

Westchase Hilton • 9999 Westheimer

Social Hour 5:30-6:30 p.m. • Dinner 6:30-7:30 p.m.

Cost: \$28 pre-registered members; \$35 for non-members & walk-ups; Emeritus/Life/Honorary: \$14; Students: FREE

To guarantee a seat, you must pre-register on the HGS website and pre-pay with a credit card.

Pre-registration without payment will not be accepted.

You may still walk up and pay at the door, if extra seats are available.

**Bob Fryklund**, Vice President, IHS,  
**Bud Holzman**, Geologist, McCombs  
Energy/ Hupecol, and  
**Ben Lando**, editor of *United Press  
International's Energy Resources desk*

## Four Million Barrels per Day, Six Million Barrels per Day: When Will Iraq Deliver? A Panel Discussion on Iraq's Problems and Potential

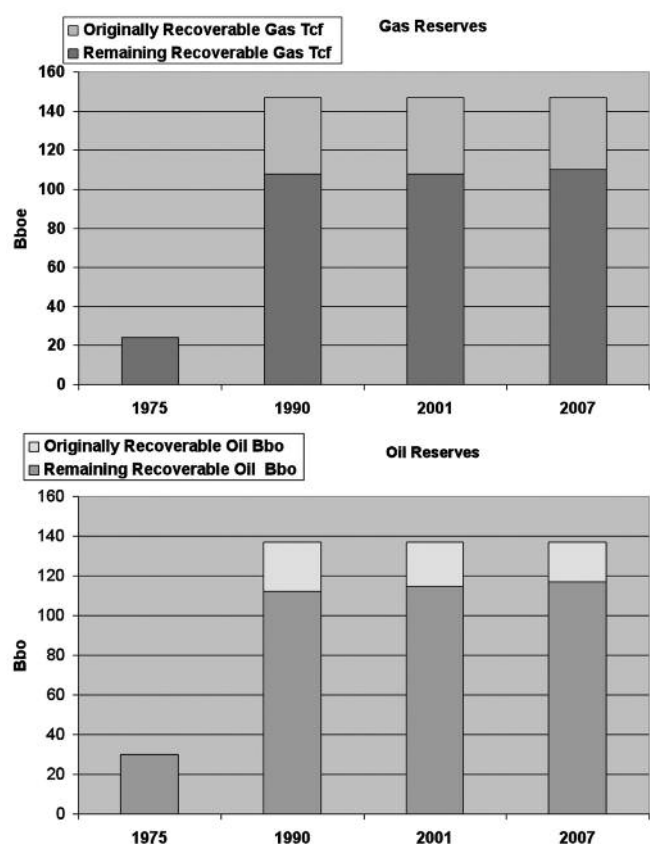


Figure 1. Remaining Oil and Gas Reserves versus Original Recoverable Estimates

Statistically, there are few countries which can match Iraq's petroleum potential: 115 billion barrels of proven reserves, 100 billion barrels of undiscovered potential, and some 535 known structures, only 88 of which have been drilled. Yet Iraq's production is only around 2.4 million barrels per day, much less than that of its peers. An analysis of the potential suggests that production could double or triple in the next five to seven years, just based on the current reserve base (Figure 1).

In addition, a large exploration potential exists with whole provinces such as the Western Desert and Northern Zagros

relatively unexplored. The Western Desert has sparse seismic coverage, only one gas condensate discovery – Akkas – and only a handful of wells. Recent work in the region suggests large Lower Paleozoic potential. Farther east, potential abounds both above and below the Gotnia Salt. Jurassic reservoirs in Kuwait may also extend into Iraq.

Companies have seized upon Iraq's potential and have mapped out their entry strategies. Independents have chosen to work in the Kurdistan portion of northern Iraq, where prospects are still in the super-giant class but smaller and logistically less challenging than those in central and southern Iraq. Super majors are focusing on the producing super-giant fields, such as Qurna, Kirkurk, and Rumalia, opting to work on field growth. And some others, such as Shell and Ivanhoe, are carving out niches in gas and heavy oil.

The entry tactics have been different for the three types of strategies as well. In the Kurdistan portion of Iraq, operators secured rights via direct negotiations with the KRG local government. Some 20 companies now hold rights in the KRG portion of Iraq. In the KRG, companies have been signing PSCs whose terms generally provide the operators with a 10- 15 % production share.

In the south and central areas, companies began with study groups and technical study / assistance agreements which lasted one to three years. These are now concluded. Despite the expectation that these study groups would result in signed joint-venture agreements, the Iraqi government has chosen to go to a quasi-open bidding system with companies qualifying based on size. Necessary qualifications start at greater than 500,000 barrels of oil per day down to 100,000 barrels of oil per day for round one and dropping some for round two. This will ensure that the world's super majors—NOC and IOC, that worked on the technical studies—still have key roles, but not necessarily on the project they originally worked. Figure 2 shows the locations of round one licensing blocks.

HGS International Dinner continued on page 21

In parallel and in the background of the technical studies are several legacy contracts with companies such as CNPC, Lukoil, Total, which were re-negotiated, along with gas, heavy oil, and downstream projects.

Unlocking those reserves will require overcoming a long laundry list of above-ground issues and challenges which vary from region to region. In the KRG portion of Iraq, at the top of the list is the ability to export and contract validity. There is still a strong debate between the central government and KRG over the region's authority to prosecute and design contracts. In the south and central portions of Iraq, the main issues are those of security and the types of contracts. For both regions, issues of access to manpower, equipment, and infrastructure round out the top challenges.

Utilizing a panel format, this dinner meeting will address the remaining potential in the known Iraqi fields and the exploration potential. The discussion will provide some insights into how some operators and potential operators are dealing with above-ground risks. The panel will also take questions and comments from the audience. ■

**Biographic Sketches**

**BOB FRYKLUND** brings 28 years of industry experience to his role as Vice President of Global E & P Analysis for IHS. Based in the company's Houston office, he focuses on global strategic leadership and opportunity access and assessment. Prior to joining IHS, Mr. Fryklund served as Libya President and Brazil Country Manager for ConocoPhillips. He also has held various



leadership positions with British Borneo, Union Texas, and Amerada Hess. He is a member of the Houston Geological Society and the American Association of Petroleum Geologists, and has published numerous articles in three languages. He has served on several boards, including the IBP (a Brazilian oil and gas association), the Libyan-U.S. Council (a bilateral trade association), and the American School of Tripoli. Mr. Fryklund earned an A.B. from Hamilton College in Clinton, New York in 1980, and has completed advanced studies in business at the University

of Houston and geology at the University of Tulsa. He also holds an advanced certificate in management.

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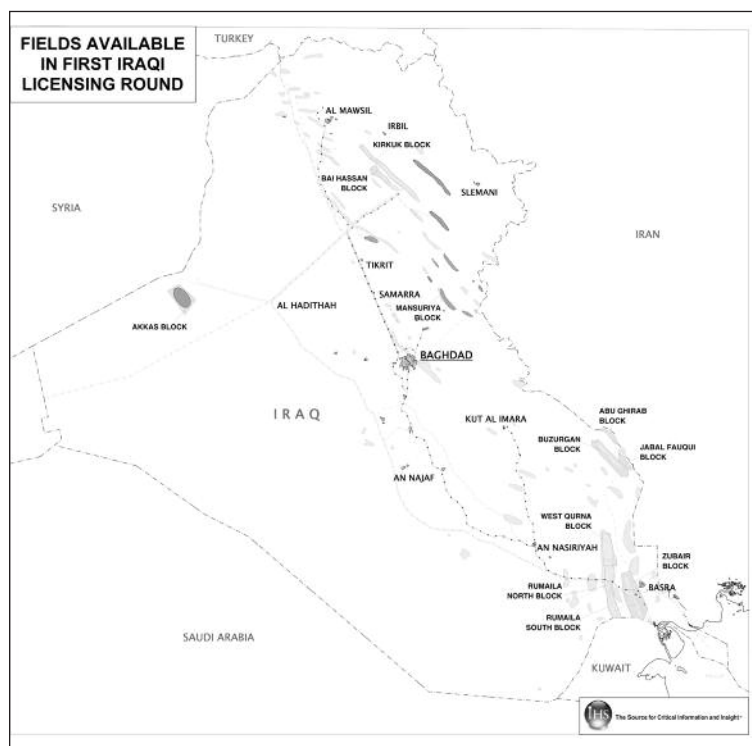


Figure 2. Location of Round One 2008 Licensing Blocks, Iraq

**HARRY (BUD) T. HOLZMAN JR.** joined the United States Marines in 1966 and transferred to the United States Army in 1967 to attend helicopter flight school. He had a distinguished record in Vietnam which earned him, among many other decorations, the Distinguished Flying Cross, two Purple Hearts, Vietnamese Cross of Gallantry, 40 Air Medals, and the Bronze Star. He left active duty in 1971 but continued flying helicopters in the Texas National Guard for the next five years.



Mr. Holzman received a degree in geology from Trinity University in San Antonio in 1974. After graduation, he went to work for the Geomap Company as a geologist and stayed with that company for the next 26 years, eventually becoming its president. In 1976, he transferred from the Texas National Guard to the United States Army Reserves to serve as a medical evacuation helicopter pilot in Houston.

**HGS International Dinner** *continued on page 23*

In the Army Reserves, Mr. Holzman was cross-trained in 1993 as a counterintelligence agent. In 2000, he was recalled to active duty in the Army and assigned to Camp Bullis, Texas. He was then deployed to Iraq in 2004 as a counterintelligence agent and assigned as the Chief Analyst-Iraq Oil and Gas Infrastructure. Mr. Holzman has authored numerous (mostly classified) papers on Iraq pertaining to that country's the future reserves and exploration potential. He has also worked with the Iraq Oil Ministry and government agencies to rebuild their infrastructure, and he was involved in giving advice on several articles of their constitution as related oil and gas. He retired from military service in 2008 after 42 years and was awarded the Legion of Merit.

Now employed as an international petroleum geologist for McCombs Energy and the Dan A. Hughes Company/Hupecol, Mr. Holzman is working the Kurdish region of Iraq. In addition, he currently advises the United States Central Command (CENTCOM) on oil and natural gas issues throughout Iraq.

**BEN LANDO** is editor of United Press International's (UPI) Energy Resources desk, founder and editor of *IraqOilReport.com* and a freelance reporter covering, among other issues, global energy

and geopolitics. At UPI, his reporters cover energy and geopolitical issues around the world and his reporting focuses almost exclusively on Iraq's energy-related stories. The *Iraq Oil Report* is a website devoted to news directly or indirectly related to Iraq's oil sectors, providing readers information on investment opportunities, trends, and risks in Iraq.



Mr. Lando has reported around the United States and from Iraq, Saudi Arabia, Russia, Turkey, Jordan, the United Arab Emirates and the UK. His work has been published in the Jerusalem Post, the Washington Times, and other news outlets. He has been cited or interviewed in print and radio news; sourced in reports written by United States agencies such as the State Department and Congressional Research Service; and quoted in letters from Congress to United States Secretary of State Condoleezza Rice. Mr. Lando is a member of the Society of Professional Journalists, Investigative Reporters and Editors, National Press Club, Online News Association, and Young Professionals in Energy (YPE), serving on the board of the YPE's Chicago chapter.