

LEONARD A. LeSCHACK

MAJOR FIELDS OF INTEREST

Oil and gas exploration and prospect exploitation; development of magnetic horizontal gradient intensity, passive telluric, radiometric, airborne transient-pulse and other surface exploration survey technologies for hydrocarbon exploration. Politics of oil and gas worldwide, with emphasis on U.S.-Canadian and Russian operations in the Arctic Ocean Basin.

EDUCATION

B.S., Petroleum Geology, Rensselaer Polytechnic Institute, Troy, New York, 1957; Navy Officer Candidate School, Newport, Rhode Island, 1959; Graduate School, USDA, Washington, D.C., Diploma, Oceanography, 1962; Graduate School, University of Wisconsin, 1963-64, Geophysics; École Pratique, Alliance Française, French language, Paris, 1963.

EXPERIENCE

Founder and president of Hectori Inc, in Alberta, 2002, an operating company for finding and exploiting prolific Devonian reefs in Alberta. Hectori drilled in July 2002 one of the many Leduc reefs it has identified in the Waskatenau area of Alberta. Hectori's surface exploration technology found the reef within 10m (30') of the depth at which it was predicted. Engineering problems rendered the well uneconomical. Hectori was a consultant on geochemically-based exploration technologies to Reliance Industries Limited (Oil & Gas) of Mumbai, India in 2003. In 2006 Hectori land in the Fenn-Big Valley area of Alberta was farmed in jointly by Alberta Pinnacle Oil Company and CalStar Oil & Gas Ltd who drilled a well that found a Nisku oil reservoir in 2007. Hectori provided geological and geophysical direction to the farmees until 2008. The farmees ran out of funds before the well could be put on production.

Founder and president, Topaz Energy Exploration Ltd., in Alberta, 1996, to explore for hydrocarbons using the magnetic and radiometric survey technology discussed in his articles published in the Oil & Gas Journal, May 19, and May 26, 1997 issues.

Founder and president, Aquamarine Energy Exploration Limited, in Alberta, 1988; developed and sold numerous oil prospects in central Alberta, Parkman and Arcola areas, Saskatchewan, and discovered an extension of the Parkman field in Saskatchewan using radiometric surveys and three new fields in Manitoba using the magnetic and radiometric survey technology together.

Founder and president, LeSchack Associates, Ltd, in Delaware, 1967, a geophysical and geological research firm in Silver Spring, Maryland and Long Key, Florida. Responsible for proposing, obtaining funding for, and conducting research on contracts with:

Oil Companies

AMOCO, ARCO, Chevron, Dome, EXXON, Gulf (US), Gulf Canada, Marathon, Mobil, Phillips, Shell, SOHIO, and Sun Oil Companies. These contracts all involved exploration in the Canadian and U.S. sectors of the Arctic Ocean.

U.S. Federal Government Agencies

Agency for International Development, ISPA 215-7013; Army DACA 39-69-C-0046, DAHC04-70-C-0052; Department of Energy, EG-77-C-01-4021; National Oceanic and Atmospheric Administration, 3-35384, 4-35308, 5-35403, 6-35191, 7-35173; Office of Naval Research, N00014-68-C-0102, N00014-70-C-0110, N00014-71-C-0327, N00014-71-0396, N00014-73-C-0188, N00014-76-C-0757, N00014-77-C-0044, N00014-78-C-0535.

Field work under the above contracts has been conducted in Alaska, California, Colombia, Panama, Peru, and Puerto Rico.

Airborne Photographic and Remote Sensing Projects— Promoted and Managed:

Curiche, Colombia and Chepo, Panama; color and infrared photography of forest canopy, February 1967

Tocache, Peru; color and infrared photography of forest canopy, August 1967

Puerto Santander, Colombia; color and infrared photography of forest canopy, January 1968

Barro Colorado Island, Panama; color and infrared photography of forest canopy, January 1971

Alaska— Trans Alaska Pipeline route; dual channel IR scanning for ice in permafrost, July 1971

Arctic Ocean (Beaufort Sea); airborne laser profiling of sea ice over U.S. nuclear submarine on secret under-ice patrol; for correlating under ice pressure ridge data recorded by the submarine with airborne laser profile data recorded above the same ice surface, November 1982

Other Professional Experience

Politics, Intelligence and Defense Strategy: U.S. Official Representative to 1962-63 Argentine Antarctic Expedition; 1965, official trip to Moscow and Leningrad, USSR; 1973, official trip to Yakutia, Siberia, USSR; 1976, Chairman of the Editorial Review Board, Defense Attaché Reserve Unit, Washington, D.C.; 1977, designated as presumptive US Naval Attaché, Moscow (as a Reserve); 1978, Head, Soviet Warfare Developments Division, Naval Intelligence Command Reserve Unit—Published in 1979 “a reappraisal of Soviet submarine operations in the Arctic,” in the ONI’s Secret journal, Naval Intelligence Quarterly (v.2, n.2); Moderator for seminar—“Maritime Defence Strategy and Resource Development in Canada’s Arctic,”

presented by Naval Officers' Association of Canada, Calgary, 13 March 1990.

Political Terrorism Studies: Testified, 3 May 1976, before the Committee on the Judiciary, United States Senate, 94th Congress, "The Trans-Alaska Pipeline: Problems Posed by the Threat of Sabotage and the Impact on Internal Security," Senator Strom Thurmond, presiding; Prepared study (a direct assignment from the Deputy Director of DIA), "The Potential for Political Terrorism in the Panama Canal," LeSchack, Aanstoos, Glynn, and Arnold, May 1981 (Secret-NoForN). This Panama study was formally briefed to Senate Intelligence Committee, Summer 1981; Commander U.S. Forces Caribbean's representative to Commander-in-Chief Atlantic (CINCLANT) Anti-Terrorism Symposium, 21, 22 January 1984.

Canadian Corporation for 1967 World Exhibition, Montreal, Quebec; Polar Regions Project Officer, 1965-66. Responsible for technical content, Polar Regions Pavillion at EXPO-67.

U.S. Naval Oceanographic Office, Suitland Maryland; Oceanographer, 1964-65.

U.S. Navy, 1959-63, LTJG, Operations in Arctic and Antarctic; 1980, COMMANDER, Coordinator, Cuban-Haitian Refugee Center, Fort Allen, Puerto Rico; 1981, CAPTAIN, Operations with U.S. Naval Station Panama Canal, and with the Southern Command in Panama; 1983; established, and became first Commanding Officer of Reserve Intelligence Unit at U.S. Forces Caribbean, Key West, Florida, 1983-85; Decorated: Legion of Merit, Joint Services Commendation Medal. Retired, 1989.

U.S. National Committee for the International Geophysical Year, 1957-59, Assistant Seismologist with Byrd Station, Antarctica Traverse Team.

Shell Oil Company, Houston, Texas, Geophysical Trainee, 1957.

PUBLICATIONS AND PATENTS

Seven papers on exploring for hydrocarbons using magnetic horizontal gradient intensity and radiometric surveys, five papers on exploring for geothermal energy in California, 19 papers on Arctic and Antarctic research and affairs, four papers on color aerial photography for engineering purposes in remote areas, four papers on geophysical research in the Arctic, five papers on airborne remote sensing research, and three papers on remote area transportation. One patent (U.S.), Graphical Data Digitizer, No. 3803588. Published papers in Geophysics, Journal of Geophysical Research and U.S. National Academy of Sciences; naval subjects in U.S. Naval Institute Proceedings, e.g., [COMNAVFORARCTIC](#), (a maritime command for the Arctic Ocean). His OpEd piece, "Kinder, Gentler, Better and Cheaper Exploration Methods Ready for their Turn," was published in the Canadian industry magazine, "Oilweek," on April 7, 2003. It is a blueprint for hydrocarbon exploration for the future.

Books

Co-editor with Dietmar Schumacher of "Surface Exploration Case Histories: Applications of geochemistry, magnetics, and remote sensing," American Association of Petroleum Geologists (AAPG), Studies in Geology No. 48, Society of Exploration Geophysicists (SEG) Geophysical References Series No. 11, Tulsa, Oklahoma, 2002. This book was recently declared, "a classic," by the AAPG. The first printing has sold out.

Co-author with David Van Alstine of Chapter 5, in above book, "High-resolution ground-magnetic (HRGM) and radiometric surveys for hydrocarbon exploration: Six case histories in Western Canada," pp 67-156.

Co-author with historian William Leary of "PROJECT COLDFEET: Secret mission to a Soviet ice station, U.S. Naval Institute Press, Annapolis, Maryland., 1996.

Author of Chapter 6, "Color and color infrared photography as a tool for engineering and forestry research in the tropics," a chapter published in Photographic Techniques in Scientific Research, Vol III, Academic Press, London, 1978, pp 315-373.

PROFESSIONAL COURSES TAUGHT

Geochemical Exploration for Oil and Gas: Strategies for doubling exploration success while halving its cost (with Dr. Dietmar Schumacher): American Association of Petroleum Geologists Short Course, 11-12 May 2006, Houston, Texas.

LECTURES PRESENTED

Surface Exploration Case Histories, a new AAPG-SEG Book; and an Alberta Devonian Wildcat Just Drilled using the Discussed Technologies, presented at CSPG Technical Luncheon, Calgary, 25 February 2003.

[It's About Oil-The Cold, Cold War in the Arctic](#): A Proposal for a North American Arctic Command, presented at Calgary Military Museums, 21 May 2009.

HONORS

Science: Best Poster Paper award (on exploring for hydrocarbons with magnetic and radiometric surveys) Canadian Society of Exploration Geophysicists 1995 Annual Convention.

Military: Legion of Merit (1962), Joint Services Commendation Medal (1985), U.S. Navy; Bronze Medal, Naval Officer's Association of Canada (1995)

U.S. Government: Special Operations Group medal (2008)

Geographic: Mount LeSchack, a distinctive flat-topped mountain, 2,265m high in Antarctica

was named for him as a result of his exploration as a traverse seismologist with the Byrd Station 1957 and 1958 traverse exploration parties.

http://en.wikipedia.org/wiki/Mount_LeSchack

TV Appearances:

Behind Enemy Lines, featured on German History Channel: ZDF Documentaries included Project Coldfeet.

http://www.zdf-enterprises.de/en/behind_enemy_lines.12250.htm?template=&skip=&sort=sheadline_en&order=asc&play=1&net=0

MEMBERSHIPS AND SPECIAL LICENSES

American Association of Petroleum Geologists (Active)
Canadian Society of Petroleum Geologists (Active)
Society of Exploration Geophysicists (Active)
Canadian Society of Exploration Geophysicists (Active)
American Geophysical Union (Formerly active)
Amateur Radio License, W3GIW (Advanced Class)
Scuba Diver (NAUI)

LANGUAGES

Conversational ability in French and Spanish

CITIZENSHIP

U. S Citizen, Canadian Resident

(28 May 2009)