

Petroleum History Society 1999 Awards

At our November 29, 2000 Luncheon Meeting the Society will present the following Awards for 1999 in recognition of outstanding achievement in a number of areas important to the preservation and dissemination of the history of the petroleum industry in Canada:

- Book of the Year Award** - to Bryce Cameron for "Under Sand, Sea and Ice".
- Article of the Year Award** - to Roland Priddle for "Reflections on National Energy Board Regulation 1959-1998. From Persuasion to Prescription and on to Partnership", published in the Alberta Law Review, v. 37, no. 2, pp. 524-548.
- Preservation Award** - to Ron Carey for his long term dedication to the collection, preservation and display of oilpatch memorabilia.
- Multimedia Award** - to Gordon Pengilly for his play "Wildcat!".
- Lifetime Achievement Award** - to David Finch for dedicated research and professional scholarship in the study of petroleum history.

THE PETROLEUM HISTORY SOCIETY - Calendar of Events and Daily Tips

Next Director's Meeting: 12 noon, 10 January 2001, Glenbow Museum, Scalplock Room (to be confirmed).

Society Web Site: Volunteer expertise to design and install PHS web site is required. Contact Edith Wenzel 263-1135(B) or 242-2611(R).

Hall of Fame Dinner: Held September 29, 2000 at the Westin Hotel to a full house. P.H.S. plans to take a greater lead in nominating candidates, as there are many deserving recipients within our ranks.

Petroleum History Convention: John Frey recently attended the Oilfield Historical Convention in London, Ontario. Visited with Dr. Fineberg, who publishes "Oil Industry History". John has subscribed to this publication and will report opinions to Archives. Inquire with John at 264-3693 (B) or 287-7930 (H).

Turner Valley Public Information Meeting: Those waiting for an opportunity to give something back to our industry - take note. November 22, 2000 at 7 p.m., McDougall Centre (Calgary), Ian Clarke, southern Alberta manager of historic sites for Alberta Community Development, will present a plan for the restoration and interpretation of the Turner Valley Gas Plant. Contact Ian at 297-2775 for more info or Press Release copy.

2001 Membership Fees: Unchanged from 2000. Due January 2001. Individual Membership \$20.00; Sustaining Individual Membership \$50.00; Institutional/Corporate Membership and Lifetime (for Seniors (65+)) \$100.00. Renewal Form will be enclosed with your January 2001 Archives.

Next Luncheon Talk: Willem Langenberg on the "History of the Development of Alberta's Mineral Resources", January 24, 2001 at the Palliser Hotel. See next Archives for details.

Daily Tip:(365 *Stupidest Things Ever Said*-Ross & Kathy Petras) "**Outside of the killings, Washington has one of the lowest crime rates in the country.**" Marion Barry, mayor of Washington, D.C.

MICROFOSSILS: THE EARLY YEARS OF PLAINS EXPLORATION

Presented by Dr. John Wall to the Petroleum History Society Luncheon Meeting – 27 September 2000
(edited by Aubrey Kerr and Neil Leeson, Directors, P.H.S.)

Dr. Wall's lifelong career in micropaleontology reaches back to the origins of Canada's post-World War II search for energy self-sufficiency. John's presentation was highlighted by photos of George Dawson, Joseph Tyrrell and R. T. D. Wickenden, all of whom pioneered fossil identification and its use in the determination of stratigraphic relationships. John also shared slides of forams and field shots. Associate Cam Sproule pioneered correlating "beds with bugs" in his Moose Jaw office, where John received his first exposure to micropaleontology. The rest is history, as our speaker became one of a handful of experts recognized for his work and dedication to this science. Interested in Dr. Wall's videotape? Call Joyce Wright at 252-4143.

"There are many groups of microfossils - the ones we'll deal with are the foraminifera or forams (one-celled organisms similar to an ameba). Modern forams occupy a broad range of depths and environments. Average size is about ½ mm, but some groups are much larger-up to 25 mm or more. Dating and correlation of beds are supplemented by the determination of thermal maturity of associated sediments through observing the colour variation in forams – black indicates sediments cooked to such an extent that they are unlikely now to contain oil or gas. This procedure is relatively recent development (the last 25 or 30 years).

We will begin our historical review with George Dawson, born in Pictou, Nova Scotia. He had a severe deformity, a hunchback, with weak lungs, but he possessed amazing stamina and undertook many rigorous geological expeditions to B.C. and Northwest Territories. His expeditions led to his publishing, in the Canadian Naturalist of 1875, a short paper identifying microfossils correlative with the upper or first white speckled shale horizon in Western Canada.

Our next contributor was Joseph Tyrrell, patron for the Paleontology Museum in Drumheller. As an Ontario native, he started with the Geological Survey of Canada (G.S.C.) in 1881 as an assistant to George Dawson. He participated in fieldwork over much of Western Canada as well as in the Arctic and Hudson Bay regions. He is probably best known for discovering coal deposits and dinosaur remains in the Red Deer Valley. From his keen interest in mining, he became president of Kirkland Lake Gold Mines in 1924, serving for 30 years before retiring in 1954 at the age of 95.

Robert T. D. Wickenden was born 1901 in Quebec. He went to the U.S. to attend university, first for undergraduate study at Brown, then Harvard in 1931 for his Ph.D. There, like most Harvard graduates, he researched with J.A. Cushman, the dominant micropaleontologist of that era who had his own private laboratory. In 1930 Dr. Wickenden was appointed micropaleontologist to the G.S.C., based in Ottawa. He began using forams to determine correlation of Jurassic and Cretaceous strata in the Western Plains and Foothills regions, becoming the pioneer of micropaleontology. In 1950 he established a G.S.C. divisional office in Calgary with staff transferred from Ottawa. He retired to Victoria in 1966 and died there in 1989.

J.C. Sproule was born in Grande Prairie, graduating in geology from the U. of A. in 1930 before schooling in Toronto and earning a Ph.D. in 1935. He joined the G.S.C. to undertake fieldwork in various regions of the country, including Alberta where he developed keen interest in Oil Sands. In 1939 he joined Imperial Oil. Despite lacking an academic background in micropaleontology, he championed applying bugs to correlate beds. As a result he recognized a dozen fossil horizons, with much lateral extent, which he used as a basis to compile structural maps. Regrettably his micropaleo work was never published.

Finally is Arthur Nauss, born in Regina in 1915. He obtained a B.Sc. in geology at the University of New Brunswick in 1939, followed by a M.Sc. at McGill in 1940. When working for Imperial Oil in the Vermillion area in a core-drilling project during 1941-42, Aubrey Kerr served as field assistant. Art acquired a doctorate at Stanford University in 1943 based on comprehensive study of Cretaceous stratigraphy and micropaleontology of the Vermillion area. He participated in the Canol Project at Norman Wells before joining Pacific Petroleums and Bear Oil Company in Edmonton in 1948. In 1954 he joined Ted Link in a consulting partnership for two years before becoming managing director of Scurry Oil. After retiring in 1961, he moved to Vancouver and traveled extensively before his death in Switzerland in 1984. He is better known for using microfossils to help work out relationships of the various intertonguing marine and continental members of the Belly River Formation.

Microfossils continued to be used exclusively as correlation markers for structural mapping until 1945 when Carter Oil, an affiliated Jersey Standard group company, introduced an electrologging unit designed for narrow diameter holes. The integration of the electrolog features with the microfaunal data from cores greatly facilitated the correlation of test holes. Alberta Devonian reef discoveries followed from 1947-52. The best known, Leduc, was discovered in February 1947 as a result of drilling on a seismic anomaly. Once one reef was found, methods other than seismic were used to locate others, such as the Acheson Field north of Leduc, discovered by California Standard in September 1950. As seismic records were poor in that area, the company undertook a slim hole drilling program and used a coal seam (Clover Bar) in the Edmonton (now Horseshoe Canyon) Formation to map structure.

Slim hole drilling had become a firmly established exploration method, greatly expanding the Western Canadian oil and gas industry.

Highlights of Dr. John Gates' presentation at the NCE Energy Trust Information Meeting, 31 Oct 2000
(Gates is a former director of the Central Intelligence Agency, and is now a political and foreign affairs analyst.)

Worldwide oil consumption:

- Now about 76 million bbls/day (MM b/d).
- In 2005 will be approximately 85 MM b/d.

Excess oil production - only 2.5 MM b/d worldwide. All from Saudi Arabia. Doesn't know of any country that's holding back production. OPEC won't be able to cap oil prices; too much demand.

US oil stocks at lowest level in 24 years.

- Number of active oil rigs in US is at lowest level since 1940.

Gas situation even worse than oil.

- In 2000 demand for gas exceeded supply in U.S. for the first time in history.
- 58 million US homes use natural gas compared with 10 million homes using oil.
- 97% of future U.S. electricity generation is designed for natural gas, but not known where gas supply will come from.

Worldwide situation:

Middle East: Disruptions unlikely, all Middle East oil producers don't want them (oil prices are too good).

Persian Gulf - Iran and Iraq both producing at maximum capacity.

- Iraq - French and Russian companies have signed \$11b U.S. in oil investment agreements, so are hoping to have sanctions against Iraq removed.
- Iran - Serious economic troubles, particularly youth unemployment (ages 18-29: no jobs, riots, unrest, etc.).

Saudi Arabia - Emphasizing economic diversification, trying to decrease youth unemployment. Western companies now being invited to explore for gas. Have decreased tax rates for foreigners and are allowing foreigners to own companies. In 2000 Saudi government ran it's 17th straight deficit, and the national debt stands at 120% of their national income.

Algeria - Government attempting to restore order; allowing for new gas exploration/discoveries.

Libya - Long-term sanctions have been dropped, allowing for increased opportunities for gas exploration.

Russia - Entire 2000 budget was \$30 billion. Estimated that 200,000 to 300,000 bbls of oil leak from Russian pipelines every day. Widespread and blatant corruption makes any additional foreign investment unlikely.

Central Asia - All countries ending with "stan" have big problems with oil production logistics, corruption, etc.

Nigeria - Riots, corruption, ethnic conflict all hamper any increase in oil exploration or production.

Venezuela - President Chavez wreaking havoc on oil industry. 3MM b/d in production, but foreign companies and their expertise are leaving in droves; loss of about \$7 b U.S./y in revenues.

Indonesia - produces 1.3MM b/month(Sept. 00). New president hopeless, much violence, oil/gas expansion unlikely.

Mexico - PEMEX constantly overstates oil reserves, not heavily involved in exploration, so difficult to estimate future production. Have made inquiries about importing gas from the U.S. and Canada.

Summary:

- Oil and gas demand will remain high.
- Outside North America and North Sea - serious problems exist with oil/gas industries.
- China is now importing oil for first time ever.
- OPEC expansion of oil production? Not likely outside Saudi Arabia.
- Problem - cost of exploration and need for good return on investment.
- Oil supply interruption? Grave problems would result; even losing 1-4 MM b/d would be problematic.
- Shift from long-term oil contracts to buying on the spot market was a bad idea; increased price volatility.
- Natural gas is plentiful worldwide, but just not where the consumers are; so need transport mechanisms (ships, pipelines). No short-term solution to natural gas shortage in U.S.
- U.S. is boxed in; needs electrical power, but can't generate power through nuclear plants; coal is a no-no; oil and gas still most acceptable option.
- Demand for electricity in U.S. will drive/keep oil and gas demand high, so high prices will remain.

Above information was presented at the Westin Hotel by Dr. Gates on 31 October 2000.