

**PETROLEUM
HISTORY
SOCIETY**

ARCHIVES

Newsletter of the Petroleum History Society

February 2004; Volume XV, Number 2

P.H.S. Lunch and Learn – February 18, 2004

Speaker: Frank Dabbs

Author and Consultant

“Before Leduc”

When Imperial Oil made the landmark 1947 Leduc oil discovery, Western Canadian oil and gas exploration and production was already in its eighth decade of commercial development. Indeed, the Leduc discovery was the product of a sustained geological and technical development cycle that began before the First World War. When Leduc was discovered, the natural gas industry was already relatively mature and the technical breakthroughs to commercialize the oil sands had already been made. Frank will set the stage into which the prolific Leduc oil discovery emerged on the national and world stages.

*Frank Dabbs is a journalist, columnist, author and business communicator who has spent most of his 38-year career in and around the Alberta oil patch. Among his books, *Branded by the Wind* was awarded the Petroleum History Society 2001 Book of the Year Award. He presently a senior consultant at NATIONAL Public Relations, responsible for the firm's community consultation and public participation practice, working with resource companies to resolve conflicts with communities and surface land owners.*

TIME: Noon, Wednesday, February 18, 2004

PLACE: Fairmont Palliser Hotel (133 - 9th Avenue S.W.) – Canadian Pacific Room (check marquee).

COST: \$25.00 Members and \$30.00 Guests (most welcome)

**R.S.V.P. if you wish to attend to: Clint Tippett, 691-4274 or
clinton.tippett@shell.ca by noon Monday, February 16**

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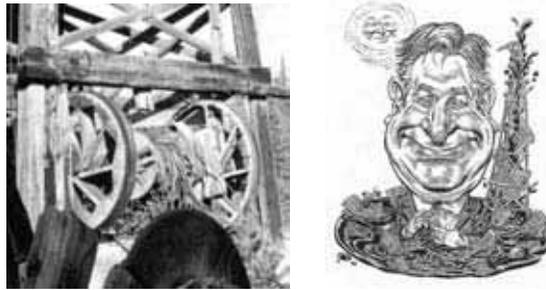
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THE PETROLEUM HISTORY SOCIETY
THE BULL WHEEL



Next Board Meeting: The Executive and Board are reminded that the next meeting will be at noon on February 11, 2004 at the Glenbow Museum and Archives.

Next Luncheons: The Society has been trying to firm up a slate of talks for the spring. Please pencil in our Annual General Meeting in the late afternoon of March 17 at which we are planning to have David Mitchell, one of the early Presidents of A.E.C., address us. Craig Lamb of Husky will be speaking later in the Spring on the history of well logging. We also hope to have Hart Searle of Imperial Oil address us on the history of the Lynwood refinery site that has been in the news over the last few years. If you would like to present the results of a project that you've been working on, please let us know and we will fit you in. Contact Clint Tippett, President P.H.S., at 691-4274 or Director Debbie Knall at 780-463-3859 (Edmonton). Thanks again to Debbie for all her hard work.

Historical Recognition: The Canadian Society of Petroleum Geologists has recently announced that its annual Geoscience Conference series will now bear the name of famous geologist **William C. Gussow**. Gussow was also recognized several years ago by the American Association of Petroleum Geologists when he was presented with their prestigious "Pioneer Award". Bill is in his 90's and still going strong. Major oil company Conoco-Phillips has recently established a set of annual university scholarships totalling \$10,000 named in honour of early Western Canada geologist **Glen Ruby**. Ruby was the General Manager of Merland Oil's Canadian partnership, known as Hudson's Bay Oil and Gas, from 1926 to 1929 and was a driving force behind the establishment of the Alberta Society of Petroleum Geologists (later becoming the C.S.P.G.). According to the announcement, he was at one time credited with making the most northerly and most southerly petroleum discoveries in the world.

Books of Interest: In 1996 author Ray Miles published a book entitled "King of the Wildcatters - The Life and Times of Tom Slick, 1883-1939". A sample of the promotional material from the website of publisher Texas A and M states that "*Even after upgrading his office from his buggy to a posh Oklahoma City suite, Slick's style remained hands-on. His impromptu deals were often brokered on street corners and over telephones in his laconic style. Well into the 1920's he still had no stockholders or board members to answer to, and instead "worked out of his pocket."* He seems to have been a lucky guy. On his last shake in 1912, following a string of dry holes, he discovered the vast Cushing Field in Oklahoma. In 1929, before the Crash, he sold off his properties in the largest sale of properties by an individual to that point in history. The book is priced at \$32.95 U.S. and is 184 pages.

P.H.S. Pin Sets: Our pin sets (of 6) have recently been reduced in price to \$40.00. Please contact Joyce Wright at 252-4143 if you are interested in buying one or several sets. These make great and original Calgary- or Western Canada-related gifts. A comprehensive description accompanies each plush boxed set.

Farewell: We belatedly note with sadness the passing of William (Bill) Preston Allen on December 16, 2003. According to his obituary in the Herald, Bill was born in Imperial, Saskatchewan and, following his education at Queen's, held long term employment with Imperial Oil. He began under the mentorship of Doc Sproule "becoming a jug hustler and later a shooter on Seismic party #43 which found the anomaly chosen as Leduc #1. ... In the 1950's Bill became the Chief Scout for Imperial Oil." In his later life he "developed a passion for restoring M.G. sports cars for which, unlike his golfing, he actually won prizes." Bill was also one of the stars of the 1980's CKUA video presentation "Roughnecks, Wildcats and Doodlebugs" about the patch.

"Wetting the Whistle": We note that another historical drinking establishment - The Highlander on 16th Avenue N.W. - has just been closed to make way for a new development. During the recent Petroleum History Walking Tour of Downtown Calgary it was suggested that an interesting project would be to profile the social side of the petroleum industry in Calgary, including favourite hangouts, past and present. Any volunteers? Also ran across a short profile of the old Alberta Hotel that was a centre of Calgary social life from the late 1800's (after opening in 1888) until the early 1900's (closed by Prohibition in 1916). Apparently the hotel served complimentary drinks from 6:00 a.m. until 9:00 a.m. "hair-of-the-dog" style for late night revelers.

Winners (and Losers), Continued: In a recent issue of the Globe and Mail's Report on Business Magazine, the Canadian business was profiled with multiple categories of good things and not-so-good things. A big winner was Canadian geologist Dr. Abraham Gesner who is said to have "invented" kerosene in 1846. The biggest loser is the magazine itself who claims that "Vernon (Dry Hole) Hunter discovered oil at Leduc, Alberta in **1946**". If only! This would have saved Shell Canada the trouble of withdrawing from Western Canada at the end of 1946 and re-entering in 1949.



In the foreground of this photograph is the famous "trout stream," the name given by area oil men to the river of crude flowing from the runaway Lakeview No. 1. *American Petroleum Institute*

Early California Drilling Activity and related Blowout – Not quite Trout Unlimited!

Access to Resources: Forestry and Petroleum on Alberta Crown Lands

A luncheon presentation to the Petroleum History Society

By Robert "Bob" Bott, Author and Editor

January 21, 2004

(Thanks to Bob for this partially reproduced manuscript, summary by Clint Tippett)

There are a number of parallels between forestry and the oil and gas industry. Both are **extensive** industries – not concentrated on one site like a mine or factory, but spread out over the landscape. Both were federally regulated in Alberta until 1930, and have been by the province since then – Petroleum and Natural Gas Conservation Board, now EUB, established 1938, and the Alberta Forest Service, now Land and Forests Division of SRD, established in 1930. (Both regulators have been praised widely by peers across Canada and internationally, but both have been constrained by severe cutbacks over the last 11 years.) Both industries trace their history back to the 19th century, but only emerged in modern form in the years immediately after WWII. Both are highly dependent on technology -- heavy equipment like bulldozers, big trucks, helicopters, etc., but also computers, telecommunications, satellites, digital imagery – and applied sciences such as hydraulics and metallurgy. Both have provided seasonal work for a lot of farmers and careers for farmers' sons and daughters. Both have made spectacular improvements in worker safety, working conditions and pay. Both have been affected by the explosion of outdoor recreational activities and environmental awareness in Alberta since the 1960s. And both are now dealing with the challenges of sustainable development, water use, fisheries, biodiversity, etc. Both need access to their resources, and will lose it if they don't behave responsibly.

But there are also key differences. One is renewable, and the other non-renewable. The industries did not evolve exactly in parallel, but more in leapfrog fashion – and one frog has grown about 10 times bigger than the other. Forestry is based on a time horizon of at least 50 years, and planning extends up to 200 years into the future. The time horizon for oil and gas is seldom more than 25-30 years, and sometimes shrinks to days and hours if a lease is about to expire. For most of their history, communication and co-ordination between the industries has been poor. Sometimes it seems they speak separate languages. And the respective regulators and ministries have been almost as alienated.

Unlike the U.S., the government plays a critical role in land use for both industries. In Alberta, more than 90 per cent of our forests are on Crown lands. The majority of oil and gas is produced on Crown lands, and the provincial Crown owns mineral rights on 81 per cent of Alberta's 66 million hectares.

The Leduc discovery in February 1947 marks the birth of the modern oil and gas industry, but it was equally significant for another reason. It was the first major oil discovery in Canada based on a seismic survey. The first major natural gas discovery based on seismic was Jumping Pound, west of Calgary, in 1944. These successes set off a half-century of seismic programs that turned much of Alberta into a "graph paper" pattern of cutlines. The typical cutline was nine metres wide to accommodate the shothole drill and recording equipment. In the 1970s the Environment Council of Alberta calculated the oil and gas industry was cutting more timber than the forest industry, and that is probably still true in some parts of the province – e.g., more hectares in the AI-Pac FMA from 1991 to 2002.

Alberta's coming oil and gas boom was not yet evident when the provincial government drew up its post-war reconstruction plan in the mid-1940s. The plan envisioned forest industry development as a key means to reduce the economy's dependence on agriculture. The first major step was a 1948 order-in-council (executive directive) designating about 60 per cent of the province as the "Green Area" in which settlement would be severely restricted. This area encompassed the foothills forest reserves and much of the northern boreal forest. In 1948, the government also signed a joint federal-provincial agreement to establish the Eastern Rockies Forest Conservation Board. It was to share costs of increasing protection and management on the southern forests of the Rocky Mountains Forest Reserve - the Crowsnest, Bow River and Clearwater forests (but not including the Brazeau and Athabasca forests). One of their major projects was construction of the Forestry Trunk Road, now Highway 40, which opened up access to the foothills forests for fire protection, logging, other resource development and recreational uses.

Pivotal events then occurred in 1949: The provincial legislature passed a new Forests Act, including provisions drafted by Huestis to permit long-term exclusive agreements with industrial developers, based on sustained-yield "perpetual" growth and harvest.

The government commissioned the first comprehensive inventory of the province's forest resource, based on aerial photography and ground sampling, and Huestis hired experienced forester Reg Loomis to oversee the contractor performing the inventory.

Crude oil and natural gas exploration began in the Hinton area in 1944, and Imperial Oil Co. Ltd. drilled the first well in 1948. The well did not strike commercial amounts of crude oil or natural gas, but Imperial and other companies continued to explore the area and eventually found significant quantities of natural gas. The road to the first well at Muskeg later became part of the Forestry Trunk Road, now Highway 40, from Hinton to Grande Cache. Ray Ranger recalled that company foresters initially welcomed the oil and gas industry presence. The roads, and especially the hundreds of kilometres of cutlines for seismic surveys, made it a lot easier to conduct the first forest surveys and inventories. However, it was also in 1956 that Imperial Oil struck natural gas at a well in the northwest portion of the forest management area. That well began a stepped-up pace of exploration and development that continues today.



Seismic Operations in Northern Alberta in the 1950's. Broad linear cut lines were carved through the forest to permit the movement of heavy equipment such as bulldozers, shot hole rigs (above) and recording vehicles. Low impact and often heliportable operations are now more common. (Shell photo).

“Reminiscences of Myron Zandmer”
by Leroy Field, P.H.S. Lifetime Member
(Continued)

Things then got into high gear to get the job done. The wire line charge was placed at the bottom of the well, the well bore loaded with a good supply of marbles to filter the nitro as it was poured in gently by hand. They were also to handle the recoil when detonated. The next day Dick Gibbons hooked up the Haliburton pumper to displace the nitro charge into the formation. Dick surrendered the pumping honors to Myron so he pumped the nitro down. Casey Ball was the shooter from the Hercules Shooting Company of California. Hugh remembers him saying that 13 men had formed the shooting company but he was the only survivor, the others being killed in the line of duty so to speak. With everything ready he remotely operated the detonator. There was a very unsatisfactory whump and that was it. A 2 inch fitting was torn off the well head and that was all. A man came over to the boys several hours later and said to go home since it was all over. A service rig worked on and off for two years bailing debris from the well. They bailed marbles, pieces of torn casing and glazed chunks of limestone/dolomite from the well but that was it.

There must have been quite a cavern down there. Hugh [Leiper] and subsequent Turner Valley kids remember that there was a good supply of marbles in that field for years after. The nitro fracture treatment was a great success but the patient died a remarkable death. So much for the new theory some have been promoting to set off a Hydrogen bomb down hole.

PERMEATOR

The Permeator is a substitute completion tool for perforations. The Permeator idea came from Myron's experimental work during the war with the U.S. military on developing the anti-tank armour-piercing Bazooka. The backdrop to the steel was cement. When the jet of hot gases penetrated the steel the cement backdrop became shattered. He observed that this would happen when jet-perforating through production casing and cement. In this event all holes would be in communication so that selective stimulation of the formation could not occur since flow would take the path of least resistance, which would be to the best part of the formation. The Permeator completion consisted of a series of three section telescopes mounted on the casing. The inner one provided a 1 inch flat seal area flush with the inside of the casing, the middle one was $\frac{3}{4}$ inch and the external one provided a $\frac{1}{2}$ inch outlet to the formation. The Permeators were screwed into mounting pads which were welded over holes drilled in the casing. The Permeator casing sections were run on the casing string and placed opposite the productive formation. Upon finishing the production casing cement job, and while the cement was still wet, pressure was applied and they were telescoped through the wet cement to the formation. When the cement set up, the interior aluminum screw in the end of the telescope in each permeator was opened with acid and selective stimulation could then proceed since there was no destruction of the cement sheath around the casing. The treatment pressure was contained within the steel sheath of the permeators and did not act to breakdown the cement. Selective ball sealers, at the same specific gravity of the acid, were used. They stayed in place at low rates of flow and did not have to deform to seal since there were flat seals at the interior end of the permeators. This served to divert the acid from one hole to the next. All in all it was superior to trying to seal curved profile perforations in casing with heavy deforming balls at high flow rates.

The Permeators were manufactured by the Chicago Screw Company in Chicago and shipped to Turner Valley. The old Royalite machine shop, which was located just outside the Turner Valley Gas Plant gates, drilled the holes in the casing sections and welded on mounting pads and guide bars. The welded casing sections were stress relieved in the large furnace, which could handle long pipe sections, that only this machine shop had. The Permeator telescopes were then screwed into the mounting pads and they were ready to go. The casing sections were relatively short so that pre-selected intervals could be fitted into the production casing string in the desired positions.

The Permeator completion was a hard sell since the completion intervals and Permeator patterns had to be pre-selected so that the Permeator sections could be placed in the proper position, when running the casing with the drilling rig. This required an engineer and geologist to make a rapid onsite decision as to where the pattern would be placed rather than to hold up the operation for Management to make a decision once the relevant data was sent to head office. For this reason and other operational limitations it never gained wide acceptance, although there were over 100 completions worldwide. There were a number of jobs done in Swan Hills for selective stimulation of multiple and separate zones with notable results. I ran Permeator completions in Algeria where production rates were multiplied 5-fold at 5000 b.p.d., with sustained wellhead flowing pressure of a measly 150 p.s.i..

The idea was basically before its time and patents have since expired and the revolutionary completion technique has since sunk into oblivion. It could be said then that Myron was the father of true selective formation stimulation. It should be noted that an evolution of this technique is still sorely needed for effective oil well completions.

The Permeator tool was his baby and criticism of its performance could not be tolerated. I had done some tests at the Oilwell machine shop to check on screw solubility and consistency of the shear rings. Upon presenting the less than impressive results to Myron I was fired on the spot, but I must say that I had an interesting time of it while working for him..

If anyone is interested in this completion tool there is a display at the Turner Valley Gas Plant interpretive center, which for the present is located in the Turner Valley Council chambers. [*Scenes from Turner Valley well testing below – ITLOTF*].



"AND THE GRASS GREW GREENER"

By R.J. Bob Dunn

With Bob's permission - from the poetry Compilation:
"And the Grass Grew Greener as I Meandered through the Oil Patch"
published 2000 by Dunderosa Publications

(Part 4 – Conclusion - continued from the previous issues of Archives –
You may wish to refer to them to follow the story)

You can guess the rest,
The drill stem test
Was pure hog manure.
The consultant resigned,
Crazed out of his mind,
And the Toolpush took the cure!

There was hardly a sound,
From the crowd around,
And somehow I just knew,
That this old feller, the story teller,
Was one of that stinking crew.

The old man heaved a sigh, a tear in his eye,
As he drank the last drop of ale,
Then he gasped for air,
And slumped in his chair,
And his face turned deathly pale.

As they carried him out, I had no doubt
That the story he told was true,
In the smoke filled light of the bar that night,
So I'm passing it on to you.

You may have doubt of this story about
The old man and his stinking crew,
But if you want proof, that it's no spoof,
I'll tell you what to do,

Go check his plot, it's the only spot
In the graveyard high and dry,
Where the grass grows greener,
Than ever you've seen her,
And the corn stands ten feet high!

OK, so this is a strange poem, in particular in four installments! If you didn't get the drift, the well deviated so strongly that it turned around on itself and came back up onto a big pile of manure, hence the smell. It's interesting to speculate, however, if this might not have been the first interpretation of drill crews in the Western Basin when they struck sour natural gas!