



Archives

May 1996

Luncheon Meeting with George Govier Wednesday, May 22

Our last luncheon meeting before the summer break will be held at the Professional Club on Wednesday, May 22. George Govier will join us and give us an informal presentation of his personal recollections of the early days of gas export applications.

George Govier had a long and distinguished career with Alberta's Conservation Board. He was appointed to the Board in 1948, and became deputy chairman in 1959. He served as chairman from 1962 until 1975 when he became chief deputy minister of the combining Departments of Mines & Minerals and Lands & Forests. Join us for this interesting luncheon.

George Govier's Personal Recollections
of the Early Gas Export Applications

Noon, Wednesday, May 22
Calgary Professional Club, Shield Room
7th Floor, 217 - 7 Avenue SW

Buffet lunch, no-host bar
\$20 for members, \$25 for nonmembers

RSVP to Bill McLellan at 286-2191 by noon, Tuesday, May 21

Reminder PHS Awards Nominations Deadline May 15

Don't forget to send your nominations in by Wednesday, May 15, to Clint Tippett, Shell Canada Limited, PO Box 100, Station M, Calgary, T2P 2H5. Award details were included in your March newsletter.

Executive Board for 1996 — 1997



L to r:

John Frey	Director	264-3693
Clint Tippett	Secretary	691-4274
Jack Gallagher	Director	256-9639
Micky Gulless	President and <i>Archives</i> Editor	283-9268
Doug Cass	Treasurer	268-4203
Bill McLellan	Past President	286-2191
Peter Savage	Director	249-3532
Jack Porter	Director	255-7384
Missing from photo:		
Aubrey Kerr	Director	294-5573
Vern Millard	Director	242-3109

Board members were elected by acclamation at the Annual General Meeting on March 19.

Titusville History Conference July 18 – 21

History of Oil and Gas Exploration in North America
Drake Well Museum, Titusville, Pennsylvania
July 18-21, 1996
Information from William R. Brice
Geology Department, University of Pittsburgh at Johnstown
Johnstown, PA 15904
914-269-2901

Thanks to Doug MacFarlane for this information.

Titusville Conference Highly Recommended

by John F. Frey

Having attended the 1989 conference at Titusville, I most certainly recommend your attendance at the forthcoming meeting. The sense of history that pervades the area does trigger images of the past. Pithole, Cherry Run, Wildcat Hollow — all evoke strong historical senses. Needless to say, the actual Drake Well and site are very stirring. Also at the Drake site are the very interesting remnants of the pits for gathering oil which predate the European settlement of the area. For the bibliophile and the archivist, the Drake Museum at the site is a joyous treasure trove. All in all, a very interesting conference which all who have a love of petroleum history should attend.



L to r: Virginia and Jack Porter,
and Pat Boyle at the
Annual General Meeting.

Observations from the Top of the Derrick*

by J. W. Porter

North America's First Petroleum Exploratory Well

Exploratory drilling for petroleum in North America commenced in the late 1850s in southwestern Ontario and western Pennsylvania. The two regions — Oil Springs, Lambton County, Ontario, and Oil Creek, Venango County, Pennsylvania — were approximately 155 miles apart. Both places, as their names imply, were the locations of surface-expressed petroleum occurrences.

The controversy as to whether the first successful exploratory well in North America took place in Canada or the United States has yet to be resolved. The reason for this dilemma hinges on the different method utilized in reaching the petroleum reservoir at Oil Springs, Ontario, as well as the stratigraphic nature of the stratum hosting the petroleum. These factors preempt the chronological precedence of the Canadian and American initial discoveries.

Oil Springs, Ontario

Serious investigation of the “gum beds” at the Oil Springs seepages in Enniskillen township commenced as early as 1857. James H. Williams of Hamilton, Ontario, sampled the tarry substance which served as a mat, or oxidized residue, blanketing the

seep. He refined it at the site, utilizing a rudimentary still. He produced illuminating oil, which he believed could be made cheaper than lamp oil distilled from coal. This discovery led Williams to sink a hand-dug well to a depth of 60 feet. Oil rose in the cribbed-lined well to a point near the surface. Thus the **first successful subsurface exploratory venture for commercial petroleum in North America occurred at Oil Springs, Ontario, in 1858.**

The reservoir hosting the oil in Williams' well was composed of gravel beds, representing glacial debris deposited in recent geological time. It could be considered the subsurface seepage reservoir since the indigenous "bedrock" reservoir consisted of the underlying porous Middle Devonian limestone (Delaware and Onondago formations). Follow-up wells were subsequently sunk into the glacial gravel reservoir to obtain the less viscous oil. However, it was not until 1861 that a well was drilled to a depth of 160 feet at Oil Springs. After penetrating the glacial gravels, it encountered the principal Middle Devonian limestone reservoir which resulted in an uncontrolled gusher. This resulted in Canada's first oil boom

Wildcat drilling in 1862, less than 10 miles to the northwest, resulted in the discovery of the Petrolia field. This field contained the largest petroleum reserves of any field discovered to date in Ontario.

Oil Creek, Pennsylvania

In 1855 the Pennsylvania Rock Oil Company was formed by two New York entrepreneurs, G. H. Bissel and J. G. Eveleth, to determine the economic feasibility of marketing petroleum from the seepages at Oil Creek, Pennsylvania. Samples of petroleum taken from the Oil Creek seepage had been obtained the previous year and sent to Professor Benjamin Silliman of Yale University for analysis. His favorable report led to leasing by Pennsylvania Rock Oil Company of property at the seepage site.

Attempts to refine and market the petroleum recovered met with failure and the project was abandoned. The property was assigned to Seneca Oil Company which, in 1857, hired a former railroad conductor, Edwin L. Drake, to head the operation of sinking a well at their seepage property. Drake was given the questionable title "Colonel" for the sole purpose of giving him credibility.

The following year, an attempt by Drake to hand dig the exploratory well met with frustration and was later abandoned. However, in early 1859 Drake purchased a primitive cable-tool system (including a steam boiler) and obtained the services of a brine-well drilling crew. An enclosed timber derrick and attached boiler shed were constructed at Watson's Flats, 1 ½ miles south of Titusville, Pennsylvania. The historic Drake well spudded in early June 1859 with Billy Smith "pushing tools," as

well as serving as a "tool dresser." In late August 1859, after some 80 days of drilling including setting casing, the oil reservoir was encountered at a depth of approximately 69 feet. Production at Drake's discovery well, the **first by a steam-powered cable-tool drilling rig, was obtained from a "bedrock" sand reservoir** of Middle Mississippian (Berea-Big Injun) sand.

In the next few years, exploratory wells, drilled by spring-pole and cable-tool rigs, discovered many additional fields in Pennsylvania. The giant Bradford field was discovered in 1871, with production obtained from the Bradford sand of Devonian age.

Apart from heralding the birth of the oil industry in North America, these discoveries resulted in the first significant environmental damage to their respective regions. In the early 1860s' boom years, the pre-rotary drilling methods failed to control high-pressured reservoirs. Once the chisel-shaped bit in the open cable-tool hole penetrated an oil reservoir with pressure exceeding atmospheric uncontrolled blow-outs (gushers) occurred. The fields in both areas flanked or straddled creek beds, which became the conduits for millions of barrels of escaped oil. In Ontario, this oil flowed down Black Creek to Lake St. Clair, and ultimately into Lake Erie via the Detroit River. The Allegheny River became the repository for much of the prolific run-off originating along Oil Creek,

Pennsylvania. Suffice to say, the loss of potential revenue was of much greater concern to the promoters and operators of the time than ecological damage.

★ *Jack Porter, PHS Director and author of "A Backward Glance: A History of Canadian Superior Oil Ltd.", plans to give us more of his interesting Observations in future issues of Archives.*

Shell's Jumping Pound Gas Discovery 1944 — Fact and Fiction

by Dr. Clinton Tippet

The following article is a summary of the author's remarks to our Annual General Meeting on March 19, 1996.

1994 marked the 50th anniversary of the Jumping Pound Mississippian gas pool discovery. Shell saw this as an occasion to celebrate our accomplishments, build corporate culture, develop historic perspective, and collect reminiscences of those who were involved.

As the petroleum history buff at Shell, I initiated and coordinated the commemorative celebrations. I spent considerable time reviewing Shell's comprehensive correspondence and technical files, which were a great asset.

The 1944 Jumping Pound discovery marked the culmination of almost a decade of technical work and drilling

by Shell in Alberta. Here are the basic facts:

- Well called 4-24-J after the block
- Location 4-24-24-5-W5
- Spudded May 28, 1944
- Completed December 13, 1944
- Depth 9947 feet
- Tested 12.5 mmcf/d with 85 bbl/d condensate
- Absolute Open Flow 32 mmcf/d
- Structure 12 miles long, 1.5 miles wide
- Ultimately 11 producing wells
- Reserves estimated 0.5 to 1.5 TCF
- Currently recognized at 838 BCF original raw gas in place.

You may wonder about my provocative title word “fiction.” This does not imply any conscious distortion of the truth, rather an ignorance of the facts and a tendency to assume that the way it is today is the way it's always been. Here are some “fictions” that have come to my attention.

📖 Fiction: Shell entered western Canada initially in search of oil and gas prospects.

Fact: In 1936, Shell Oil US was primarily concerned about the impact large volumes of Turner Valley crude could have on their Montana oil products business.

📖 Fiction: Shell's corporate structure was as it is today — 78% ownership by the Shell Group, 22% by the public.

Fact: Shell Canada was an eastern Canada oil products organization. Activity in western Canada was undertaken by Shell Oil US with costs being borne by Shell Canada, presumably for tax reasons.

📖 Fiction: The Jumping Pound discovery well was the first well drilled in the area.

Fact: Several shallow wells were drilled as early as 1914. The Northwest Co. drilled two wells in 1928 to 1930 and two wells in 1938. Shell itself had drilled the nearby Norman well in 1942-43, which was the deepest well in Canada at the time.

📖 Fiction: According to Shell's normal practice, it was “our play” and Shell assembled the land.

Fact: The land was assembled by R. A. Brown Sr. and Jr., beginning in 1936 following the Turner Valley oil discovery. They drilled Brown Consolidated Rabson #1 in 1938 to 6885 feet, deeper and downdip from prior wells, but failed to prove a Turner Valley analog.

Shell farmout negotiations with the Browns were long and drawn out — from 1940 to June 1942. In April 1942, Mr. Brewer from San Francisco came to Calgary to negotiate with the Browns. Here are some quotations from letters to his superior Mr. Bradley:

April 15: "Only this afternoon have negotiations been finalized so that I can begin the task of resending for future guidance. In the interim the proposals and counterproposals have run the entire gamut from A to Z and I have been doing a classical hop skip and jump act trying to keep a working draft up to date ... and the final deal incorporates none of the formerly discussed possibilities."

April 26: "As this letter will indicate, my good intention of finishing this week came to naught. Neither of the agreements has been accepted as final by Brown."

May 3: "I have made and cancelled so many plane reservations in the last two weeks that I have a great reluctance to continue that procedure. Also the Browns have made and broken so many promises to finalize that there is no reason to hope that they will keep this one."

Fiction: The target was gas.

Fact: The target was oil, and even after the discovery, Shell thought it was a small gas cap over oil.

Fiction: The structure was understood as it is today.

Fact: Only in the mid to late 1950s was the true nature of the structure revealed by seismic and wells.

Fiction: The field was delineated and all wells drilled prior to unitization.

Fact: Only the discovery well was drilled when the unit was formed.

Fiction: Jumping Pound has always been "core" to Shell.

Fact: After only gas was found, Shell tried to sell the field to McColl-Frontenac (Texaco). Shell also tried to get McColl-Frontenac and Imperial interested in a Fischer-Tropsch plant to make synthetic gasoline.

Fiction: Shell has always been a Foothills-focussed company.

Fact: Foothills exploration was only part at beginning. Shell conducted lots of plains activity. However, Jumping Pound is the first seismically identified and detailed structure in Canada.

Conclusion

This interesting project reemphasized that things change: what is not valuable today may be valuable tomorrow. Also, documentation and staff continuity are very important in the study of the changing perspectives of our business.

I would like to thank Shell Canada for the opportunity to undertake this project.

Historical Lapel Pin Sets Update

Oilweek (Info-Tech) and The Petroleum History Society recently finalized the historical lapel pin partnership. The partnership, which began in 1989, had become an administrative hassle. Oilweek generously gave us nearly all the pin sets remaining, keeping only a few for themselves to use as gifts for speakers at conferences. Now all the sales proceeds will go directly to The Petroleum History Society, rather than being split with Oilweek. Our many thanks to Oilweek!

The limited edition sets of six lapel pins commemorate the first 100 years of Canada's petroleum history. They cost \$120 (plus GST) and make great gifts. If you want a set or more information, please call Micky Gulless at 283-9268.

Have You Paid Your Dues Yet?

You received an invoice for 1996 dues with your March newsletter. Many thanks to all the members who sent in their cheques.

However, about half of you have not paid your dues yet. Please do so soon if you wish to remain on our mailing list.

New Member Application The Petroleum History Society

Name: _____

Address: _____

City: _____

Postal Code: _____

Phones:
Business _____

Home _____

Fax _____

Institutional or Company
Affiliation (if any):

- Individual Member — \$10
- Sustaining Individual Member — \$35
- Institutional Member — \$100
- Sustaining Institutional Member — \$100+

- New Member?

Date: _____

Please enclose cheque or money
order, payable to
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Mail to 2100, 350 - 7th Avenue SW,
Calgary, T2P 3N9.