

**PETROLEUM
HISTORY
SOCIETY**

ARCHIVES

Newsletter of the Petroleum History Society

December 2004; Volume XV, Number 7

P.H.S. Lunch and Learn Meeting – December 1, 2004

**Speaker: E. E. (Ned) Gilbert
A “Black Box” Exploration Technique**

Ned wishes to tell us about a genuine “black box”, not made by him but known to him to have worked – despite being deemed unworkable by present day technicians (the box that is!). He hopes that someone who hears the story may be able to help this instrument find petroleum again. Ned indicates that his story is wholly different than that which was previously told to Charley Dunkley and Jack Gallagher and that he himself pointed to the discovery of oil. The black box was owned by one of Canada’s best known and well-respected geologists – who will be named in Ned’s story.

Ned was hired in 1945 as the first employee of Sun Oil Company (now Suncor) in Western Canada – and by 1947 was the only employee. He had an early interest in the Oil Sands and, in 1951, recommended to Sun the acquisition of the lease that became their first mining area. He later acquired for Sun the lands that are the nucleus of the Suncor Firebag in-situ operation. He is a prominent local geologist whose accomplishments have been recognized by the CIM, the CSPG, the AAPG and the CAPL. He is the only remaining initial member of the Canadian Landman’s Association and was involved in the establishment of the U. of C. Petroleum Land Management Program.

TIME: 12 noon, Wednesday, December 1, 2004.
PLACE: Fairmont Palliser Hotel (133 - 9th Avenue S.W.) – Marquis Room (check marquee)
COST: Members \$25.00 and Guests \$30.00 (most welcome)

**R.S.V.P. if you wish to attend to: Clint Tippett, 691-4274 or
clinton.tippett@shell.com by noon Tuesday, November 30**

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Archives is published approximately 6 times a year by the Petroleum History Society for Society members. Back issues are archived on our website at:

www.petroleumhistory.ca

Contacts: info@petroleumhistory.ca

President Clint Tippett – clinton.tippett@shell.com 691-4274

Secretary Peter Savage - p2savage@telus.net 249-3532

THE PETROLEUM HISTORY SOCIETY
THE BULL WHEEL



Next Board Meeting: The Board will meet next on Thursday, January 13, 2005 at noon at the Glenbow Museum and Archives. Meet in the lobby just before noon.

Volunteers: We are always on the lookout for people with the energy and dedication to help us grow and to undertake projects on the Society's behalf. Please contact Clint Tippett (691-4274), Doug Cass (268-4203) or Hugh Leiper (249-0707) if you would like to get involved.

Next Luncheons: We are seeking speakers and interesting subjects. If you are interested in presenting, please contact Clint Tippett, President P.H.S., at 691-4274 or Director Debbie Knall at 780-463-3859 (Edmonton).

P.H.S. Membership: Micky Gulless, Past President and Membership Director, has indicated that P.H.S. membership now stands at 154.

All in the Family – The Waterton–Leduc/Devon Connection: In the February 2004 issue of the Leduc Devon Oilfield Historical Society's "Catwalk" there was an informative note concerning a personal connection between the early oil-related activity at "Oil City" in (now) Waterton National Park and the discovery of oil at Leduc. The article was entitled "1st Oil Well in Western Canada" and was as follows:

"If you were to visit Waterton National Park and take the highway to Cameron Lake, you would drive past a monument marking the 1st Oil Well in Western Canada. The plaque from the Historic Sites and Monuments Board of Canada reads: "The Rocky Mountain Development Co., formed in the late 1890's by John Lineham, Allan Patrick and G.K. Leeson, commenced drilling operations on this site in 1901 and struck oil at a depth of 1024 feet in 1902. The well failed to maintain its initial flow rate of 300 barrels per day and, by 1904, production had dwindled to almost nothing. Further explorations in the Waterton area proved fruitless but the success, brief as it was, of this well encouraged a widespread search which led to the discovery of the Turner Valley Field in 1914." As many of you know, John Lineham, was a relative of Fin Lineham who was a member of Vern Hunter's crew that drilled Leduc #1, and you can read about Fin in Bea Hunter's book "Last Chance Well". You will soon be able to read about the Stafford family and their involvement in the Waterton discovery when our virtual exhibit "Black Gold Pioneers: Alberta's Petroleum Legacy" becomes available on the Canadian Heritage Information Network's website this spring".

P.H.S. Pin Sets: Our pin sets (of 6) have 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. Detailed comprehensive descriptions accompany each plush-boxed set.

CFCN Historical Series: This local television station has undertaken a project to commemorate 100 important stories that form parts of Alberta's history and heritage. It is being prepared as part of the Alberta Centennial celebrations and is formally entitled "The Centennial Series: 100 Years – 100 Stories". The first 50 episodes are being directly selected by the station and will focus on the obvious stories like Leduc and Gretzky but the other 50 are contingent on suggestions that can be made to them. The series is receiving major funding from C.A.P.P. (the Canadian Association of Petroleum Producers) – you may have seen the ads requesting input. For more information, please call Lloyd Lewis, Promotion Manager at CFCN, at 403-240-5655.

American Association of Petroleum Geologists – Canadian Society of Petroleum Geologists 2005: These two societies are holding a joint meeting in Calgary on June 19-22, 2005. Amongst the large range of technical activities there is an item that will be of interest to historically minded folks - a one half day field trip to Turner Valley being co-sponsored by the History and Archives Division of the C.S.P.G. and the History of Petroleum Geology Division of the A.A.P.G. This is being held as a run up to several keynote speeches concerning oil and gas in the Middle East. Convention registration will be required for participation.

2003 Awards: The Society has once again established a committee to evaluate suggestions for these 5 awards and to identify the recipients. President Clint Tippett, Treasurer Doug Cass and Director Hugh Leiper would be pleased to hear your suggestions in the near future.

On Aubrey and Atlantic #3: Long time P.H.S. Director Aubrey Kerr recently wrote a couple of articles entitled "Aubrey Kerr: Publishing Alberta's Oil Industry" that have appeared in the Newsletter of the Chinook Country Historical Society. Here is his description of the circumstances behind the publication of his first book "Atlantic #3" concerning that 1948 blowout:

My career as an author started shortly after I returned to Calgary as Manager, Oil and Gas, Indian Minerals. Chairman Jim McKibbon invited me to start contributing articles in 1978 to the Canadian Journal of Petroleum Technology. There then followed a series of short articles. The idea of chronicling the Atlantic No. 3 story started with the late Wallis Gibson. Imperial Oil turned the whole idea down because of potential legal problems despite their head counsel wanting to sue McMahon. Imperial had acquired the Rebus lease but McMahon saw sufficient flaws in it which enabled him to "top-lease". Gibson then tried unsuccessfully to obtain funding from the Alberta Government. Gibson and I met to discuss plans and by December 1980 I had started to draft up the framework. By 1984 I had worked up sufficient text to approach Petro-Canada, the new lessee of the Atlantic quarter section. Ed Lakusta and Claude Morin agreed to help me. I then formed a committee who met for the first time on March 11, 1985 and continued to research the subject, but the drop in the price of crude (\$10) in 1986 dealt an almost fatal blow to Petro-Canada's operations. Despite thinly veiled threats from management, Evelene Newsome and I persevered and sent the draft to Friesen Brothers late that year for printing. The books were sent to Jack Nesbitt's residence from whence they were distributed to Calgary booksellers by Jack under Anne's supervision. Atlantic No. 3 1948 received a warm welcome selling out later in 1987. Copies of the second edition are still available at 912-80 Avenue S.W." [Aubrey's home address]

Perseverance in publishing is the name of the game! Great work Aubrey!

A Perspective on the Alberta Heritage Savings Trust Fund

By P.H.S. Director Frank Dabbs

In 1945, budget surpluses generated from oil revenues played a decisive role in Alberta fiscal and budget policy for the first time. Premier Ernest Manning used those surpluses to re-establish the province's credit by paying off \$29.6 million in defaulted bond arrears and interest. The funds to pay the debt came, not directly from royalties, but from a new bond issue backed by American financial institutions that correctly anticipated the post-war oil boom. Alberta had gone into technical bankruptcy nine years previously in 1936, when it stopped honouring the bonds held by private investors, mostly in the U.S. The federal government refused to intervene because Premier William Aberhart - locked in his legendary battle with the banks and with Ottawa's jurisdictional prerogatives - declined to join the Canada Loan Council created to help the provinces stave off the financial chaos triggered by the Great Depression. As the war drew to a close, however, Alberta's government revenues had increased threefold from the day Aberhart took office in 1935.

The principle reason was royalties paid on Turner Valley production, which had risen from 730,000 barrels a year to a war time high of 9.7 million barrels. Natural gas production had also thrived, in part because of its value-added use in munitions. It didn't hurt that Alberta's production of lumber, coal, beef, sugar beets and wheat all dramatically increased during the war, but oil was the biggest golden egg of the wartime economic recovery. And the golden eggs got Alberta out of hock. The question of what to do with budget surpluses fuelled by oil and gas revenues played a role in the outcome of the 1959 election, when Premier Manning issued modest "dividends" to Alberta citizens. Perhaps he had overestimated his opponents, or Albertans decided to reward his decision. Either way the Social Credit Party crushed its opponents in that election, winning 60 of 64 seats in the Legislature and defeating both the Liberal and Conservative leaders.

In 1971, when Premier Peter Lougheed took office, the Conservatives inherited a debt free province. Within months, the flow of oil revenues turned into a flood as OPEC took control of oil pricing away from the multinational oil companies. Over the next ten years, the cartel raised the price of crude by a factor of 10. In 1976, Premier Lougheed created the Heritage Savings Trust Fund by setting aside \$1.5 billion as a first installment and thereafter allocating 30 per cent of surpluses to build its capital.

In 1983, during the resource revenue drought, Provincial Treasurer Lou Hyndman cut the annual allocation to the Heritage Fund to 15 per cent of the annual surplus. In 1987, as Premier Don Getty continued to deal with the consequences of low commodity prices, he stopped topping up the Heritage Fund altogether.

Since then, not a new penny has gone into the fund, while \$80 billion in resource revenues have passed through the Treasury, \$65 billion on Premier Ralph Klein's watch. Meanwhile, the Heritage Fund has generated \$26 billion in income during its lifetime, and revenues from its investment are now more than \$900 million a year, heading to \$1 billion if the North American economy stays hot, or even warm. The surpluses from oil and gas royalties have, to be sure, played a role as the Klein administration has paid off the \$23 billion provincial debt. It's fair to say, however, that the Tories haven't thought seriously about the potential of the Heritage Fund for quite a few years, in spite of the sketchy and superficial "public consultation" on what to do with budget surpluses that preceded the 2004 election.

**“Little Chicago Revisited”: A Luncheon Presentation to the
Petroleum History Society, October 28, 2004 by Helen Goldenberg
(thank you to Helen for her speaking notes, partially excerpted here)**

“OUR TOWN WAS A TOWN OF HISTORIC SIGNIFICANCE. IT ORIGINATED AS A RESULT OF THE CRUDE OIL DISCOVERY IN THE SOUTH WEST FLANK OF THE TURNER VALLEY OILFIELD APPROXIMATELY 22 KILOMETERS SOUTH OF TURNER VALLEY ALONG HIGHWAY 22. THE WELL WAS NAMED TURNER VALLEY ROYALTIES # 1, THE DEEPEST WELL DRILLED IN ALBERTA AT THAT TIME (1936). EVERYONE WAS STILL SUFFERING FROM THE DEPRESSION. WELL, THE OIL STRIKE WAS GREAT NEWS FOR ALBERTA - OIL WORKERS, ROUGHNECKS AND THEIR FAMILIES QUICKLY MOVED TO THE AREA. SETTLEMENTS GREW INTO TOWNS. LITTLE CHICAGO SOON GREW TO A POPULATION OF AROUND 2500 INHABITANTS. THE FIRST STORE IT IS SAID WAS A GENERAL STORE OPERATED BY A PROPRIETOR WHO HAD A LARGE SCAR ON HIS TOP LIP. HE CHARGED SUCH EXORBITANT PRICES HE WAS LOCALLY KNOWN AS "LITTLE AL CAPONE" - AND THE TOWN BECAME KNOWN AS LITTLE CHICAGO.

MY FATHER DECIDED TO MOVE US FROM CALGARY IN 1937. MY FIRST IMPRESSION OF LITTLE CHICAGO, AS WE WERE TRAVELING DOWN HARTELL HILL, WAS SURVEYING THE HIGH WOODEN DERRICKS DOTTING THE ROLLING PRAIRIE. TO THE WEST I SAW THE MOUNTAINS THEN I NOTICED THE SKY WAS BRIGHT WITH SIZZLING FLARES OF FIRE. THE AIR WAS SCENTED WITH A DISAGREEABLE ODOR THAT REMINDED ME OF ROTTEN EGGS. WE SOON BECAME ACCUSTOMED TO THIS ODOR OF RAW GAS. DAD OPENED UP A USED FURNITURE AND HARDWARE STORE. WE LIVED BEHIND THE SAME BUILDING IN TWO ROOMS. A NARROW HALL FROM THE STORE LED TO OUR HOME. A KITCHEN INCLUDED A MCLARY STOVE - WITH A HUGE RESERVOIR - 2 FLAT IRONS RESTING ON THE STOVE - THEN UP TWO STEPS WHICH LED INTO A BEDROOM. MY SISTER AND I SHARED A STUDIO LOUNGE A CURTAIN HANGING FROM THE CEILING SEPARATED OUR SLEEPING AREA FROM MOM AND DAD'S BEDROOM. SUCH WAS LIFE - NATURALLY LIKE EVERYONE WE HAD AN outhouse A FEW STEPS AWAY FROM OUR HOME. MINGLED WITH WOODEN STRUCTURES CONTAINING COMMERCIAL ESTABLISHMENTS STOOD DOZENS OF SMALL SHACKS PROTECTED WITH BLACK TAR PAPER. THERE WAS A FEW BOARDING HOUSE - AND A FEW HOUSES OF ILL REPUTE AND A COUPLE OF PLACES WHERE THE BOOTLEGGERS LIVED, AS I'VE RECENTLY BEEN INFORMED.

MAIN STREET WAS SIMILAR TO ALL SMALL TOWNS OF THE ERA ... BUT I'D LIKE TO TALK ABOUT THE LIFE WE LIVED - THE GROWING UP FUN WHICH HAPPENED IN OUR SMALL COMMUNITY. THE FRIENDSHIPS MADE THAT WE HAVE TO THIS DAY AND THE MEMORIES OF WALKING TO SCHOOL, GETTING TO KNOW THE TEACHERS AND EVEN MAKING FRIENDS WITH THEM, SKATING AT THE SKATING RINK, REHEARSING FOR THE CHRISTMAS CONCERTS AND ANTICIPATING THE SWEET ORANGES SANTA WOULD BRING US. I REMEMBER THE POOL HALL MY FATHER WON AT A POKER GAME. THIS WAS DURING THE WAR YEARS AND CHOCOLATE BARS WERE RATIONED. WELL, WHEN THE POOL HALL RECEIVED THE MONTHLY SUPPLY OF SWEETS THEY DIDN'T LAST VERY LONG. HOWEVER MOM THOUGHT A POOL HALL WASN'T THE BEST EDUCATION FOR MY SISTER AND I - SO DAD SOLD THE BUSINESS RATHER QUICKLY. I REMEMBER HALLOWEEN PRANKS OFTEN RESULTED IN outhouses BEING TURNED OVER. POOR MR. LEMAN WHO OWNED THE POST OFFICE AND DRUG STORE--- HIS outhouse WAS OVERTURNED EVERY YEAR. ONE YEAR HE MOVED THE outhouse AWAY FROM ITS USUAL SPOT AND SEVERAL OF THE BOYS - WELL YOU GUESSED IT - FELL IN. I'M REMINDED THAT ONCE MR. LEMAN APPLIED FOR THE POST OFFICE OUR TOWN'S NAME BECAME ROYALTIES - NAMED AFTER THE FIRST OIL WELL DISCOVERY. I RECALL WALKING TO SCHOOL DURING FREEZING WINTER DAYS, ALL BUNDLED UP. SUDDENLY WE HAD A REAL CHINOOK ON THE SAME DAY - AND LITTLE BY LITTLE WE WOULD DISCARD OUR WARM MITTENS, HATS AND SCARVES ALL ALONG THE WAY HOME. PICNICS BY THE HIGHWOOD RIVER, THE EXCITEMENT OF DISCOVERING FOSSILS ALONG THE ENDLESS RIVER BANK, FUN PICKING SASKATOONS AND THE WOMEN VISITING, GOSSIPING AND PREPARING HUGE BANQUETS WHILE THE MEN FISHED AND RELAXED AFTER WORKING ON THE RIGS. I REMEMBER THE COMMUNITY DANCE CELEBRATING THE OPENING OF OUR SOUTH TURNER VALLEY HIGH SCHOOL - SO MANY FOND MEMORIES.

BUT I ALSO REMEMBER THE FOOD RATIONING DURING THE WAR YEARS - THE CONCERNED FEELINGS BY ALL OF THOSE WAITING FOR MAIL FROM THEIR LOVED ONES OVERSEAS. I RECALL THE HUNDREDS OF SOCKS AND SCARVES THE WOMEN KNITTED AT THE WOMEN'S INSTITUTE. FRIDAY AFTERNOONS AT SCHOOL WERE NOW DEVOTED TO COLLECTING PENNIES TOWARDS THE PURCHASE OF WAR BONDS. BUSES FILLED WITH YOUNG VOLUNTEERS TRAVELING TO CALGARY TO ENLIST. YES, WE WERE A CLOSE COMMUNITY. I REMEMBER THE TRAINING FATHER RECEIVED IN THE MILITIA PREPARING FOR HOME DEFENSE DUTIES SHOULD THE NEED ARISE.

I'D LOVE TO TALK ABOUT THE PELTS MY DAD PURCHASED FROM THE NEARBY NATIVES AND HOW HE HUNG THEM UP TO DRY RIGHT NEXT TO OUR KITCHEN DOOR - WHAT A SMELL - BUT TIME DOES NOT ALLOW TOO MANY MEMORIES TO BE TOLD.

AND SOON, TOO SOON, THE OIL AND GAS BOOM TURNED INSOLVENT. OUR ONCE THRIVING TOWN OF LITTLE CHICAGO-ROYALTIES SEEMED TO EVAPORATE OVERNIGHT. WHERE DID WE GO? MANY TRAVELED TO LEDUC WHILE SOME CONTINUED TO RANCH. AND BY NOW WE HAD A NEW BABY BROTHER AND WE RETURNED TO CALGARY.

BY 1970 THE LAST REMAINING ESTABLISHMENT, THE POST OFFICE, HAD CLOSED DOWN. IT WAS THE END OF AN ERA."

We will continue our P.H.S. coverage of Little Chicago in future issues including Helen's own story of how she initiated and brought to completion a project to commemorate Little Chicago through the construction of a cairn on the spot where it once stood.



"Bringing in" a well at Turner Valley. Photos of this nature are often labeled as being representative of ongoing operations whereas in reality this degree of flaring likely represents a production test in which the flow capability of a well is determined prior to it being tied into the pipeline infrastructure in the area. The flare is displaced from the producing well for obvious reasons. The black smoke indicates that either crude oil or condensate-rich natural gas was being produced from the adjacent well. This is not a blowout.

... OIL SHALES in New Brunswick (courtesy of P.H.S. Director Bob Bott)

reprinted with permission from an article, "Oil Shales and Oil and Natural Gas in New Brunswick: Historical and Current Industry-related Activities," by C. St. Peter, Hydrocarbon Geologist, New Brunswick Department of Natural Resources and Energy, Geological Surveys Branch (Fredericton, May 2000). www1.gnb.ca/0078/hydrocarbons/publication.pdf

The presence of oil shales in the Lower Carboniferous Albert Formation in the southeastern Moncton Subbasin first came to the attention of Dr. Abraham Gesner when in the late 1840's he was guided to a vein of solid bitumen exposed within oil shales along Frederick Brook at Albert Mines. The bitumen vein, which became known as Albertite, was mined out during the 1850's to 1870's and most of it was shipped to Boston and Philadelphia where it was distilled for the production of lamp oil (kerosene). The first attempt to commercially mine the Albert oil shales came in 1927 when the Maritime Education Company set up a retort, constructed associated production facilities and opened several small adits in the shale beds in the Rosevale area about 25 km south of Moncton. The company fell into bankruptcy prior to the initiation of production.

In 1942, the Federal Government under the Canada Department of Mines and Resources undertook a study of New Brunswick oil shales in an attempt to secure oil supplies to support our effort in World War II. As part of this study, 79 core holes with an aggregate length of 7480 m were drilled into the shales at Rosevale, Albert Mines and Taylor Village. The results of this work suggested that the most promising area was at Albert Mines where it was estimated there were 91,000,000 t of shale to a depth of 120 m yielding an in-place resource of 4.8 billion L or 30,000,000 barrels of oil.

Greiner (1962) published the results of a geological study of the Albert Formation and concluded that the highest grade oil shales are restricted to the medial part of the Albert Formation in the southeastern part of the Moncton Subbasin. In 1968-69, Atlantic Richfield Company used Greiner's idea and drilled ten core holes aggregating 4433 m in the southeastern subbasin. ARCO carried out Fischer Assay analyses on all of the promising oil shale intervals in the ten holes. In 1974, Canadian Occidental Petroleum Ltd. (Can Oxy) entered New Brunswick and acquired bituminous shale licences on nearly 30,000 ha of land, which is greater than one-half the area of the Moncton Subbasin. From 1974 to 1981, Can Oxy undertook a geological mapping survey of its licence area and drilled eleven core holes (totaling 4539 m) in the Albert Formation near Rosevale and Albert Mines. Following its assessment, Can Oxy converted their licence area to a lease of 1439 ha centered on the Albert Mines structural block. From 1981 to 1996, Can Oxy continued to assess the Albert Mines lease area. In 1982, Macauley and Ball compiled the available ARCO and Can Oxy Fischer assay results on all cores in the Albert Formation and concluded there was an in-place resource in the Albert Mines block to a depth of 600 m of 67,000,000 barrels of shale oil in a bed averaging 93.5 L of oil per tonne of rock. Macauley and Ball (1982) were the first to conduct a Rock-eval pyrolysis study on Albert oil shales. In the 1980's, the New Brunswick Electric Power Commission (NB Power) and the Federal Department of Energy, Mines and Resources signed an agreement to evaluate the potential of utilizing Albert oil shales as a fuel and as a source of lime sorbent for removing sulphur gases when co-combusted with New Brunswick's high sulphur coal. The test work was to be undertaken in a demonstration-scale circulating fluidized bed boiler at Miramichi, New Brunswick. Can Oxy was approached and agreed to produce the oil shale from its Albert Mines lease for the demonstration project. Accordingly, in 1986, Can Oxy opened two oil shale test pits in the area; one from the highest grade shale bed, the so-called Albert Mines Zone (Macauley and Ball, 1982), and another larger pit from the stratigraphically lower Dolomite Marlstone Zone. A total of 9000 t of shale was removed from the two pits, crushed and trucked to Miramichi. The test trials at Miramichi demonstrated that there was not sufficient available calcium carbonate in the oil shales to fully capture all the sulphur gases generated from the co-combusted coal. The tests also showed that an enormous quantity of shale ash was generated, which: (1) overloaded the 'baghouse' and (2) created a major disposal problem. It was concluded that the oil shales could not be economically co-combusted with New Brunswick coal. Can Oxy held its property until 1996, but several years of low world oil prices finally contributed to its termination of the lease.

Question – What Fuels Did WWII Military Tanks Use? (by P.H.S. Director Bob Bott)

As near as I can determine, the first diesel-powered tank was the Polish 7TP "czołg lekki" light tank introduced around 1935: <http://www.wwiivehicles.com/html/poland/7tp.html>

The Soviets began production of the diesel-powered KV-1 heavy tank in 1939 and T-34 medium tank in 1940: http://www.sweb.cz/Tankove_Muzeum/museum/t34.html Clearly superior to its German equivalent, the Panzer IV, the T-34 was arguably "the tank that won the war."

Diesel reduced fire risk and increased the operating range of tanks. This gave the Soviets an important advantage over the Germans, who used gasoline engines in all their World War II tanks. As the armies advanced and retreated on the eastern front, however, neither side could make much use of the other's fuel depots (although diesel engines can operate on low-octane gasoline, which the Soviets may have used when necessary). In 1942, Daimler-Benz proposed a diesel-powered tank similar to the T-34, but the German high command decided to stick with gasoline.

The U.S. Army's tanks in the Second World War were almost all gasoline-powered, with only one battalion using a diesel-powered variant of the Sherman medium tank. Gasoline-powered Shermans were the Allies' workhorse tank on the western front. The U.S. Army continued to use some gasoline-powered tanks well into the 1960s. (All U.S. battlefield equipment today uses a standard kerosene-based fuel called JP-8 that can be used in both diesels and jet engines: <http://www.jp8.org/JPoverview.htm>)

The British had diesel engines in their Matilda II and Valentine tanks. After 1941, some U.S. M3 and British Stuart light tanks were diesel-powered. The Japanese Type 97 main battle tank, introduced in 1938, was diesel-powered. The only Canadian-built tank in the Second World War, the Ram, was gasoline-powered.

Canadians used both gasoline and diesel tanks during the war. One tanker recalled "we used to say that if we got hit in the diesel, we had maybe 14 or 15 seconds in which to crawl out through these hatches and get out. If it was a gasoline fire, you had nearly half that time, 7 or 8 seconds in which to get out." http://www.valourandhorror.com/DB/BACK/Cdn_Tk_LC.htm

Sundry trivia:

Rudolph Diesel's original engine ran on peanut oil: http://www.ybiofuels.org/bio_fuels/history_diesel.html

Re fuel injectors: Robert Bosch demonstrated the first fuel injectors for diesel engines in 1924 and began commercial production in 1927. See http://www.off-road.com/chevy/news/2002_10/bosch/

Re crawler tractors:

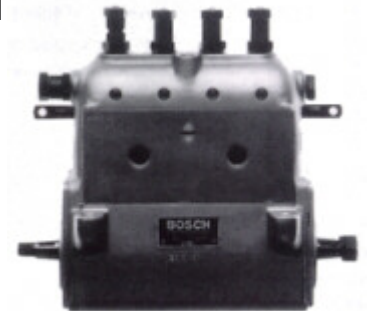
In October of 1931, Caterpillar introduced the D9900. While the D9900 produced a whopping 89 hp @ 700 rpm and weighed in at 5,175 lbs (2352 kg), it would revolutionize the industry. That is why the original D9900 can be found in the Smithsonian today. This was also the first diesel engine to be equipped with air-intake filters. The original D9900 is still in working condition, it was last run in the 1970's for emissions testing (it passed). http://www.caterpillar.com/industry_solutions/shared/truck_engines/OHE/body_about_history_dev.htm

In 1939, when Cat introduced its diesel engine for trucks, only one in 10,000 U.S. trucks were diesel.

Turbocharged diesels were introduced in 1955, turbocooled in 1958.

Re submarines: In 1912, the U.S. Navy switched from gasoline to diesel engines for its submarines.

From Bosch history page <http://www.dieselpage.com/art0898pf.htm>
In 1887, after a development time of five years, Rudolf Diesel presented his third and first working diesel engine. However, because of its weight and size this engine could only be used for stationary purposes for three decades. In particular, what was lacking was a compact, light and at the same time efficient injection pump. In 1922 Robert Bosch decided to develop diesel injection systems. In 1927 the first mass-produced injection pumps left the plant. This created the prerequisites for the high speed diesel engine used in motor vehicles. The first diesel car went into production in 1936.



First mass produced injection pump for cars in 1927

This was the beginning of a partnership-like cooperation between manufacturers of diesel engines and Bosch that repeatedly resulted in major developments. For example, after the introduction of distributor pumps on 1964, diesel engines became increasingly common in cars. Since 1983 Bosch electronics have been used to optimize diesel injection controls. Because of developments such as these, today's diesel engines are regarded as a reliable, economical and durable power plant in all types of vehicles

There's more in "The Prize" by Daniel Yurgin.

One more tidbit: Apparently the reason the Americans delayed adopting diesel engines for tanks was that so much of their diesel fuel was needed by the Navy.

Just guessing, but it may have simplified logistics (for both sides on the western front and for the Germans on the eastern front) to have both mobile equipment and aircraft using gasoline -- same reasoning whereby most U.S. and NATO forces now use JP-8, or very similar JP-5 in navies.

P.S. Diesel locomotives had been around since the '20s, but did not come into wide use until the post-Second World War era. During the first half of the 20th century most heavy hauling was done by railways using coal- or oil-fired steam engines.