Colorado School of Mines

Newsletter
Petroleum Engineering

Vol. 7, No. 1 September 2002

Greetings from Craig Van Kirk

Here is my perception of the status of the Petroleum Engineering Department at the Colorado School of Mines and the major events of the last 12 months. First, on a personal note, my family and I enjoyed the year in good health with lots of new experiences for future fond memories. My wife Denice and I, along with our children and 4 grandchildren, are looking forward to grandchild #5 with an ETA of early October, probably during this year's SPE Conference in San Antonio. Throughout each year I receive many messages and visits from you alumni and other CSM PE friends. Please do keep in touch and up-to-date, and drop by for a visit anytime.

During the year since our last Newsletter we have added one new faculty member, Dr. Jennifer Miskimins. Jennifer worked for Marathon for 10 years before joining our graduate program a few years ago, and she earned her Masters and PhD degrees in our PE Department. She has taught several courses, very well, and completed her PhD this past Spring semester. We are very pleased that Jennifer has chosen to stay with us in academia, and you can read more about her later.

The PE Department's Visiting Committee was on campus again April 25 and 26 for 2 days of meetings with faculty, staff, students, and CSM leadership. The group of alumni and other industry leaders represent a broad spectrum of professionals and provide CSM and the PE Department with valuable input, advice, and forecasts.

The job market for our students was very strong, as usual, with high demand and salaries. This Fall's freshman class has 30 students already designating PE as their major, the largest number we've seen in many years.

(continued on page 2)

Craig with his new hat (MH = My Hat!)

Inside this issue:

Please help us by completing and mailing the enclosed Alumni Survey.

The Department's staff continues to provide excellent support of the students, professors, and partners. Randy Miner has completed his first full year taking care of our labs, in fine fashion. Our office program and administrative assistants have completed another outstanding year helping us all achieve the best possible results for our PE team. Dee Brown now has 19 years in PE, while Chris Cardwell is catching up, with 9 years on our staff.

A current new project we are working on now is a proposed Alliance between CSM and PetroSkills. PetroSkills is a cooperative educational program composed of OGCI, Shell, BP, Halliburton, and Saudi Aramco. PetroSkills approached me during this past winter and invited us to join the Alliance, with the possibility of some PetroSkills short courses offered throughout the world being accepted for transfer credit in our graduate program. It should be a win-win opportunity for both groups.

Craig in new pickup dontated to Petroleum Engineering Dept. by Anadarko Petroleum.

On a more serious note, a recent national survey published broadly showed CSM ranked among some of the most well recognized universities in the country. CSM was ranked dead last in campus food, or number 1 in campus food being rated by the students as "bad". Also, CSM's student opinions resulted in "intercollegiate sports being unpopular or nonexistent" as the second lowest (worst) ranking in the country. It appears that some of the good old Mines traditions are alive and well, being maintained in order to turn out tough young engineers!

The Annual SPE Conference is scheduled for late September and early October in San Antonio. As usual, we will cancel all PE classes Monday through Wednesday, and host the annual CSM alumni reception Tuesday evening October 1. We will be pleased to see you there. As always, we'll use PE Department funds to cover at least 50 percent of the costs for any PE student who would like to attend. Normally, we have approximately 50 students at the Conference, an excellent showing for CSM. This is just one of the many ways we reinvest the financial support you alumni and other PE Department friends provide. Feel free to send cash anytime you get the urge.

Our PE program continues to be strong and growing, maintaining the traditional high quality and global reputation, while always pursuing new or better ways, ideas, and teammates. You alumni can be proud of the Department's past, current status, and future potential.

Thank you all for your continuing support and advice. Please keep it up, keep in touch, and come by to visit.

Yours truly, Craig

Craig and Intisar Al-Abri, the first Omani woman to work for Occidental as an engineer, were all smiles following December's commencement ceremonies. Intisar graduated with B.S. degrees in petroleum engineering and economics and business.

Letters from Our Faculty

Richard L. Christiansen

The transition from Summer to Fall schedules is not pleasant. In the Summer, I focus on one or two research projects. But the first two weeks of the Fall semester are extremely chaotic, with start-of-the-year faculty meetings and other meetings, scheduling of courses to avoid conflicts, helping new graduate students create course plans, plus continuing a reduced effort in research – and writing for this newsletter. It is a time when any rational person questions his choice of employment.

Richard Christiansen

The talent, energy, and enthusiasm of our undergraduate population relieves some of the pain of this transitional period. It is fun to learn what these young people have been doing for the last few months. The quality of these undergraduate students is key to the reputation of CSM. Just as a great violin can make any violinist sound better, these students make us faculty look better as they graduate and proceed through their careers – joining the ranks of our generally successful alumni. I hope that all of you are finding satisfaction in your careers. I hope that the oil and gas industry will continue to test the limits of your abilities.

I often wonder how useful the CSM education is for our alumni. One alumnus said that the most important skill that he developed at CSM was the ability to work hard. He said that the details of the math, geology, physics, and engineering courses were not anywhere near as useful. Is that generally true for our alumni? If so, should we make changes in what we teach? Or not? I look forward to your feedback.

When I joined the oil and gas industry in 1980, the interests of the industry in developing technology were very broad. In 2002, the interests in technology have shrunk to "what can you tell me today to increase net revenue." This shrinking interest affects all of us professors in petroleum engineering. Raises and promotions depend mostly on publications and funding for research. With diminishing funding from industry for research, it is difficult to develop publications. We can only guess what this trend means for the future.

Nevertheless, we professors are all very busy with worthwhile activities. Sales continue for my text on multi-phase flow for reservoir engineering. I began selling the book in a spiral-bound format late in the Fall 2000 semester. So far, about 200 copies have been distributed – not a best seller, but I am pleased. I had hoped to complete a revision by now, but that is still just a hope. The book can be purchased through the CSM bookstore – check their website.

As mentioned in last year's newsletter, I obtained funding for research on lifting liquids from gas wells from the Department of Energy through the Stripper Well Consortium operated at Penn State. With this funding, I have pursued technology for breaking liquids into small droplets that can be lifted by the flowing gas stream in combination with simulation of the reservoir and well-bore system. We have shown that droplets with diameters less than 30 microns can be carried easily by the flowing gas stream. To make these small droplets, we have tested rotating atomizers, two-fluid atomizers, and ultrasonic atomizers. In the coming year, we are planning to develop tools for testing of the technology in gas wells – an aggressive goal that I hope we can meet. I am certainly interested in more partners in this work.

This semester, I am teaching PE 310 (a junior-level class on fluid properties), PE 681 (a graduate seminar), and PE 608 (a graduate course of two-phase flow through rock). PE 310 consists of two hours of lecture per week plus a three-hour laboratory. The laboratory time is split between the wet-lab and the computer lab (managed by Dr. Mark Miller). The objective of the computer lab is to develop skills in programming with Excel Visual Basic. The programming problems are based on material from the lectures. Each succeeding week, we try to add some more challenging features to the problems.

Last Spring, I learned that "experience is what we get when we don't get what we want." Although I would like less experience, I try to give our students as much of it as possible.
I hope that you get more of what you want.

Alfred W. (Bill) Eustes

This last year was pivotal in my career as an academic. I am pleased to say that I was awarded tenure, which means I have an ongoing contract rather than a yearly one. I was also promoted to associate professor, which is the mid-level position

in the academic hierarchy of professorship. What it all means is that I get to continue working at a great job with great people: students, faculty, administrators, and you, the alumni. I mean, where else could I work on wells from the North Slope to Antarctica and on to Mars?

Drilling Research Activities

My ice work is still going strong. Deep ice cores in the Antarctic and in Greenland tell the tale of climates in the past. With global climate change a major concern for the world, studying these cores is one method of predicting what the future may bring. A team of engineers and scientists from many universities and government agencies are working together to create, design, test, and mobilize a next-generation deep ice core rig. I am helping to lead the first phase of the project, conceptual design. In fact, I am leaving for Denmark as soon as I finish typing this to review the European deep ice core rig. We plan on having this first phase completed by this November.

The Martian drilling research program at CSM is still in progress. The 1-cm bit I spoke of in last year's newsletter was not an astounding success (add a short cough here). So, we have retrenched and are looking at larger, different styles of drill bits. JPL has asked me to determine the minimum mass flowrate needed to clean the cuttings from under the bit. I am using Bingham's work from the 60's to determine when we reach 100% cleaning. The point is to determine just how big a tank of drilling fluid (probably CO2) we need to land on Mars.

Bill Eustes

Field Session

I had the pleasure of leading PEGN 315 Field Session this year again. We went to Alaska, one of our favorite places. My shotgun on this trip was Mark Miller as usual but this year, for the first time, Erdal Ozkan was along to give a reservoir engineer's prospective to the session. As my assistants, I had Dee and Joe Brown, who you might recognize as our administrative wizard. There were a total of 33 students this year, up from 20 last year.

After United switched flights on us, we eventually made it to Anchorage. That next morning, half of our group went to tour the Phillips Alaska Kuparuk Field on the North Slope and the other half stayed in Anchorage with British Petroleum. We swapped groups on Wednesday so we all had a chance to see both operations. Our hosts for the North Slope tour were Leeann Taylor on Monday and Melissa Wanamaker on Wednesday. We had a chance to see the Kuparuk Operations Center, Central Production Facility #1, Drill site 1Q, Oliktok dock and Staging Area, and the Seawater Treatment Plant. We have Rob McKee, Kevin Meyers and their team in Alaska to thank for the flight and tour of Kuparak.

Mr. Jim Seccombe of BP arranged our visit to the BP headquarters in Anchorage, where we visited various working engineers and geoscientists and the core facility. Here are some of the fine folks who hosted us there: Kris Boltjes, Joel Brandt, Katrina Britton, Holly Daugherty (who also coordinated the Alumni Picnic), Doug Dickey, Eric Ding, Floyd Hernandez, Emberly Holloway, Barbara Holt, Bill Isaacson, Joanna Leavens, Rick Manson, Steve Marshall, Pat McGuire, Mark Merrill, Lori Mushovic, Len Seymour, Pinkie Thompson, Janet Weiss, Taylor West, Melanie Westergaard, Alex Yancey, and Matt Zimmerman.

Mr. Lew Dennis arranged for a morning at Unocal Alaska on Tuesday. There, we reviewed their Cook Inlet operations with Lew, Scott Gutberlet, Bill Smith, Steve Martunez, Jeff Harris, and Jeff Smetanka. Tuesday afternoon, we walked over to Forest Oil's offices (an advantage of Anchorage over, say, Houston) and reviewed their Cook Inlet operations with Paul White, Ted Kramer, Mike Mello, Art Saltmarsh, Robert Stinson, Paul Winslow, and Terry Long.

That evening, we joined with many of the CSM alumni in the area and had Wayne's Texas Barbeque at the Valley of the Moon park. It was great to see so many of our alumni and renew acquaintances. All had a great time.

Thursday morning, we were at Phillips Alaska's offices. Kristin Donovan arranged for a cool series of presentations on Phillip's operations

in Alaska. The presenters were Steve Carn, Mike Erwin, Mike Faust, Dick Garrard, Johnny Golden, Keith Lynch (a co-worker with me with ARCO in Tyler, TX two careers ago), Brad Neugebauer, Mark Scheihing, Brian Seitz, Tom Spooner, and John Whitehead. Although all of the presentations were great, the Natural Gas Liquids demonstration was fascinating. That afternoon, on our way out of town, we stopped by Baker Hughes Inteq/Hughes Christensen. Dave Riemer and his team showed us all sorts of drilling equipment (my favorite subject). We appreciate the time that Mark Kuck, Brian Robbins, Steve Gould, Bob Hardwick, David Kennedy, James Ohlinger, Stuart Sutherland, and Kelly Thrasher gave us.

The next four days were spent in reviewing the environmental aspects of Alaska. I.E. we toured. We spent Friday in Seward with Kenai Fjords touring Resurrection Bay (Orcas, Whales, and zillions of birds). I appreciate Johne Binkley's help in arranging that. Saturday, we were in Homer taking a day off for the Shore Bird Festival. About a third of the group chartered fishing boat and spent the day, curiously enough, fishing. Ali Hussein caught the largest fish, a 120 lbf Halibut.

BP has a tour they sponsor for their neophyte engineers. It took them through Jackalof Bay and Seldovia to the cliffs of Homer. When Jim Seccombe told me about it, I thought that would be great for our students. So, we did it. We boated over to Jackalof Bay at low tide so we could see the fragility of the intertidal life forms for ourselves, boated down to the south side of the Kenai peninsula, and had a formal dinner in Seldovia, a quaint and very quiet town. The next day was back to Homer with a geological field trip by the cliffs and a tour of the Pratt Museum. Jim Seccombe really pulled off a great tour for us! I want to go again.

The next four days were spent in the Kenai/ Nikiski area. BP arranged for a tour of their state-of-the-art gas-to-liquids plant. I understand we were the first non-BP tour of the facility, ever. Paul Richards with Pat Curley and Angela Sorrentino showed how BP might handle stranded gas. The facility wasn't operational at the time of our tour, but should be now. I hope it is huge success. I want to thank David Welch, BP for not only allowing us to tour this facility but also for their financial support of the Seldovia tour.

Ron Laesecke and Devin Rock of Schlumberger hosted us in the afternoon. We toured their Nikiski camp. We also went to the Baker Hughes Inteq yard in Nikiski. We thank Todd Duwe, Justin Hall, and Ronny Knowlton. We were also hosted by CISPRI, the Cook Inlet oil spill response team. Our hosts were Doug Lentsch and Buzz Rome.

The last two days were spent offshore and on the west side of Cook Inlet. Unocal and Forest cooperated in giving us a grand tour. We split into two groups again. Both groups did the same thing, just on different days.

The first day, my group toured Unocal's Monopod and Granite Point platforms and then headed over to Forest's new Osprey platform. These platforms represent remarkable engineering feats. Our thanks to Paul Bartolowits and Gary Smith of the Monopod Platform and Tim Cowan and Jimmy Madrid of the Granite Point platform. We were hosted on the Osprey Platform, the first platform to be constructed in the Inlet for 20 years or so, by Rick Bjorhus.

The second day was spent on the west

Ali Hussein and a real fish story

bank of the Cook Inlet. Bill Smith, Jim Novac, and Jeff Gries hosted us at Unocal's Trading Bay facility and then later in the day, we bussed over to Forest's McArthur River Facility and the new Osprey shore facilities with Tim Admunson and Aaron Books.

Although everybody mentioned here made this field session a great success, there are four people I want to mention as helping us above and beyond the call to duty. They are Jim Seccombe of British Petroleum, Lew Dennis of Unocal Alaska, Paul White of Forest Oil, and Melissa Wanamaker of Phillips Alaska. They really made things happen for us! Thank you so very much. And Lew, thanks for the airplane ride.

One of the things I like to do in these newsletters is to be certain to list everybody that helped make these field sessions the successes that they are. However, in the hustle and bustle of the session, I sometimes don't always get everyone's name that helped us. I apologize if I

have misidentified or even left you out of our thanks. If I have inadvertently left you off, please let me know. I keep a list of all the people that help us and want it to be accurate. Plus, then I know whom to call when we return in a few years!

I hope to see you at the ATCE!

John R. Fanchi

We continue to refine the content of classes that are jointly taught by PE, geology, and geophysics faculty. This fall we are discussing projects that use carbon dioxide injection, with a focus on projects that have been studied by the Reservoir Characterization Project at CSM. I use my new book, **Shared Earth Modeling**, as a supplement to lectures in the graduate level multidisciplinary course. The book presents background material in the geosciences and engineering and has served as the primary text in an online integrated reservoir characterization course.

John Fanchi

Corporate ethics scandals are giving new importance to the ethics module in the senior seminar in PE. We want to make sure that students understand moral dilemmas and codes of ethics. Feedback from last year's course has shown that an analysis of a complex situation with many different perspectives is a good way to proceed.

The PE department and its Industry Advisory Committee have recognized the value of developing a course that presents an integrated overview of energy sources that will contribute to the energy mix of the 21st century. I am developing a new course on Energy. The course presumes knowledge of college level physics with calculus, and mathematics through calculus of several variables. This level of preparation is nontraditional for survey energy courses and allows a relatively sophisticated discussion of course topics that is suitable for second semester sophomores and third year students in technical fields.

On the research side, the Consortium for Integrated Flow Modeling is generating new insight into how to provide low-cost estimates of important geomechanical parameters. We have prepared a series of reports for Consortium members that contain details of the research. In one report, for example, we discuss the relationship between static and dynamic elastic properties, and describe an algorithm for transforming between dynamic moduli and static moduli. Another report discusses the relationship between the standard assumption of a diagonalized permeability tensor in commercial reservoir simulators and grid orientation. If funding permits, future work will show how to incorporate stress-dependent properties in the integrated flow model.

If you would like more information about my research or books, visit my website at http://www.mines.edu/~jfanchi/.

Ramona Graves

As I write, the first week of the semester is underway. We are so fortunate to have students that are exited to be studying petroleum engineering, a faculty team that loves what they are doing, and a support staff that puts up with all of us. This is the beginning of my 22nd year teaching in the Petroleum Engineering Department at Mines and I'm glad to be here. I still profoundly miss Robert and guess I always will. The most exciting new happening for me is that for the first time in my entire career I have a female colleague – Jennifer Miskimins!! What a thrill it was the first time we were both going to a professional meeting and I got to say something I have never said before – "What are you going to wear tomorrow?" I can hardly wait for a discussion of what is meant by "business casual" since I don't wear dockers and golf shirts!!

Ramona Graves

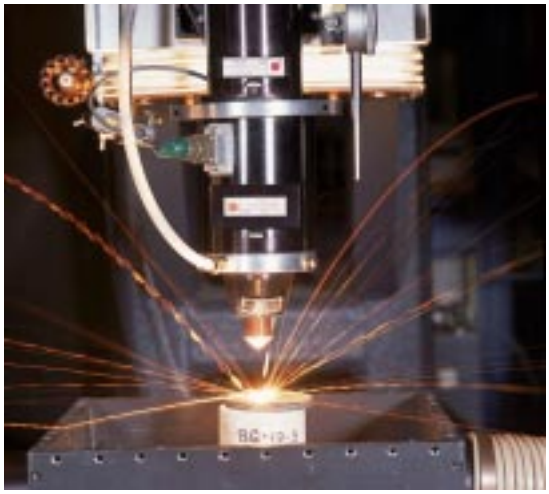
I continue zapping rocks with lasers and each year gets closer to a prototype Laser/Rock Destruction tool for field application. We have shown the feasibility in laboratory conditions and in simulated reservoir conditions, but now need to show it works under real conditions of reservoir stress and fluid pressures. I've been invited to speak at a World Mining Summit in a few weeks. That industry is particularly interested from the diagnostic capabilities of determining mineralogy while lasing through ore bodies or, as I call it MWL (Measurement While Lasing). The petroleum industry should be interested for these capabilities alone. This last year I have spent a lot of time in

airports (notice I didn't say airplanes) either going to or coming from speaking commitments about laser applications.

Reservoir characterization continues to be my primary research interest. I work closely with professors and students in both the Geology and Geophysics Departments. I'm the PE representative on a committee that developed a multidisciplinary master's degree with the three departments called PETROLEUM RESERVOIR SYSTEMS. It has been approved by the CSM Board of Trustees, the State of Colorado and has the support of all three faculties. This one year, non-thesis degree will require students to take classes in all three departments and take several of our unique multidisciplinary classes. Call the Graduate School or PE Department for more information. The marketing brochures should be ready by the SPE Convention in San Antonio, so find me or come to the alumni reception to get a brochure (it has some really neat pictures)!

"On the home front, Jake has decided to be a mechanic and is in his second year of a two-year training program." That is what I wrote last year, so this year just insert "three" wherever I wrote "two". He has decided to specialize in heavy equipment because he has discovered some opportunities to work in Antarctica. He always has marched to a different drummer! Lacey (20) just convinced me that she is going to be a serious student, probably at Berkeley unless I can get those conservative genes to kick in, so I bought a house in Emeryville near the university. I can't afford the rent out there! She still really loves living in the bay area and I still really enjoy going there to visit her. And finally, little dog Fred still keeps me company at home.

Until we see each other again, I wish you peace and joy.
Ramona

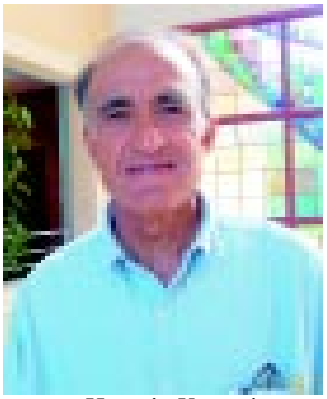


Laser drilling operations in the lab.

Hossein Kazemi

The academic year 2001-2002 was a productive year for me but it was marred by the tragic events of September 11 and the seemingly irresolvable Middle East problems.

I had the privilege of teaching Reservoir Simulation I and Compositional Modeling in the fall of 2001 and Simulation of Naturally Fractured Reservoirs in the spring of 2002. Two students of mine received their Ph.D. degrees, whose dissertations were related to gravity drainage in naturally fractured reservoirs. In one project, we studied the effect of gas diffusion from gas-invaded fractures on gravity drainage of oil. Further, we evaluated the role of conventional molecular diffusion in addition to the diffusion resulting from the earth temperature gradients. The latter has been the subject of several recent studies on compositional grading in petroleum reservoirs—especially in the North Sea. In the second project we learned more about scaling of laboratory measured oil recovery results to the more complex reservoir-scale applications. Another student of mine finished his M.S. thesis, learning how to write an efficient two pseudo-component code for modeling highly volatile oils. His Ph.D. dissertation will extend this work to gas-condensate and black oils for single and dual-porosity modeling. I my course on Naturally Fractured Reservoirs, several students wrote two computer codes that helped me resolve two long-standing issues in regards to shape factor in dual porosity modeling and well test interpretations. I am planning to present the findings in a technical paper.



Hossein Kazemi

With input from the department chair I worked on a plan to establish a *center for reservoir studies* in the Department to do collaborative research on subjects of interest to the industry. We have solicited participation from the industry to support this program. I also was a member of an SPE ad hoc committee on university-industry R&D issues, which led to the establishment of a Research & Development Advisory Committee in June 2002. The Committee will identify, encourage, facilitate, and help global R&D activities that will provide needed technology for future use by petroleum engineers. I have been invited to serve as a member of this committee for the next three years.

Mark Miller

The department is joining the 21st century! While we were one of the first departments on campus to have portable digital projectors (thanks to Dr. Bill Mitchell), we have always had to set them up each time they were needed. Reserving, transporting, and setting them up was always problematic. Using them was reserved for special occasions. Now, our main lecture room has a built-in projection system. We are able to bring in a laptop, fire up the projector, and begin presenting. The system also has a VCR and speakers. The next time the AADE shows Hellfighters, the students will be able to get right to it instead of fiddling with a nest of cables. We are also installing a fixed projection system in our undergraduate computer lab. It will enhance the student's learning experience substantially. In the past, we had a student "volunteer" drive the computer for the professor. Depending on the volunteer, the experience was mixed at best. The new system will allow the professor to project either their own laptop or a lab desktop computer from the front of class. We are looking forward to using the new systems.

Mark Miller

Like most years, we have also replaced a portion of our student computers. We try to make sure that no machine is so far behind the curve that it is totally useless. This year we are also testing flat panel screens in our graduate lab. Not only do they run much cooler than traditional monitors, they are not influenced by stray magnetic fields. Since the graduate lab adjoins an electrical closet, traditional monitors that are close to the closet experience stomach churning vibrations. Graduate students with good eyesight might be able to stand 10 minutes of work on these monitors. Since we would like the students to work more and be cool, the test has shown that installing more flat panel screens would be an excellent investment.

Plunger lift has been a topic of my interest lately. Professor Erdal Ozkan received funds from the Stripper Well Consortium to study plunger lift optimization. The project involves optimizing the flowrate by looking at build up pressures. Instead of having a pumper use rules-of-thumb to decide how much time the well should be shut-in and how much time it should be produced, the new procedure will look at reservoir performance to adjust the flowing and shut-in times. We have been working to develop a controller to implement the new theory and I will be traveling to Oklahoma later this month to run tests of the new system.

Jennifer Miskimins

Hello, it is indeed a pleasure and honor to be addressing you as a fulltime faculty member of the Petroleum Engineering Department at the Colorado School of Mines. As you are all well aware, it is a world class institution, and I am very proud to be a part of it in this new capacity.

I guess first I should mention a little about me since I'm new to most of you. I have three degrees, all in petroleum engineering, with both my M.S. and Ph.D. from Mines. Prior to joining CSM, I spent almost ten years working in industry, mainly with a major oil company. My general background includes completion engineering and property evaluation. This background has a strong effect on my research interests which include stimulation and completion engineering, hydraulic fracturing, rock mechanics, probabilistic reserve analysis, property evaluation, and multidisciplinary design and education.

Jennifer Miskimins

My position at CSM became effective in May with the responsibility of teaching the PEGN 316 Field Session. Unlike some of the recent years where two petroleum engineering faculty taught the course, this year I split duties with Donna Anderson from the Geology and Geological Engineering Department. Donna is an excellent petroleum geologist who was able to bring a strong industry background and practical application to the course. I'm told a lot of alumni like to hear more about the ole' Massadona camp, so I'll expand on this year's activities a little more later on in this article. In the meantime, let's just say things

went relatively smoothly, and Donna and I are already working on next year's camp curriculum and activities.

Speaking of field camp, you might be interested to know that the Petroleum Engineering, Geology, and Geophysical Departments are working on developing a new field session course which will integrate students from the three departments in a multidisciplinary setting. The course is tentatively entitled, Integrated Field Session, and is intended to provide students the opportunity to work together in teams in a field setting to develop an exploration play. I am responsible for the PE input, while Donna Anderson is handling the geology and Mike Batzle the geophysical aspect. At this point, the curriculum is nearing completion, and we are scheduled to run a trial session in the summer of 2003.

As I write this article, the start of the fall semester is quickly approaching. During this semester, I will be teaching an Earth Systems Engineering module, SYGN 201, and the petroleum economics and property evaluation course, PEGN 422. I have had past experience with both of these courses and look forward to teaching them this fall. Most of you know that PEGN 422 was Robert Thompson's pride for years, along with the senior multidisciplinary course PEGN 439 taught during the spring semester. Prior to his passing last summer, I was extremely fortunate to be able to work with Robert on both of these courses in various capacities, and I share his love of the topics. It's impossible to replace Robert, but I will work hard to maintain his standards, and I'd like to thank Geri Thompson and Jane and John Wright for their support and help in the transition of materials.

I'm excited about the teaching and research opportunities that have presented themselves to me at CSM, and I'm eager to start my first full academic year here. Hopefully, I will get to meet some of you at the SPE Annual Meeting in San Antonio. Please feel free to contact me anytime at (303) 384-2419 or jmiskimi@mines.edu or visit my web site at www.mines.edu/~jmiskimi/.

PEGN 316 Field Session II

Who needs Alaska? We have Massadona!!

Contrary to the PEGN 315 Field Session that wandered around from hotel to hotel, we put down our roots once again in the cabins behind the infamous Massadona Tavern. Nineteen CSM students attended this year's junior level field session. In addition, we were joined by three students and one instructor from the Universidad Central de Venezuela (UCV). These visitors joined us as part of a trial exchange program, hosted by UCV and PDVSA, that allows them to study petroleum systems in outcrop, an opportunity they usually do not have in Venezuela. It was indeed a pleasure to have these guests, who soon became our friends; although we did find out that the Colorado and Venezuelan definitions of "cold" are quite different.

As I mentioned, this year's camp was instructed by Donna Anderson from the Geology Department and myself. We also had two TA's, Brian Romans and Thom Fisher, both from the Geology Department, who contributed a great deal to the success of the camp. A major physical addition to the camp this year was the installation of several new metal roofs on the cabins by Randy Miner, the PE Department's technician. These will help eliminate the need for the annual tar roof repairs and help keep future attendees dry in their bunks.

As always, industry sponsors helped make the camp a success. ChevronTexaco provided a review and tour of the facilities at the Rangely Field. Encana and Schlumberger sponsored a workover rig tour and hydraulic fracture site visit. Production Logging Services, Inc., gave a day-long school on production logging. We'd like to thank alumni Jim Baker (ChevronTexaco) and Eric Bridgford (Encana) for their help with these exercises. Also, a note of thanks to Wayne Narr (ChevronTexaco) for his help in developing a new fractured reservoir exercise and to John Robinson for his aid in procuring seismic data in the Skull Creek area.

The weather was mostly cooperative this year with only one day being unusually chilly. However, that day did afford us all the opportunity to learn various new words for "freezing" in a variety of languages. In a pleasant turn of events, the sun made an appearance during the annual raft trip which was enjoyed by all. Especially, I believe by our Venezuelan visitors who had never experienced such an opportunity.

The curriculum for the class was a mix of some old standbys with a few new exercises. The "exploration" game was replaced with a new "acquisition" game built around local Piceance and Uinta basin properties. Donna and I were quite pleased with how the game evolved and tied all the other exercises together and it will most likely become a permanent part of the camp.

I have included a few pictures from the camp that I hope you will enjoy and which may bring back some memories. We are also pleased to roll out a new web site for the 316 field session and would like to thank junior Victor Eifealdt for all his hard work in creating it. You can visit us at http://www.mines.edu/academic/petroleum/316/PEGN316.html.

Scenes from Alaska Field Session

Dr. Ozkan on the North Slope

Post Office at Deadhorse, Alaska

Unocal Alaska's monopod platform

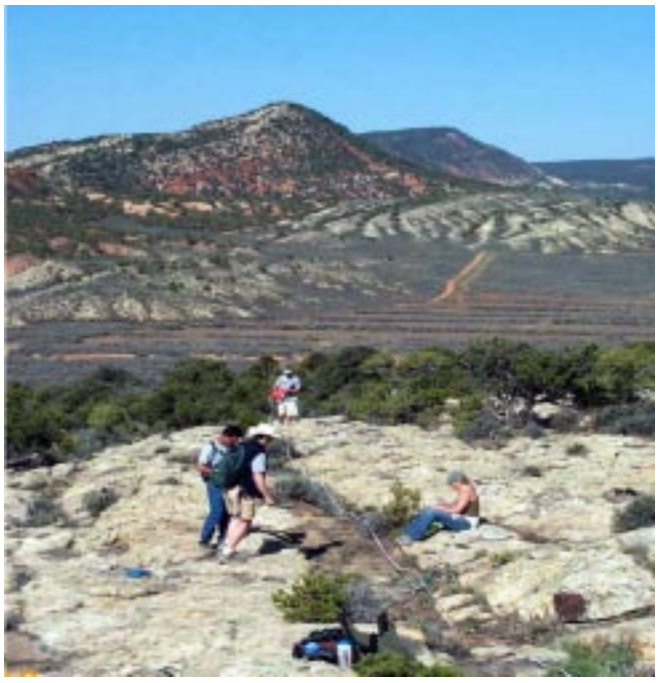
Anchorage Alumni - Field Session

Inside the wellhead room

Nabors Drilling rig 245E on the North Slope

Field Session at Rangely . . .

Group photo at Dinosaur National Momument



Fracture mapping in the Weber sandstone

Outdoor lectures at field camp

Erdal Ozkan

Another year has passed and it is time for the Newsletter. In general, it was a busy year but was not extraordinary. One of the changes in my regular activities was to switch from PE 316 to PE 315 Field Session. After going to Massadona for three consecutive summers, it was a big change to go to Alaska for the summer field session. I truly enjoyed it and I am sure our students have learned a lot and enjoyed the trip very much.

As usual, I enjoyed teaching and my research activities kept me extremely busy during the last year also. We completed the second phase of our Horizontal Well Completion Optimization Project during the last spring and started working on a new project titled "Optimization of Plunger Lift Performance in Stripper Gas Wells."

Erdal Ozkan

As we do every year, my family and I spent our summer vacation in Turkey. It was extremely hot but seeing the family and friends was great. After spending almost a month at the Aegean coast, it was not easy to come back. Fortunately we like Denver and it makes our 24-hour trip back from Turkey much easier.

Because some people keep working while I am on vacation (and think that I should do the same thing), I always find a big pile of work on my desk after vacation and spend the time from the summer to the SPE Annual Meeting by trying to clean it up. I know from the previous years that it will not be possible to completely clean my desk so probably you will see me complaining about it at the SPE Annual Meeting. By the way, two of my students, Anibal Araya and Reynaldo Cardona, will be presenting papers in the SPE conference this year. I am very proud of them and I hope you can come to their presentations to show your support.

Hoping to see you in San Antonio.

ERDAL OZKAN

Turhan Yildiz

This is the second newsletter I am writing. Last year, I spent most of my time developing/ teaching new courses. I started teaching a course on well completion and stimulation last fall. In the spring semester, I taught two graduate courses; Core Reservoir Engineering and Advanced Natural Gas Engineering.

Turhan Yildiz

The academic year of 2001/2002 has been a productive year in terms of research and publication. Most of my research efforts were dedicated to the completion and reservoir engineering aspects of horizontal/multilateral wells. I authored/coauthored two journal articles and four papers in conference proceedings. Two papers are included in 2002 SPE ATCE in San Antonio.

This summer, I had the opportunity to put together several research proposals. The proposals are at the evaluation stage. I hope to receive *good response* to my proposals.

I look forward to seeing you all during the SPE Annual Meeting in San Antonio.

Looking at intertidal sealife in Jackalof Bay on a BP Alaska sponsered tour.

Student Organizations

Society of Petroleum Engineers

by Jesse Terry, President

The student chapter of SPE at CSM is looking forward to another great year. This year there are many returning officers that have developed their leadership skills and are ready for the upcoming challenges. Our faculty advisor, Dr. Richard Christiansen, has continuously been giving us his support and I look forward to working with him again this year.

Last year was very successful for SPE. We participated in many social, campus wide and community events including bowling nights, barbecues and E-Days. We were very fortunate to have Carl Michael Smith, Director of Fossil Fuels, U.S. Department of Energy, come and speak at our joint session with the Denver Chapter. We had a great evening filled with success and participation form students, faculty, staff, professionals and local politicians. Honored guests included the mayor of Golden and senators and representatives from the State of Colorado.

This coming year we will continue to be an active organization on campus with many exciting events planned. Our first learning experience will be the Annual Technical Conference and Exhibition in San Antonio, TX. This year the Petroleum Engineering Department is providing a substantial amount of financial and logistical support for students who wish to attend. We are planning to send about 60 students to ATCE on September 28th.

2002 SPE Student Chapter Officers, Back left to right; Dan Benedict, Jesse Terry, Rassul Badran, Tayo Balogun; front left to right; Chris Stolte, Ahmed Al-Neaimi, Olivia Harren

Our chapter will meet bi-monthly throughout the school year for presentations on topics including transitioning from school to industry and technical presentations on all aspects of Petroleum Engineering. We enjoy hearing from Mines alumni whenever possible. If you are interested in attending or sharing knowledge at one of our meetings please contact our Vice-President, James Page at jpage@mines.edu. Thanks for your continuous support.

Pi Epsilon Tau

by Olivia Harren, President

Olivia Harren

Pi Epsilon Tau, the Petroleum Engineering Honor Society, is a service organization whose purpose is to foster a closer bond between its members and the petroleum industry, to broaden the scope of activities of its members, and to maintain the high ideals and standards of the engineering profession.

Active members are chosen on the basis of scholarship, leadership, and sociability. Eligible undergraduate candidates for membership must have a cumulative grade point average of 3.00, and eligible graduate candidates are required to have a grade point of average of 3.25. Honorary membership is available for those who have demonstrated excellence through technical accomplishments in the field of petroleum engineering. All of the faculty in the petroleum engineering department at CSM are members of Pi Epsilon Tau.

The Colorado School of Mines Chapter of Pi Epsilon Tau anticipates a successful yet challenging year. With less than ten returning initiated members, we are actively recruiting new members for our Fall Induction Ceremony on September 17th. Our new executive council consists entirely of new faces; Olivia Harren-President, Dominic Spencer-Vice President, Hans Wychgram-Treasurer, Charles Durkoop-Secretary. This year we aim to create an unprecedented structure for our organization in order to establish more continuity and strength for future councils.

Our executive council is currently working on establishing a biannual Pi Epsilon Tau service project, creating a team to participate in the M-Climb for Cancer in September, creating an intramural flag football team, and creating a closer working relationship with the SPE and AADE chapters. In working more closely with SPE and AADE, we hope to increase student participation and enthusiasm by providing more social, service, and scholastic opportunities to our members. We are also looking forward to attending the national Pi Epsilon Tau meeting, which will be held at the Annual Technical Conference and Exhibition in San Antonio. We look forward to continuing the strong tradition of excellence, loyalty, and good fellowship of Pi Epsilon Tau. Should you have any suggestions for the success of our council, please contact me at oharren@mines.edu.

Dominic Spence,Dr. Graves,Hans Wychgram, Olivia Harren

American Association of Drilling Engineers

by Hans Wychgram, President

The CSM student chapter of the American Association of Drilling Engineers (AADE) is a growing professional organization that offers a variety of benefits to its members. The organization helps bring insight into the drilling industry and fosters a closer relationship with the drilling industry.

This is an exciting time to be involved with AADE. During monthly luncheon meetings, members of industry are invited to speak to the group about drilling related topics. These meetings bring valuable information to members that may not normally be addressed during scheduled class time. Field trips are being planned throughout the year, including trips to rigs operating in Wyoming and Colorado.

Every spring, the student chapter meets with the AADE Denver Chapter. This valuable meeting helps students network with members of industry. A guest speaker is invited to help shed insight on some aspect of the drilling industry. Last spring Greg Schnacke, Executive Vice President of the Colorado Oil & Gas Association, spoke to the group about politics and other governmental issues that affect the drilling industry. Three students were awarded $1500 scholarships at the meeting as well. Student elections were held in the spring. Hans Wychgram was elected President, Dominic Spencer - Vice President, Chris Stolte - Secretary, and Millicent Schmidt - Treasurer. Dr. Bill Eustes is the faculty advisor for AADE.

Hans Wychgram

The CSM chapter of AADE is a growing organization. Membership is increasing and exciting new things are planned. If you are interested in attending one of our meetings or would like more information, please contact me at hwychgra@mines.edu.

Best Friends

Alumni Reception at SPE Conference

To Our Petroleum Alumni:

Your attendance is requested at the Colorado School of Mines, Petroleum Engineering Alumni Reception to be held during the annual SPE Technical Conference in San Antonio, Texas, September 28 to October 2, 2002. The Alumni Reception will be held on Tuesday evening, at the San Antonio Marriott Rivercenter-Riverwalk Hotel, Salon E from 5:00 to 8:00 p.m. The charge is $25. As always, there will be plenty of food with a cash bar.

HOW TO REGISTER: Phone Kathy Breit, Program Director of CSM's Alumni Office at (303) 273-3290, or e-mail kbreit@mines.edu, or phone the Petroleum Engineering Office at (303) 273-3740, or e-mail dbrown@mines.edu prior to SEPTEMBER 20, 2002. Drop-ins are welcome; however, we would appriecate it if you would make a reservation in advance.

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