



Recycling Canol*

Following is the text of Dr. P.S. Barry's presentation to the society's 1991 annual meeting. We believe this is an important enough paper to warrant inclusion in whole in Archives. The introduction has been edited to save space. - ed.

From the point of view of military historians the Canol Project -- said to have cost \$134 million in 1943 U.S. dollars -- is little more than a footnote to much greater happenings. But this military perspective never really satisfied me. In the first place, Canol was a significant event in Canada's social, economic, and political development, and it figures as a turning point in our international relations. Secondly, in regard to the history of the Northwest Territories, Canol introduced irreversible industrial developments.

Let me touch on just a few of Canol's effects. The most complex changes, I think, arose from the construction of the Mackenzie aerodromes and the scheme for building still more air fields north of Norman Wells, an alternative air route to Alaska that would have avoided using California fuel on the Northwest Staging Route through Whitehorse.

Before the war, the Government of Canada spent little money and less thought on aviation in the Mackenzie valley and Arctic regions. When the war was over, however, Ottawa was permanently cured of indifference toward a rich country made for flying. Landing fields for wheeled aircraft in a region which previously had practically none served henceforth as the fixed bases of federal authority over air traffic operations.

Perhaps of greater consequence: the Mackenzie Staging Route predicated a new era in continental military strategy in which Canada has been inextricably involved. This involvement was intensely felt during the Cold War.

Another thing: The logic of Canol's geo-politics shifted the aviation capital of Canada's West and North from Winnipeg to Edmonton.

And then, too, the formation of Canadian Pacific Air Lines, just as the Canol contracts were handed out in 1942, created a powerful competitor for the Crown-owned Trans-Canada Air Lines.

At about the time Canol started up in the spring of 1942 the U.S. Air Force sent 7 bombers to make a photogrammetric survey of the entire Mackenzie Basin to the Beaufort Sea. Thus the oil country was mapped as never before, and maps drawn from this operation became widely distributed.

This brings me to effects of the Canol Project on the oil industry. But first a little background:

On May 1, 1942, the U.S. War department contracted Imperial Oil to furnish Norman crude oil for a refinery to be built in Whitehorse for supplying fuel for aircraft and truck traffic on the Northwest Staging Route and the Alaska Military Highway. This set off an expanding programme of construction projects west and north of Edmonton. But the U.S. Secretary of the Interior, Harold Ickes, and his deputy, a Standard Oil of California vice president, immediately intervened: On May 25 the War department contracted SoCal to operate the Norman-Whitehorse pipeline and the refinery-to-be, and a month later approved construction of a Skagway-Whitehorse pipeline to carry gasoline refined in California from tidewater to Whitehorse and beyond. These supplementary works were all under the Canol label.

Construction on this Skagway pipeline began in September 1942. Given the advantage of the Whitehorse and Yukon Route Railway in hauling freight and providing a ready-made passage, it was delivering up to 5,000 barrels of gasoline a day into Whitehorse four months later (December 1942). And work on two additional branch pipelines were extending its reach along the Alaskan Highway to Watson Lake and Fairbanks.

Meanwhile a series of snafus beset construction of the Norman crude oil pipeline and its Whitehorse Refinery. That pipeline was not completed until February 1944, and even then not all its pumping stations were working. Norman crude reached Whitehorse some weeks later, and until August 1944 the Army was still rounding up odd parts from Texas, Ontario, and California to patch together the refinery. But in March, 1945, even before the end of the war, the Norman pipeline and the Whitehorse refinery were shut down completely. Yet the Skagway system continued to supply refined product from California to Alaska until well into the 1950s.

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The rapid success of the Skagway system of gasoline distribution was a triumph for Standard Oil of California over Standard of New Jersey in the frantic race for the lucrative military markets of the region.

But the loser won a few marbles: During Canol Days, Jersey's subsidiary, Imperial Oil, owner of the Norman properties, enjoyed the status of independent wildcatter in the immense region north of the 60th parallel. Canada exempted IOL from customary regulations, while the U.S. Army provided protection against intruders. Consequently, the Canol Project endowed the largest oil corporation in the world with a deep, detailed, and exclusive knowledge of Mackenzie Basin structures. Eventually, during competition for permits later on, IOL could make its luck while other oil-seekers floundered.

Nor is this all. Orders-in-council promulgated especially for the Canol Project permanently bound Imperial Oil and the Government of Canada in a partnership. The Dept. of Indian and Northern Affairs - title-holder of the Crown's one-third share of the Norman properties -- was also the happy dispenser of permits to the oil prospectors of later decades -- prospectors who were productive largely in furnishing a market for the oil IOL had already found.

Canol people, civilian and military, broke at least 2,000 miles of overland routes through a country that previously was all but roadless. A wide-flung network deeply penetrated the hinterlands from lakes and river banks -- cutting up the bush with access lanes, approaches, borrow pits, detours, short-cuts, side trails, and false starts.

The Mackenzie Highway now was the main overland entry into the Mackenzie Basin. In 1944, urged by Ontario mining interests, the campaign began for its upgrading as a year-round access to the North. And during the 1960s Canadian Pacific Railways pushed for the Slave Lake Railway along the same route.

On the Yukon side, Canol roadways set the pattern for further development. During the 1950s, improvements of the No. 1 Pipeline Road from Whitehorse to Ross River and later to Macmillan Pass, furnish easy access for mining exploration as far as Godlin Lakes.

The Fort Liard-Fort Simpson winter road attracted a surge of commercial activity -- boat-building, transport, trading -- via the "back door" of the Mackenzie after the war.

The military's brief burst of interest in the Lower Mackenzie and in Rat Pass to the Yukon inspired pressure for construction of air fields serving Arctic communities, and invited new commercial ventures in those parts.

Hay River, the site of a Canol aerodrome proximate to the Mackenzie Highway, experienced a postwar boom. The town became the centre of shipping on the Mackenzie River and of a fishing industry in Great Slave Lake. But Hay River's good fortune signalled the inexorable decline of the Fort Fitzgerald-Fort Smith portage

which had controlled access to the Mackenzie Country since 1789.

The Canol Project brought wage work, business opportunities, and a welcome touch of glamour to numerous Canadians who were previously sunk in the dull despair of hard times. But this stimulation benefitted some while damaging others. The military regime choked off such normal amenities as commercial air services to isolated communities. It monopolized the existing roads, wharfs, and barges, even while constructing new ones.

Canol's pre-emptory demands overran public and private property: Canadians were shocked to discover that their free access to ordinary facilities -- skating rinks, railroad yards, airports, and public, private, and commercial buildings -- was suddenly proscribed by a foreign military force.

Finally, quite apart from national or regional considerations -- I've come to see the Canol Project as a classic example of how human factors -- the infighting, the competition, the undercover rivalries on all levels -- can reflect the outcome of ambitious undertakings. Initiatives based on interest provoked reactions to protect or to promote this special cause or that. Canol's ad hoc way of doing things reflects this obscure turmoil, and offers a theoretical basis for analyzing other situations. For here we find that familiar theme of human history: the tragicomic spectacle of men confounding one another under a single banner proclaiming a public good.

Now for some of the problems of the historian researching documents. A document is a fact only in a limited sense. It is, of course, a fact in that it exists. But the contents of a document are not necessarily facts. A wise historian has said:

Official history describes what ought to have happened, rather than what did happen.

I can give you one of countless examples from my research on the Canol Project. One "fact" I hoped to establish was the exact number of air fields Canol people installed. Counting all the air fields mentioned in the documents, the number is something like 21. But, so far as I could discover, only about 15 were actually constructed. Several more reached planning stage, and of these a few were surveyed. The rest seem to have been purely visionary -- or else mistakes in place names. I am still perplexed. I never reached a firm answer.

Another problem with documents is the emotional state of their authors. Here again is the unpredictable human factor determining events. Embarrassment, fear, loyalty, envy, greed and ambition, indignation, contempt, wishful thinking, lapses of memory -- all these are elements lurking in the language of Canol documents and in the choice of presumed facts presented in them. Some documents were composed with the intent of persuading a certain audience through an appeal to feelings. One I remember was a desperate effort to reconcile a conflict of interest.

The historian must be aware of such possibilities when examining documents. They call for an alert critical judgement.

A problem peculiar to historians of the oil business is the character of oil people. I hope you have a chance to read Daniel Yergin's enormous work, *The Prize*. (There was an excellent review in *Archives*.) Yergin repeats an observation of a U.S. State Dept. oil strategist to this effect:

Oil company executives, he says, are not easy to deal with; they are proud, loyal, suspicious. An such emotions lie behind their impervious facade and the ambiguity of their statements.

Well, I say it's no wonder oil people are like that. Just consider the unremitting stress of competition in their business. Think of the political disruptions that perpetually beset them, the alarming see-saws expressing the divine law of supply and demand. Oil executives live a tough life.

Yet there is a maxim that sometimes helps a bit to penetrate the inscrutable. This maxim comes from an old oil man -- Calouste Gulbenkian, he who held the original oil concessions in Iraq. According to Gulbenkian:

Oil companies are like cats: You can't tell from the noises they make whether they're fighting or making love.

Here is the ground for two different hypotheses that might assist the resolution of baffling contradictions. I tested both in working out the inconsistencies of the original Canol Project myth. That is, I went beyond the "noise"

the oil companies made, and examined events in the light of each possibility. SoCal and Standard of New Jersey, as it turned out, were not making love during Canol days. Those two old tomcats were fighting.

To conclude, I want to mention three topics for further research related to the Canol Project.

First. The American military, while in Northwestern Canada, overran a great deal of property, as I said, and this amounted to an interruption of proprietary interests, and indeed brought Canadian sovereignty into question. In 1943 the Privy Council sent General W. W. Foster to Edmonton to report faithfully on happenings in the region. Among other duties, he was to gather data for the redocumentation of deeds and leases. His papers on the subject are in the Public Archives of Canada. Here is an opportunity for an historian -- preferably a landman who has the expertise to deal with the subject.

Second: The evolution of the Crown's relationship to Imperial Oil since 1944. The Oil and Gas Section of Northern Affairs -- title-holder of the Crown's share of Norman properties -- has ballooned from 2 civil servants in the early 1960s into a considerable bureaucracy. What's been going on? Can it be that the money Imperial Oil earned for the government has been squandered on a horde of apparatchiks?

Third. It is time to bring proper attention to the long and interesting career of Alex Hemstock of Imperial Oil at Norman Wells. Something in the way of a biography or a memoir would be welcome. I hope someone undertakes it soon.

1991 Annual Meeting

President's Report

The first year of the 1990s was a successful one for The Petroleum History Society, as we continue to grow and promote activities that increase awareness in the history of Canada's petroleum industry.

Membership in the Society has increased in all categories by approximately 20%, indicating that our objectives of collecting, conserving and disseminating information on the history of the Canadian petroleum industry, and of advising others interested in the history of the industry, are gaining broader public support. A major drive is currently underway to attract more institutional members.

During the year, the noon luncheon guest speaker program continues to be well attended and has proven to be useful in introducing new people to our Society. Over 300 copies of the society newsletter, *Archives*, are distributed to the membership, the Canadian Petroleum Association

board, and the media. As well, the Society is progressing with six significant projects:

- 1) the Oral History Project,
- 2) the Turner Valley Gas Plant Interpretive Centre,
- 3) the sale of our commemorative lapel pin sets,
- 4) the establishment of publication guidelines, and
- 6) the establishment of a graduate scholarship at the University of Calgary.

The Petroleum Historical Records Project Society, formed of representatives from our Society and the Canadian Petroleum Association, has almost completed preparing its submission materials to Revenue Canada with its application for registration as a charitable agency for the purpose of fundraising. It is now hoped that fundraising and other activities relevant to the Oral History Project can begin by Fall 1991.

The President of your Society continues to sit on the Alberta Minister of Culture and Multiculturalism's Turner Gas Plant Advisory Board. The Alberta government has acquired the old, decommissioned Western Decal gas plant at Turner Valley and, with the assistance of the Advisory Board, is preparing a development strategy for the site. This project, also known as the Hell's Half Acre Interpretive Centre, has been championed by the Turner Valley Oilfield Society and the towns of Turner Valley and Black Diamond. Alberta Culture and Multiculturalism considers this project to be of the same significance and importance as the interpretive centre at Head-Smashed-In Buffalo Jump.

The development strategy for the site is expected to be presented to the Advisory Board in April 1991.

Together with INFO-TECH, a Maclean Hunter affiliate, the Society developed a limited edition lapel pin series commemorating six significant events in the first 100 years of the petroleum industry in Canada. The six pins are of antiqued gold colour with an accent colour border, beautifully displayed in a red velvet carrying case. A pamphlet highlighting the significance of the events commemorated is enclosed.

Selling for \$120 each, these pin sets have generated some \$3,100 in revenues to date, which will be applied to our Oral History Project.

The Petroleum History society, together with the ACCESS NETWORK (CKUA Radio in Calgary) is producing two series of radio programmes as well as educational materials for use in public libraries and schools. The project entails the interviewing of numerous oil industry pioneers and the use of selected segments of the oral history tapes stored in the Glenbow Archives, to produce a series of half-hour radio episodes. Broadcast of the first 13

episodes of the first series began in January 1991. The research and accumulated interviews for this first series of programmes will be used to create a series of "docudramas" of selected historical events. This shorter series is scheduled for broadcast in 1992, using actors, sound effects and innovative production techniques. Materials from the two radio series will be used to develop audio materials, teaching aids, etc. for distribution to provincial schools and public libraries.

Funding for the project has been obtained from industry and government sources by Access Network, with a modest contribution by the Petroleum History Society. Your Society, as underwriter of the project, is providing advice and background material on the people and events involved. Copies of all taped interviews and programmes will be donated to the Glenbow Archives.

The Publications Committee, under the able chairmanship of Doug Cass, has prepared a set of policies and procedures for the Society to govern our publication of books and articles, and to provide guidelines under which the Society may assist independent authors, researchers and publishers. These guidelines are necessary particularly as the Society has been asked on a number of occasions to co-sponsor, underwrite or assist in financing books and other publications by both Society members and non-members.

The Society has opened a trust account at the University of Calgary and is making an initial deposit of \$6,000 towards the establishment of a Petroleum History Society graduate scholarship. This scholarship, once a fully funded endowment has been established, will be awarded annually to a University of Calgary graduate student for research into petroleum industry history, based on their academic excellence.

As the annual interest on \$6,000 does not translate into a significant scholarship amount, the University will try to obtain a matching government grant. The Society will make one or more additional contributions to the endowment fund as monies come available over the next year or so, until the threshold of \$20,000 in the endowment fund is reached. This will generate a \$1,000 annual scholarship in perpetuity.

From the foregoing, it can be seen that the Petroleum History Society is quite active. All indications are that the Society will continue to grow both in activity and in membership, and that this year will be even more exciting and successful than the one just passed.

W.R.S. McLellan
President

P.S. Enjoy your enclosed society lapel pin. Corporate members are entitled to 10 pins at no charge, on request. Additional pins are available for \$5 each, or \$3 each in quantities of 10 or more. Contact me at 290-2840.

The Publisher

Archives is published periodically by the Petroleum History Society, 3800, 150 6th Ave. S.W., Calgary, T2P 3Y7; (403) 269-6721. Editor: Peter McKenzie-Brown.

Submissions on historical topics related to Canada's petroleum industry are welcome. For information on membership or society activities, contact society president W.R.S. McLellan (403) 290-2840.

New Directors Elected

At the Annual General Meeting, held on March 20th, the membership of the Petroleum History Society elected four new directors.

Marian Treleaven becomes vice-president of the Society. In both her personal and professional life, Marion has had unique opportunities to learn about Canada's petroleum development. When she was growing up in Calgary, Marion heard stories about her father's work with Imperial Oil in Norman Wells. Now Marion holds the position of assistant corporate archivist for Imperial Oil in Calgary. With her background, she is strongly aware of the need to preserve corporate materials and to keep them for future generations.

Norm Hanley-Edgington is the new secretary of the Society. In 1958, Norm's father moved his family from Tulsa

to Calgary, where his father became president of Sproule Associates. After attending local schools, Norm graduated from the University of Calgary in English. He now works at Southam Business Information and Communications Group.

Cynthia Robinson is one of two new directors-at-large. After graduating with a bachelor and master of arts in history, Cynthia studied oral history at the University of California, Berkeley. Cynthia will provide guidance on the oral history project through the Petroleum History Society, until the new Historical Records Society is set up and running.

Peter Savage brings a wealth of oilpatch experience to his directorship. Peter graduated from McGill in Mathematics, physics and geology. In 1948 he got his first job as a geophysicist with Shell. After a brief spell of self-employment, Peter joined Nance Exploration as manager of its data processing centre. In 1971 he moved to PanCanadian as chief geophysicist. His responsibilities with the company have ranged from exploration manager for the US and later Canada to his present position as senior geophysical advisor. Peter has always been interested in petroleum history, and now feels he has the time to do something about it.

Petroleum History Society Graduate Scholarship

As part of its mandate to encourage research into petroleum history, the Society has set up a graduate scholarship at the University of Calgary. The directors of the Society recently authorized \$6,000 for an endowment, from

which only interest will be used to support a scholarship. Initially, the interest will accumulate until an annual scholarship worth \$1,000 can be awarded. The University of Calgary's Development Office has started to seek a matching grant to hasten the accumulation of capital for the award.

The scholarship will be open to a qualified full-time graduate student in a masters or doctoral program at the University of Calgary. The main criteria for this award will be research in the general field of petroleum history.

New Members

Corporate Members

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* Sustaining Member.

Cinderella Rig

Imperial Leduc No.2's original mission was to evaluate the Lower Cretaceous gas sands (3 MMcf/d wet gas) as a 1-1/2-mile southwest step-out down-dip from No.1. But a series of unexpected disappointments set the stage for a crude discovery far more significant than the February 13th find. The chapter describing this well and the enormous potential hazards it faced are to be found in Aubrey Kerr's forthcoming book, Leduc, from which this article is excerpted.

The estimated depth on the licence issued January 29th was 4500 feet (just into the "Upper Porous" Devonian) but would be extended twice before the hole was finally completed. No.2 was spudded February 12, just the day before No.1 was brought in. Only 250 feet of 8-5/8" surface pipe were run "to case off all waters" - maybe okay for Cretaceous, but not for what was to come.

Ralph Archibald, one of the floor men (he had to commute from Wetaskiwin), describes going out to rig up at the well-site ... "We'd get into the back of this old International pickup with a high back on it. You'd close the door in the back, but it was colder than the hubs of hell. They had a little heater in the back ... you might as well have lit a match. We had a little bit of a shack there (at the well-site) ... cold bald-headed prairie. I think the first day we made three or four inches in that black soil .. it was like flint (pick and shovel, axes, crowbars) .. it seemed like a hundred years before we could get that rig going and I am sure that Paul Matvenko, an explosives man, was used ..." (He blasted the frozen ground with dynamite.)

Ernie Kennedy describes the rig and the blowout preventer. "It was so low to the ground, you couldn't get anything for BOPs under it worth a dime. It was an old thing ... all it done was clamp around the pipe ... didn't have blind rams on it. For a blind ram, what we had was an old Hughes 10-inch gate valve. So, if we thought of it before it blew in, we'd go down the cellar and close that old valve. But nobody was gonna go in there and close that valve afterwards -- that was for damn sure! We tried to close it one time, just for fun, while it was on the ground-- put pipe wrenches and snipes on, and you couldn't turn it. It was all rusted to hell. I think there was a little bleedoff line run out there ... just down to the end of the sump. Fortunately, we never had to use that ...very, very fortunate.

Progress was pitifully slow. The Lower Cretaceous gas sand was water-bearing. The D-2 equivalent was not reached until April 27th. From here on in there was nothing but bad news. This was confirmed by the four D-2 drill stem tests, only one of which yielded 20 feet of gassy oil with small blows of gas.

Bit #38, a Hughes W7R, got on bottom at 6:15 p.m., May 6th. Kerr had returned from town, ready for an uneventful night, little knowing he was going to make history. Johnny Morrow, the afternoon driller, was hunkered down for a relaxed evening and had got the cards out. If all went well, even the graveyard crew could sleep through to its long change. But this was not to be. Suddenly at 5374, after only drilling 13 feet, drilling speeded up to between three to five minutes to the foot. Something was going on down below, but what was it? Kerr allowed the drilling to continue to 5381 feet and shut the rig down, ordering circulation for samples. Sample catcher Barker went out to the shale shaker to watch for a change. The combination of the small pump, the 3-1/2-inch drill pipe, and the depth would mean that returns would not reach the surface for hours. When they did, here was this coarsely crystalline dolomite with not a trace of oil staining in it. The roughnecks, ever mindful of their need for easy tours, immediately lashed out at Kerr when he was considering pulling out for a drill stem test. All kinds of threats and imprecations were hurled at him, but he had been present at so many tests which flowed water that another "dip in the ocean" was routine.

Clark Siferd, one of the sample catchers, remembers he had agreed to work graveyard for Homer Gingras. Siferd used to rack pipe routinely for those chaps who wanted to get away for their 'long change', but they never paid him! Bill Blinn was the driller, Joe Henry was working derrick, and Clark was racking pipe along with Art Greene. Bill Wedderburn, Dowell's drill-stem tester, made up the tool and they started back in at 3:00 am. The M.O. Johnson type was a full hole packer. Giving all credit possible to the hands, they did not run that packer (O.D. 6-1/4") too fast because there was only 9/16" annular clearance in the 7-3/8" hole. What a hazard! It took them two hours and forty minutes to get to bottom. At that time the dart was dropped, actuating the valve at 5.50 am. There was an immediate blow, increasing rapidly, then declining while the pipe was loading itself, but with what? Four minutes after the valve was opened there was almost 1 MMcf/d gas measured with the pitot tube. Then all was relatively quiet until suddenly, seven minutes later, seven minutes since the dart was dropped, mud and oil came to the surface. The effect was astounding. A 200-foot high plume of fire shot up into the air. Fortunately the flare line had been secured. It had been sitting there in anticipation of favourable results from the D-2 but had not been needed - not until now. It didn't take anybody any time at all to order the packer valve closed and pull out of the hole.

Long before Lorne (Squeaky) Leeson (tool push) had phoned in his drilling report to Calgary at 9.00 am, the Toronto stock brokers knew. Wedderburn thinks it was scouts watching both No. 2 and No. 3. A contact in Vancouver is also believed to have relayed word that Imperial had an oil well. Calgary was still in the dark, being asked by Imperial's headquarters, "What is going on?" The era of Big Oil in Alberta and western Canada had begun that fateful morning of May 7, 1947.

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