

Innova



Photo: Tom Smith

tive Explorer and Leader

From humble beginnings in Inner Mongolia to President of the Exploration Company of SINOPEC, Dr. Yongsheng Ma uses his geological expertise and achievements to build a winning team of geoscientists and find huge oil and gas fields.

Thomas Smith, Associate Editor

It does not take long to recognize that one can learn quite a lot from Dr. Ma. He is an exceptional man, proud of his accomplishments, yet humble, and has the ability to share his successes with others. Dr. Ma has instilled pride and independent thinking to all that work for him.

While visiting the Puguang gas field in southwest China, I had the opportunity to have a young geologist as one of my guides, Liu Ming (Leo). He had this to say about his boss, "As a geologist, I just make my first step. It is my honor to be a colleague with Dr. Ma and also a challenge for me. He has changed the exploration direction in this basin and across China. I have to do abundant preparation, hoping to assume my duty some day."

A Big Find

After 17 years as a student and a research geologist, Dr. Ma joined South China Exploration Department in 1998 as their manager. It was here his expertise in carbonate environments really paid off, both for him and all of China.

Also, this was a time of profound changes and reform for China. "China's 'opening up' to the outside world not only gave me the opportunity to go outside the country to learn modern sciences and technology, I was able to invite outstanding experts to come and work with us," says Dr. Ma. "The most important thing that these changes

From this modest office in Beijing, Dr. Yongsheng Ma manages SINOPEC's exploration activities for the entire country. SINOPEC was set up in 2000 by China Petrochemical Corporation. It is a fully integrated energy and chemical company with over 700,000 employees and is China's largest producer and supplier of oil and petrochemical products.

brought was a chance to work in many frontier basins, and even some explored areas that were then abandoned." Without these new opportunities afforded Dr. Ma and his coworkers, this story may have ended here.

In his new managerial position, he began to look at available leases and exploration acreage, mostly in the Sichuan Basin (see GEO ExPro v. 5 no. 1, pp 26-33). The basin, as with most continental basins in China, was difficult to explore due to the rough terrain and complex structural geology, however, several large gas fields had already been discovered in the eastern portion of the basin.

"I noticed these fields had one thing in common," says Dr. Ma. "The producing formations were deposited in shallow water reef and shoal environments. To me, this suggested that porous reef and shoal dolomites could form good reservoirs in both structural and stratigraphic traps. Past exploration had only focused on drilling the

structural highs. Along with that, I noticed some of the depositional models did not match the well data. I then had my team take a second look and work on using the available data to remap the area."

By paying attention to what the lithologies were telling them and taking bold steps to drill off structure, the largest gas field (Puguang) in China was discovered in 2003. The 1,100 km² lease area had been extensively drilled and explored. It was considered by many explorationists to be very risky and his superiors at the time recommended to Dr. Ma "to just stay away." The area now has yielded even more gas discoveries using the new depositional and exploration models.

"This discovery proves that no matter how much work and exploration has been done in an area, more can be done," says Dr. Ma. "New ideas bring new discoveries. I never say 'no' to new ideas."

Dr. Ma was promoted in 2002 to chief ►



Dr. Ma points out the geology and area exploration during a field trip at the Puguang gas field.



Photo: Tom Smith

Dr. Ma (center left) and friends enjoy dinner at a Beijing restaurant after our interview.

geologist and general manager of SINOPEC's Southern Exploration and Production Company.

Humble Beginnings

"I was a normal Chinese kid that loved to play in the mountains behind town. I grew to love nature, the desert, and swimming in the mountain streams," says Yongsheng Ma who was raised in the suburban district of Hohhot, the capital city of Inner Mongolia autonomous region, about 450 km west and a world apart from Beijing.

Yongsheng always wondered about the rocks he climbed in the nearby mountains. His interest in geology was sparked when he befriended a geological team working in the area. "One of the things I remember most about my childhood was the China Geologic Survey drilling shallow cores of gypsum. I asked many questions and found what they were doing most interesting."

"Schools in the region were simple and crude," says Yongsheng. "The teachers were excellent with many coming here from Beijing. Many students were eager to learn but it took much of an ordinary family's income to cover the class tuition fee at that time."

Being poor and loving geology, Yongsheng was motivated to score highly on the National test. By doing well you are free to choose the better universities and also have support for the education. He did just that and chose the best school for geologic studies in the country, the Wuhan College of Geology in Beijing. Wen Jiabao, China's Premier, graduated from the same school in geology. Yongsheng went off to the university at the age of 18.

Further Motivation

"I clearly remember one of my first field trips. It was to the famous Peking Man site at Zhoukoudian," recalls Yongsheng. "I got very excited about geology after seeing the carbonate outcrops and particularly the fossils that came from these rocks." Spurred by this and other field experiences, he earned his B.Sc., M.Sc. and finally a Ph.D. in 1990 from the China Academy of Geological Sciences, an education that set him apart from the majority of Chinese at the time.

"It was my desire to spend more time out in the field to learn more about carbonate deposition and geology," says Yongsheng. "Field trips to Hunan Province to study the Devonian carbonates further sparked my interest. I loved to collect fossils and study the environments of deposition associated with each. This experience was a great lead into doing my Masters and Doctoral studies."

"My professors impressed me most of all," says Yongsheng. "Their dedication to educate the students went well beyond anything I expected. They went out of their way to show the students modern marine processes as well as interesting geologic areas all over China. I loved the field work and the travel that being a geologist offered."

Yongsheng Ma apparently impressed his professors as well and was placed as a research geologist for the China National Petroleum Corporation (now PETROCHINA). He quickly established himself as an expert in carbonate environments, a skill that will come in very handy later in his career. During his 8 years with PETROCHINA, he led a team of carbonate researchers into the Tarim basin in remote western China. The

area is home to the world's second largest desert and a major supplier of China's natural gas.

"I made good use of my knowledge of sedimentology in this remote region. After several months of detailed study, I was the first to correctly recognize the main source rock for the Tarim basin," says Dr. Ma. "Working very hard for 3 ½ years, I gained confidence and skill and earned a reputation as an excellent explorer."

A Team Motivator

Currently, Dr. Ma is President of Exploration at Sinopec and, in 2006, received the National Scientific and Technology Achievement Award, China's highest scientific honor. He is credited with finding an important gas field and changing the scope of exploration in China. Yet, this man is first to give credit to his team and quick to share his successes. Of the monetary awards he has received, all are shared with the team of geoscientists that he knows are the key to future prosperity for his company as well as China.

Dr. Ma worked hard to become the best geologist he could be. In his managerial positions, he worked even harder to improve his skills in working with people. "Before becoming general manager, I spent most of my time in technical positions," says Dr. Ma. "Being a manager presented a lot of challenges in dealing with people. I remembered back to my university days, how important it is to like your people and to talk to them on an equal basis. I needed to be able to inspire so I worked hard to improve my people skills, to be warm and easy going." He attended special programs both in China and the U.S. to develop his managerial and corporate skills, but claims he learned the most by simply "doing his daily chores."

Indeed, Dr. Ma is an interesting and inspirational person. He touched my life over the short time that I was interviewing and having an evening dinner with him, and the influence did not stop there. His assistant, Mr. Jin, who guided me around China, and the SINOPEC people I met, touched me as well. They all had an infectious pride and work ethic that was handed down from the top. We all should be this lucky.

As we were completing the interview and getting ready to go out for one of the nicest dinners I have ever had the honor to attend, the phone rang. Dr. Ma smiled and looked at me saying, "You brought good luck! Another large gas discovery was just made."