

Thomas Ahlbrandt

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There is no doubt that Thomas Ahlbrandt, World Energy Project Chief with the U.S. Geological Survey (USGS) is a big name in the world of geology, having devoted a long and successful career to it and made some revolutionary discoveries. But when he was a young man, he might have been surprised to hear that geology would be his future.

Ahlbrandt grew up on a farm in Veteran, WY (where he goes on weekends and helps his father, still raising crops). He graduated from Veteran High School, which was torn down a few years ago; his six-member class was the largest they'd had in years. At the school's invitation, Ahlbrandt skipped his final year, took a summer course in English at UW, then accepted a scholarship from Pan-American Petroleum to study geology there.

"It was circumstance that got me into geology," he says "I grew to love it after I understood it for awhile. But I really didn't know what I'd done until I took a couple courses." He did know that one way or another he'd go to UW, because "that's where all the Ahlbrandts go," including his father, his four siblings, and his two daughters, Wendy and Elizabeth.

He was accepted into the honors program at UW, which entails the regular basic curriculum in addition to extra readings and philosophical discussions that he felt broadened his educational experience.

"It was a wonderful, enlightening experience to go through the honors program," he says. "Technical fields keep changing, but the basic philosophical and cultural understandings I gained there. I have carried with me my whole life and they've been very useful. That enlightenment and growth served me well."

In fact, Ahlbrandt enjoyed

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the World Energy Assessment, which has just recently finished a five-year study of how much oil and gas is left in the world.

"That's been well-received and talked about," he says. "We've made many presentations on the results, which make up 4 CD-ROMS. If you printed it out, which I don't advise, it would be 32,000 pages."

There's good news and bad



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everything about UW. "My experience at UW was a breath of fresh air," he says. "I was a rabid enthusiast for UW activities and I continue to be. I experienced UW fully."

He recalls an evening spent out on 9th Street hill with his friends, which brought a surprise the following morning. "The next day my car - a Corvair, which I loved - was on Alpha Chi Omega's doorstep, blocking the door. My friends had carried it there. They were careful, they didn't hurt the car, but I got an unhappy call from the administrators."

There were great times academically too; Ahlbrandt cites the influence of Dr. Donald Boyd, his undergraduate advisor, and Dr. Brainerd Mears, who worked with him during his graduate years. Ahlbrandt finished his undergraduate degree with the highest honors possible and earned a National Science Foundation Fellowship that allowed him to go to graduate school anywhere.

He chose to stay at UW. "It's a very fine institution in geology; it's nationally and internationally known," he says. "The highest award in my field, from the largest earth science association in the world, the Sidney Powers Medal, has gone three times to UW graduates. My education was excellent. I felt very fortunate. And it's a perfect state for coming to an under-

news in those many pages; it turns out there's more undiscovered oil in the world than previously thought, but less undiscovered natural gas. "The more sobering news for the U.S. is that our production rates are going down, so it worsens the trends of increasingly relying on foreign oil supplies," he says. Natural gas will play a key role in the domestic energy scene, so the future is fairly bright for Wyoming in the big picture.

standing of minerals and energy."

Ahlbrandt took advantage of that when it came time for his dissertation: he studied the Killpecker dune field north of Rock Springs. "That set the stage for a revolutionary thing I worked on," he says. He showed that the dunes were younger than everyone had thought, which laid the groundwork for him to travel all over the West, showing the same thing with other dune fields. He wrote a paper on the subject that became a classic. "It changed the view of when the major sand seas formed in the whole U.S.," he says.

"Decisions you make at that time affect the rest of your life," Ahlbrandt says, and it turned out to be that work that would get him involved with the U.S. Geological Survey (USGS). He had gone, after completing his Ph.D., to work for two years with Exxon in Houston on deep marine deposits and studying the composition of complex reservoir rocks. Then he got a call from the USGS to come and work on a sand seas project. "It was too tempting to resist," he says.

It was a five-year study that involved the Nebraska Sand Hills and other sand seas of the U.S. and the world; it resulted in two books, numerous articles and a patent for Ahlbrandt. Worried about having



an accurate way to measure the movement of sand blowing in the wind, he invented a kind of sand trap that allowed such a measurement to be taken instantaneously. In some parts of the world, a modified version of it is still used today.

When that project was concluded, Ahlbrandt got a quite different call. "My boss, recognizing my petroleum experience, sent me off to the North Slope of Alaska, north

Also for geoscientists, who have gone through such a devastating period from 1986 to 1999. "We've lost so many people from the geoscience infrastructure," he says. "Prices are good now, but it takes time to get new projects started." But in the long-term, or even the short-term, energy consumption is not going down - and the energy has to come from somewhere. So next on the agenda for Ahlbrandt's team may be a look around the world for

of the Arctic Circle, where I lived in tents for 110 days at a time," he says. "My field camp experience from UW, which I never thought I'd use, became critically important." Ahlbrandt, as project chief, led crews all over the Alaskan tundra, studying rock sequences. "It was part of a large effort to understand the petroleum resources of the North Slope."

Their shared adventures turned the team into a tight-knit group. "We'd march down these rock outcrops, float down rivers," he says. Seals came out to watch them in their camp. There were caribou and lots of grizzlies around and the crew stayed armed with two types of weapons: a rifle ("That's for the bear," Ahlbrandt would say.) and a smaller pistol ("That's for you, in case you miss the bear," he'd joke. Fortunately, neither of the weapons had to be used). When it was over, Ahlbrandt had written another book and many more articles.

Oil and gas prospecting in the Rockies was the next installment of what Ahlbrandt calls his "checkered past." After four years of that, he formed a company with two of his colleagues and did consulting work for the next seven years. During this time, Ahlbrandt helped set up a research institute in Saudi Arabia, taking his wife, Mary Jane, with him for "an interesting cultural experience." The institute continues today to do research in sand control. He explains the concept of sand control this way: "Say you built a hospital. Perhaps you had sand dunes upwind of your site, but you weren't worried because they seemed far away. But dunes migrate 25 meters a year. Sand blows into your facility and has to be removed. It's very heavy; it's a problem for maintenance systems and roads. So there's great interest in stopping it."

In 1988, he rejoined the USGS as associate chief for energy programs, then became chief of petroleum geology, then energy chief scientist. Today Ahlbrandt's title is World Energy Project Chief. He led

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more unconventional energy sources, such as heavy oils, to provide that energy.

The issue of energy sources is likely to loom even larger as time goes by. "Geosciences are either going to become pivotal sciences of the future or they'll go the other way," Ahlbrandt says. He is of the former opinion, believing that in resources lies the ultimate control of our civilization and our future.