difficult concepts and start thinking about the next step,” said Mark Richards, a PhD candidate.

—Reprinted from the School’s research magazine, Energy and the Earth

Tissa Illangasekare
Research: Environment

According to his students, Tissa Illangasekare is the demanding professor who sets high standards. Illangasekare is the AMAX Distinguished Chair and Professor of Civil Engineering at Mines.

“I felt challenged every day, but once I was done with my thesis, I felt very proud to have worked at Tissa’s side and in his great research group,” said Lisa Porta, MS student in Environmental Science.

Illangasekare’s research is aimed at protecting water resources and the environment through the study of flow and transport in porous and fractured media. This translates to the development of models that simulate the flow of water (most specifically groundwater) and transport of chemicals to gain an improved understanding of the processes that control these phenomena. The applications for Illangasekare’s research include management of surface and subsurface water, remediation of subsurface systems that are contaminated with petroleum and organic waste, effects of natural disasters on groundwater, arctic hydrology (as it applies to sea-level rise) and dam stability analysis.

In conjunction with his teaching and research, Illangasekare has published numerous book chapters and more than 200 technical articles in refereed journals and proceedings. Illangasekare is also the director of the Center for the Environmental Study of Subsurface Environmental Process (CESSP), a collaborative center between several universities, national laboratories and industry partners.

Illangasekare receives his funding from federal, state and industry sources and has collaborated with scientists and engineers from Denmark, the United Kingdom, Spain, Sri Lanka, Sweden, South Korea, Japan, the Czech Republic, Germany and Australia. He has also offered many workshops and seminars to students around the world.

In 2006, Illangasekare was elected a fellow of the American Association for Advancement of Science for his significant contributions to understanding flow and transport processes in soils and groundwater. In 2005, Illangasekare was elected a fellow of the American Geophysical Union in recognition of his contributions to understanding the behavior of organic chemicals in a heterogeneous subsurface.

Illangasekare was also elected a fellow of the American Society of Civil Engineers in 2005. In addition to his honors, Illangasekare is registered as both a professional engineer and professional hydrologist, and is a diplomate of both the American Academy of Environmental Engineers and the American Academy of Water Resources Engineers.

Illangasekare is also the current director of the Advanced Steel Processing and Products Research Center (ASPPRC) and a professor of metallurgical and materials engineering.

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—Reprinted from the School’s research magazine, Energy and the Earth
Emily Milian
Year: Senior
Major: Mathematical and Computer Science

Emily Milian’s email signature features a quote by Mahatma Gandhi: “You must be the change you wish to see in the world.” Upon graduation, she intends to be that change. She’s joining the Teach for America program and moving to Arizona, where she plans to teach math to at-risk middle school students. “I believe math is so important for kids to understand,” she says. “Many more doors are open for you if you are proficient in math. If not, many doors are closed.”

Milian, who received the prestigious Florence Caldwell Achievement Scholarship each of the four years she has attended Mines, will also earn a master’s degree in secondary education at Arizona State University while she teaches. Emily’s plans aren’t the dreams of a wide-eyed idealist: joining Teach for America is the latest in a long string of charitable projects. She has served as vice president, district lieutenant governor and district conferences chair for Circle K International, a collegiate service organization which honored her for completing over 100 hours of volunteer work annually.

Additionally, Emily chaired the 2006 campus-wide community service day, “Into the Streets,” which was named, “Best School-Wide Program.” She also designed and implemented the Middle School Engineering Outreach Program for Mines’ Society of Women Engineers.

“I really like explaining things and acting as a mentor,” she says. “I also find that I learn so much from the people I’m supposed to be teaching.”

Deb Lasich, executive director of the Women in Science, Engineering and Mathematics program, met Emily through the Florence Caldwell scholarship. “Students who get taught by her will be very fortunate,” says Lasich. “Emily is very excited about what she’s doing. She will be on the front lines, making it possible for young people to go on in math and science careers.”

But Milian says she is simply doing what feels right: “I have faith in the world and a lot of people out there are doing something to improve it. I want to do my part.”

STUDENTS

Emily Milian

Zach Aman
Year: Junior
Major: Chemical Engineering

You don’t hear an engineering student say this too often: “Everyone should go to college and learn how to write a news story.”

But that’s exactly how Zach Aman, a junior studying chemical engineering feels. Aman is editor-in-chief of The Oredigger, Mines’ 88-year-old newspaper. When Aman joined the weekly paper during his first year, it had a circulation of 1,500. Today, it boasts a circulation of 2,700 and is a hot commodity on campus.

Aman, who was born in Denver and grew up in Grand Rapids, MI, says his passion for journalism came out of the blue. “I was in the half-credit class you take as a freshman, CSM 101, which introduces you to a mentor,” he recalls. “My mentor was the newspaper’s opinion editor and he recruited me within a week. The funny thing is, the night I walked in was the night he quit.” Undaunted, Aman dove in. “I’ve always been pretty darned opinionated,” he jokes.

Two and a half years later, Zach is credited with leading a renaissance at The Oredigger. He says his motivation comes from an engineer’s natural quest for improvement and from a passion to serve his community.

“The way my personality is, I have a problem looking at things and accepting them as they are,” he explains. “The primary value we add to the entire Mines community is that we create a forum of communication that can integrate all constituents of this organization.”

David Frossard, who works for Academic Computing and Networking, is the paper’s faculty advisor and says Aman is a natural leader. “Zach has done all kinds of unglamorous but crucial grunt work that you never hear about,” says Frossard. “And, of course, it doesn’t hurt that Zach is such a charismatic figure. I’ve noticed many times how he asks staff to take on more work, more responsibility, and they are happy to do it.

“It’s not that he’s conning anyone. It’s that everyone wants to follow him, to be part of his orbit. And he works hardest of all.”

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Cross Country Teams Run Away with Academic Honors from USTFCCCA

The Colorado School of Mines men’s and women’s cross country teams combined to place three individuals on the U.S. Track & Field and Cross Country Coaches Association’s (USTFCCCA) All-Academic Cross Country teams in 2007. Aaron Swift and Clinton Oertli were named to the men’s team, while Sydney Laws garnered recognition for the Oredigger women. In order to qualify, a student-athlete must have completed at least 24 semester hours at their current institution and have amassed a cumulative GPA of 3.25 or higher. The student-athlete must also finish in the top 30 percent of individual participants at their respective regional cross country championships. In addition, both the CSM men’s and women’s cross country squads earned USTFCCCA All-Academic Team awards in 2007. Teams must compete at the NCAA Division II regional championships and have a cumulative team GPA of 3.00 or higher to receive this honor.

CSM Athletics Home Schedules Remaining Games Spring 2008

<table>
<thead>
<tr>
<th>BASEBALL</th>
<th>SOFTBALL</th>
<th>MEN’S GOLF</th>
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<tr>
<td>Apr 18: Regis University</td>
<td>Apr 19: Chadron State</td>
<td>Apr 21-22: NCAA Div II</td>
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<td>Apr 19: Regis University</td>
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<td>Apr 20: Regis University</td>
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<td>Apr 22: CSU-Pueblo</td>
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<td>Apr 27: CSU-Pueblo</td>
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<td>May 2: Nebraska-Kearney</td>
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CSM Athletics Receives 2007 Civic Award from Golden Chamber of Commerce

In December of 2007, the Colorado School of Mines Department of Athletics was selected to receive the 2007 Civic Award from the Golden Chamber of Commerce. The award was presented by the Golden Chamber of Commerce Board of Directors at a luncheon on January 17th at Rolling Hills Country Club in Golden.

“It was an honor to receive the 2007 Civic Award from the Golden Chamber of Commerce,” said Tom Spicer, director of athletics. “Our student-athletes and staff continuously strive to work for the betterment of the Golden community. We are very grateful to the Golden Chamber of Commerce Board of Directors for this recognition.”

Thompson Selected 28th Overall by Houston Dynamo in 2008 MLS Supplemental Draft

Former Colorado School of Mines men’s soccer player, Craig Thompson, was drafted by the Houston Dynamo in the 2008 Major League Soccer (MLS) Supplemental Draft on January 24, 2008. A native of Littleton, CO, Thompson was selected 28th overall by Houston. Thompson, who garnered NSCAA/adidas First Team All-Midwest Region honors following his senior season in 2007, also earned First Team All-Rocky Mountain Athletic Conference (RMAC) and Daktronics First Team All-Midwest Region accolades last fall.

Selected as the RMAC Player of the Year and the RMAC Academic Player of the Year in 2007, Thompson established a new individual single-season school record with 18 goals in 2007. Thompson, who also led Mines in assists (tied – five) and game-winning goals (four) last fall, tied CSM’s individual single-season program record for total points (41) during his final season in an Oredigger uniform.

A three-time Academic All-RMAC performer in the classroom (2005, 2006 and 2007), Thompson also garnered First Team All-RMAC, NSCAA/adidas Second Team All-Midwest Region and Daktronics All-Midwest Region laurels as a junior in 2006.

Seven Student-Athletes from CSM Basketball Teams Earn Academic All-RMAC Recognition in 2007-08

A combined total of seven student-athletes from the CSM men’s and women’s basketball squads have been recognized on the 2007-08 Academic All-RMAC teams.

Earning recognition on the Academic All-RMAC Honor Roll for the Oredigger women were Elise Goggin, Liz Jeffries, Julie Marshall and Emily Przekwas. On the men’s side, Ben Mohr earned First Team Academic All-RMAC honors. To qualify for Academic All-RMAC recognition, student-athletes must have a cumulative GPA of 3.20-or-better, be a starter or key reserve and have completed a minimum of two consecutive semesters (or three quarters) at their current institution.

For complete schedules, rosters, results and statistics, please visit the Colorado School of Mines Athletics website at http://athletics.mines.edu.

Oredigger News & Notes...

• The CSM Department of Athletics has added three new coaches to its staff: Bob Benson is the Orediggers’ new associate head football coach / defensive coordinator, Lori Scheider returns for her second stint as the assistant women’s soccer coach and Heather Roberts will be the new assistant volleyball coach.

• Six players from the Mines football team were named to the 2007 National Football Foundation (NFF) & College Hall of Fame - Colorado Chapter All-COLORADO Team. Derek Dykstra and Stephen Inmell were both First Team selections on offense, while Drew Ferren, Marc Schielch and Mario Richardson garnered First Team accolades on defense. Kevin Folly-Kossi earned recognition on the Second Team defense.

For complete schedules, rosters, results and statistics, please visit the Colorado School of Mines Athletics website at http://athletics.mines.edu.
Since they walked across the stage at Colorado School of Mines commencement in 1983, Mike and Patty Starzer have maintained a strong connection with their alma mater. Current co-chairs of The President’s Fund and members of the President’s Council and the CSM Alumni Association, the Starazers have been giving to Mines for decades. This year, in honor of their 25th reunion, the couple made a generous major gift to help finance the construction of Marquez Hall.

The education we received at Mines laid solid groundwork for our careers, and we are eager to raise more funds to make sure other students have the same experience than to make a gift that will have a real impact on campus”, the Starazers' contribution to Marquez Hall will help enhance the Mines experience for future generations of students, enabling them to enter the workforce prepared. “We hope the new facility will continue to draw national recognition, top-quality professors and talented students to the School,” they said, “and that it will serve as a dynamic center of teaching and learning.”

Mike is president, CEO and co-founder of Bonanza Creek Energy Company in Bakersfield, CA, one of Mines' corporate partners that has pledged an additional $100,000 for the new, state-of-the-art petroleum engineering building. Though he was born in Tulsa, Mike grew up in Alaska and chose Mines for its reputation among oil industry insiders, and its proximity to the ski slopes. For Patty, a Colorado native, Mines was the ideal choice to study math and the applied sciences, enabling her to remain close to home. Mike and Patty met at Mines through mutual friends and married soon after graduation.

Today, the Starazer’s daughter, Moriah (Class of ’11), is following in a petroleum engineering degree at Mines. “Since she was four years old, we’ve dreamed of Moriah to campus to view the Geology Museum, the Mines Bookstore and the Golden community; she already has her college friends, and is excited to enter another great school environment,” said Patty. With only a few months behind her at Mines, Moriah already loves Colorado and is adjusting to the balance of academics and social independence, and looking ahead to future challenges. The Starazers are proud that their daughter has chosen to attend Mines and are committed to making a meaningful difference for future students through continued philanthropic leadership. “Our professional successes and the ability to give in any way we’ve been blessed are what has inspired us to support Mines,” the Starazers said. “We hope Moriah will find an exciting and fulfilling career after graduation, and that she will too have the ability to give to others.”

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<thead>
<tr>
<th>Name</th>
<th>Gift Size</th>
<th>For Department/Program</th>
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<tbody>
<tr>
<td>Mike and Patty Starzer, Class of 1983</td>
<td>$6.3 million</td>
<td>Matching gifts and commitments from donors and corporate partners, we are well on our way to our goal of raising $25 million for the petroleum engineering program.</td>
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How Mines is gathering valuable data on carbon sequestration as it helps the energy industry recover oil from depleted reservoirs.

By Nicole Branan

Davis leads the Reservoir Characterization Project, an industry-sponsored consortium that develops and applies seismic remote sensing to improve oil recovery in mature fields like Postle. Seismic sensing systems can peer underneath the surface and visualize the fractures and passages that vein the hundreds of layers of sediments that piled on top of oil reservoirs over millions of years. “It’s like medical imaging,” Davis says. “We look for cracks in the ground just like a doctor looks for the crack in a person’s broken leg.”

In particular, Davis’ team can watch and sometimes predict the movement of injected carbon dioxide. That’s essential for EOR, but it is also crucial for an entirely different endeavor: carbon sequestration. Because EOR operations consume megatons of the climate change culprit carbon dioxide, these projects have led to an unusual collaboration between oil behemoths and environmental groups. From the perspective of an oil company, depleted oil fields are worthless empty holes deep in the ground, but to scientists looking for a place to sequester greenhouse gases, these reservoirs may be the storage tanks they have been looking for. “We talk about trying to get rid of the stuff and this is the natural place to do it,” Davis says. Once injected into a reservoir, carbon dioxide acts like a scrubbing agent. It mixes with the oil, turning it into a slippery fluid that more readily flows through rock. At the wells, operators capture the blend and recycle the gas. However, only part of the carbon dioxide dissolves in oil and returns to the surface. As much as half of it remains underground, where it dissolves in water and over time becomes part of the reservoir rock. “These two processes of enhancing recovery and storing go hand in hand,” Davis says. But they need to be optimized to be successful and seismic remote sensing technologies are the key for that.

To develop accurate three-dimensional reservoir models, Davis and his team “light up” the subsurface with different seismic waves. In the same way that our brains form visual images from light reflected by surrounding objects onto our optic nerve, Davis and his team image the underground by producing seismic waves at the surface and recording the resulting series of echoes with an array of sensors. While conventional seismic techniques often measure only sound or compression...
waves, Davis and his team also use shear waves, which are more difficult to detect and analyze but much more useful for finding cracks and other formations that could channel fluids, he says.

At Postle the team has wired up a six-square-mile patch that is scheduled for EOR in the coming months. A mile-long string of digital sensors reaches through a defunct well bore all the way down to the reservoir and nearly 2,000 others blanket the dirt surface like a miniature earthquake, sending seismic waves deep into the surrounding strata. Listening on the surface, Davis and his team record the seismic waves that echo back up after each 60,000-pound hammer blow.

At Mines, Davis and his students constantly develop new and better algorithms that can transcend the enormous mountains of raw seismic data into three dimensional models. Many conventional seismic techniques leave it at that, but Davis adds a fourth dimension to the process: time. He plans to return to Postle to image the ground again several times in coming years to check on the carbon dioxide flow after the EOR process has started.

The four-dimensional maps he can create through this process are invaluable for oil companies, such as Postle operator Whiting Petro- leum Corporation, who would work completely in the dark without Davis’ four-dimensional seismic remote sensing technology. "Four-D seismic is very good at measuring small changes in concentration, which means that it’s very good at following the front of the carbon dioxide through the reservoir," says Brendan Beck of the IEA. And because seismic remote sensing can be done remotely, it will likely become the predominant monitoring technology once a formation has been filled and closed.

Since Davis started the RCP some 23 years ago, he and hundreds of students worked in numerous locations in North America and Canada, including the Permian Basin—America’s energy hotbed—that spreads from Texas into New Mexico. But when Whiting Petroleum requested assistance at Postle, RCP took on their greatest challenge to date—monitoring technology once a formation has been filled and closed. "Wehner points out that the common understanding of the asphyxiating gas can rapidly escape into the atmosphere. Some oil fields still contain defunct open well bores that do go wrong. Some oil fields still contain defunct open well bores that don’t and covered them up, Davis says. It’s important to find these zones by mapping the underground because if there is a leakage, tons of the asphyxiating gas can quickly escape into the atmosphere. Davis’ team has used the technology in numerous oil fields, including the Weyburn field in Canada, where it played an integral part in the International Energy Agency (IEA) Greenhouse Gas Programme’s Carbon Dioxide Monitoring & Storage Project. One of the project’s objectives was to test various carbon dioxide tracking methods, including Davis’ four-dimensional seismic remote sensing technology. ‘Four-D seismic is very good at measuring small changes in concentration, and make changes to influence pressure and flow direction to help see into it at different points in time.’ If the carbon dioxide is not see into it at different points in time. If the carbon dioxide is not moving the way they want, operators have the ability to be proactive and change the direction of the carbon dioxide plume," says Brendan Beck of the IEA. And because seismic remote sensing can be done remotely, it will likely become the predominant monitoring technology once a formation has been filled and closed.

Davis says, adding that the process can increase the recovery of unconventional oil and gas resources. The process of capturing and liquefying the carbon dioxide exhaust from such ethanol plants is still cost-prohibitive, Wehner says. Technologies such as coal gasification utilized in a handful of power plants fare slightly better. These vent carbon dioxide at higher pressures, making it more attractive for EOR customers who need carbon dioxide in their liquid form. One of the first EOR users to tap into such manmade sources of the gas was Weyburn Field operator EnCana. "EnCana’s in this particular case, natural carbon dioxide sources were remote—as far away as Wyoming," Davis says. That made it economically attractive for EnCana to purchase from the Great Plains Synfuel Plant, a coal gasification facility near Beulah, ND.

The largest hindrance to large-scale adoption of such schemes is the lack of incentives, such as tax breaks to capture and store carbon dioxide. Beck says, “Reducing the costs, getting the incentives and working out a regulatory regime for storing carbon dioxide which governments are currently working on, are the biggest issues right now.” The potential could be enormous. Over the past five decades, Postle has undergone a sequence of recovery operations typical for North American oil fields. Operators first produced the wells naturally for a few years and once recovery declined they began to inject water, a process of secondary recovery, that pushed the oil to the wells. But because water doesn’t mix with oil, it tends to bypass much of it. "Primary and secondary recovery operations typically only get a total recovery of 25 to 30 percent of the oil out." The remainder sometimes called attic oil won’t come out voluntarily and diluting it with carbon dioxide is the only way to mobilize it. "As oil fields around the world are aging, even some of the world’s largest producers, such as Saudi Arabia, have begun to talk about carbon dioxide injection. “We are definitely going to see more and more EOR projects in the future,” Davis says, adding that the process can increase the recovery of unconventional oil and gas resources as well. Seismic remote sensing will play an important role in all of these projects, “I think we have a very bright future ahead of us by doing this kind of work and we are excited to be involved at the forefront.”
Twenty five years ago, the United Nations declared the 1980s to be the decade of water supply and sanitation and set out to install clean water systems in numerous poorer countries. It made sense. And the intentions appeared as pure as the water they hoped to deliver.

The U.S. Agency for International Development funded a prestigious U.S. engineering firm to set up the water and sanitation systems. And the firm delivered, installing systems that brought water to over 1.2 billion people and sanitation to nearly 770 million around the globe by 1990.

Back then it was easy to say the mission was accomplished. Yet, by just about any measure, the effort failed. In less than 10 years, 88 percent of the systems were no longer operating. Why did this noble endeavor evaporate? Several reasons, says Jon Leydens, writing program administrator in the Division of Liberal Arts and International Studies, who studied and taught on the United Nations effort.

First, he says the engineers didn’t factor in the perspectives, needs, values and aspirations of the people in the communities they were trying help. “They just went in, installed the systems and left,” Leydens says. “They were paid for how many systems they installed, not for how sustainable the systems were over the long term.”

What’s more, Leydens says the communities had no sense of ownership or investment in the projects, and no one shared how to operate or maintain the systems. The United Nations came away from the project having learned a costly lesson: if humanitarian relief efforts are to be sustainable, the skills, knowledge and resources of the local community must be factored in.

“Technology and socio-cultural realities are intertwined in subtle and complex ways,” Leydens says. “The world is changing profoundly, and engineers, when properly educated, have tremendous potential to contribute to sustainable, humanitarian projects.”

At Mines, this potential is being realized through the Humanitarian Engineering Program. One of the first of its kind in the country, the program provides a minor that complements the technical curriculum with humanities and social science courses designed to cultivate ethical maturity, cultural awareness and a fundamental understanding of economics, says David Muñoz, associate professor in the Engineering Division and director of the program.

Assisted by a $1.17 million grant from the William and Flora Hewlett Foundation, Muñoz and a team of colleagues from the Division of Liberal Arts and International Studies, the Engineering Division and Engineering Physics launched the program five years ago. “The curriculum reflects the complexity of humanitarianism,” says Muñoz. “We now know it’s not as simple as going in and building systems; we have to build...
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Alumnus arranges donation of 27 miles of pipe ‘Felt like the right thing to do’

When David Chasis, a 1961 Mines geological engineering graduate, heard about Minas’ work on a water purification and sanitation system for a remote village in Honduras, he knew he had to help. “It just felt like the right thing to do,” says Chasis, president of Chasis Consulting Inc., a firm specializing in plastic fluid handling systems in Austin, TX.

At talking with David Muñoz, associate professor in Mines’ Division of Engineering, who heads up the effort, Chasis assisted in arranging for pipe, fittings, valves and cement worth over $125,000 to be donated by 11 companies, all members of the Plastic Pipe and Fittings Association.

Chasis also helped arrange for a supervisor to visit the site and help install the pipe. “I feel opening students’ minds to the basic needs of communities throughout the world is priceless and very worthwhile,” Chasis says.

The Honduran project is part of Minas’ humanitarian engineering minor—a program that was funded for its first five years by the William and Flora Hewlett Foundation. The Hewlett funding runs out this year, however, and additional funds are needed to complete the Colinas de Suiza project mentioned in the adjacent article. For more information on how you can support Minas’ humanitarian engineering program or to request a compelling DVD about the program, please call 303-273-3658.

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Seven Mines alumni work Colorado’s only active underground gold mine, which is situated only a stone’s throw from one of the first Rocky Mountain gold strikes.

The phone on the office wall is a dedicated line to the working mine hundreds of feet below our feet. When it jangled to life during our interview, Branden Burden ’05 jumped for the receiver. It wasn’t an emergency, and since he’s been at the Cash Mine in Boulder County, they’ve never had an emergency, but the possibility weighs on him. “I hate it when that phone rings,” he said, returning to his seat.

Burden is the mine engineer for this Mount Royale Ventures mining operation situated 10 miles west of Boulder. Of the 33 employees there, seven are Mines alumni. Matt Collins ’04 is the mine manager; his wife, Lina Collins ’07, is the environmental engineer; Chris Emanuel ’05 is the mill engineer; Jim Paschis ’73 is their geologist; Donovan Smith ’07 is the associate mine engineer; and Murray Watts ’68 is the engineer responsible for core drilling.

Cash Mine is currently Colorado’s only active underground gold mine. Located at 8,500 feet on a hill overlooking the historic mining town of Gold Hill, it is also just a stone’s throw from one of Colorado’s earliest gold discoveries, the Gold Run strike of 1859. Since it was patented in 1872, the mine has remained operational much of the time, and consequently it is a treacherous labyrinth of vertical shafts and drifts (horizontal tunnels), many of which aren’t mapped. “Small mining is very different,” Burden says. “There’s a lot of risk involved.”

The company is close-knit with a sense of family that levels distinctions across the organization. Smith, who now oversees underground safety systems, jokes that perhaps his most important job of the day is showing up at 5:30 every morning to light the wood stove in the miners’ dry room. And when there’s a need, they all pitch in. “It’s more than just a job for us. We all get down and dirty from time to time to help each other out,” Burden says, describing how engineers sometimes fill in as miners or welders. New engineers joining the mine complete a rotation, working on every aspect of the operation before settling into their specific job.

The strong sense of community within the company is echoed in their relationship with the neighboring community of Gold Hill (pop. 220). Burden is a volunteer on the Gold Hill Fire Department, as are several other employees. They encourage locals to walk the trails on the mine’s 455 acres of land at the edge of town. And the children at the Gold Hill Elementary School know Burden: once he led the 26 students on an afternoon walk to explain the dangers of playing around old mines (the hills are riddled with abandoned shafts); another time he went to the school to teach Civil War history dressed as a Confederate soldier.

Matt Collins also maintains ties to the Colorado School of Mines Mining Engineering Department. He encourages students from the department to visit and welcomes interns. Collins believes a small mine with a small
staff can offer a breadth of experience that students won't get in a larger operation. Smith, who first came to the Cash Mine to visit a friend interning there, found it so much to his liking that he left with a job: “Coming out of school, I wanted something smaller,” he explains.

In the near future, Collins wants his team to break new ground on another front. Protective of their local environment, he wants the Cash Mine to reach a point of zero-waste. They already follow a rigorous set of environmental protection standards. For example, all excavated material that could leach harmful minerals into nearby waterways end up in their double-lined tailings pond. And starting this summer, he plans to begin putting tailings back underground and to use the remaining excavated materials to improve infrastructure. Collins is proud of these safeguards. “Our environmental controls are almost certainly more advanced than any small mining operation in Colorado,” he says.

While striving to protect the environment around them, their main focus is on finding gold. To do this, they are digging new tunnels in the mountain, following what look to be promising veins. The original Cash Mine consists of nine levels and is approximately 750 feet deep. Mount Royale Ventures has entered from the side of the mountain, following what look to be promising veins. Each time they blast inside the mine, they take samples, assay the rock and add the information to a growing database. The database plots results on a three-dimensional model of the mine, and Collins has written algorithms to interpret trends in the vein and project where they will achieve the best results. Just a few weeks ago, he zeroed in on a new area to mine and found it was directly beneath a stope that had been mined decades ago with considerable success. “That was an ‘aha’ moment,” says Collins.

While they use plenty of state-of-the-art technology, they also have some antiques in operation. Their primary and secondary crushers were built in the 1920s (replacement parts are scavenged or custom-made); at the face they use jack leg drills introduced in the 1930s that run on compressed air; and explosives are still detonated with fuses that burn. “They are safer,” Burden explains. “With all the lightning we get up here, you don’t want to start wiring up electronic fuses.”

Their old equipment and the history of the area reinforce a sense of connection Collins and Burden feel to the past. “To see what this place looked like and how they worked.” And he wonders what kind of life his counterpart engineers at the Cash Mine led. What were their hopes and dreams? What did they achieve? Where did they come from? What would they think if they saw the mine today? And if they met, what would they talk about?

It would be a fascinating conversation to be sure, the differences would be many, but so would the similarities. In fact, there’s a good possibility they would have graduated from the same university.
Dear Alumni:

As president of the Colorado School of Mines Alumni Association Board of Directors, I consider it a privilege to be associated with the rich traditions of Mines and all that this special university represents. And I am especially proud to serve such a vibrant group of alumni.

The Alumni Association is a great source of strength for Mines. By strengthening relationships between graduates and the School, we support Mines' noble mission and promote excellence, and by building community among alumni, we foster a rich network of personal connections.

As we reflect on a particularly dynamic year at the Alumni Association, I wanted to share a few highlights:

1. Reunion 2008: This year we launch the Golden Miner Reunion, which welcomes all classes who have passed the 50-year mark to come back to campus and reconnect with friends on an annual basis. Reunion program highlights include a symposium entitled "Our Energy Future," a luncheon featuring a speech by "Fat Marques" W0, donor of Mines' largest-ever individual gift; a graduation alumni banquet featuring Nobel Laureate in Physics James Cronin, an all-class BBQ, and the ever-popular class dinners.

2. Student Support: Through the generosity of Alumni Association members, 14 students were beneficiaries of Legacy Grants this year and several others received Field Session Grants. We also assisted the enthusiastic staff of The Engineer with exposure to their online version (if you’d like to receive it, please give us your email). And our mentoring program continues to build momentum, as you can read on p. 34. Our next objective in this area is to launch a Student Alumni Association—more on that later.

3. Personal and Professional Development: We continue to offer opportunities on and off campus in this area. Notably, we recently drew a standing-room-only crowd of students and alumni to the event, “Lessons in Leadership: Advice You Can Use,” which featured a panel of four highly successful alumni who answered questions about the values, strategies and personal characteristics that contributed to their accomplishments.

4. Communications: Several communications initiatives are underway. A new online community is in the works. Along with providing a more flexible alumni directory, it will also enable chat rooms, forums, blogs and much more. The Alumni Association website is going to be completely revamped; this will be done in concert with a completely revised School website. And lastly, Mines magazine was recently transformed and an online version launched.

As a distinct nonprofit organization, you might wonder how the Alumni Association funds these programs. Simply put, with your generous support. Thank you. Many have responded to our focus on membership growth: we now have 548 life members, double the number we had three years ago, and we had a strong response to annual membership this year, with many members choosing to include additional gifts with their dues. As of March 2008, we have 5,199 total members. Additional members, double the number we had three years ago; and we had a strong response to annual membership this year, with your generous support.

We look forward to hearing from you. Go to http://www.alumnifriends.mines.edu for additional information or contact csmaa@mines.edu.

Sincerely yours,

Eric M. May ’99
CSMAA President

The Network

Betans Getting New Digs

The Beta Phi Chapter of Beta Theta Pi celebrates 100 years at Colorado School of Mines this fall. To commemorate the occasion, the Betans are constructing a new state-of-the-art chapter house to be opened in September, and many alumni of the fraternity will be returning to campus to celebrate the occasion. The fraternity was initially begun as The Gastronomic Criterions in the early 1900s, and the Beta Phi's affiliation with Beta Theta Pi was officially recognized in 1904. Fundraising for the facility has been ongoing for the past seven years, and the hard work has now paid off, with construction at 1701 W. Campus Road well underway. The Centennial Celebration marking the historic 100-year milestone for the chapter and the opening of the new building will take place September 18–21, with a variety of activities planned (more information available at http://www.betaphialumni.org, or contact John Green ’91 at jgreener@msn.com). All Beta alumni are invited to attend.

CSM Alumni Association

Officers
Eric May ’99
President
Joseph Mahoney ’86
President-elect
Dick Mandel ’53
Treasurer
Julia Hoagland ’90
Secretary
Anita Pariseau
Executive Director

Directors
Robert Applegate ’03 PhD ’07
Harry Bricasce ’70, MS ’72
Justin Chichester ’07
John Howe ’83
Harvey Klingensmith ’75
Martin Kuhn ’83, MS ’87, DSc ’99
James Larsen ’65
Stefan Magnusson ’82, ’95
Barry Quackenbush ’55
Brandon Segura ’06
Darcy Souza
Jabar Tabaiou ’00
Kelly Tago ’91
Teresa Tschatschula
Glenn Vater ’60
Paul Wareham ’85
William Warfield ’75

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Records Manager
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Serena Stickney
Associate Director of Geographic and Special Programs
Nick Suttles
Editor/Director of Communications
Nancy Webb
Administrative Assistant
Allison Wheleock
Administrative Assistant/Office Coordinator

Nancy Webb
Records Manager

CSM Alumni Association

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Golden, CO 80401
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(800) 446-9488, ext. 3295
Fax: (303) 273-3583
E-mail: csmaa@mines.edu
www.alumnifriends.mines.edu
Mentors Illuminate Life-Changing Decisions

With only a month to go before graduation, a handful of seniors are still wrestling with what they are going to do after graduation. A few months ago there were many more in this predicament. Decisions are hard, especially when they must be made with little information about what the consequences will be.

Thanks to dedicated alumni around the country, students enrolled in CSMAA’s Mentoring Program received a little help with those tough choices this year. And by all accounts, it’s a win-win deal for all concerned—mentors convey how gratifying it is for them to help current students, and the students report that the insights about their future professions are invaluable.

The CSM Alumni Association launched the program in 2005, with the aid of Brandon Segura and Joe Mahoney (both current members of the Alumni Association Board of Directors). Segura came forward with the idea while still a senior at Mines. He saw the opportunity to put students in touch with industry veterans, who were in a position to inform students’ career choices. To this end, he worked with the Alumni Association staff and board members to create the Mentoring Program. Now in its third year, the program has paired almost 50 students with alumni-mentors, and its 2008 goal is to connect at least 50 more.

Felicia Blush, a doctoral candidate in material science, was paired with Bill Wilson ’65, who has decades of experience in the business. “Bill was a great conduit into private industry,” she said. “He helped me make some professional contacts and gave me all kinds of good advice. And it wasn’t just professional advice.” Watching Bill and Felicia talk, it is clear that a meaningful relationship has evolved, and it’s not one-way: “I like being back on campus,” said Bill. “I have a lot of industry experience and knowledge to share, and I enjoy being with students because I learn from them as well.”

Other mentors echoed these sentiments. “Becoming a mentor really allowed me to come full circle as a former student and Mines alum,” said Mahesh Vidyasagar ’97. “I was able to connect with a new generation of students who wanted the same things out of a Mines education that I did when I attended. During the process, I found that the relationship I had with my mentees was mutually beneficial. I appreciated learning from them while they learned from me.”

Mentors frequently help students to get a head start on industry networking. Sometimes they also help students clarify their life goals and create structure for achieving them. Craig VanHorn ’00, a chemical engineering major, was paired with Stephanie Schmidt ’07, a student studying metallurgical and materials engineering. He meets regularly with his mentor and reported, “He has really helped me figure out what I love to do. Stephanie Schmidt ’07 says her mentor “has really helped me figure out what I want to do and where I want to go.” One former student was even helped through the process of purchasing her first home by her former mentor!

The Mentoring Program is always looking for alumni who are willing to mentor a student, and students who are looking for a mentor. If you are interested in learning more about the program, please contact Serena.Stickney@is.mines.edu.

For more information: http://www.alumnifriends.mines.edu/Alumni/csmaa_mentoring_program.htm

An E-Days Retrospective

While the fireworks went off in Golden on April 3, 2008, over 350 alumni around the world raised their glass to Mines in celebration of E-Days! It is truly one of the most fondly remembered Mines traditions, and E-Days "round the World" drew Mines together in locations from Antarctica to Anchorage, and many places in between.

The first E-Days, or Engineers’ Day, celebration at Mines was on January 29, 1927, when Mines was a very different place. Students could specialize in one of only four academic “options”: metal mining, metallurgy, geology and petroleum engineering. And the School operated from four main buildings: Guggenheim Hall, Stanton Hall, Chauvenet Hall and the Hall of Engineering. In the spring of 1927, 65 seniors graduated from Mines.

The event was organized by the Colorado Engineering Council and was intended as a day of entertainment for engineers and engineering students across the state. A Mines committee, which included Melvin P. Coolbaugh, made the campus arrangements. Activities included talks given by council members in Guggenheim, campus tours, a basketball game with the University of Wyoming, and a dance sponsored by the sophomore class.

Eightsy one years later, E-Days has evolved into a weekend of merriment and traditional competitions, including the tricycle race, arm wrestling, beer Olympics and cold spiking competitions. One thing that has remained the same throughout all E-Days celebrations is that the weekend starts with a spectacular fireworks show—the best in the state.

CSMAA launched E-Days Round the World in 2006 as a way for alumni in various regions to gather, get to know each other and reminisce about their days at Mines. Credit for the success of this event goes largely to our group of energetic volunteers around the world who call and rally enthusiasm. To see photos of this year’s gatherings, go to http://www.mines.edu/magazine. If you want to volunteer to organize a gathering next year, email Serena.Stickney@is.mines.edu.

E-Days ‘Round the World celebrations took place in the following locations:


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Alumni

How Has Your Mines Education Shaped Your Life?

Maybe you benefited from Mines’ personalized academic environment. Perhaps you gained relevant technical knowledge. In one way or another, your Mines education has enhanced your success and quality of life.

A reunion gift to The Mines Fund carries on the unique Mines experience for generations of future students. Let’s join with our classmates to support the enduring value of a Colorado School of Mines education.

Making your gift is easy
Visit www.oia.mines.edu/give

Or contact
Marv Kay ‘63
National Reunion Giving Program Chair
303.273.3363
Marv.Kay@is.mines.edu

Alexis Bloomfield
Major Gifts Officer
303.273.3144
Alexis.Bloomfield@is.mines.edu

Make This Year Even More Special with Your Reunion Class Gift

How Has Your Mines Education Shaped Your Life?

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Marv Kay ‘63
Fast Forward

Class Notes
Weddings
Alumni Profiles
Births
Passings

1943
Richard W. Deneke is retired and lives in Stone Mountain, GA.

1947
David B. Mazer turned ninety in December 2007.

1950
Clyde W. Kerns is retired and lives in Lubbock, TX.

1951
E. Geoffrey Jeffreys is enjoying life. His health is good. He is staying busy and having a ball. He wishes everyone the same.

Robert B. Owen is president of RBO Inc. in Corpus Christi, TX.

1952
Michael Alexander is a consultant for IGC in Bakersfield, CA.

Lowell I. Thomas is retired and lives in Colette, OR.

1953
Keith D. Jung is retired and living at Mammoth Lakes, CA. He is active with the town and serves on advisory committees and advocacy groups. He also keeps busy hiking, back-packing, fishing and stream surveying.

1954
Carl L. Blazel is a partner of Information Management Services in Honolulu, HI.

1955
Chester L. Love is an independent petroleum consultant in Bakerfield, CA.

1956
Ralph H. Dougherty is president of Dougherty & Associates in Charlotte, NC.

1958
Gregory C. Mayer is retired and lives in Wheat Ridge, CO.

1959
Gene A. Burrell is president of Burrell Engineering in Frisco, TX.

Lary G. Cahill is retired from ASARCO Incorporated and lives in Golden, CO.

Maurice A. Chaffee retired in 2000 from the U.S. Geological Survey but continues to work there as a scientist emeritus. He writes, “My current research involves applying trace-element geochemistry to environmental issues in the western U.S.”

Peter A. Rutledge is retired and lives in Lake- wood, CO.

Lowell I. Thomas is retired and lives in Coquille, OR.

1960
James F. Green, Jr. is president of Green Brothers, Inc. in Fort Morgan, CO.

William R. Sandler II writes, “I am semi-retired after 30 years in the guest ranch business and 30-plus years in land development, creating residential developments in Jefferson, Cimarron, and Eddy counties in Colorado. My wife, Marilyn, and I enjoy winter vacations at our home in Frisco, Leavenworth and trips on our boat in South Florida. We recently celebrated our 42nd anniversary.”

1962
Stephen J. Force teaches grade school math and English at the Our Meritful Savior after school program. He lives in Lakewood, CO.

Terry G. Lenz is a retired emeritus professor of chemical engineering at Colorado State University.

1963
Phillip M. Beatty is an executive coach for the Avian Group in Boulder, CO.

Donald W. Bennett retired from Pioneer Natural Resources on March 1, 2008. He lives in Denver, CO.

Edward D. Church is president of Church & State Wastewater Consultants in Wheat Ridge, CO.

Joe W. Gray is a biomedical scientist and division director for Lawrence Berkeley National Laboratory in Berkeley, CA.

1964
Dale R. St. Laurent is retired and lives in Rowlett, TX.

1965
C. Michael Oldenburg is an operations manager for Solara Petroleum in Bogota, Colombia. His home is in Golden, CO.

E. Avery Reed is owner of Griffin Company in Santa Fe Springs, LA.

1966
Donald L. Bryson retired from Pioneer Natural Resources on March 1, 2008. He lives in Denver, CO.

E. Geoffrey Jeffreys is president of Lawrence Berkeley National Laboratory in Berkeley, CA.

1969
Ralph H. Dougherty is president of IGC in Bakersfield, CA.

Louis D. Jensen is retired and lives in Colorado Springs, CO.

1970
Michael Alexander is a consultant for IGC in Houston, TX.

Richard D. Wendeborn and his wife “D.A.” celebrated their 50th wedding anniversary this summer. Their five children, their spouses, and their 16 grandchildren joined them for the celebration.

1971
W. Craig Blasingame is vice president of product development for Margelina Designs Inc. in San Bruno, CA.

1973
Terry L. Campbell is currently working with an oil company to put together a uranium exploration mining company, after working for former U.S. Senator Jim Talent in Missouri for four years.

Harold C. Capshaw III is retired and living in Claremore, OK.

1974
Brian Garrison ’01 married Anne Hersch on Maui, HI, on January 8, 2008.

John E. Lee III is attorney of counsel for Wright & Associates, PC in Edmond, OK.

Gregory K. Staff is senior project manager for Plains All American Pipeline, LP in Houston, TX.

1975
Michael J. Bertoldi is a mine engineer for Morton Salt in New Iberia, LA.

Kenji C. Farinelli is a project manager for Lachaud Martin in Colorado Springs, CO.

James L. Schlabaugh is retired and lives in Dolores, CO.

1976
Martin P. Schmidt ’98 and Stephanie E. Ashley ’07 were married on August 13, 2006 at the Church of Jesus Christ of Latter-day Saints in San Diego, CA.

1977
Thomas L. Brenlinger has been promoted to operations superintendent for Permian Basin Operations for Marathon Oil Company. H. R. Klingensmith is founding CEO and president of Stone Mountain Resources LTD, a private oil and gas company in Calgary, Alberta, Canada.

1978

Births

Passings

Weddings

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1977
James J. Brenelle is a senior geophysicist for Venoco Inc. in Denver, CO.

James L. Cornelissen is senior loss control representative for the Continental Western Group. He also is a certified safety professional and lives in Thornton, CO.

Kevin Wayne Patterson is advisor and subject matter expert—IPSO for Chevron International Exploration & Production in Buri, Riau, Indonesia.

Marcos P. Randolph is group executive and chief executive of forms and coal for BHP Billiton Ltd. in Melbourne, Victoria, Australia.

R. Gordon Schupmann is owner of P.O.E. Inc. in Lodi, CA. His recently opened oil and gas consulting firm serves clients in California and the Rockies.

Martin W. Sharp is a consulting geophysicist for Chevron Thailand Ltd. in Bangkok, Thailand.

1980
Nicholas W. Atencio is an independent geo-engineering officer for Remora Energy Management, LLC in Somerset, CO.

Andrew J. O’Conor is project development manager for Schlumberger Ltd. in Villahermosa, Tabasco, Mexico.

Scott K. Burkholder is a senior geophysicist for Accor Geo, LLC in Golden, CO.

Winthrop D. Childers is president of WDC Patents in San Diego, CA.

Boger W. Flahive is managing director for SB Energy Partners in Denver, CO.

Eric J. Lauber is manager of technical services for Western Refining in Broomfield, CO.

Charles E. Lienert is retired and lives in La Junta, CO.

Thomas A. Neville is a partner for PetroTap in Dallas, TX. He lives in Mento Park, CA.

Brian C. Savage is chairman and CEO of Frontier Mining Ltd. in Melbourne, Victoria, Australia.

Kevin A. Sparks is a principal process engineer for Metabrook in Cambridge, MA.

Bruce A. Tanguy is a drilling manager and consultant for Endeavor Energy. He lives in Westminster, Aberdeen, UK.

1981
Jose Moreno ’96 sometimes ends his day with a stroll through Moscow’s Red Square, perhaps picking up cup of tea on the way. Although at six dollars a cup, he admits it’s a fairly rare treat. Jose is now in his eighth month working at the U.S. Embassy Moscow as a security engineering officer. When Jose first applied to the State Department, he was looking for an exciting job that would enable him to travel. He’s clearly fulfilled the travel objective. And with U.S.-Russian relations getting downright chilly, there’s plenty of excitement too. “It’s a tense place, especially during elections,” Jose says. “Leadership approval ratings go up when a tough stance is taken toward the West, which makes the mission more challenging.” From his office, Jose looks directly at the Russian White House where the new president, Dmitry Medvedev, has his office, and where Putin will soon move in (and where anti-Yeltsin protestors were shellacked in 1993). “It’s really quite captivating the way there’s always a clear sense that the two governments are watchful of each other,” Jose remarks. For an upcoming visit from both U.S. Secretary of State Condoleezza Rice and Secretary of Defense Robert Gates, Jose’s department will be providing technical security and support for their hotel and the high-profile meetings.

While Jose’s professional life may seem a little outside the norm, his family life is quite down to earth. His wife, Tracy, is a teacher. His two boys, Alex (10) and Daniel (8), attend the Anglo American School. Their social life revolves around work and their children’s school. “We take the kids ice skating at Red Square, swimming on the compound and for walks through this lively city of approximately 12 million. There’s plenty to do,” he says.

Moreno began his technical career soon after high school while he was in the U.S. Army. “I scored high in the electronics portion of a standard test, so I was sent to technical school in Georgia to study electronics and then to Germany to work on Apache helicopters,” he said. After his tour of duty, he came to Mines by way of Front Range Community College, graduating with a degree in electrical engineering in 1996. He worked in Arizona for Lucent Technologies and then General Dynamics before applying for the position with the State Department. His first posting took him to Washington, DC, to work on network security. When the opportunity to go to Moscow came up, he jumped at the chance. Ironically, Jose was in Germany when the Berlin Wall came down. “I literally helped chisel it down,” he chuckles. “At the time, the idea of working in Moscow in an era of tremendous change and peace was only something to contemplate. Now we’re living it and the challenge is to keep those walls down.” Jose is keen to point out that the State Department has lots of opportunities for engineers. “They seem to be recruiting at Texas A & M for some reason and I’d like to change that,” he jokes. Rotations take place every two to three years, so the job provides a truly global experience. For information visit www.state.gov.

1979
Joseph D. Achilleos is project development manager for PetroTec Chem Co. in Terneuzen, the Netherlands.

Alan J. Mencin is senior vice president for Gulf Venture. He lives in Golden, CO.

Anthony M. Meyers is director of engineering support for Continental Mining in Dallas, TX.

Andrew J. O’Conor is vice president of Hillenius Partners, LP in New York City, NY.

Douglas E. Thomas is an independent geophysical consultant in Montevideo, UR.

1980
Terry L. Mead is a GIFT - support manager for Schlumberger, Ltd. in Denver, CO.

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Nicholas W. Atencio is chief operating officer of the Rockies Energy Management, LLC in Houston, TX.

Eric F. Hadsell is owner of P.O.E. Inc. in Lodi, CA. His recently opened oil and gas consulting firm serves clients in California and the Rockies.

W. Dennis Gibson is general manager for Mitsubishi Materials USA Corporation in Columbus, NC.

James C. Laughly has moved from Landmark Graphics and is now an exploration geophysicist for the Newfield Exploration Company in Tulsa, OK.
1987

Julie L. Bader moved to Redding, CA in June 2007 with her husband and three daughters (4, 7, and 9). She works for the Mid-Pacific Region, Bureau of Reclamation, Department of Interior as an electrical engi-
ner in Sacramento, CA.

1988

Tina Faraca has recently been ap-
pointed president of Marathon & Northeast Pipe-
line, a subsidiary of Spectra Energy based in Hous-
ton, TX.

Craig F. Horalcher is principal geologist for Princock, Allen & Holt, Inc. in Lakewood, CO. Ronald A. Smith is a senior control systems engineer for Trigge & Bond Inc. in Wester-
ton, MA.

1989

Michael J. Orsbona writes: “After five years in the Northern Minnesota taconite (iron-
one) industry and a short year at Cleveland-
Cliffs headquarters in Cleveland, Ohio, I am trans-
ferring to Cliff’s Australian asset, Port-
man Iron Ore Limited, for a two to four year
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ging the generative and near mine exploration programs proximal to Portman’s open pit op-
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bing in the Yilgarn of Western Australia. Relocating with me will be my wife Stacey, and our sons Thomas (8), Andrew (7) and Brennan (7 months). My home e-mail is mikoorsbona@hotmail.com.”

David G. Ray has just completed 15 months in Saudi as the operations officer for the 8th Engineer Battalion. He and the battalion have returned to Schweinfurt, Germany, to begin preparing for future combat opera-
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Juliene M. Benson is chief financial officer for Facts and 

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Julia Haggard is vice president of Corcoran Group, Medum Luxury Living Partnership, in New York City, NY.

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sia. He lives in Tanggerang, Banten, Indon-
eria.

Joseph F. Fitz is general manager of Nato Atb Rhadu West Fast Ltd. in Alkhob, Saudi Arabia.

Jeremy Zimmerman has rela-
ted with his family to A-
berdeen, Scotland. This picture was taken outside Fyvie Castle in Aberdeenshire, and includes his wife, Asia, and their daughter, Anna. He continues to work for Chevron as a staff geophysicist.

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2004
Brandon R. Baker is a senior midstream engineer for Devon Energy Corporation in Bridgeport, TX.
James R. Heath is a water resources engineer and owner of D2A Water Engineers, Inc. in Lakewood, CO.
Tara N. Holz is a mechanical engineer for BC Tech Inc. in Santa Cruz, CA.
Scott E. Hopkins is a project engineer with Flattos Constructors Canada in Calgary, Alberta, Canada.
Heath R. Kirk is an account manager for Rocky Mountain Instruments in Lafayette, CO.
Christopher E. Lindeman is a process design engineer for BBI International in Lakewood, CO.
Cristian H. Malave is geophysical technology advisor for El Paso Corporation in Houston, TX.

2003
Ahmed Khaled Al-Neaimi is an engineer for Abu Dhabi Marine Operating Company (ADMA-OPCO) in Abu Dhabi, United Arab Emirates.
Matthew C. Balzer is senior territory manager for Rockwell Automation in Denver, CO.
Robyn C. Brown is a staff engineer for Heat-Peel/Panalo Geotechnical in Silverthorne, CO.
John P. Gabrielson received his PhD in chemical engineering from the University of Colorado – Boulder in May 2007. He works for Aemgen in Longmont, CO.
Steven T. Masson is a project manager for Shutter Blauken Engineering & Consulting in Lakewood, CO.
Matthew J. Orobona is a reservoir engineer with Apache Corporation – South America, in Santiago, Chile.
Matthew H. Pinner is a lead J2EE engineer for Accruent, Inc. in Santa Monica, CA.
Jennifer (Harvey) Tobin ’03 and her husband, Nick, announce the arrival of their son, Evan Keith on February 25, 2008. He joins his big brother Andrew.
Michael J. Orobona ’91 and his wife, Stacey, announce the arrival of their son, Bennett Richard Hewitt, born June 5, 2007.

2002
Eric W. Boogaard is a product engineer for Heraeus Electro-Nite and resides in Milwaukee, WI, where Brian is a systems engineer for Enserco Energy Inc. in Golden, CO.
Brian A. Armstrong is a senior research engineer for the ExxonMobil Corporate Research Center in Essex Junction, VT.
Michael W. Eaton received his doctorate in materials science from the Stanford University of Stanford, CA. Presently, he is a senior research engineer for the Exx

2001
Devon A. Harman is a construction manager for T.o. Smith Company in Mobile, AL.
Michael J. Vint is a project engineer for Morrison-Kn雀e in Tempe, AZ.
John Robert West is a geological engineer for URS Operating Services in Denver, CO.
Lana R. Wilson is an engineer for Hymodetics, in Billings, MT.
Matthew C. Douglass is a process engineer at the Ravensochrome Nickel Operation for BHP Billiton Ltd. in Ravensochrome, Western Australia.
Emily R. Treasoi McGaule is an independent consultant in Saluda, VA.
Jennifer A. Kramp Rivers is an engineer for Struham Environmental Services. She lives in Gaffney, MD. Presently, he is an associate attorney for Faegre & Benson in Denver, CO.

2000
Brian A. Armstrong is a construction manager for Portland Newspaper Company in Portland, OR.
Shawn E. Evers is a senior site manager for General Electric in San Francisco, CA.
Derek T. Webb received his P.E. in 2007 and is currently a project engineer for Mullar Engineering Company, Inc. in Lakewood, CO.
Eric May ’99 and his wife, Margaret, announce the arrival of their son, Davis Michael, born January 4, 2008.
Anna (Gray) ’99 and David ’06 Hanley welcomed their son, Thomas Giles, on October 13, 2007.
John ’84 and Sonia Guffey are happy to announce the birth of their second child, Christopher Noel, on January 9, 2008, in Houston, TX.

1999
Jonathan J. Thurman is a project engineer for Morrison-Kn雀e in Tempe, AZ.
Jason W. Goodall is a bridge engineer for the Boeing Company in Renton, WA.
Keri H. Brill is a systems engineer for PbV International in Broomfield, CO.
Matthew ’99 and Kimberly ’00 Sandoz announce the arrival of their son, Joshua Charles, born December 29, 2006.

1998
Dawn M. Ambrozio is regional C/E & liaison manager for Veritas Communications. She lives in Brighton, CO.
Duane J. Clare is a project manager for MSBD in Denver, CO.
Lesley R. Krueger is a patent attorney for T.R. Krueger, P.C. in Sugar Land, TX.
Masamitsu Hosh Yuso is general manager for Jutarni Offshore Services Sdn Bhd in Kuala Lumpur, Malaysia.
Fernando H. Rodriguez is environmental quality and health director for Barrick Gold Corporation – South America, in Santiago, Chile.
Patrick D. Sandovak is a project manager for Brady Parsons in Houston, TX.
Lisa J. Schowen, P.E. is an engineer for Mour & Associates in Lakewood, CO.

1997
Michael J. Orobona is a construction manager for Portland Newspaper Company in Portland, OR.
Vicki Alexander Hutson is an operations supervisor for the Boeing Company in Renton, WA.
Kathryn H. Soto is a reservoir engineer with Apache Corporation – South America, in Santiago, Chile.
Eric W. Boogaard is a process engineer for the ExxonMobil Corporate Research Center in Essex Junction, VT.
Christina J. Lynn is principal financial consultant for Axel Energy Inc. in Denver, CO.
Wul Tinh Nguyen is a senior software engineer for Raytheon in Aurora, CO.
Keith Y. Sugahara is a project manager for Goodfellow Brothers, Inc. in Kalispell, MT.

1996
Jason W. Goodall is a bridge engineer for the Boeing Company in Renton, WA.
Keri H. Brill is a systems engineer for PbV International in Broomfield, CO.
Eric W. Boogaard is a construction manager for Portland Newspaper Company in Portland, OR.
Matthew C. Balzer is senior territory manager for Rockwell Automation in Denver, CO.
Robyn C. Brown is a staff engineer for Heat-Peel/Panalo Geotechnical in Silverthorne, CO.
John P. Gabrielson received his PhD in chemical engineering from the University of Colorado – Boulder in May 2007. He works for Aemgen in Longmont, CO.
Steven T. Masson is a project manager for Shutter Blauken Engineering & Consulting in Lakewood, CO.
Matthew ’99 and Kimberly ’00 Sandoz announce the arrival of their son, Joshua Charles, born December 29, 2006.

1995
Jeffery C. Dillon is a drilling engineer for Southwestern Energy Company in Fayetteville, AR.
Terry L. Nichols is a scientist for the Lockheed Martin Corporation. He lives in Golden, CO.
Edwin R. Peralta is a mining engineer for Hino Development Associates in Reno, NV.
Michael J. Vint is a senior consultant for Snowden in Vancouver, BC.
Joshua E. Pedigo is marketing manager for Volvo Construction Equipment & Services in Elkridge, MD.
Shawn E. Evers is a senior site manager for General Electric in San Francisco, CA.
Tyler K. Faust is a major in the U.S. Army and lives in Seaside, CA.
Emily A. Gibson is an engineer for Pimsa in Calgary, Alberta, Canada.
Valarie L. Salaz Hamilton is marketing manager Canada for CGE/Veritas in Calgary, Alberta, Canada.
Joshua E. Pedigge has been promoted to regional area manager for Square D/Schneider Electric. Josh will accumulate general management responsibility for the St. Louis area (MI, IL, IA). He and his wife, Kate, and their two sons, Nate and Zach, will relocate from Nashville to St. Louis in the first quarter of 2008.
Derek T. Webb received his P.E. in 2007 and is currently a project engineer for Mullar Engineering Company, Inc. in Lakewood, CO.
Putting Down Roots in Anchorage

Olivia Bommarito ’03, ME ’05 was recently presented with the 2007 Society of Petroleum Engineers Western Region Outstanding Young Member Award, recognizing contributions and leadership in the energy industry and local community. The award was given at the SPE Annual Technical Conference and Exhibition held in Anaheim, CA, in November. Three faculty members from the Petroleum Engineering Department attended the awards luncheon in her support (left to right): Jennifer Miskimins, assistant professor; Bill Eustes, associate professor; Olivia; and Ramona Graves, professor and interim department head. Based in Anchorage, AK, Olivia is a production engineer for BP, a job she’s held since graduating with her master’s degree in petroleum engineering in 2005. After only three years, she oversees production for two drill sites located in the Prudhoe Bay oil field, 850 miles north of Anchorage. She enjoys her job: “I am faced with new challenges daily,” she says. She’s also enjoying Alaska. When she first moved to Anchorage with her husband Forest ‘03, ME ’05, they were anticipating about a three-year stay, but that has changed. “We want to be here for another five to ten years,” she says. “Forest and I both love anchoring, backpacking, and the mountain views.” Olivia and Forest also ski most winter weekends, but not at the local ski hill. “We do a lot of backcountry skiing. In the summer months we hike and bike, but I can’t get enough of the outdoors,” she says, adding that she’s getting ready for her first heli-trip at the end of March. Having met at Mines in their senior year, Olivia and Forest plan to raise a family in Alaska. “Forest grew up in the Anchorage area and it’s important to him to be there for our son,” Olivia says. “I love being here because it’s a unique place to raise children.” 2005

Jaime L. Apuya and Richard Apuya ’06 were married on October 6, 2007 at Light of the World Catholic Church. The reception was held at the DoubleTree Hotel in Westminster. A number of Mines graduates attended their ceremony.

Steven P. Freemen is an applications engineer for Ktech Poly-Flow Engineering in Albuquerque, NM.

Jennifer L. Schenkman received her P.E. in 2007 and is a transportation E.I. for HDR Engineering, Inc. in Albuquerque, NM.

Nicholas A. Svedtendorf is production manager for BuildASign.com Austin, TX. 2005

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Steven P. Freemen is an applications engineer for Ktech Poly-Flow Engineering in Albuquerque, NM.

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Nicholas A. Svedtendorf is production manager for BuildASign.com Austin, TX.

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Wales in Australia. He later returned to Australia on four separate sights set on ultimately teaching petroleum engineering, he first earned his bachelor’s degree in Air Force, he considered the Distinguished Flying Cross as his highest achievement. Having earned his bachelor’s degree in petroleum engineering from the University of Texas while still in the Air Force, he came to Mines immediately after retiring from the Air Force to begin work on his master’s degree. With sights set on ultimately teaching petroleum engineering, he first sought to accumulate practical experience in the field. He worked for Atlantic Richfield in Indonesia and Alaska’s North Slope. He then returned to Mines and taught in the Petroleum Engineering Department. During a sabbatical from May to August he was a fellow at National Cheng Kung University in Taiwan and the University of New South Wales in Australia. He later returned to Australia on four separate occasions. He is survived by his wife, Arlene Aldrich, his children, one granddaughter, and his great grandchildren.

Ralph J. Bowman ’48 of India, CA, died on August 25, 2001. He was born on April 4, 1926 in New York City but spent most of his childhood in Miami, FL. While still at Mines studying toward his degree in petroleum refining, he enlisted with the U.S. Army. After the war, while still in the military, he attended the University of Kentucky where he earned a bachelor’s degree in civil engineering. Under the G.I. Bill, he also earned master’s degrees in chemical engineering from MIT and business administration from New York University. He went on to become the supervisor of economic and corporate planning for Union Oil in California. After retiring from Union Oil, he became an offshore field engineer for Schlumberger for many years. After moving to Virginia, he served as an energy consultant for the economic and management consulting firms King, Mayo, O’Connor and Lee, as well as NASA’s Center for Space and Advanced Technology. He also served in an advisory capacity to the chairman of the Federal Energy Regulatory Commission. He supported the Sierra Club and PETA. He is survived by his brother, Charles.

Logan Verne Caldwell ’40 died on August 29, 2007, at his home in Charlotte. Born in Illinois in 1916, Logan moved with his family to Wisconsin and later Wyoming. After graduating from high school in 1933 in Rock Springs, WY, he joined the Civilian Conservation Corps before coming to Mines in 1936 to earn his degree in engineering. After graduation, he moved to Pittsburgh, PA, and worked in the engineering department with the Pittsburgh Coal Co. During World War II, he served in both the Army and Air Force, achieving the rank of major. After the war he became a lubricating engineer with Atlantic Richfield until his retirement in 1977. Logan was predeceased by his first wife, Grace Virginia Farrell, with whom he was married for 41 years. In 1983, he married his second wife, Edith, and soon became an integral member of her large family. With a passion for music, he sang in numerous groups throughout his life—quartets, church choirs and community productions—and enjoyed reciting poetry, story telling and baseball. At Charlotte Presbyterian Hospital he earned his 3,500 Hour Pin for dedicated service. He was also predeceased by his brother, Oliver. He is survived by his wife of 24 years, Edith Caldwell, stepdaughters, Linda Jenkins and Beverly Lynch, stepsons, Tom Pegram, brothers, Howard and Larry, sister, Gladys Kerley, and several step-grandchildren and step-great-grandchildren.

James G. Campbell ’86 of Marshall, VA, died on October 25, 2007. Born in Lima, OH, in 1952, he earned a degree in electrical engineering from Georgia Tech in 1977, before obtaining his degree in geophysical engineering at Mines. He also obtained a master’s degree in business administration from the University of Houston. He was an offshore field engineer for Schlumberger for many years. After moving to Virginia, he served as an energy consultant for the economic and management consulting firms King, Mayo, O’Connor and Lee, as well as NASA’s Center for Space and Advanced Technology. He also served in an advisory capacity to the chairman of the Federal Energy Regulatory Commission. He supported the Sierra Club and PETA. He is survived by his brother, Charles.

John Gyi Phills ’55 of Albuquerque, NM, died on October 3, 2007. Born in Lima, OH, in 1952, he grew up in Albuquerque in the El Fiels Hotel with his sister, Lou Delle, and his parents. After the death of his mother, he moved to El Paso, then Austin, and finally Santa Fe, where he attended St. Michael’s High School, playing football and getting involved with student and civic governance. He also began dating his future wife, JoAnn Shaya. At Mines he earned his degree in geological engineering. After working in the oil business for a number of years, he became manager and part owner of the Sundowner Motor Hotel in Albuquerque, where he developed a computer program for the hotel industry with IBM. He served as a board member of many charitable and civic organizations, including the Chamber of Commerce, Better Business Bureau, Albuquerque Boy’s Club, Hotel and Restaurant Association, St. Pius High School and Noon Day Ministries. He taught the Faith in the Spirit course at his Catholic Church: for twenty-two years and was involved with other Christian organizations. Above all, his deep faith in God and love of family and friends were the hallmarks of his life. He is survived by his wife of 53 years, JoAnn, his sons, John, Ryan and Stephen, his daughter, Lacie Adams; 11 grandchildren, and his sister, Lou Del. Phillips.

Keith E. Anderson ’60 died at his home in Olympia, WA on October 5, 2007. Born in Greeley, CO in 1936, he grew up in Eaton, CO. While at Mines studying for his master’s degree in petroleum engineering, he served as president and social chairman of the Kappa Sigma fraternity. After graduation he and his family moved to Illinois, where he worked for Northern Illinois Gas Company and, in 1970, earned a master’s degree in business administration from Southern Illinois University. Three years later he moved with his family to Washington, first to Spokane, to work for Washington Water Power, and afterward to Seattle. In 1982, he retired as vice president of Washington Energy Resources Company, an oil and gas exploration subsidiary of Washington Natural Gas. He and his wife, Annette, then moved to Olympia, where they began a second career traveling the country buying and selling antiques. He is survived by Annette, his wife of almost 49 years; four children, eight grandchildren, a brother; and a sister.

Robert H. Evertt ’43 of Wesley Chapel, FL, died on June 25, 2007. Born in Baldwin, KS, he earned his degree in petroleum engineering from Mines before beginning his service with the Army Corps of Engineers as captain during World War II. He was married to Frances Sherman of Lafayette, LA, for 57 years, dividing the majority of their time together between Lafayette and Houston, TX. They moved to Tampa, FL, in 2002. He is survived by his wife, Frances; his daughter, Joanie Everett-DelCotto, and three grandchildren.

Arthur James Dyson ’54 of Amarillo, TX, died on November 13, 2007. Born in 1923, in Milford, MA, he grew up in Canyon, WY, and enlisted in the U.S. Army Air Forces immediately after graduating from high school. He completed pilot training in early 1944 and flew 35 missions as a B-24 pilot in the 8th Air Force stationed in England. In 1949 he married Eva K. Frisch, who predeceased him in 1985. After earning his petroleum engineering degree from Mines, he spent his career working in Texas, Louisiana and the Rocky Mountains before retiring in 1985. He was a member of Kappa Sigma fraternity, Knights of Columbus, the Society of Petroleum Engineers and the International Association of Drilling Contractors. He was a member of St. Thomas the Apostle Catholic Church. He married Margaret M. Heberting in 1996. His brother, Gordon, and sister, Gladys also predeceased him. He is survived by his wife, Margaret; his son, Tony; three stepchildren, Raymond, Robert and Teresa, seven grandchildren, four great-grandchildren, and two great-great-grandchildren.

James R. DeCoito ’68 of Lakewood, CO, died on December 7, 2007, at his home surrounded by his family. Born in Perry, OK, he was the oldest of three brothers. During World War II, he served as a second lieutenant pilot bombardier in the Army Air Corps. He met and married Carol Martindale while he was attending Mines, with whom he was married for 41 years. He graduated from Mines with a degree in geological engineering. Throughout his 50-year career as an independent geologist in oil and gas exploration, he was based in Denver, where he could be seen once or twice daily walking downtown smoking his cigar, or over the lunch hour in the Cigar Room at the Brown Palace Hotel. He had two passions in his life: his wife and family, and the oil and gas business. He viewed his decision to attend Mines as pivotal to the formation of both. Until very end of his life, he was at his office working on a project. He is survived by his wife, Carol, his two children, Teresa and Doug, and his brothers, Jack and Jim.

George Dozalek, Jr. ’50 of Lakewood, CO, died on April 27, 2007. Born in Lima, OH, in 1926, he was the eldest of three brothers. During World War II, he served as a second lieutenant pilot bombardier in the Army Air Corps. He met and married Carol Martindale while he was attending Mines, with whom he was married for 41 years. He graduated from Mines with a degree in geological engineering. Throughout his 50-year career as an independent geologist in oil and gas exploration, he was based in Denver, where he could be seen once or twice daily walking downtown smoking his cigar, or over the lunch hour in the Cigar Room at the Brown Palace Hotel. He had two passions in his life: his wife and family, and the oil and gas business. He viewed his decision to attend Mines as pivotal to the formation of both. Until very end of his life, he was at his office working on a project. He is survived by his wife, Carol, his two children, Teresa and Doug, and his brothers, Jack and Jim.

James G. Campbell ’86 of Marshall, VA, died on October 25, 2007. Born in Lima, OH, in 1952, he earned a degree in electrical engineering from Georgia Tech in 1977, before obtaining his degree in geophysical engineering at Mines. He also obtained a master’s degree in business administration from the University of Houston. He was an offshore field engineer for Schlumberger for many years. After moving to Virginia, he served as an energy consultant for the economic and management consulting firms King, Mayo, O’Connor and Lee, as well as NASA’s Center for Space and Advanced Technology. He also served in an advisory capacity to the chairman of the Federal Energy Regulatory Commission. He supported the Sierra Club and PETA. He is survived by his brother, Charles.

Arthur James Dyson ’54 of Amarillo, TX, died on November 13, 2007. Born in 1923, in Milford, MA, he grew up in Canyon, WY, and enlisted in the U.S. Army Air Forces immediately after graduating from high school. He completed pilot training in early 1944 and flew 35 missions as a B-24 pilot in the 8th Air Force stationed in England. In 1949 he married Eva K. Frisch, who predeceased him in 1985. After earning his petroleum engineering degree from Mines, he spent his career working in Texas, Louisiana and the Rocky Mountains before retiring in 1985. He was a member of Kappa Sigma fraternity, Knights of Columbus, the Society of Petroleum Engineers and the International Association of Drilling Contractors. He was a member of St. Thomas the Apostle Catholic Church. He married Margaret M. Heberting in 1996. His brother, Gordon, and sister, Gladys also predeceased him. He is survived by his wife, Margaret; his son, Tony; three stepchildren, Raymond, Robert and Teresa, seven grandchildren, four great-grandchildren, and two great-great-grandchildren.
Robert Gideon Dowd '64 died in Surfside, CA, on October 13, 2007. He grew up in the midst of his family's Colorado farming operations, where he gained an early competency in all things mechanical. During his high school, he won several local and national scholarships, including a Naval ROTC scholarship to Stanford, an invitation to be a member of the inaugural class of the Air Force Academy and later an appointment to West Point. He attended both Stanford and West Point before serving two years in the army. After his discharge, he attended Mines where he received his metallurgical engineering degree. He then received a master of science in metallurgy from the University of Denver and completed his doctoral work at Ohio State University. He spent much of his time researching and developing new alloys (primarily titanium) now used in military and commercial aircraft, space vehicles, engines and medical components. He also worked for the Department of Ecology in aluminum, titanium and superalloy process development. Most recently, he worked as a consulting metallurgist for firms in both the public and private sectors. An avid outdoorsman from an early age, he shared his love and enthusiasm for hiking and camping with his children. He is survived by his high school sweetheart and wife of 49 years, Gloria; his sons, Gregg, Grant, and Glenn; his daughters, Cheryl Hosking, Jodi Shaver; his brother, Paul; and his lifelong friend and sister, Mary Cornwell.

James C. Hollingsworth '53 of Shreveport, LA, passed away on November 24, 2007. He served in the U.S. Army from 1943 to 1946 in radio intelligence. He served overseas during World War II, where he was stationed including logging on the beaches of Normandy on D-Day. He graduated from Mines with a bachelor's of science degree in geology and geophysics. He began his career with ARCO, working at the Cherry Point Refinery in Bellingham, WA. He later worked in the development and operation of the Prudhoe Bay oil field for more than 20 years. Most recently, he managed the development of oil fields in Malaysia, Australia, Thailand and Egypt. He is survived by his wife, Louise Byrne; his mother, Betty; his daughter, Jennifer Shave; his sisters, Brenda Davis and Karla Kyens; and three grandchildren.

Donal J. McMillen '44 of Cordova, CT, died on December 18, 2007, surrounded by his family. He was born in Champaign, IL, in 1919, although his family soon moved to Denver, CO. He graduated with a degree in mineral engineering at the University of Colorado, Boulder in 1941 and the University of California, Berkeley. His career was largely spent working for the state of California as a civil engineer; he retired in 1981. His wife of 51 years, Kathleen, died four years ago. He is survived by his seven children and six grandchildren.

Eric Newman '54 died on July 21, 2007, at Good Samaritan Hospital in LaGrayette, CO. He was born in Saskatchawan, Canada, in 1930. After completing high school in Port Arthur, Ontario, he attended the Lakehead Technical Institute, also in Port Arthur, where he studied mine engineering. Eric then transferred to Mines, where he earned his geology degree in 1954. Two days prior to graduation, he married Ingeborg Barnung of Norway, with whom he enjoyed 53 years of marriage. Eric worked in the mining industry his entire career, beginning in the gold mines of Quebec and later moving on to uranium mining in Wyoming. His work took him throughout the U.S., Canada, Australia and Africa. He served as president of the Sons of Norway and volunteered for the Colorado School of Mines Alumni Association for many years. Second to his family, Eric's greatest joys were in life were traveling, reading, opera and classical music. He is survived by his wife, Ingeborg (Irene); his sons, Thomas and Paul; his daughter Ann Moore; four grandchildren; and one great-grandchild.

Jack McKnight Parker '36 died at his home in Albuquerque, NM, on October 10, 2007. He was born in Buffalo, NY, in 1913. Jack graduated from Mines with a degree in mining engineering. While at Mines he lettered in football, track and wrestling. He married Alice (Pike) Kamin, a 1941 Mines graduate. During World War II, he was commissioned in the U.S. Army Corps of Engineers Reserves and was called to active duty in January 1941, serving as commanding officer of 1281 Engineers Combat Battalion. During the war, he spent time in both Europe and the Philippine Islands before being detached in 1946 with the rank of lieutenant colonel. He then returned to his pre-war position with Miami Copper Co., Miami, AZ, as supervisor, mineral exploration drilling. He went on to work for Cerro de Pasco Corporation as project supervisor for exploration of the Cuajone copper-ore body in southern Peru, South America. The last 20 years of his career were spent as a mining engineer for the U.S. Forest Service. He was an avid outdoorsman who enjoyed camping and hunting. A committed conservationist, he dedicated many hours to volunteer projects with the Sandia Ranger District, cross-country ski club and Albuquerque Wilderness Club. During his tenure with Cerro de Pasco, he and his wife lived in La Paz, Bolivia. Jack is survived by his five children: Lenore, Jude, Marcumoin, Robin and Gordy; eight grandchildren; four great-grandchildren; his brothers, William and Ralph; and his sister, Constance Braxton. He served in the U.S. Army with military honors in the Santa Fe National Cemetery—32 members of his family were in attendance.

David Rother '73 of Lakewood, CO, died on June 18, 2007. David grew up in Lakewood. While attending Alameda High School, he played basketball, baseball and soccer. He was also a member of the Amps and played the saxophone. At Mines, he earned a bachelor's of science degree in petroleum engineering. After graduation, he moved to Sacramento, CA, to work for Schlumberger. In 1990, he moved to Houston, TX, where he worked for Baker Oil Tools for 17 years. He held progressively more responsible positions, finally becoming senior project engineer in the Statoilstoring Engineering Group specializing in flow control and packers. During his tenure with Baker, he traveled to Syria, Congo, Angola, Venezuela, Bahrain, Saudi Arabia and Scotland. He enjoyed sports, traveling, wine collecting, entertaining, and was an active member of the Saint Anthony of Padua Catholic parish in The Woodlands, TX.

Henry Thyberg '54 died on August 12, 2007. Henry was born in New York in 1928. After earning both his undergraduate degree and master's in mining engineering from Mines, he joined the United States Geological Survey, where he remained until his retirement in 1979. He held a second-degree archipelago, for two years. After returning to Colorado, he moved to Crested Butte where he worked in the oil and gas business. He was predeceased by his wife of 49 years, Virginia, in 2004. He is survived by his high school sweetheart and wife of 49 years, Gloria; his sons, Gregg, Grant, and Glenn; his daughters, Cheryl Hosking, Jodi Shaver; his brother, Paul; and his lifelong friend and sister, Mary Cornwell.

Vernon R. Thompson '52 of Palm Beach Gardens, FL, died on June 18, 2007. Vernon was born in Daytona Beach, FL, in 1930. After earning his degree in metallurgical and materials engineering from Mines, he worked at Battelle Memorial Institute in Columbus, OH. In 1955, he married Barbara. The couple eventually moved to Philadelphia where Vernon served in the US Army at Frankford Arsenal. After being discharged, he went to work for Crucible Steel in Pittsburgh, PA, for three years. While he raised his family, in 1960, he moved to Palm Beach Gardens where Vernon was employed by Pratt and Whitney Aircraft in their Materials Research Division until he retired in 1981. Vernon specialized in research and development in the powder metallurgy field, including processes for working of tool steels and producing super alloys. He holds eight U.S. Patents in these fields, and he was proud of his contributions to the ASM Metals Handbook and the AWS Welding Handbook. Above all, Vernon was devoted to his family, as a husband, a father and a grandfather. He is survived by his spouse of 52 years, Barbara Thompson, his son, David Thompson; his son, Craig Thompson; his daughter, Shirley Farnsworth; five grandchildren; and four sisters. He was predeceased by two of his brothers.

Also In Memoriam

Edward M. Feely 50 October 8, 2005
Robert L. Garrett 45 March 15, 2007
Jessie A. Geppert November 8, 2006
Robert B. Hill PhD 79 June 1, 2006
John V. Newhouser March 5, 2006
Robert J. Young 54 May 30, 2007

Alumni Passings (cont.)
Parting Shots

View from South Table Mountain circa 1908

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Jens Weise
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www.howellconstruction.com
Bob Howell ’39 + Jim Howell ’46

P.S. Last Word is a very popular section of the magazine, but alas we didn’t receive one for this issue. If you have an idea or an essay you want to share, please get in touch with the editor: magazine@mines.edu.

View from Same Location, 2008

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