

**PTAC MEMBERS**

102 Members as of March 16, 1998

Adams Pearson Associates Inc.

Dr. George Adler

Advanced Geotechnology Inc.

Airgen Corporation

Air Liquide Canada Inc.

Alberta Department of Energy (ADOE)

Alberta Energy Company Ltd.

Alberta Research Council

Alberta Sulphur Research Ltd.

Alpine Environmental Ltd.

Amoco Canada Petroleum Company Ltd.

Anderson Exploration Ltd.

Baker Hughes Canada Ltd.

Barrington Petroleum Ltd.

Richard Bolt

Wayne Burnside

Business Development Bank of Canada

Canadian Fracmaster Ltd.

Centre for Engineering Research Inc.

Ceramic Protection Corporation

Chrosic Production Enhancement Technologies Inc.

Chevron Canada Resources

Computalog Ltd.

Computer Modelling Group Ltd.

Crestar Energy Inc.

CS Resources Limited

D.E. Towson and Associates Inc.

Diversity Corporation

Epic Consulting Services Limited

Roland J. duBerger

Foothills Diamond Coring Inc.

Gascan Resources Ltd.

Gris Gun Mfg. Inc.

Gulf Canada Resources Ltd.

HSP Canada

Husky Oil Operations Ltd.

Hycal Energy Research Laboratories Ltd.

Imperial Oil Resources

Insight Information Inc.

IPSCO Inc.

Allen F. Kiernan

KPMG High Technology Practice Group

Lloyd Energy Inc.

Bob Lockert

Al Logan

Maple Leaf Fishing Tool Corporation

Roy Mathew

Max-Contacts Inc.

R.G. (Rob) McGuffin

Mercury Electric Corporation

Mobil Oil Canada

Murphy Oil Company Ltd.

Natural Resources Canada (CANMET)

NEWALTA Corporation

New Paradigm Engineering Ltd.

Norcen Energy Resources Ltd.

Northstar Energy Corporation

NOWSCO Well Service Ltd.

Numac Energy Inc.

Ocelot Energy Inc.

Ogilvie &amp; Company Ltd.

Omnicon Consultants Inc.

PanCanadian Petroleum Limited

Pembina Corporation

Petro-Canada Resources

Petroleum Recovery Institute

Petro Studies Consultants Inc.

Petrozyme Technologies Inc.

Poco Petroleum Ltd.

PrimeWest Energy Inc.

Proalta Machine &amp; Manufacturing Ltd.

Promora

Prudential Steel Ltd.

Ken Putt

Quazar Geosciences Group Inc.

Radarscan Inc.

Ranger Oil Limited

REDA Services

Renaissance Energy Ltd.

Rigel Oil &amp; Gas Ltd.

Duncan Robertson

Ryan Energy Technologies Inc.

SAGD Technologies Inc.

Saskatchewan Research Council

Schlumberger

Stellarton/Secure

Suncor Inc. - Resources Group

Sidekick Tools Inc.

Talisman Energy Inc.

Tempo Energy Technology Inc.

Terra Nova Industries

TIPM Laboratory

Murray B. Todd

Travis Chemicals

United Oil &amp; Gas Consulting Ltd.

University of Alberta

University of Calgary

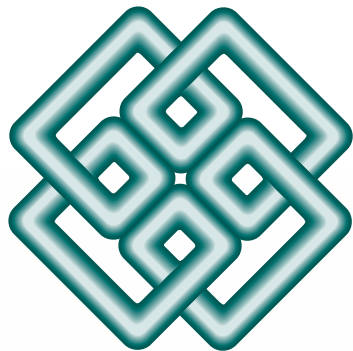
Variper Canada Ltd.

Vik International Inc.

Wascano Energy Inc.

Wi-LAN Inc.

Dale W. Wong



# An Association to Promote Collaboration on Technology Development in the Conventional Oil and Gas Industry

## Message from the Board of Directors

1997 was a year of significant growth for PTAC. We signed up 44 new members, hosted 19 Technology Information Sessions, sponsored 5 Workshops, issued 8 Requests for Proposals (RFPs), and helped launch 6 R&D Projects valued at \$1.3 million.

The Conventional Heavy Oil Technical Subcommittee was the most active group, undertaking numerous initiatives and providing a model for future success in collaborative R&D.

PTAC has established itself as a focal point for oil and gas industry research and technology development. The value of involving our many members from different stakeholder groups in R&D initiatives is proving successful.

## Outlook for 1998

PTAC intends to build on the successful approaches that have yielded results in 1997. Environmental R&D has been identified as a priority by PTAC for 1998, and was recently the subject of our most popular workshop to date. We intend to sponsor a number of other workshops throughout the year, to ensure that important industry problems are well defined and the needed R&D is undertaken.

PTAC has identified the preparation of RFPs as a critical element in the process of initiating collaborative R&D. We intend to provide appropriate resources to RFP preparation, when industry provides a clear indication of the R&D required. PTAC will continue to assist in the launch of new R&D projects and has set a goal of launching at least 15 projects with a combined value of \$2.0 million in 1998.

We look forward to continued growth in 1998, in all aspects of PTAC's role as a catalyst for R&D in the oil and gas industry.

Eric Lloyd  
President of PTAC

Larry Bell  
Chairman of PTAC

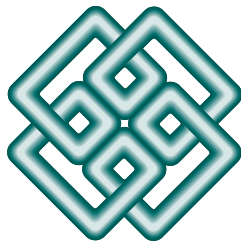
The number of PTAC members increased to 88 by 1997 yearend including:

- 26 Producers
- 39 Service and Supply Companies
- 9 Research Providers and Learning Institutions
- 14 Individuals and Inventors

Our current members produce approximately 60% of Canadian Conventional Oil and Gas.

PTAC signed up our 100th member in March 1998, reaching a significant milestone in membership growth.

# 1997



## Achievements

**PTAC has experienced significant growth during 1997.**

### **Financial Position Strengthened**

- Membership financial commitments have continued to grow and totaled \$284,300 at December 31, 1997.
- The 1998 budget has been set at \$310,000 and membership commitments to March 1998 are \$320,300 per year, providing PTAC with the opportunity to improve our services to the industry.
- PTAC members have provided financial stability to allow PTAC to grow and initiate an increasing number of collaborative projects.

### **R&D Projects Launched**

PTAC assisted in the launch of six projects during 1997 worth \$1.3 million. Further information on these projects can be obtained by reading our December 1997 newsletter, which is available from PTAC or can be found on our website ([www.ptac.org](http://www.ptac.org)).

Several more projects arising from our September 1997 Conventional Heavy Oil Workshop are launching in early 1998 including:

- Sand Handling and Tank Cleaning – CFER/SRC
- Cyclic Waterflooding Simulation – Epic Consulting
- Field Removal of Fine Solids from Heavy Oil/Water Systems – SRC
- Artificial Lift Systems for Horizontal Thermal Heavy Oil Wells – this is an Electric Submersible Pump (ESP) Information Sharing Project

In addition, several projects arising from 1997 Technology Information Sessions are launching in early 1998 including:

- Risk Based Maintenance Planning for Upstream Pipeline Systems – CFER
- Onsite Electrical Generation from Flare Gas – Mercury Electric/Suncor – there will be a number of turbo generator field tests with several producers in 1998

### **Problem and Opportunity Definition Workshops**

PTAC sponsors workshops to provide an opportunity for organizations to clearly define R&D issues and identify the direction that is believed to yield potential solutions. Potential suppliers of R&D have the opportunity to hear first hand about such issues and to contribute their expertise and ideas for solutions. PTAC funds the workshops, ensures the necessary facilitation is provided and provides the necessary administrative support and coordination to launch projects. We widely distribute Request for Proposals (RFPs) with Expressions of Interest for each priority issue from workshops. Once we have identified those who will consider supporting the R&D, proposals are then solicited from potential suppliers. PTAC brings together the interested organizations in a structured way that leads to new R&D, while protecting proprietary interests.

PTAC sponsored workshops in Reservoir Recovery, Oil Production, Natural Gas Production and Processing, Completions/Workovers and Conventional Heavy Oil in 1997. As a result, eight RFPs were formally issued with several more to follow in early 1998. PTAC intends to provide additional resources to finalize quality RFPs in a timely fashion in 1998.

PTAC needs the involvement of industry personnel in 1998 to plan workshops in areas such as Drilling, Completion, Stimulation and Workovers, and in other technical subcommittee areas. Mini workshops that focus on one particular issue are an effective way to initiate collaborative R&D projects. We encourage you to contact PTAC if you have ideas for such workshops.

## Technology Information Sessions

During 1997, PTAC hosted 19 sessions attended by a total of 470 participants. These sessions were formerly known as R&D Proposal Sessions or Technology Tuesdays. They were renamed to better represent the broader purpose for which the sessions are now used, and because they became too numerous to handle solely on Tuesdays. These sessions provide our members with the opportunity to:

- Outline new or ongoing R&D projects to attract participants or provide technical direction
- Propose field pilots or find test sites for new technology applications
- Increase awareness and resulting application of new technology in the industry
- Market new technology including software
- Propose software development projects to attract participants
- Provide R&D related information regarding financing, taxation and legal issues including intellectual property protection
- Transfer proven technology from other sectors for application in the oil and gas industry
- Propose information sharing joint industry projects for producers

Participants are provided with a background summary, costs, benefits and deliverables for research or technology covered during sessions.

## Industry Leadership Shown but More Is Needed

Numerous industry executive, managers and technical personnel have shown leadership this past year in support of collaborative R&D for the oil and gas business. They have supported PTAC financially through corporate memberships, sponsored Technology Information Sessions and Workshops, participated in joint industry projects, provided field test sites for new technology, and have dedicated human resources to the necessary discussions that lead to new R&D of benefit to their organizations. However, more leadership is required by many more influential people in order to increase the overall impact on our industry. R&D needs to be viewed like exploration, as a vital component of corporate strategy, that requires dedicated commitment of human and financial resources. Like exploration it involves risk, however, if R&D is managed prudently over the long term it has the potential to be a critical success factor for corporate profitability.

PTAC encourages industry leaders to plan for the long term and support collaborative oil and gas R&D initiatives that are in alignment with their corporate strategies.

## Association and Regulator Working Relationships

Since inception, PTAC has been working cooperatively with industry associations and regulators in such areas as joint sponsorship of workshops or other events, and in distributing information. During 1997 we continued to work with a number of industry associations and successfully initiated new working relationships with several others.

The success of the Conventional Heavy Oil Workshop in 1997 was a direct result of the cooperation of the Canadian Heavy Oil Association (CHOA) and a number of its members.

Similarly, the recent success of the Environmental Workshop was the result of cooperation and support from the Canadian Association of Petroleum Producers (CAPP) and its Environmental Research Advisory Committee (ERAC). In addition, the Petroleum Society of CIM Environmental Special Interest Group, the Alberta Energy and Utilities Board (EUB), Alberta Environmental Protection (AEP) and Environment Canada all provided important sponsorship to the workshop in terms of critical technical resources. The Petroleum Services Association of Canada (PSAC) has offered to publish the results of the workshop on their website to assist in the dissemination of R&D priorities.

PTAC believes that working with industry associations and regulators is an important component of the overall approach to collaborative R&D.

## Technical Subcommittees (TS)

PTAC now has eight TS and over 1000 contacts in the following areas:

- Natural Gas Production, Processing and Transportation
- Drilling
- Oil Production and Transportation
- Well Completion, Stimulation and Workover
- Reservoir Recovery/Geoscience
- Conventional Heavy Oil
- Environmental
- Basic Research

We require key individuals to serve on the executive for several TS to assist in planning workshops and identifying important issues that require R&D. The model that has been used by the Conventional Heavy Oil TS for this approach has been very effective in moving forward needed R&D. If you are interested in participating, or seeing particular issues addressed, we encourage you to contact PTAC for additional information.

## PTAC Internet Website

Our website has expanded significantly during 1997 and currently offers considerable non-proprietary project and activity information online ([www.ptac.org](http://www.ptac.org)).

We have opened our Technical Forums to all visitors, providing the opportunity to discuss industry problems, opportunities and R&D solutions online.

We also provide links to our members' websites or email addresses, and advertise upcoming events. PTAC has attracted and signed up several new members through our website since its formal launch in December 1996.

The logo for PTAC, with the letters 'P', 'T', 'A', and 'C' in a large, stylized, serif font. The 'P' is dark blue, while the 'T', 'A', and 'C' are a lighter teal color.

**An Association to  
Promote Collaboration on  
Technology Development  
in the Conventional  
Oil and Gas Industry**

**PTAC Board Members**

*As of December 31, 1997*

**Larry Bell, Chairman, PTAC**  
Crestar Energy Inc.

**Eric Lloyd, President, PTAC**  
Petroleum Technology Alliance Canada

**Alan Archibald**  
Anderson Exploration Ltd.

**Céline Bélanger**  
Alberta Energy and Utilities Board

**Mike Ekelund**  
Alberta Department of Energy

**Denis Gaudet**  
Canadian Fracmaster Ltd.

**Ralph Giguere**  
Amoco Canada Petroleum Company Ltd.

**Bob Hill**  
Canadian Energy Pipeline Association  
(CEPA)

**Patrick Jamieson**  
C-FER Technologies Inc.

**Al Kiernan**  
PrimeWest Energy Inc.

**Mark Krause**  
Gulf Canada Resources Ltd.

**Brian McConnell**  
Wascana Energy Inc.

**Bruce Peachey**  
New Paradigm Engineering Ltd.

**Ken Putt**  
Petroleum Services Association of  
Canada (PSAC)

**Bill Svrcek**  
University of Calgary

**Murray Todd**  
Todd Resources

**Auditor's Report to the Directors**

We have audited the financial statements of PTAC Petroleum Technology Alliance Canada for the year ended December 31, 1997 and have reported thereon without reservation under date of February 19, 1998. The accompanying summarized balance sheet and summarized statements of revenues, expenses and surplus have been prepared from the audited financial statements.

In our opinion, the accompanying summarized balance sheet and statements of revenues, expenses and surplus fairly summarize the information as to the financial position of PTAC Petroleum Technology Alliance Canada and the results of its operations contained in the audited financial statements.

*KPMG, Chartered Accountants  
Calgary, Canada, February 19, 1998*

**Summarized Balance Sheet**

*As at December 31, 1997, with comparative figures for 1996*

<b>Assets</b>	<b>1997</b>	<b>1996 (restated)</b>
Cash	\$ 53,114	\$ 21,175
Marketable securities	53,488	101,414
Accounts receivable	47,963	32,100
	154,565	154,689
Capital assets	31,372	24,453
	<u>\$185,937</u>	<u>\$179,142</u>
<b>Liabilities and Surplus</b>		
Accounts payable, accrued liabilities	\$ 9,167	\$ 21,614
Deferred revenue	157,175	134,558
	166,342	156,172
Surplus	19,595	22,970
	<u>\$185,937</u>	<u>\$179,142</u>

**Summarized Statements of Revenues, Expenses and Surplus**

*For the year ended December 31, 1997, with comparative figures for the period from commencement of operations on April 19, 1996 to December 31, 1996.*

<b>Revenues</b>	<b>1997</b>	<b>1996 (restated)</b>
Membership	\$227,616	\$103,048
Other	35,576	72,897
	<u>\$263,192</u>	<u>\$175,945</u>
<b>Expenses</b>		
Operating	\$266,567	\$152,975
Excess (shortfall) of revenues over expenses	(3,375)	22,970
Surplus, beginning of period	22,970	-
Surplus, end of period	<u>\$ 19,595</u>	<u>\$22,970</u>

*The complete audited financial statements of PTAC for the year ended December 31, 1997 are available from PTAC offices upon request.*



**PTAC**  
**PETROLEUM  
TECHNOLOGY  
ALLIANCE  
CANADA**

*For further information please contact –*

PTAC - Petroleum Technology Alliance Canada  
3rd Floor, Monenco Place, 801 6th Avenue S.W., Calgary, Alberta T2P 3W2, Website: <http://www.ptac.org>  
Eric Lloyd, President, Phone: (403) 297-4384, E-Mail: [lloyd@cadvision.com](mailto:lloyd@cadvision.com)  
Arlene Merling, Executive Coordinator, Phone: (403) 297-8776, Fax: (403) 297-8954, E-Mail: [merlinga@cadvision.com](mailto:merlinga@cadvision.com)