

CHOA

JOURNAL

OCTOBER 2021

PATHWAYS FORWARD

1986

35

2021

YEARS



Canadian
Heavy Oil
Association

THE CHOA, THIRTY-FIVE
YEARS OF GROWTH

THE LAST BARREL STANDING

NET ZERO AMBITIONS

SMALL MODULAR NUCLEAR
REACTORS IN CANADA

SAGD RESERVOIR
CHARACTERIZATION
CONSIDERATIONS —
PART 1 OF 2

THE JOURNAL OF THE CANADIAN HEAVY OIL ASSOCIATION

OCTOBER 2021

 CHOA.AB.CA

 [/CANADIAN-HEAVY-OIL-ASSOCIATION](https://www.linkedin.com/company/canadian-heavy-oil-association)

 [/CANADIANHEAVYOILASSOCIATION](https://www.facebook.com/canadianheavyoilassociation)

 [@CDN_CHO](https://twitter.com/CDN_CHO)

 +1 403 269 1755

Table of Contents

- 4 CELEBRATING CHOA**
- 10 THE CHOA, THIRTY-FIVE YEARS OF GROWTH**
- 14 THE LAST BARREL STANDING**
- 22 PROFILE - HATCH**
- 23 NET ZERO AMBITIONS**
- 27 SMALL MODULAR NUCLEAR REACTORS IN CANADA**
- 34 SAGD RESERVOIR CHARACTERIZATION CONSIDERATIONS – PART 1 OF 2**

Many thanks to our volunteers on the Editorial Committee, the GLJ layout team, and the CHOA office team for their efforts and contributions to this Journal.

Statements and content herein are those of the authors and contributors, and do not necessarily reflect the views of CHOA, the editors, or organizations with which the authors or contributors may be affiliated. Dissemination of information by CHOA does not indicate CHOA's endorsement of any product, technology, strategy or company presented herein.



Celebrating CHOA

along with our MEMBERS,
VOLUNTEERS and SPONSORS

It's a **BIG DEAL**

We're 35 and we wouldn't be here without **YOU!**

Here's to our shared future.

Transforming energy, making a difference.

En route to Canada becoming the most responsible and innovative energy resource developer in the world.

We are **STRONGER, TOGETHER!**





The CHOA, Thirty-Five Years of Growth

BY GORDON STABB, PROFESSIONAL GEOLOGIST, INVETERATE CHOA VOLUNTEER

“Since the beginning, the CHOA has continuously developed, engendering a consistent, positive impact on the heavy oil industry...”

VOLUNTEER-DRIVEN FROM INCEPTION

Since its inception in 1986, the Canadian Heavy Oil Association (CHOA) has been a volunteer-driven, non-profit organization assisted by limited administrative staff (currently 1 person). In 1987, the CHOA was incorporated through the Alberta Societies Act with its first president, Mr. Ken MacKay.

Since the beginning, the CHOA has continuously developed, engendering a consistent, positive impact on the heavy oil industry, the various professions within the CHOA membership, and the overall well-being of Canada’s energy supply. Many changes within our Association were the result of visionary volunteer members who recognized and acted upon opportunities to provide new or better contributions to Alberta’s heavy oil and oil sands industry and to the professional and social interaction of CHOA members.

From the Beginning: Connecting and Sharing

In the 80s the primary objective of the CHOA was to encourage and facilitate direct communication between technical and business development people in the heavy oil industry of the north and north-east of plains Alberta and the western and north-west plains of Saskatchewan. Members were predominantly engineers from commercial producers that were using technology limited to Cold Heavy Oil Production with Sand (CHOPS) and Cyclic Steam Stimulation (CSS), and members from experimental organizations researching new technologies for in situ bitumen extraction, members from Engineering, Procurement, and Construction Management (EPCM) service companies, and members from the regulatory sector. In addition, membership was not restricted to those with professional status. The initial advantage the CHOA provided its members was a new opportunity to share non-confidential technical, operational, and commercial knowledge toward future development of the vast resources of Lloydminster heavy oil and of the Athabasca oil sands.

“Since its inception in 1986, the CHOA has reliably facilitated informal communication and development of relationships between industry workers, and this has directly contributed to the dramatic increase in proved reserves, resources, and the certainty of Canada’s energy supply – a tremendous societal advantage.”

Game-Changing Technologies

In the 90s the heavy oil industry of western Canada was impacted by two major technologic advances. First, the subsurface development of horizontal (HZ) drilling technology and successful thermal extraction of bitumen with Steam Assisted Gravity Drainage (SAGD) at the Underground Test Facility (UTF). Then second, by successfully drilling HZ wells from surface into the shallow Athabasca oil sands and successful deployment of SAGD thermal technology for extraction of bitumen from the reservoir (in situ) to surface. SAGD pilot production and then commercial production was proven by Alberta Energy Co. (AEC, now Cenovus Energy Ltd.) at Foster Creek, by Gulf Canada (now ConocoPhillips Canada Ltd.) at Surmont, by PanCanadian Petroleum Ltd. (now Cenovus) at Christina Lake, Petro-Canada (now Suncor Energy Inc.) at MacKay River, and by JACOS at Hangingstone. As a result of this proven subsurface thermal technology and new source of production, CHOA membership grew and reflected multiple industry disciplines. CHOA volunteers saw an advantage: the opportunity to provide members with views and perspectives from the full range of professions essential to the growth of the heavy oil industry. The CHOA welcomed them, and its membership grew in number and diversity. The advantage was that in addition to shared engineering knowledge, CHOA members received benefits of knowledge from the drilling, geoscience, transportation, and marketing segments of the heavy oil business.

Oil Sands In Situ Kickoff

During the 2000s, the CHOA membership grew in response to high energy prices and significant new investment in the Athabasca oil sands. In response to the growing needs of membership and the heavy oil industry, volunteer Directors on the CHOA Board of Directors (BOD) designed and built the robust 2007 Strategic Plan to ensure the CHOA’s continued relevance and service to its members as they rose to meet the challenges of the next decade.

The CHOA BOD was formed in 1991. Historically, the BOD had operated as a working board with individual directors responsible for specific portfolios like “membership and social events” e.g. Golf Tournament, “technical meetings” e.g., Beer and Chat, “Special Events” e.g. Slugging It Out (SIO); and with three executive directors responsible for governance. The foundation of the new Strategic Plan was a fundamental change and became the CHOA’s current organizational structure. The new structure was comprised of a volunteer BOD responsible for governance and of several volunteer Committees and Committee Chairs with responsibility for operation of CHOA services to its members.

Governance goals of the new BOD included membership demographics, sustained value to members, communications (internal and external), non-partisan industry advocacy, financial sustainability, marketing (internal and external), international awareness, regional chapters, and review of the Association’s progress. Advantages the CHOA realized with its new structure of BOD governance and Committee operations were that the BOD defined and then supported operational goals that were consistent with the CHOA mission and with the business environment of the heavy oil and oil sands industry. An additional advantage was the increased capacity for more focused and effective communication of the CHOA BOD with high-level industry stakeholders like regulatory administrators, government Ministers, and corporate leaders.

The Journal is Born

In 2010 the venerable single-page CHOA newsletter, “The Tarpaper”, printed on newsprint, was replaced by the first issue of the Journal of the Canadian Heavy Oil Association (the Journal). Under the visionary and tenacious leadership of Deborah Jaremko (professional journalist and previous CHOA Director), the Journal became a publication of professional standard. The volunteers of the Journal’s Editorial Committee published an increased variety of heavy oil and oil sands subject matter of strong relevance to the membership. New content included introduction of high-level industry articles, technical articles, real-time updates of producing and pre-production heavy oil and oil sands projects authored by operating companies, interviews of provincial Energy Ministers, social-impact articles, featured professional profiles of individual members, and exposure for CHOA sponsors and corporate members via full-colour advertisements and sponsored content.

With 2015 came a dramatic fall in the selling price of oil, for the heavy oil and oil sands sector, exacerbated by a lack of transportation egress and large heavy-light oil price differentials. This was accompanied by unfavourable changes in the Journal publication agreements and costs. As a result of these factors, continued hard copy publication of the Journal became untenable.

However, CHOA volunteers stepped up and changed the Journal from a member only, glossy paper publication with a digital archive, to a digital-only publication available to any interested person via widespread use of the internet. Our membership benefited from continued access to the high-quality and current information in the Journal, opportunity to showcase high caliber professional publications and access to the real potential for world-wide exposure of Canadian heavy oil expertise.

COVID

2020 brought on the Covid Pandemic and the world shut down. Face-to-face interaction ceased. Remote communication through the internet became the business and social norm. Once again, the volunteers of the CHOA stepped up with characteristic agility. Within weeks the CHOA was completely digital. Communication of the BOD, the CHOA office, and committees moved to electronic platforms. Plans for CHOA events like technical meetings and conferences were re-planned to become digital events with remote participation of delegates and presenters. CHOA members were able to continue informal networking, technical discussion and sharing of non-confidential information. In addition, the digital format allowed members to view CHOA events like the “Slugging It Out” conference later.

Looking Forward

Since the late 1990s, the widespread deployment of SAGD in the Athabasca oilsands as a technical and economically viable mechanism to recover in situ bitumen too deep for mining has dominated growth in the heavy oil and oil sands industry. The CHOA has made essential contributions to SAGD deployment and improvements by promoting and facilitating technical interaction between members, industry professionals, disciplines, and industry organizations.

CHOA events like the Fall Business Conference, “Slugging It Out” (a CHOA joint conference with the Petroleum Society of the CIM, now SPE), afternoon Technical Meetings (previously the Beer & Chats), and social functions like the CHOA Lobster Night, have been vehicles of person-to-person interaction. Since its inception in 1986, the CHOA has reliably facilitated informal communication and development of relationships between industry workers, and this has directly contributed to the dramatic increase in proved reserves, resources, and the certainty of Canada’s energy supply – a tremendous societal advantage.

CHOA members live and work in the volatile business environment of the oil patch. Our professions and employers are subject to ballistic rises and meteoric falls in the investment community’s perception of the economic and social value of heavy oil and oil sands resources. Regardless, even with the industry ups and downs, it has remained that there are numerous opportunities for technical contributions and professional networking in the CHOA.

In conclusion, throughout the 35 years of CHOA history, its volunteers have recognized and initiated changes necessary to have a positive impact on the workers and professions of the heavy oil and oil sands industry. If you are passionate about making a difference in our industry as it adapts and transforms in an evolving business environment, to building Canadian energy supply and the social stability energy provides, and to creating real pathways forward, the CHOA is the place to be .

CONNECT. SHARE. LEARN. LEAD.

Gordon Stabb, P. Geo.



Gordon Stabb is a Petroleum Geologist with a 40-year professional background in Western Canadian oil and gas exploration, development, and production. His expertise includes stratigraphic analysis in siliciclastics, carbonates and business development, in oil sands, conventional oil, EOR, and natural gas. Specialized in oil sands, with integrated interpretation of geologic, geophysical, and engineering information into prospect recommendations. Noted for generating solutions and discoveries that develop profitable projects through coordination with interdisciplinary and operational teams.

Gordon’s 22-year volunteer contribution with the CHOA includes:

2010 to 2021: Technical Editor, Journal of the Canadian Heavy Oil Association

2008 to 2010: Board of Directors, Chairman of Technical Committees

2005 to 2008: Chairman, Reservoir and Production Technical Committee

1999 to 2005: Volunteer, Reservoir and Production Technical Committee



IS “VOLUNTEERSHIP” EVEN A WORD?

As a CHOA volunteer, you give AND you get.
Contribute to delivering CHOA content or events.
Grow your network, through doing with others.
Play your part in leading toward our industry’s future.
~~—Get paid big bucks.—~~

Contact us now at CHOA.AB.CA or OFFICE@CHOA.AB.CA

CONNECT. SHARE. LEARN. LEAD