

BRADFORD, PA., TUESDAY MORNING, AUGUST 17, 1971

The Bradford Era

SPECIAL SUPPLEMENT HONORING BRADFORD OIL CENTENNIAL WEEK



J. P. Jones, president of the Pennsylvania Grade Crude Oil Association and chairman of the "Grand Old Man of Oil" Committee, points to the inscription on the tablet marking the 1871 Job Moses Well Site on Seaward Ave. Ext. In the foreground is J. B. (Jake) Randall of Duke Center, "Grand Old Man of Oil."

Bradford District Oil Association observing its 40th year as field itself is marking its Centennial

It is an interesting coincidence that the Bradford District Pennsylvania Oil Producers Association is observing its 40th year as the Bradford field itself marks its Centennial observance.

The Bradford District group was founded in 1931, because, as F.W. Fesemyer, then president, said during the 28th annual meeting on May 31, 1956, "of the necessity of the producers to work together to solve the problems brought about by the transition from the primary recovery methods to secondary or water flooding methods of producing."

Over the years, the Bradford District has had the advantage of representative leadership from within the local industry — has been in the forefront in promoting research and development, has kept extensive records, did for many years during the lifetime of longtime Executive Secretary G.G. Bauer publish Producers Monthly, the generally-accepted official organ of waterflooding and which continued to be published by private interests until two years ago.

MANY ACTIVITIES

After 40 years, the Bradford District Pennsylvania Producers Association continues a program of activities; holds a joint annual meeting every June with the Pennsylvania Grade Crude Oil Association, maintains a compilation of statistics and also coordinated an insurance program for members.

Current president, elected in July, is the chairman of the Bradford Oil Centennial, S.W. Gregg Jr., Witco Kendall executive.

Only two occasions during the 40-year-long history of the Bradford group has any president served more than one term.

BOOTH FIRST PRESIDENT

One of them was the late A.E. Booth, who was president for 20th years 1931 and 1932. The Princeton alumnus and varsity football star, who accomplished much of the inaugural work during his tenure, not the least of which was setting up a structure map of the Bradford Oil field and in initiating a production research program with Penn State.

The late R.M. Haskell was the second man, technically the third president, to head the Bradford District. He came there in the mid-20s with Tide Water Associated Oil Co. and joined Petroleum Reclamation Supply in 1926 as general manager. The firm is now Case-Pomeroy. He was transferred to Connecticut in 1944.

Clarence E. Streeter was fourth president of the association. He also served as president of the Pennsylvania Grade Crude Oil Association for many years. A resident since 1919, he has been a leader in the oil industry all his life.

Mr. Streeter in 1935 was succeeded by the late Parker L. Melvin, who was active in oil production here and in Kansas; and president of Penn Grade and served on the Interstate Oil Compact Commission.

MONTHLY STARTED

In 1936 C.N. Pfohl became the sixth man to head the association and was the president under whose leadership Producers Monthly was founded. He was a director of Kendall Refining for many years.

L.G. Smith, well known producer and a onetime IPAA vice president for Pennsylvania, was president for 1937, being succeeded in 1938 by the late Harry M. Ryder, an electrical engineer, who for many years was in partnership with the late David Scott Jr. In Ryder-Scott Co., first an oil-producing firm, and later an oil-engineering company.

Here's where oil is usually found

Although no one can be certain where petroleum will be found, it usually occurs in sedimentary rocks such as sandstones which have minute pore spaces between the grains.

The characteristics of such formations are associated with all likely reservoirs or pockets of oil. Igneous rocks (cooled from a molten state) or metamorphic rocks (which have been changed by extreme heat and pressure) usually do not contain these pores.

It is thought that oil, when formed, does not remain in its place of origin, but moves through porous rock formations. It often reaches the surface in oil seeps, but is usually stopped far below the earth's surface by a change in the position or permeability of the bed.

If the bed is arched or domed, the oil is said to be trapped by an anticline. The porous bed may have slipped along a fault or a subsurface structure may have broken so that the oil is trapped against an impervious bed in what is known as a structural trap.

Or, the bed may gradually become less porous so that the oil is halted by what is known as a stratigraphic trap.

Boost Bradford Crude



IN TWO POSTS — S.W. Gregg Jr., seated, is chairman of the Bradford Oil Centennial and is also president of the Bradford District Pennsylvania Oil Producers Association. With Mr. Gregg are, left, G.M. Wiesner, newly-chosen vice president, and G.S. Rhodes, the immediate past president. (Era photo by Stewart)

Donald B. Tanner, whose photography hobby is a highlight of The Bradford Era's annual calendar and whose work appears in this edition, was president of the Bradford District in 1939. In addition to his long career in the oil business, including presidency of Tanner Oil Co. for many years, Mr. Tanner is a licensed pilot and with Mr. Fesemyer holds the distinction of being the two McKean County members of the Quiet Birdmen (QBs), an honor reserved for long-experienced pilots.

Mr. Tanner's successor for the association year of 1940 was the late Robert S. Pringle Jr. He reportedly has the second water-pressure well in the state in West Eldred. For many years, he was active in the explosives business.

GRANT HEADS IN 1941

Hugh A. Grant, well known Bradfordian, was president for 1941. The Georgetown alumnus sold his Grant & Mohan Oil Co. to South Penn (now Pennell United) in 1948 but continues to be active extensively in petroleum and other business circles.

Arthur C. Simmons assumed the presidency for fiscal 1942. A geologist and oil producer, the Penn State graduate had had a long and successful career in various phases of the business — geology, engineering and production.

PENN GRADE HEAD

J.P. Jones, longtime president of the Pennsylvania Grade Crude Oil Association and chairman for the current "Grand Old Man of Oil" phase of the Centennial was president for 1943. A story about Mr. Jones and Penn Grade appears elsewhere in this edition.

In 1944, John W. Bryner Sr. assumed the presidency. Active in oil production, in the "explosives and powder" business, Mr. Bryner has also served Pennsylvania on a state commission regarding the safe transportation of hazardous substances. He is a bank director and is also engaged in automobile, auto rental and taxi business.

Petroleum provides variety of products

Petroleum provides industry with many derivatives such as methyl (wood), ethyl (gasoline), and other alcohols; synthetic rubber, glycerines, paint and varnish constituents and removers; dyes, flotation oils and reducing agents; oils for metalurgical use; paving and roofing asphalt; road oil, electrodes, electric plugs and battery fillers, coke, carbon black and many others.

BRENNAN NAMED

The 20th man to head the Bradford District was Raymond J. Brennan, Bradford native and president of Eastern Royalties. In addition to his active participation in the Pennsylvania oil business, Mr. Brennan has been most active in civic affairs, being longtime president of Bradford Hospital and chairman of the Bradford Sanitary Authority.

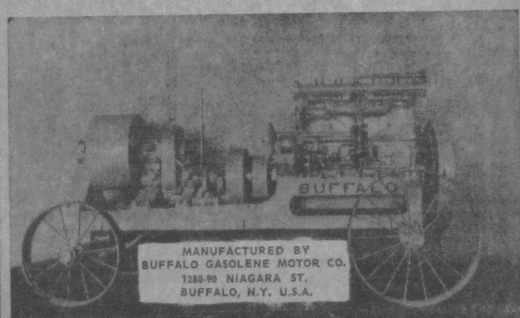
DISCOVERY OF OIL IN BRADFORD 1871 -- 1971

An excellent record of endurance and quality

Horizons

CIFT CENTER
39 Main St. Bradford, Pa.

The Famous "1923 Buffalo Engine"



Designed by the late Rolend R. Reck of Bradford.

R. R. RECK CO. 80 Oxford St., Bradford, Pa.

J.P. Healy, now retired as vice president and a director of Quaker State Oil Refining Corp., was president for the 1945 business year of the group. He joined Quaker State in the 1920s when that firm purchased McKean Refining.

THRICE PRESIDENT

L.G. (Jack) Lent, has the distinction of being the only man to head the Bradford District producers group for three terms — the years of 1952, 1953 and 1954. A Coudersport native, he moved to this area in 1930. A charter member, J. Lent has been active in the industry in many phases.

Mr. Fesemyer took office in 1956 and served as president during the 28th anniversary. He has been active in IPAA and in many other oil organizations. Chairman of the Bradford Regional Airport Authority, he is a veteran pilot and with Mr. Tanner is a member of the Quiet Birdmen. He is also president of Minard Run Oil Co. and chairman of the board of Loblentz Manufacturing Co., Alma, Pa.

Paul D. Kahle, of Duke Center, a well known area oilman succeeded Mr. Fesemyer and in turn was succeeded by J.B. Wilson of Derrick City who was president in 1957.

The late Grover C. Siver, president of producer, headed the group in 1958. R.J. Purdie, also well known in the Bradford area for many years, he was president in 1959.

The late V.J. Richmond, oil producer and later associated with Dresser Manufacturing Division for many years, he was president in 1960.

During the past decade, well known oilmen — some independent producers — have headed the association. In 1961, T.C. Curtis of Duke Center guided the destinies of the association. In 1962, R.A. Dipek Jr., Springfield business executive and oil producer, was president.

The current executive vice president of Quaker State Oil Refining Corp., now headquartered in Oil City, Quentin E. Wood, was Bradford District president in 1963, when he was an executive with that firm here.

In 1964, Dr. Edward T. Heck was elected. Dr. Heck, who holds a doctorate from West Virginia University, is vice president for engineering and production of Minard Run Oil Co., and has contributed a number of articles for this edition.

Al Mark VanOrden, Derrick City independent oil producer, was active in many civic affairs, was association head in 1965. He sold his properties to Cline Independent producer and member of the Bradford Planning Commission, was 1969 president.

During the early stages of the Bradford Oil Centennial planning and execution, G.S. Scott Rhodes of Southport RD 3, has been active. He is an independent producer.

The chairman of the Centennial, Mr. Gregg was elected to

the presidency on July 8. Long active in oil industry and civic affairs, such as the Route 219 Association, Mr. Gregg is coordinating the efforts of the various individual groups making the Centennial program possible.

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FLANIGAN BROS.

Drilling Contractors
Oil & Gas Producers
Bradford, Pa.

Superiority of Pa. Grade has never been surpassed

On Aug. 26, 1859, the Pennsylvania Grade Crude Oil industry and the oil industry in general were born when Col. Edwin D. Drake brought in the first successful commercial oil well near Titusville.

In 1871, Job Moses brought in a well on what is now Seaward Ave. East in Foster Township and the Bradford Field of the Pennsylvania Grade Crude Oil region came into being — 100 years ago!

In all those intervening years, oil has been discovered and produced around the world but no field has ever attained the naturally superior quality of Penna Grade Crude.

Forward-looking, courageous men that Drake and Moses were, they could not possibly conceive what their discoveries would lead to and that all the producers would never find a better crude.

The birthplace state of oil has long since been exceeded in the quantity of production but never in the quality of the product. It would be impossible to enumerate the Bradford and other Pennsylvania oilmen that produced oil not only in the Keystone State but went on to pioneer oil fields elsewhere in this country and in many other nations.

Bradford has made many contributions to the world's oil story — first of all, the oilmen themselves; secondly, a crude whose intrinsic value has never been surpassed; thirdly, the development of the waterflood or "five-spot" process of secondary recovery.

And this same Bradford Oil Field, still the second largest in acreage in the nation, is now the scene of a great tertiary recovery experiment, the Mars flood process, now under way in the Bradford Field, a process of Marathon Oil Co., Findlay, Ohio, in which Pennzoil United and Witco-Kendall are actively participating.

Experts hold that more than a billion barrels of oil lie beneath the surface of the Bradford Field, an amount equivalent to all the Bradford crude produced in a century. If a successful tertiary recovery process that is economic can be developed, Bradford Crude will be supplying refineries, motorists and other users of refined petroleum products for long years to come.

"Our Best Wishes:
To All on this
Historic Occasion!"

TO THE BRADFORD OIL INDUSTRY

WE EXTEND
CONGRATULATIONS

ON 100 YEARS
OF PROGRESS

RESERVE CONSUMER DISCOUNT CO.
1 MAIN ST. BRADFORD, PA.

Our Congratulations to the Bradford Oil Industry on its "100 Years of Progress"

We are proud to have been associated with the oil industry during the past 65 years... and we are looking forward to serving you in the future!



GOODMAN PIPE CO.

1333 EAST MAIN ST.

BRADFORD, PA

3-5 Main

St. Bradford

DOWNTOWN BRADFORD

an
LOOKERS
OWS

100

2

*"Baby...
"You've come a long, long
ways... since those days!"*



**Our Best
Wishes on
This Big
Occasion!**



FANNIN'S

"The Fashion Store for Jrs. and Misses!"
DOWNTOWN BRADFORD

that you . . . the customer

Call it corny, old-fashioned. But it's the brand of old-fashioned that honestly adds up to a new you. Always has. Always will.

At Evans' you are the boss. You know what's right and wrong about a situation. Listen, and act accordingly.

So remember. No matter how fast the world pace becomes. No matter how things may sometimes seem. Evans' gives you a boost with the old-fashioned that makes you . . . the customer. Evans' knows it. You know it. We're more agreeable?

Evans'
WE E
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are always right.
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omer . . . right. Always!
What could be

HOW HAMLET

(Continued from Page 3-A)

the slopes and valleys. New towns sprang into existence at a dizzy rate.

Bradford's streets blazed at night with the light of drug shops, gambling dens and the gaieties incident to a frontier capital.

Lovers of varieties patronized bun theatres, noisy music floated from beer gardens; dance halls of dubious complexion lured sportive suckers and Pig Island flaunted vice unimpeded. Everything was wide open, the community chasing cash and oil too busily to bother about morality. Free form "Bad Bradford" combined in a single package the free-and-easy wickedness of Sodom and Gomorrah, Pihole and Petroleum Centre, with a dash of Pandemonium thrown in for good measure.

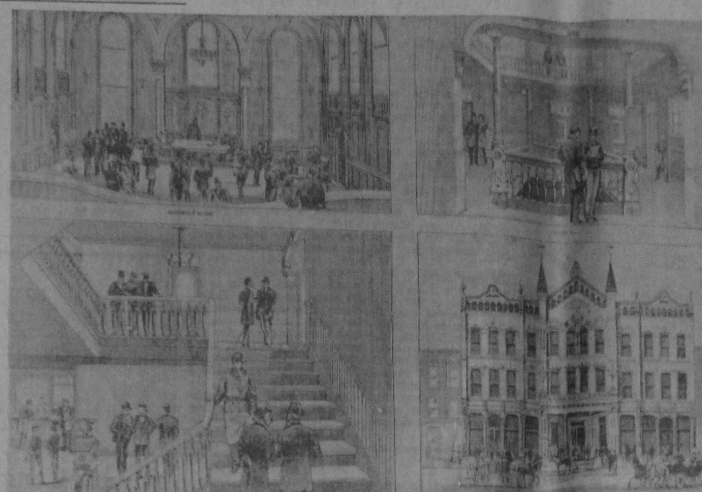
In February of 1879 a city charter was granted and James Broder, who had removed from Warren to grow up with the district, was elected mayor. He has a stout frame on Jackson Avenue but is feeble physically.

Radical reforms were not introduced with undue haste, to jar the sensibilities of the masses, whose accommodating nature at last adapted itself to improved conditions. Fires wiped out undesirable frames, clearing the way for substantial bricks. Narrow-gauge railroads coaxed the district, bringing accessions to the wealth and population of the young city.

The area of prolific territory extended to all points of the compass, until from 16,000 mouths (wells) on 75,000 acres poured out their liquid store. The daily production swelled to 100,000 barrels. The field was a marvel, a phenomenon, a revelation, wells yielding 25 to 200 barrels fairly littering the flats and hillsides for many miles.

To care for the deluge of crude taxed the pipe lines to the utmost, but the task was performed splendidly. For years, there was only one commanding oil section, and Bradford was its business centre.

Unlike the majority of "oil towns," which sprang up in a night and perished in a night, after the fashion of Jonah's gourd, Bradford did not disappear when the life of developments sought fresh pastures. The sturdy town, declining to follow the example of Shafter, Pioneer, Pihole, Red Hot, Tip Top, Cash-Up, Antwerp and similar mushrooms, stayed on



OIL EXCHANGE, on the site of the present Northwest Savings building on Main St. was an imposing structure. Top left: the Assembly Room; top right: Upper Hall. Lower left: the Main Stairway; lower right: exterior view of the building — a mighty important one in the fiscal affairs of Bradford's oil history. Photo is on display in the Bradford Club on Boylston St.

the map and continued to hang out at the old stand.

Industries of various kinds were established, giving remunerative employment to an army of steady workmen. Skilled artisans succeeded the driller and the tool dresser. The welfare of the community soon ceased to depend upon oil alone. More attention was paid to solid, permanent growth than in the effervescent days of the petroleum boom.

Paving and sewerage had their beginnings; comfortable homes multiplied; spring water and electricity were supplied; churches and schools abounded, and no modern conveniences were lacking.

Men, women and children, regardless of creed or party, were thorough Republicans for local expansion. How their laudable policy has resulted, a partial list of Bradford institutions and enterprises will help decide:

Three pipe lines — Transit, Tidewater, Emery.
Three refineries — Emery, Oriskany, Hoffman.
Sixteen miles of sewers.
Ten miles of paved streets.

Three daily, two Sunday, two weekly papers.
Three banks — Capital \$450,000; deposits \$2,850,000.
Thirty-six hotels and public boarding houses.

Enough saloons to prevent serious drought.
Natural gas for fuel.
Electric street lighting — 130 are lights.

Eighteen churches and the Salvation Army.
Eight public and two parochial schools.
New High School building — cost \$35,000.

Sixty teachers and 2,300 pupils in public schools.
City Hall — cost \$40,000.
Brass band, orchestra, mandolin club.

Clubs and secret societies galore.
Public library building, to cost \$25,000.

First-class fire department — over 400 members.
Two postoffices and 10 letter carriers.

Opera House, Exchange Lyceum, assembly hall.
A-1 military company and armory.

Half-mile race track and driving park.
Three automobiles.
No end of bikes and baby carriages.

Police force of seven men.
The water is clear and wholesome.
Doctors of every known brand.

One hospital.
Choice of three graveyards.
Local and long-distance telephones.

Western Union and Postal Telegraph lines.

A GOOD-SHOWING

Is this not a showing to bank upon, take stock in and swear by? The pipe lines have commodious offices, with a full corps of bookkeepers and telegraphers, and employ a regiment of men.

The Emery refinery is a large concern and the Hoffman distills high-grade lubricants. The miles of sewerage, pavements, gas mains and water pipes tell a story of healthy advancement.

Spring water flows by gravity from a vast reservoir, sufficiently elevated to afford satisfactory pressure in case of fire. The water is clear and wholesome, supplementing admirably the beverages that sparkle in the glass or have froth to be blown off.

The trunk railroads connect with everywhere and the narrow gauge winds about the hold

hills to Kane. Telegraph and telephone systems are complete from pedace to finish.

Trolley lines, thoroughly equipped, run south to Lewis Run and northeast to Olean, giving the traveler lots of pure air, picturesque scenery and a gay whirl for his money. To the long roll of commercial blocks, which include numerous imposing structures, additions are made constantly. Dozens of the stores would do credit to Buffalo or Pittsburgh, and no chance of merchandising is neglected.

Transport has been smothered branded East Bradford, and furnished with its share of city bells and furbelows. The old Tarpot road is a paved street, sidewalked on both sides and lined with tasteful houses, the bulk of them owned by thrifty workmen. Up-to-date electric lighting, in dwellings and on streets, and gas fuel are at your service. You press a button or turn a spigot and there you are, with light, heat and water in generous abundance. A pocket in a shirt could be no handier.

City Hall, a model of its kind, houses the municipal officials handsomely in trim, the venerable structure is headquarters for the Police Department and the Civil and Criminal offices.

Mayor, council, treasurer, clerk and the whole bunch have suitable quarters in the massive building. A chief and six police men, easily maintained, order the Sweepers in white costumes, the stripe Commissioner Waring perfected in New York keep paved streets in concert pitch for cleanliness. Each department is administered efficiently, with proper regard to the interests of taxpayers.

Saloons and barber shops shut up tighter than clam on Sunday. The fire department has over 400 willing volunteers and is amply equipped. Chief McAllister is its capable head, and the boys give no nearly blasé chance to blossom into a big conflagration.

Powerful arc lights help the moon illuminate the streets according to Hoyle. An opera house, a lyceum, an armory and an assembly hall fill the bill adequately.

Workmen are laying the foundation of the Public Library, which will be A-1 from base to flagstaff. Andrew Carnegie, who got his real start in finance by owning a slice of stock in the Columbia Farm Oil Company, donated \$25,000 to erect the structure.

Drinking troughs for thirsty horses and coo parks for perishing mortals are provided. Rock City, Riverside, Clarkdale Park, the Country Club, Hazelwood Club and the picnic grounds near Lewis Run are pleasant retreats in the heated term. Hotels range from the modest four-a-week hostelry to the palatial St. James, of which Col. J.C. Fox has been the popular proprietor for many glad years.

MANUFACTURING INTERESTS

Next to producing and refining oil, manufacturing is Bradford's long suit. The two important industries comprise, in addition to the common sorts, some decided novelties. Promi-

nent among the latter are the Wood Rim Works, which turn out millions of laminated rims for carriages wheels and bicycles.

Glass works, chemical works, railroad shops, machine shops, engine works and various others keep lots of skilled men busy.

A silk mill going up at East Bradford will employ a hundred girls. A brewery under way suggests Milwaukee ideas. Stockholders in Bradford enterprises have not "put all their eggs in one basket," hence the incorporated companies are pleasantly diversified.

Labor is paid fairly; there is no scarcity of work; mechanics are in brisk demand; prosperity rules the roost and dealers in calamity have fled to the tall timber.

Many fine residence are projected and more industries are coming. The Oil Well Supply Company's enormous plant is running to its full capacity. Beyond the Seyfang's baby machine shop at Shamburg has come a veritable giant. S.R. Dresser furnishes carloads of oil well and gas specialties every week.

The banks have money to burn. F.W. Davis with C.C. Melvin as his second and W.W.

Bell as cashier, presides over the Standard First National O.P. Schenck, who moved from Oil City in 1876, continues at the head of the Bradford National.

Charles H. Lavens, father of Tryangle City — the first sign spelled it thus — foster parent of Pickwick and Paris City, and joint author with Bob Evans of the world-famed Gravy Flats platform of 1872, "Rescued," That we don't care a damn," guides the helm of the Commercial National.

Lavens, Evans, John Kiley and "Ed" Kiley used to lie awake nights hatching out practical jokes that went the rounds of Oilfield in the halcyon days of the Clarion Field. Bradford merchants are not grumbling about old times; discontent has "vamoosed the ranch," and the croaker is out of a job.

The post office, under the competent administration of Hon. H.H. North, is strictly first-class in appointments and efficiency. Fronting the park and cornering Mechanic Street (on the 1871 site of the IOOF building), it occupies the western half, formerly two large stores, of the Producers' Exchange building. Behind the long rows of lock boxes, the general delivery and the snug apartments for money orders and the postmaster himself, in ample space for the half-dozen clerks and ten letter carriers to handle the immense mass of mail matter expeditiously.

Convenient rooms for storage of supplies, making up mails and different necessary purposes, with side exits and entrances, are well arranged. The service is always prompt and courteous.

Mr. North served the people in the Legislature with singular fidelity and acceptance. His good record as a legislator he is repeating as postmaster. He has infused much of his own keen, earnest spirit into the office, until the Bradford office deservedly ranks very high in the scale. G.W. Newman, also a capable man in every respect, has charge of the office at East Bradford.

SCHOOLS AND CHURCHES

Bradford's schools stand near the head of the class. Only the best teachers are engaged. Buildings and equipment are O.K. from center to circumference. The new High School, running to its full capacity, beyond the Seyfang's baby machine shop at Shamburg has come a veritable giant. S.R. Dresser furnishes carloads of oil well and gas specialties every week.

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BEST WISHES TO THE OIL INDUSTRY

FROM
TOM and DICK
WEAVER
MEAT CO.
HUNTINGTON BEACH
CALIF.

Boost Bradford Crude

(Continued on Page 6-A)

OIL-MEN

WE HAVE BEEN
HAPPY TO SERVE YOU

FREEMAN and FREEMAN

OIL PRODUCERS & DRILLING CONTRACTORS

1068 S. Kendall Ave. Bradford, Pa.

A SALUTE TO HISTORY AND A PLEDGE TO THE FUTURE

ON 100 YEARS
OF SERVING THE
WORLD WITH THE
FINEST CRUDE OIL.
WE HAVE BEEN
HAPPY TO SERVE
THE OIL INDUSTRY

BRADFORD PIPE AND SUPPLY CO.

140 CHESTNUT ST.

BRADFORD, PA.

OUR BEST WISHES TO THE OIL INDUSTRY

ON A CENTURY OF
PROGRESS

TAYLOR PHOTO SHOP

44 MAIN ST.

BRADFORD, PA.

The oil business was only a few years old in Bradford when Solomon R. Dresser put his inventive genius to work making products to make it easier to get out of the ground — first, oil well packers — and later pipe couplings to help carry the oil to tank and refinery.

As pictured here, a lot of back-breaking work went into the installation of early oil pipelines. As the oil business has grown, so has the Dresser trademark. From a very humble origin in Bradford has sprung one of the nation's leading corporations, with major world-wide facilities for supplying the energy, base materials producing, and general manufacturing industries.

Bradford is to be congratulated not only for the achievement of this centenary, but particularly that it is looking confidently to the future—planning and building to make an even brighter tomorrow for all its people.

DRESSER MANUFACTURING DIVISION

Dresser Industries, Inc.



Serving the High Grade Oil Metropolis of the World For 92 Years With Complete Banking Service

WE SALUTE BRADFORD'S OIL INDUSTRY ON ITS 100th MILESTONE



The Bradford National opened in a building comprising one-half of its then Main Street quarters and expanded into the other half in 1903.

CHARTERED
JULY 25,
1879

RESOURCES
JUNE 30, 1971
\$45,826,157



Exterior of building was remodeled as shown above in 1952.

PRESIDENTS

Robert F. Borchman	1879-1883
Otto F. Schonblom	1884-1918
Thomas H. Kennedy	1919-1924
Harvey J. Haggerty	1925-1941
Hansel W. Loveland	1941-1955
Hamlin D. Redfield	1955-1957
Robert R. Williams	1958-1966
Harold R. Sloan	1966-1970
William F. Roemer	1970-



When alterations and additions to the bank's original home could no longer keep pace with the expanding services, plans for today's modern building were developed and occupancy took place December 11, 1961.

OFFICERS 1971

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M. F. Rossi	Vice President & Cashier
C. A. Crockett	Vice Pres. & Trust Off.
W. G. McCord Jr.	Vice President
F. B. Buck Jr.	Vice President
F. W. Hess	Assistant Vice President
R. A. Schwab	Trust Officer
C. T. Rowe	Assistant Cashier
R. B. Rossi	Assistant Cashier
J. D. Guelfi	Assistant Cashier
R. L. Eidson	Assistant Cashier
Jane A. Carlson	Assistant Cashier
J. E. Vecellio	Manager Data Processing
H. J. Schonblom	Banking Officer



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W. F. Roemer
A. C. Simmons
H. R. Sloan
J. D. Wolfe

HOW HAMLET

(Continued from Page 4-A)
 tennial as a duty in six years.)
 Poor management ran the paper down until P.C. Boyle gained control in 1887. His vim and energy brought order out of chaos and put the dying skeleton on its feet. Today it overflows with the freshest news and caters to a vast constituency.

David Armstrong, the "Grand Organizer" of the Producers Association in bygone years, for a season blew a lively breeze with his lively breezes. It passed in its checks and Armstrong hid himself to another State.

"Andy" Carr issued the Sunday Mail a brief season, and then failed in Pittsburgh. Ed. Ege fathered the Sunday Morning, with "Tom" Wilson as head push, and shut it off in two weeks. Two Sunday sheets are still in existence. The Evening Star, after a host of vicissitudes, is flourishing like a green bay tree and supporting the straight Republican ticket.

The Record, started by Lewis Emery, has the finest plant in the city. The three dailies, Era, Star and Record, do credit to the intelligence and enterprise of Bradford folk.

And so the bustling, blooming city forges ahead steadily, not putting on excessive airs and not crawling under a bushel. The past has few regrets; the present is rosy and the future is as full of promise as the life of a hill collector.

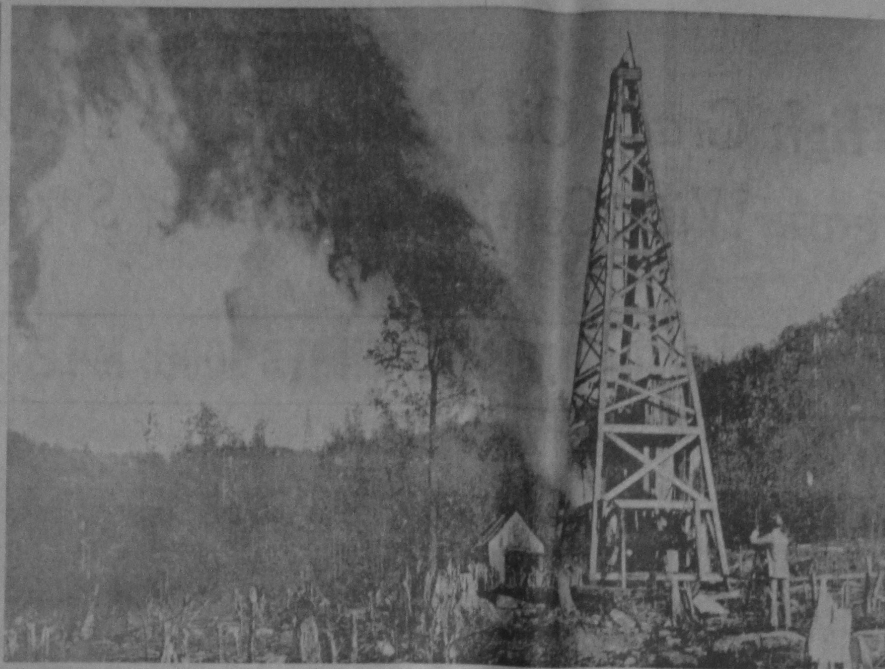
The people ask no odds of anybody or anything in God's green earth in the wrestle for supremacy, and they feel not one bit afraid of being snuffed out or shoved off the grass.

EDITOR'S NOTE

Thus, on the morning of Aug. 14, 1900, a full 71 years ago, a writer with incisive style and pungent prose named John J. McLaurin wrote of the colorful history, the mature adjustment to change and the indomitable spirit of Bradfordians at the turn of this century.

He wrote his article before waterflooding, a Bradford creation, brought new life to these oil fields. He wrote meanwhile of industrial diversification, civic betterment and lively citizenship.

Some 71 years later — during the Bradford Oil Centennial — Bradford is possessed of the same civic spirit, as its oilmen search for an economically feasible, tertiary recovery, to bring as much as possible to the surface of the one billion or more barrels of the world's finest crude still beneath the Bradford landscape, an amount



SHOOTING A WELL, a dramatic enlarged photograph of the earlier days of oil that dominates the best wall of the dining room of the New Bradford Club on Boylston St. Note the photographer in the right foreground. Veteran observers point out that the flow of the "black gold" was purposely diverted "to the side" to avoid hitting the derrick.

equal to what has been produced in a century by primary and secondary recovery.

In 1900, John J. McLaurin had no way of learning what many new industries would grow and prosper in Bradford. He was aware of neither secondary or tertiary recovery of what is still the world's finest crude oil — Bradford, Pennsylvania Grade.

But he wrote with the honesty and the optimism that are, and always have been, part of the Bradford tradition. It is with these thoughts in mind — the respect for the past, the awareness of the present and the firm hope for the future that this article from 71 years ago in the Bradford Era is reprinted today during the Bradford Oil Centennial.

G.G. Bauer played major role in oil

One of the continuing forces in the growth and development of the Bradford District Pennsylvania Oil Producers Association and founding editor of Producers Monthly was the late G. Gerald (Jerry) Bauer.

Secretary of the Association, Mr. Bauer joined it in its founding year of 1931.

A native of Sharon, he was a graduate of St. Vincent's College, Latrobe, in 1928 with an AB degree. He also studied at Edinboro State College and St. Bonaventure University.

When he first came to this

city, he did some editorial work for The Era, joining the Bradford District in 1931. He became secretary in 1943.

Editor of Producers Monthly until his unexpected death while marching in a Ku Klux Klan parade in 1959.

Mr. Bauer had served as a secretary-treasurer of the National Stripper Association. He was active in many trade associations.

During his career, he was a member of the American Trade Association Executives at the American Institute of Mining, Metallurgical Engineers.

He also had served as chairman of the publicity committee of the Eastern District Division of Production of the American Petroleum Institute and was a member of the Pittsburgh Press Club.

For a time, John A. Lane, St. Bonaventure University graduate and now a member of the advertising sales staff of The Era, was associated with Mr. Bauer in the Bradford District administrative offices.

The Era, was associated with Mr. Bauer in the Bradford District administrative offices.

Mr. Bauer in the Bradford District administrative offices.

Mr. Bauer in the Bradford District administrative offices.

Mr. Bauer in the Bradford District administrative offices.

Oil leading mineral found in McKean Co.

Oil is obviously the leading mineral resource of McKean County. The world-famous Bradford sands give the county first place in the state, not only in annual production and in total estimated oil reserves but also in reserves which are recoverable by primary methods and secondary methods.

The Keystone State has been the pioneer in the commercial output of oil and in secondary recovery methods. Pennsylvania reached its peak in oil production in 1891 largely because of full development of the primary production in the Bradford field.

As pressure in known fields was exhausted and few new pools were found, output dropped down.

But then came 1921 and the Pennsylvania Legislature approved the injection of water under pressure into known oil sands. Water flooding helped production tremendously.

Output beats needs during early days

From 1876 to 1884 the production of crude oil each year was greatly in excess of its consumption for all purposes. Consequently oil accumulated and was stored in iron tanks at Colegrove, Tiona, Warren, Oil City, Parkers Landing, Pa. and Olean, N.Y. In August, 1884, the accumulated crude oil reached the enormous maximum amount of 39,083,464 barrels above ground. The oil in over production in 1891 was valued at \$40,000,000.

Boost Bradford Crude

Boost Bradford Crude



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 Bradford's
 Centennial
 year is a
 truly
 proud
 moment in
 our history!

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 S. W. GREGG, JR.



Several famous firms refine Penn Grade crude oil

Several prominent, highly respected and successful refining firms make available the products of Bradford Pennsylvania Grade Crude this Bradford Oil Centennial Year as always and, of course, products refined from other Penn Grade crudes.

Building honors Friar who found Cuba oil spring

De la Roche Hall on the campus of neighboring St. Bonaventure University, St. Bonaventure, N.Y., is named for the Rev. Joseph de la Roche D'Aillon OFM, a Franciscan priest, the first white man to see and record the presence of oil in the region.

In 1627, the Franciscan friar visited the site of the Seneca Oil Springs, near Cuba, N.Y. Seven years after the Pilgrims had landed at Plymouth, Mass., in a letter dated July 16, 1627 — more than 244 years ago — the Franciscan missionary described his travels and his discovery of oil in this region.

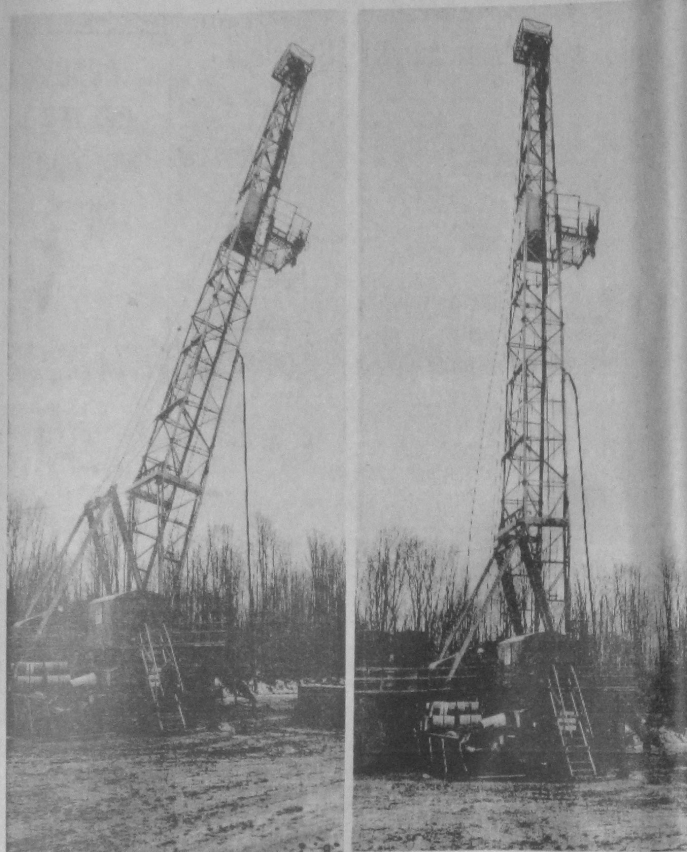
The letter to his superiors in Paris is believed to be the first authentic record of the finding of oil on this continent.

with modern refineries at near Farmers Valley, in Embleton, and in St. Marys, W. Va. A brand new, Quaker State refinery is scheduled to go on stream at Congo, W. Va., in January of 1972.

Ashland Refining refines and markets Penn Grade Valvoline products from its refinery at Freedom, Pennsylvania. Refining has its refinery at Kars City and offices in Butler.

Thus, Penn Grade crude, which traces its history to Titusville and the Drake Well in 1859 and its famed Bradford Field a full century, continues to play an important worldwide role with truly superior products.

The Pennsylvania Grade Crude Oil Association, of which J.P. Jones of Bradford is president, plays an important part in protecting and promoting the use of the Penn Grade name around the world.



GOING UP! Here are two dramatic photos of the rotary rig going up into place to begin drilling Minard Run Well No. 1, the deepest well ever drilled in the Bradford Field. Minard Run No. 1, begun in late January of 1962, reached a depth of 11,891 feet at a site in the hills about a mile south of the Pennhills Club. Tests have been in process at the site this summer.

Minard Run No.1 was deepest well drilled in area

The deepest well ever drilled in the Bradford Oil Field focused attention on this area in early 1962 and is still a subject of conversation among oilmen as tests are currently being made at the site in the hills above and about one mile from the Pennhills Club.

It is Minard Run Well No. 1, plans for which were first

announced in mid-January of 1962, to be drilled at an estimated cost of \$400,000 "in an exploratory effort to determine oil and gas possibilities" far below the world-famous Bradford Sand.

Drilled on the headwaters of Minard Run, Warrant 2284 in Bradford Township, the deep rotary-drilled well began in late January and air drilling at a depth of 10,263 feet was completed on Feb. 25, 1962, when logging and fishing for logging probe began and continued until March 17. Drilling, resumed on April 24, 1962, continued to 11,891 feet, with release of the rig operated by Lohmann Johnson Oil Co., Inc. on May 5.

Minard Run No. 1 is the deepest well drilled, not only in McKean County, but for 50 miles around, the closest competitor for depth being a dry hole drilled near Woodhull in New York

air, first to drill 11,121 feet of open hole, first to run pipe to 10,300 feet; first well to penetrate below 9,900 feet and to fracture below that depth; first well to use sand face pressures in excess of 13,500 pounds per square inch during fracture; first well of comparable depth financed entirely by one firm; the straightest hole; the most jets (327) in one hole; the most salt used in a single well and the shortest elapsed time from spudding to more than 10,000 feet. Spudding began on Jan. 27, 1962. Information was supplied by F. Wayne Fesemyer, Minard Run Oil Co. president, and Dr. Edward T. Heck, vice president for engineering and production.

Only five bits were used to 10,263 feet where air drilling ceased and another 23 bits moved the well on down to the record 11,891 feet. Net drilling time on air was 519.5 hours; the rest was drilled with mud in the hole; 548.8 hours. Elapsed time with 15.8 feet per hour on air; mud 3 feet per hour.

Minard Run No. 1, financed entirely by Minard Run Oil Co., is believed to have established several "firsts" for the Appalachian Basin: first well to drill 9,563 feet of open hole on

Well shot; oil spewed over area

(The Bradford Era of Oct. 24, 1962, reported this incident.) Yesterday afternoon Potts and Slyke's well on the Island was treated to a torpedo and responded only too noisily. The oil spewer pointed toward the creek, but its aim was comprehensive and far reaching. A number of persons who were standing on the bridge and in front of C. J. Lane's office were startled by a volley of oil aimed the vicinity with cheap crude. The man was thrown down and the rest walked over him. A member of the Wilbur Owers Company who had been standing on the bridge made such incredible time in going down Boylston Street that his legs looked like a grey mottled and he is currently reported to be still going. Several persons received a thorough bath in our creek, staple and a few ladies narrowly escaped ruined toilettes by plunging into Lane's office, dropping pertinacious and handkerchiefs in their flight. As a whole the exhibition with its attending incidents was a complete success, although it lasted but a minute. Many spectators are perfectly satisfied that they know everything about torpedoing a well that it is necessary to know.

Oil Dorado early name for Bfd. as boom began

"Oil Dorado" was a name coined for Bradford when the pioneer oil boom got underway late in the 19th century.

It was in 1874, when Butts and Foster brought in a 70-barrel well, that an Emporium Press writer penned the descriptive phrase.

The well that is credited with starting the boom was brought in on the then Burbanan farm, in Buchanan Hollow, about three miles northeast of Bradford.

Newspaper accounts of the day reported that oil leases which had been purchased at \$6 to \$10 per acre were skyrocketing to \$500 and \$1,000 per acre around Bradford, the "Oil Dorado."

Boost Bradford Crude

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100th Anniversary
Of the Discovery of Oil
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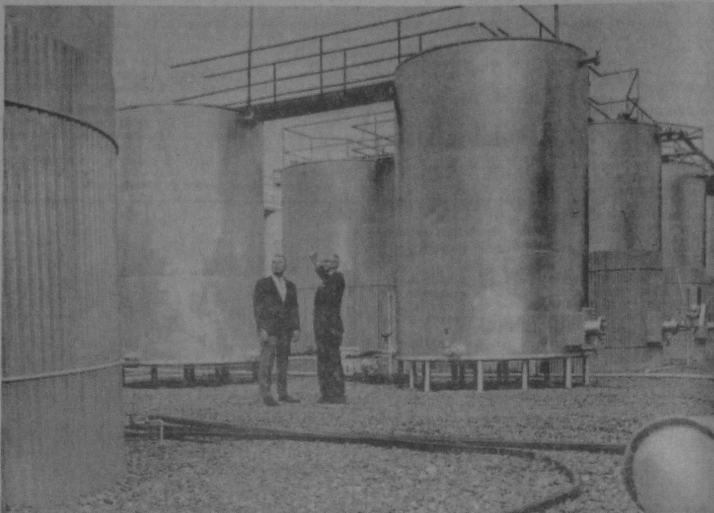
W. L. "Bill" Kaschube
Sales Engineer



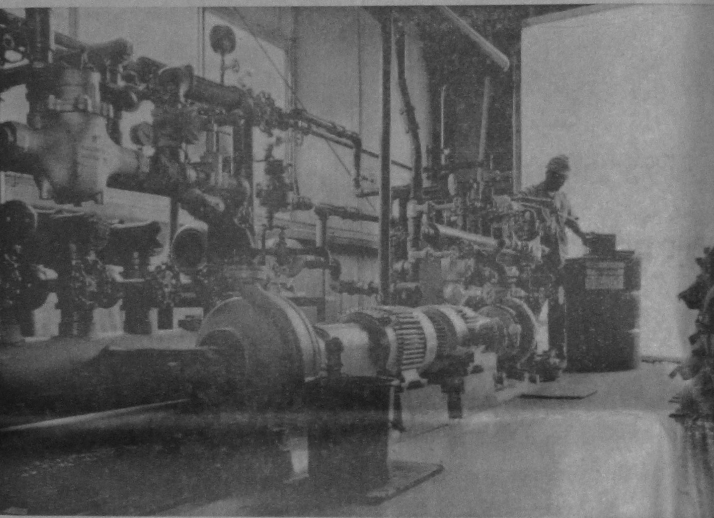
John Chapman
Station Manager

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POINTING to one of the Maraflood "slug" — chemical storage — tanks on the test project lease of the 46-acre tract at Cyclone along Route 646 is Harlan H. Danielson, Bradford District manager for Pennzoil United Inc. With him is Kenneth R. Huddleston, Pennzoil-United Eastern Division manager — exploration and production, Parkersburg, W. Va. Participating in the test are Marathon Oil Co., Findlay, Ohio; Witco Chemical Corp. and Pennzoil-United as operator. (Era photo by Stewart)



INTERIOR VIEW of the plant housing the physical equipment required to facilitate preparation of the various chemical components required for the Maraflood "slug." Operator is Frank Shonts. The test on the 46-acre tract at Cyclone, is a project of Marathon Oil Co., Witco Chemical Corp. and Pennzoil-United, function as the operator. (Era photo by Stewart)

Maraflood process test is under way at Cyclone

During the first 100 years of the Bradford Oil Field, primary and secondary recovery techniques have been used to bring Bradford crude up to the surface from the Third Sand.

Now, Pennzoil United, Marathon Oil Company, and Witco-Kendall are engaged in a joint venture tertiary recovery test operation employing Marathon's patented Maraflood oil recovery process. The test site is located along Route 646 in nearby Cyclone.

In late 1966, according to Kenneth R. Huddleston of Parkersburg, W. Va., Pennzoil United's Eastern Division manager of oil and gas — exploration and production, and Harlan H. Danielson, the company's manager here, Pennzoil United and Marathon jointly conducted a small pilot test of the Maraflood process in the Third Sand at Cyclone. The test was concluded this spring.

The Pennzoil United executives said: "Results were considered sufficiently significant to justify a 46-acre Maraflood test in an adjacent area at Cyclone starting this March."

Most Promising

Mr. Huddleston observed: "Of all the tertiary processes that we have tried or know about, the Maraflood process is by far the most promising."

He added that there are 16 injection wells and 33 producing wells involved in the test area. In current tests here, Pennzoil United, the operator, has a 50-per cent interest while Marathon and Witco-Kendall each have a 25-per cent share of the venture.

Basically, the Maraflood process encompasses three separate phases, it was pointed out.

Three Phases

Phase One consists of the injection of the Maraflood "slug" — a micellar solution of hydrocarbons, petroleum sulfonate, water and alcohol — into the oil reservoir. This phase has been completed at the test site.

Presently, the second phase of the process involving the injection of polymer-thickened water is under way. When this

slug, followed by the polymer thickened waterflood.

"We expect to be seeing some response by the end of the year," Mr. Huddleston told The Era.

He explained that the present prices of sulfonate and polymer "make the Maraflood testing process expensive. However, there is a downward trend in

the prices of these components which will be of material assistance in making the process more favorable economically."

Motorists traveling Route 646 at Cyclone are advised of the test site by a large sign.

Similar tests are being conducted in Venango County jointly by Quaker State Oil Refining Corp. and Marathon.

TUNA

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*Back in the late 1890's... (Above)

WHEN we furnished the lumber, nails, manpower to help build Bradford, the Oil Industry was still an industrial fledgling, too. We are proud of our association with oil producing companies and people through the years, and we are looking forward to Bradford's growth in the years ahead.

"70 Mechanic St. for 76 Years" Ph. 368-6156 Bradford, Pa.

Penn Grade Assn. marks 48th year

It is a coincidence that the Pennsylvania Grade Crude Oil Association, of which Bradford (Pa.) J.P. (Dick) Jones has been president for many years, is observing its 48th anniversary this month.

It was chartered to encourage and protect trade and commerce in the production, manufacture, sale and distribution of Pennsylvania Grade Crude Oil and its products.

Function of the group, as set out, is to inform the public through advertising of the superior qualities of Penn Grade crude and products refined from it and to protect the public "against imposition and fraud in the purchase and use of products manufactured exclusively from Pennsylvania Grade Crude Oil."

Joint Efforts
The Penn Grade Crude Oil Association had the function of uniting producers and refiners on equal terms with the specific responsibility to keep motorists or truckers around the nation or beyond, truly informed of the superiority of Penn Grade products.

The established identifying membership emblem is permitted only on motor oils made entirely from Pennsylvania Grade Crude, although sold by other than refiners. Distributors or jobbers were licensed by brand to use the Penn Grade emblem.

Advertising Penn Grade's superiority was successful from the start, leading to wider distribution based on wider consumer awareness of the high standards of Penn Grade products.

In addition to promoting the quality of Penn Grade products, the Association has rendered a substantial public service in protecting its members from unfair and illegal competition.

Aided Producers

Over the years, the Association has also taken steps to assist producers to operate their properties with the goal of achieving maximum recovery of crude most efficiently and economically. This program, like these aimed at identification and improvement of Penn Grade oils, was begun in co-operation with Penn State.

The work of the Association and its members in stressing the high quality of Penn Grade and protecting its label from unauthorized users has helped create a distinct market demand for 100 per cent pure Pennsylvania Grade Oil. This is

the result of almost 50 years of cooperative effort between producer and refiner, operating through the Pennsylvania Grade Crude Oil Association.

Not only is the Penn Grade Association observing its 48th birthday this month but its president, Mr. Jones, is celebrating his birthday tomorrow. His life has been intimately associated with the Penn Grade industry. He has been a Pennsylvania producer, was director

of production for the Penn Grade Crude Oil Association for many years and has long been president.

He is a past president of the National Stripper Well Association; was a longtime member of the Interstate Oil Compact Commission; is a member of the National Petroleum Council, appointed by the Secretary of the Interior; is a member and has held many offices in IPAA and is chairman of the subcommittee for New York and Pennsylvania on the American Petroleum Institute Reserves Committee.

But who would expect to meet cow on bridge

A sense of humor pervaded the town in the early days of oil as this story from The Era of Oct. 30, 1922, shows.

Saturday evening as Conductor Barnes' train, which leaves here at 6 p.m., was crossing the 200 foot bridge about two miles this side of Carrollton the engineer discovered a cow lying on her side in the center of the bridge and across the track.

It was impossible to stop the heavy freight train and the engine crushed its way over the animal and kept the rails. An empty car completely jumped the track, although prevented from going off the bridge. By dint of hard work the car,

which was intact, was replaced and the train drew into Carrollton 20 minutes late. It was necessary to repair the damaged woodwork of the bridge and this delayed for an hour and a half the train due here at 8 p.m. The story that Conductor Barnes' train was run into from the rear while standing on the main track, as published in yesterday's News, is characterized by the Erie men as utterly false. It is hardly necessary to state that the foolish cow that went to sleep on a railroad bridge does not survive. (The Era, Oct. 30, 1922).

F.E. Dean came close in our area

F.E. Dean and his brothers, who drilled near Custer City in 1865, stopping just 230 feet above the Bradford Sand, then drilled another well at Tarpot, the old name for East Bradford. Site was the Clark farm; depth of 605 feet, was over 400 feet above the Bradford Sand.

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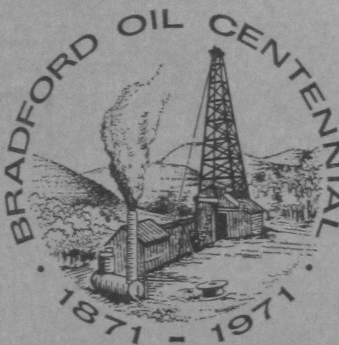
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Lewis Emery Jr. leading figure in oil history

One of the most remembered names in the history of the Bradford Oil Field was the Hon. Lewis Emery Jr., who was able to direct many enterprises.

Born in Cherry Creek, N.Y., on Aug. 10, 1835, he was destined eventually to return to this region and become a leader in many fields. He was an alumnus of Hillsdale College, Hillsdale, Mich., where a plaque honors his memory.

He maintained management of a mail operation; a corporation; was a leading Bradford oil producer; owner of a refinery; member of the Assembly and the State Senate; owner of a department store; had wheat lands in North Dakota; merchant flour milling in Michigan; owner of lumber mills in Kentucky.

He was an active proponent of independent operators against a giant corporation. An aggressive and successful competitor of Standard Oil, he functioned very successfully, attested to by his immense oil production holdings, his large refinery here and his independent oil pipe line to the East Coast.

In the mid '70s, impressed with the Bradford Field, as then largely undeveloped, he began, in 1871, to lease 14,000 acres of land and proved a very successful oil producer.

In 1878, he was elected to the General Assembly from McKean County, going on to the State Senate in 1879.

During his lifetime, he owned what was considered one of the leading plants for refining crude. Emery Manufacturing Co. The refinery covered six and a half acres, near the Ken-Ed refinery of today. A story in 1901 defined the refinery as being "equipped with the most modern machinery, and said it turned out 'as fine a product as any in the world.' Crude supply was obtained from his own properties, with more than 200 miles of pipe bringing the crude to the refinery.

In 1892, Sen. Emery with other businessmen led in the formation of the United States Pipe Line Co. to pipe Bradford oil to the Eastern Seaboard.

Sen. Emery died Nov. 19, 1924, at which time his son Earl C. Emery took over operation of the Emery interests until his death in 1946. At that time, F. Wayne Pesenmyer, husband of the former Miss Elizabeth Emery Pesenmyer, only surviving grandchild and heir to Sen. Emery, succeeded him. Her father was the late Delevan Emery, oldest son of the senator, who died in 1911. Sen. Emery's daughter, the late Miss Grace C. Emery, who built Hotel Emery in 1929 in memory of her father. She died in 1941. Another son, Lewis Emery, died the same year.

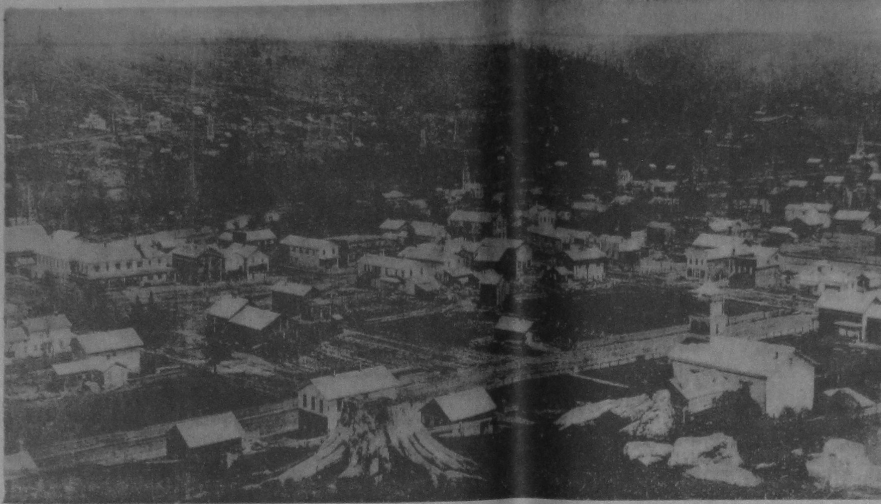
Minard Run Oil Co. was incorporated in early 1906. The Quintuple Oil Co., well-known firm, was sold in 1948.

In World War I, Sen. Emery operated the American Alkali & Acid Co., an important aid to the war effort. Emery Hardware, first opened to sell oil supplies and then operated as a hardware store, closed in mid-1967. The Emery Nursing Home here was the recipient of benefactions by Mrs. Pesenmyer and is named in memory of her late father.

Oil here in 1864

Oil had its beginnings in this vicinity in 1864, seven years before the important Job Moses Well on Seaward Ave. Ext., not far from the Foster Brook Crossroads.

Job Moses completed six shallow wells that year along the Tuna Valley in New York State below Limestone and about seven miles north of Bradford. However, these wells yielded only small amounts of oil and gas.



Bradford in 1870 — this familiar photograph, loaned by Charles A. Day, appears also in that priceless "Historical Bradford Illustrated — 1901." The Job Moses Well had come in in 1871, five years before, and by 1876, wells had been brought in in sufficient numbers that Bradford was growing rapidly. Derricks were just about everywhere as the initial efforts to drill for famed Bradford Pennsylvania Grade crude went on in earnest. Evidence of the success appears in a picture taken only two years later when more and more houses and other structures as well as derricks dotted the landscape. Until 1855, Bradford had been known as Littleton, named for Col. Levitt C. Little.

It took 3 years to realize the oil potential in area

From the time the historic Job Moses Well struck the Bradford Third sand near what is now Seaward Ave. Ext. in Foster Twp. in November of 1871, with a daily production of 10 barrels. No wells of any significance were completed until late 1874 when the team of Butts and Foster struck oil on the Buchanan farm, about two and a half miles northeast of Bradford. Dr. Charles Fetyke points out in his book, "Bradford Oil Field."

This well, which began with an output of 70 barrels a day, is considered the first well that genuinely attracted the attention of oil men to the real possibilities of the district.

In late September of 1875, Frederick Crocker obtained 75 barrels of flowing oil on the Watkins farm, about a mile north of Tarry. By drilling only five feet deeper, Mr. Crocker reached an output of 200 barrels. From then on, development accelerated.

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TO THE
BRADFORD OIL
INDUSTRY
A CENTURY
OF PROGRESS**



**DESELLE'S
NUT SHOP
95 Main St. Bradford**

**We're
"Cooking Up"**

some
real,
old-
fashioned
BEST

**WISHES for Bradford's
famous oil field men!**

**DeSOTO
HOLIDAY HOUSE**

515 South Avenue Bradford



BRADFORD'S 100th YEAR IN OIL

THE OIL INDUSTRY IN BRADFORD HAS STEADILY ADVANCED SINCE ITS DISCOVERY IN 1871

Bradford's Oil Industry has steadily advanced since its discovery in 1871.

Through the vast resourceful and hard working forces of this area the Bradford Oil Fields had achieved a status that was respected and envied throughout the world. Oil discovery has advanced far beyond the greatest dreams of the contributing forefathers.

We look to the Bradford Oil Industry with much pride. We give a hearty thanks to those who have worked so hard to make the Bradford Oil Industry prosperous and look forward to an even brighter future.



PRODUCERS BANK

**A FULL
SERVICE
BANK**

IN OUR 68th YEAR 1904 - 1971



we proudly
salute the
Oil Industry
of our town
— Bradford.

We've grown up in this town
with the growth of oil. We'll
always have fond memories of
our association.

SUNNYBROOK DAIRIES
Bradford, Pa.

Bradford -- Home of Kendall

TEN YEARS after the Bradford Oil Field was discovered in 1871, we ran our first batch of Bradford Grade crude oil through our first pot still down Tarport way — as East Bradford was called in those days. For many decades Bradford Grade crude oil has commanded the highest price for any barrel of crude in the world — and still does today. For ninety years we have processed only Bradford and other selected Pennsylvania Grade crude oils in our refinery.

TODAY we pay the city's largest water bill and the biggest electric bill; we are number two taxpayer in Bradford Township and number one in Foster Township. We have one of the best local industrial records when it comes to stability of employment. Our employees' pay checks numbering 520, contribute over five million dollars each year to the local economy in the form of purchases, savings and taxes. And we continue to modernize, as evidenced by the more than thirteen million dollars invested locally during the past three years. We constantly spend research dollars to enhance our main product — **QUALITY**.

TOMORROW'S plans call for more of the same. Sound like we're tooting our own horn? We are. We think that's what part of an Oil Centennial is all about! And we hope and expect to do more with our Kendall and Amalie Brands in the future.

With thankful appreciation to our independent crude producers, our employees, neighbors, and especially our customers — here's to Bradford — The High Grade Oil Metropolis of the World — and its first hundred years. May the second be as wonderful — and they can be!



WITCO CHEMICAL CORPORATION

Bradford Petroleum Division
BRADFORD, PA.

Penn-Bradford Historical Museum

The Penn-Bradford Historical Well and Museum, conveniently situated in Custer City, just north of Custer City School on Route 219, will be open daily during the Bradford Oil Centennial from 8 a.m. to 8 p.m.

The museum is replete with equipment used in the earlier days of oil well activity in the Bradford Oil Field. The historic well site replica gives an on-the-spot view to visitors of what it was like to be in on "the

ground floor" of an old derrick with all its colorfully-named equipment and paraphernalia. Special demonstrations are scheduled for 10 a.m. and 2 p.m. daily.

Official dedication ceremonies, to which the public is invited, will be held Friday at 2 p.m. All kinds of souvenirs and useful articles, bearing the official Bradford Oil Centennial Seal, will be available for purchase.

Natural superiority of local oil unchallenged

[Editor's Note: Some years ago, two Kendall Refining Co. officials and brothers wrote an article for The Bradford Era on the world-famous Bradford Pennsylvania Crude. While refining techniques and

processes have been improved, the natural superiority of the crude itself continues today unchallenged by any other crude. Here is the article, written in 1955 in a special edition honoring the 25th anniversary of the Bradford District Pennsylvania Crude Producers Association by Cedric E. Hulme and his brother, the late W.C. Hulme.)

By C. E. and
W. C. HULME

Bradford Pennsylvania Grade Crude Oil demands a premium price over other grades of crude oil found throughout the world. Present price quotations show Bradford Pennsylvania Grade Crude Oil to be approximately 10 per cent higher than its nearest competitor. How, after some 50 years, can this crude oil hold this top rating against other crude oils now produced throughout the world?

Perhaps it is true that nature still plays favorites. Just as she places the richest lobster beds off the coast of Maine, the giant Sequoia trees only on the western slopes of the Sierra Nevada mountains, and the world's richest cranberry beds on Cape Cod, she placed the world's richest crude oil under one 85,000-acre area known as the Field. It should also be remembered that this oil field produces at least half of the total Pennsylvania Grade Crude Oil produced today.

When a refinery is fortunate enough to be working with this crude oil exclusively, it can be compared to a furniture factory supplied only with the finest wood in the world. True, other less costly woods can be finished to comparable surface luster and color, but only solid hard wood can withstand continued refinishing through centuries of use and still maintain its original beauty. Bradford Pennsylvania Grade Crude Oil is comparable in that it offers the world's best natural lubricating oil stocks. This crude oil does not depend primarily on gasoline and light and heavy fuel oil stocks as do the majority of crude oils produced throughout the world.

Due to their uniform molecular structure, Bradford Pennsylvania Grade Crude Oil lubricating stocks possess natural, unmatched, lubricating qual-

ties. The capability of these oil stocks to resist decomposition when subjected to high temperature is needed in modern engines. They also possess the highest natural ability to resist change of body (viscosity) with change of temperature. This property is known as high viscosity index (V.I.).

When the numerical scale for determining viscosity index in lube oil stocks was established, the committee assigned to this work measured the viscosity index characteristics of lube stocks from all of the crude sources in the world. After compiling these data, it was noted that Pennsylvania Crude stocks were the best in the world — so they were given a value of "100". V. I. Naphtenic crude stocks were the worst and were given a value of "0". V. I. This characteristic in lubricating oils was envied by refiners of lower V. I. crude stocks.

While refiners of other than Pennsylvania Crude Oil have done much through severe solvent refining and the addition of additives to approach this quality, lube stocks from Bradford Pennsylvania Grade Crude Oil are still being purchased to upgrade lubricants blended with stocks from other crude sources.

The Pennsylvania refiner can also improve the natural viscosity index characteristics of his finished products through more extensive refining and the use of special additives. As a matter of fact, carefully selected fractions of Bradford Pennsylvania Grade Crude Oil stocks have been blended into the world's finest multiviscosity

lubricating oils now demanded by some new high compression gasoline engines. One can visualize the advantages of the use of high viscosity index oils when an engine is started cold on a winter morning. The oil is thin enough to be immediately circulated to all moving parts of the engine. After the engine warms up, the oil still retains ample body or viscosity to properly lubricate these moving parts and maintain normal oil consumption.

The ability of the heavier gear lubricants to flow more readily when cold and offer ample protective body when hot, or under conditions of radical change of temperature, allows operators of all types of equipment to use one grade of gear lubricant in their transmissions and rear axle assemblies the year around. This can be exemplified by a trucker operating between Maine and Florida.

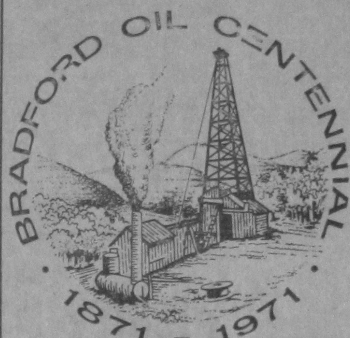
Not only in lubricant stocks are the quality features of Bradford Pennsylvania Grade Crude Oil found. Our diesel fuel oil has the highest ignition quality (cetane) and lowest sulphur content of any fuel oil in the world. These clean, burning qualities are most desirable in diesel fuels to aid in prolonging useful life and efficiency of a diesel engine. With the introduction of modern refining methods, our gasolines possess anti-knock ratings (octane) comparable with any gasolines now on the market.

The combination spells "quality." So, when thinking about your crude oil from the Bradford, Pennsylvania area, think of "quality."

The Bradford (Pa.) Era, Tuesday, Aug. 17, 1971—11-A

OUR VERY BEST WISHES TO BRADFORD OIL INDUSTRY

On Its



From

BOVAIRD & CO.

1895 - 1971

181 MAIN ST.

BRADFORD, PA.

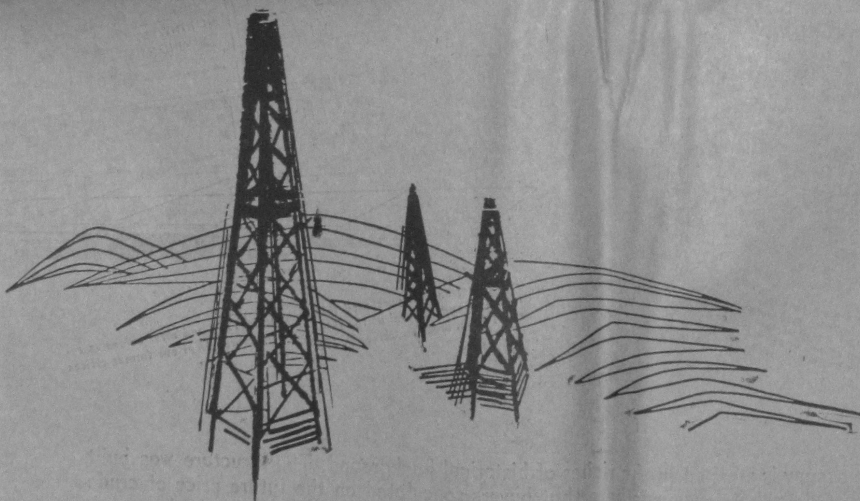
MUSIC MOUNTAIN — Shortly before noon on Aug. 24, 1937 at a spot about nine and a half miles south on Bradford on Music Mountain, there was brought in the first gusher in the Bradford Oil Field territory in many years. Known as Niagara Oil Corp. Silverville No. 110, this well started flowing at the rate of about 1,235 barrels a day from a depth of 1629 feet. The oil was accompanied by a large volume of natural gas at an original pressure of 240 pounds. Indications were that the producing horizon might be one of the Clarendon Group. The transparent quartz and pebbly nature of this sand might suggest, it was said, that it is the old Cherry Grove sand that caused so much excitement in the early days of the Pennsylvania Oil Fields. (Photo, courtesy of Robert Carlson)



Serving the Bradford
Area Oil Fields for Over
Half A Century...

MAYER BRAUSER

MIDTOWN DISCOUNT STORE
90-92 MAIN ST.



WHEN THE BRADFORD FIELD WAS JUST SIXTEEN...

... The Ohio Oil Company (our original name) was founded in northwestern Ohio by men who pioneered a new oil region in the Bradford tradition. Today our interests have spread across the nation and around the world ... and back to the Pennsylvania oil regions where the industry began. On this Centennial, we congratulate the oil men and women of Bradford for their 100 years of service and progress.



MARATHON OIL COMPANY
FINDLAY OHIO

Forest Dorn has intimate relationship with secondary oil recovery

The late Forest D. Dorn — whose name is perpetuated in the extensive oil and gas operations of Forest Oil Corp. — had an intimate relationship with secondary oil recovery — waterflooding or "five-spotting."

In 1916, he and his father, the late Clayton G. Dorn, began waterflooding operations in both the Bradford and Bolivar, N.Y., oil fields.

FOREST DORN foresaw the possibility of developing the waterflood technique and after incorporation of Forest Oil Corp., he began intensive experiments. Results quickly showed the practicality of the system and the firm's holdings were greatly increased almost every year until 1935.

Basic waterflooding principles developed by Forest were used thereafter universally by the industry; hence, Forest Oil can be described as a pioneer in the large-scale and scientific development of waterflooding for the secondary recovery of oil.

Under Mr. Dorn's direction, the firm's waterflood output rose from 38 barrels a day in 1916 to more than 9,300 daily in 1939 — about 20 per cent of the daily production in the entire Bradford Field. During many of the years between 1928 and 1939, the company drilled more than 1,000 barrels a year and one year, 1,800, believed



FOREST D. DORN

to be the largest number ever drilled by any firm in one year.

BY 1935, a large percentage of the company's Bradford Field properties were either under intensive waterflood or had been depleted. So, the decision was made to expand into other areas, both in primary and secondary production.

Over the years, Forest acquired properties in numerous states and foreign lands. The company, in its own interest, has produced more than 240 million barrels of oil, including condensate and gas equivalent in barrels. Gas activities are becoming increasingly important and both in exploration and production.

Prior to his death in 1957, Mr. Dorn had brought all five sons, Dale, Clayton, David, Richard and John into the business; together with his son-in-law William Bird and his nephew, William D. Miller, all of whom hold important posts with the firm.

Mr. Dorn's widow, the former Miss Ruth Caroline Holbrook, resides at 116 Congress St.

Petroleum helps keep apples shiny, fresh

A product which includes petroleum prevents the premature falling of ripe apples.

This helps save crops which may be lost if pickers are not available when the fruit matures.

DRAKE WELL PARK

Thousands of visitors tour the Drake Well Memorial Park at Titusville annually to see the replica of the world's first commercial oil well and to browse in the museum.

WESB schedules many interviews

WESB has scheduled a number of in-person interviews with the men in all walks of life who have made the world famous Bradford Oil Field what it is today, roustabouts, tool dressers, producers, drillers, nitro experts, lease buyers, company executives, and other oilmen.

In fact, the station has made an all-out effort to capture the human spirit in these "humane" sketches in words about the story-laden Bradford Oil Field. The programs will be heard on a regular basis during Bradford Oil Centennial week, Aug. 16-22. The station will keep listeners informed about scheduled times.

Early pipe line built to the East Coast

The names of Byron D. Benson, David McKelvey, Alanson Ashford Sumner, S.Q. Brown and Robert E. Hopkins are associated with the first pipe line to transport oil over the mountains with eastern seaboard as the final objective.

These men organized the Tide Water Pipe Co. and the line from Coryville to Williamsport in 1879 and in the third period of the industry completed it to Bayonne, N.J.

Oil was discovered at Titusville at a level of only 15 feet below the surface of the earth.

Local oil field closely associated with the API

The Bradford Oil Field has always been closely associated with the American Petroleum Institute in its various divisions since the inception of the organization.

In fact, there are those who recall that Bradford oilmen together with support from oil and gas producers in the Pittsburgh area, played a dominant role even in its very earliest days.

On Dec. 7, 1927, the Eastern District of the API Division of Development and Production Engineering was formed and the late Frank M. Brewster of Bradford, then associated with Petroleum Reclamation Co., a forerunner of Case — Pomeroy, was elected first district chairman to serve during 1928.

During 1930, the API board of directors combined the API Division of Standardization and the API Division of Development and Production Engineering to form the presently-named API Division of Production.

During 1946 and 1947, the API Eastern District study committee on Secondary Recovery was formulated to report to the national standing sub-committee on the subject. This committee, in turn, reported to the National Technical Committee on Production Technology.

This sub-committee has met here in the Bradford area from 10 to 12 times a year ever since. During all these sessions, there has been a very unique exchange of information among the representatives of various

firms and visitors have remarked many times that such exchange of information on production problems was "unknown" in any other place in the world.

Since 1946, this sub-committee has been known as the Pennsylvania Chapter and is currently headed by Charles E. Black, Witco Chemical Corp. here, with James B. Baily, Quaker State Oil Refining Corp., Titusville, vice chairman, and Harvey Gold, Pennzoid United, Bradford, secretary-treasurer.

The local chapter now functions through and what until recently was known as the Eastern Division of the API for Production and a number of Bradfordians have served as chairman of that group over the years.

Early oil wells had odd names

Oil wells were queer things in those early days and to distinguish one from the other, they were given queer names.

Some of these names have come down to us as Johnny Jump-Up, Big Injun, Old Misy, The Baby, Spotted Tail, Maggie, The Owl, Big Potato, Big Medicine, Old Teaser, Little Injun, Great Leather, Blue Nose, Big Bolonga, Sandwich, Blackhawk, Annie, Christmas Tree, Blue Jay, Captain Jinks, Big Ghost and Lady Hunter.

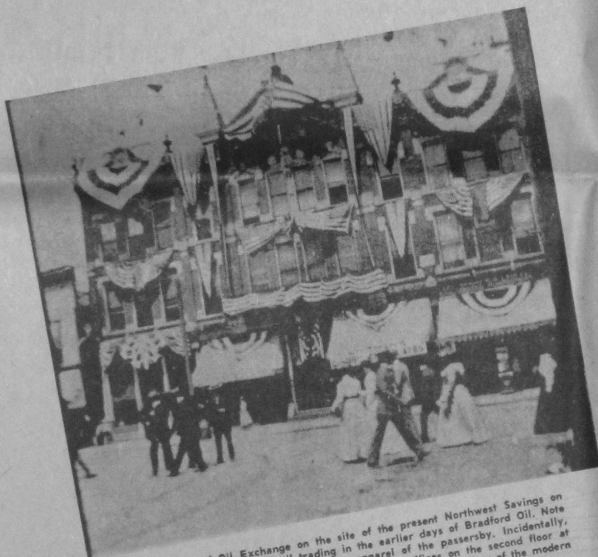
We Are Happy To Serve YOU

During this Oil Centennial Week And We Salute The Oil Industry On 100 Years of Progress!

DeSoto Restaurant

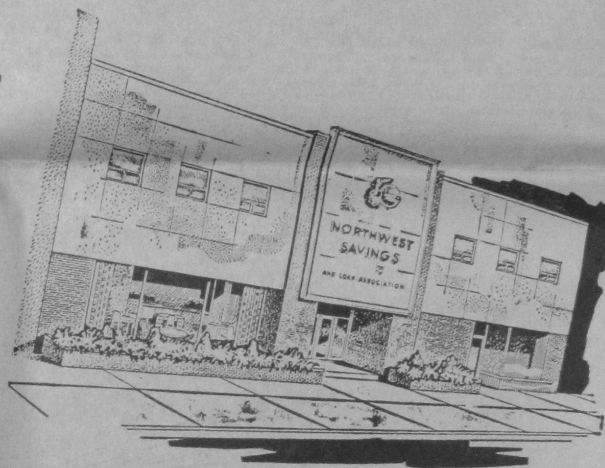
940 East Main St.
Bradford

A Hearty Salute to Bradford's 100th Year of Oil Discovery



The old Bradford Oil Exchange on the site of the present Northwest Savings on Main St., an integral part of oil trading in the earlier days of Bradford Oil. Note the bunting and gay decorations and the apparel of the passersby. Incidentally, the oil firm of L.E. Mallory & Son has maintained offices on the second floor at this site for many, many years. The office is still on the second floor of the modern Northwest Savings building.

1871
•
1971



Northwest Savings purchased this building in 1959 and after extensive remodeling and removal of the third floor we moved from our former offices at #1 Main Street on October 5, 1962.

The building which we occupy is steeped in the riches of historical background. The structure was built about 1879 by the Bradford Oil Exchange. It was here that buyers speculated on the future price of crude stored in tanks owned by various pipe line companies, and one days transactions sometimes involved as much as 20,006,000 barrels of oil.

Twenty-five years after the beginning of the oil industry in Bradford, Northwest Savings (formerly Bradford Savings) was incorporated by ten far-sighted men on August 20, 1896. Those men were P. C. Blaisdell, Robert Bauer, E. J. Boyle, William Chambers, John Eckhart, Jr., George C. Fagman, J. B. Fox, C. E. Judd, David McLauglin and P. C. Rush.

Presently completing our 75th year of Thrift and Home Financing service to this area the visions of the original incorporators continue to materialize as we have now grown to serve a wider area of North West Pennsylvania, with offices in the counties of McKean, Warren, Elk and Venango.



NORTHWEST SAVINGS

33 MAIN STREET & BRADFORD MALL

BRADFORD, PENNSYLVANIA 16701

GOOD
OLD FASHIONED
SERVICE OF MODERN
FINANCIAL PLANS



Wood from area, atmosphere from oil field on display at historical museum

J.B. RANDALL
"Grand Old Man of Oil"
By DOROTHY SHOFF
Era Correspondent

DUKE CENTER — "I don't think anything unusual ever happened to me, I just lived and worked with my father from the time I was about ten years old," Jacob B. (Jake) Randall, lifelong Duke Center resident recently named "Grand Old Man of Oil" for Bradford's Oil Centennial, told The Era.

"While dad (William Randall) was in the boiler room in the morning, I would go out and start the wells," Jake continued, "and when he went fishing, I went fishing."

"And when my father died, his oil lease was passed on to me and then I also acquired other leases."

After a bit of conversation, Jake did recall a narrow escape from drowning when he was three years old.

"It was in 1883 at the time of the Johnstown flood," Jake recalled, "and the water had washed out the bridge over the creek and also, Duke's gas line. A plank had been laid across the creek as a temporary bridge. I proceeded to start across and fell in."

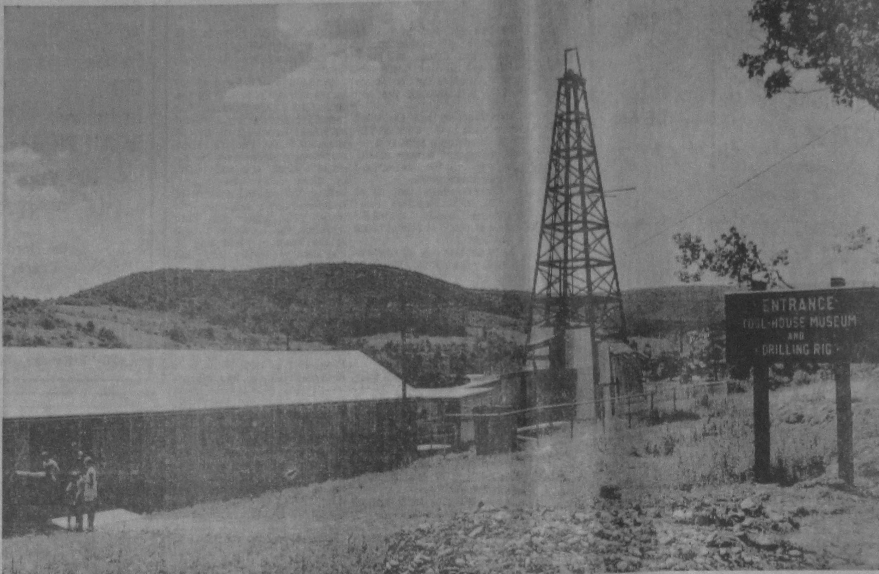
"I probably wouldn't be here today if two other children hadn't been with me and yelled for help as I went tumbling down the creek in the swift waters. Two men came to my rescue in the waist-high water."

Jake celebrated his 85th birthday on June 17, and with a twinkle in his eye, he said his only complaint is that he is forgetful and "a little hard of hearing."

When asked his reaction to being chosen the "Grand Old Man of Oil," he replied, "Well, you know, I didn't know it 'til on my way home from the meeting that day (the joint meeting of Bradford District Pa. Oil Producers and Penn Grade Crude Oil Associations at Pennhills on June 11)."

"En route home that night, I asked Paul (Pete) Kable why everyone stood up when my name was mentioned at the meeting," Jake continued, "and then he told me I had been selected the Grand Old Man. So when I got home I called Penn Grade Crude's president, J. Paul Jones, and thanked him."

Jake says he now sleeps less than 50 feet from where he was born, and since his wife, the former Pauline Crocker, died in February 1964, he lives alone and does his own cooking and his scrapbook containing 80 let-



PENN-BRAD Tool House Museum and Drilling Rig will be a popular spot, not only during this Bradford Oil Centennial week but from now on. Conveniently situated at Custer City's northern border right along Route 219, the museum and drilling rig

take visitors back into the past where memorabilia of early oil days as well as appropriate souvenirs and mementos are displayed. Then, to stand on the rig floor and look at all the facets of the reproduction of the old rig is a journey into the

past. Special dedication ceremonies will be held Friday at 2 p.m. The museum and historical well will be dedicated at 2 p.m., Friday. The facilities are open to visitors daily from 8 a.m. to 8 p.m., with special demonstrations at 10 a.m. and 2 p.m. (Era photo by W. Forrest Stewart)

ters of affectionate congratulations for his dedicated service on the occasion when he was honored, in October 1968, at "Jake Randall Night" by the Duke Center Methodist Church. The event recognized his 75 years as a church member and 70 years service as a member of its choir... a rare accomplishment.

The octogenarian is also justly proud of a letter from President Nixon commending him on his work as election committeeman in his district. Jake has always been right on the job each time election day rolls around.

Jake is more than proud of his scrapbook containing 80 let-

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Our Best Wishes and CONGRATULATIONS

to the hearty oil pioneers and their successors on their 100th year of economic productivity.

BRADFORD TV CABLE COMPANY
20 Congress St. Bradford, Pa.

Localite bought first oil coming from Drake well

The late Herbert T. Morian, father of the late Stanley Morian, well-known Bradford Township official, was one of the last men alive in the country who could boast of having gone to the now-celebrated Drake Oil Well on the second day after it had been drilled.

Mr. Morian, who was to become a producer himself, not only visited the historic well but also purchased the first oil sold from the line. He purchased a pint of the precious "black gold" for "two shillings."

Mr. Morian, who vividly recalled the boom days, was only 10 years old on the day of the memorable oil strike, Aug. 27, 1859. At that time, he resided in Enterprise, a few miles east of Titusville. He made the journey to the well on foot.

Mr. Morian, who lived to a ripe old age, followed the oil business for 73 years. At the age of 85 when he retired, he was still taking an active part in working his oil properties. Mr. Morian lived to see the formation of the Bradford District Pennsylvania Oil Producers Association and his oil properties were associated in membership in the group.

MANY BY-PRODUCTS
High fashion synthetic fabrics and rocket fuels are just some of the hundreds of different products made from oil.

HAPPY 100th BRADFORD OIL INDUSTRY

We're happy to witness this great event.

JARRETT MACHINE COMPANY

20 Roberts St. Bradford

OUR TRIBUTES

TO THE BRADFORD OIL INDUSTRY ON 100 YEARS OF PROGRESS

The DOWNBEAT RESTAURANT

147 MAIN ST. BRADFORD



"THE HIGH GRADE OIL METROPOLIS OF THE WORLD"

Where else can the oil industry look back on such an historical background and such broad developments as in the Bradford Field.

We salute the oil industry in Bradford, on this, the 100th Anniversary of the first oil producing well in McKean County.



EASTERN ROYALTIES INC.

BRADFORD

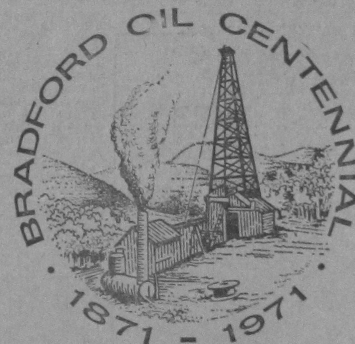
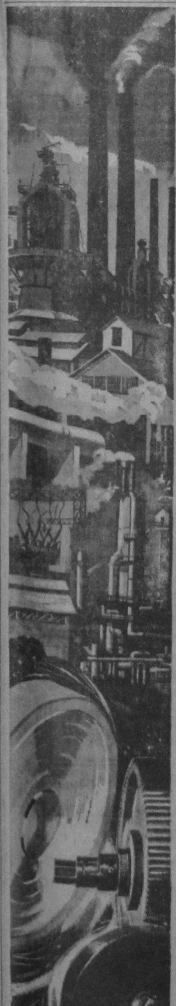


INSPECTION right on the floor of the Penn-Brad Drilling Rig at Custer City is made by George G. Blaisdell, president of Zippo Manufacturing Co. With him is E. James Bryner, museum committee chairman and past president of the Bradford District Pennsylvania Oil Producers Association, originators of the museum with the help of many generous sponsors. (Era photo by Stewart)

A CENTURY OF PROGRESS IN THE OIL INDUSTRY

HOLLEY HOTEL

153 MAIN ST. BRADFORD, PA.

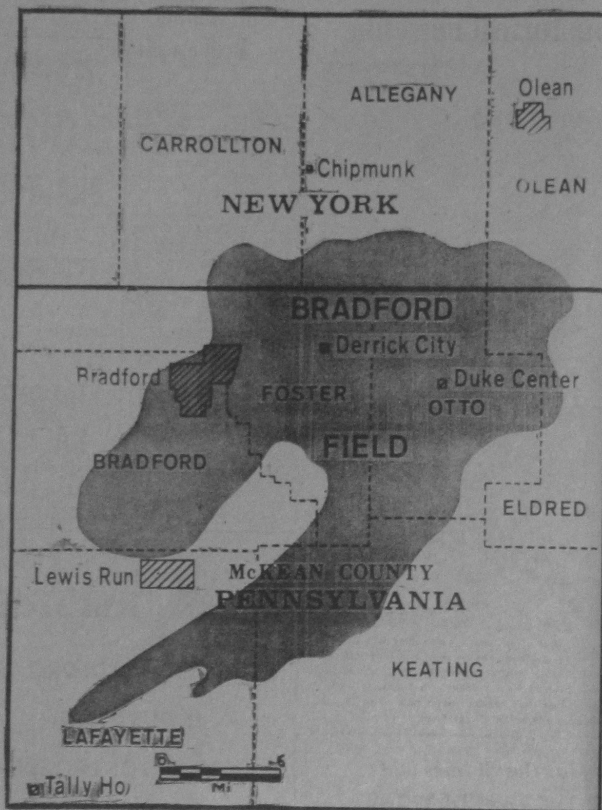


It's A Great Anniversary...

This week the Bradford Oil Industry celebrates 100 Years. We Salute the men and women of this great industry. Bradford Oil Fields leadership is recognized world-wide. We are proud of our long association with such leadership.

CARL E. SWANSON & SONS

INC. BRADFORD



BRADFORD OIL FIELD, the centennial year of which is being celebrated this week under the general chairmanship of S.W. Gregg Jr., president of the Bradford District Pennsylvania Oil Producers Association, has produced 446,749,371 million barrels of famed Bradford Penn Grade crude from 1871 through the end of last year. Value of this amount of crude

totals \$1,635,115,187. The Bradford Oil Field lies principally in the north-central part of McKean County. The field extends a short distance into New York's Cattaraugus County, with about 14 percent of the Bradford Pool in that state.

(Drawing, Courtesy Zippo Art Dept.)

Local field has produced 648M bbls. of crude oil

Readers will find interest in a chart in this edition giving facts and figures the story of Bradford Oil Field production from the time of the Job Moses well in 1871 through the end of 1970.

The elaborate and fact-filled presentation is the work of Victor H. Samuelson, local real estate broker and a man closely associated with the Bradford Oil Field for many years.

His chart shows that as of Dec. 31, 1970, Bradford Field production totaled 646,749,371 barrels of crude at a total value of \$1,635,115,187.

As to allocation of oil reserves in the Bradford Field, Mr. Samuelson points out that in 1938 Dr. Charles R. Fetteke, professor of geology and mineralogy at Carnegie Institute, Pittsburgh, made a study and report on

the Bradford Oil Field in this state and neighboring New York for the Pennsylvania Geological Survey.

At that time, he listed oil reserves originally present in the pool at 1,249,970,000 barrels. His report has been widely used and accepted. However, in the 33 years since Dr. Fetteke's study, numerous geologists, on the basis of analysis and study aided by more modern information, believe the original amount of Bradford Crude originally "in place" was higher and that, therefore, the amount of oil still in the Bradford Field may be considerably greater than that based on Dr. Fetteke's study.

In any event, here is the breakdown on oil thus produced based on Mr. Samuelson's figures: primary production (1871-1970) 214,178,384 barrels, or 17.14 per cent of Dr. Fetteke's projected total "oil in place."

From 1911 to 1920, there were 23,980 barrels by primary production and "border" floods, for 1.92 per cent of Dr. Fetteke's total projection.

From 1921 through 1927, output was 23,342,309 barrels by circle and line floods for 1.87 per cent. And from 1928 through the end of 1970, intensive flooding in the Bradford Oil Field brought to the surface 366,537,878 barrels, representing 30.91 per cent of what Dr. Fetteke considered to be oil in place.

The 100-year production represents 51.74 per cent of the 1,249,970,000 barrel total oil Dr. Fetteke estimated to be in the field. This would leave as of Jan. 1 of this year 603,220,429 barrels unrecovered. Some geologists believe this may actually be considerably higher, possibly as many as a billion barrels.

Antique Car Show

Antique cars will bring back fond memories Saturday during the Antique Car Show in the Bradford National Bank parking lot on Main St. About 100 historic vehicles ranging back to the early days of this century are expected to be on display — a project of the Bradford Landmark Society.

Robert F. Slike Jr. is general chairman and Robert C. Schneider is co-chairman. The late W.W. Robertson, longtime local automotive executive, who was to have served as chairman, has been designated by Mr. Slike as honorary chairman.

JUST A TINY TOWN

Tiutaville was a quiet little Northwestern Pennsylvania town of 300 people in 1859 when Col. Edwin L. Drake drilled the first oil well nearby.

Our Congratulations . . .
to the Oil Industry
on their 100 year
Centennial Celebration!

THRIFTY CLEANERS

18 Chambers St. Bradford

S. R. DRESSER Co., started as a lease worker in West Virginia while in his term.

Best
Wishes
to the
Oil
Industry
In All Phases -

100 Years of Progress
1871-1971

Bradford's Decorating
Center Since 1958

JENSEN

PAINT COMPANY

10-14 Kennedy St.

362-2920

Compliments
of

Lynn G. Smith
Earl F. Smith

Bradford Landmark Society has two main purposes

By DR. ROBERT C. LAING, JR.
The Bradford Landmark Society was formed in 1969 by a group of citizens interested in interpreting and preserving the history of Bradford. The Society was organized into a non-profit corporation with officers, a board of directors, and an open membership.

The group has two primary objectives. One is to identify, preserve, and restore buildings

of historic interest in and around Bradford. For this reason, an Historic Sites Committee has been formed. A second objective is eventually to construct a museum village representative of life in Bradford during the years around 1871 to 1900, the years of the early oil boom. This can be done by planned to represent an oil lease and will feature the typical buildings and artifacts to be found on such a lease. In these days families lived right on the lease — the oil derrick was often right beside the house. It is felt that this should be a "living" museum — that is, there would be an attempt to show how people in those days actually lived and worked.

To realize these objectives, the Landmark Society has sponsored several projects during the past few years. One has been the establishment of the Fireman's Museum. This is located in part of the second floor of the Bradford Fire station and is opened at stated times. Special groups — such as groups of school children — may at ways make arrangements to visit the museum at convenient times. The museum contains a wealth of memorabilia centered around the early volunteer fire companies in Bradford. These companies played a major role in the history of Bradford. Not only did they perform valiant service at fires, but also they put on parades, sponsored athletic teams, and kept social club rooms. Indeed a whole way of life revolved around these fire companies. Therefore, they preserved many artifacts. Most are still intact and can now be seen in this museum.

The Landmark Society has

OPEN DAILY & SUNDAYS
SINGER'S
COUNTRY STORE
"CUSTER CITY CROSSROADS"



"Step Back 100 Years"

and see what stores were like in yester-year . . . right here in the Oil Fields at Custer City, Pa.



Real "Old-Fashioned" sharp cheese — pickles in the Barrel — Thick Crackers — PENNY Candy — Browse and Shop Here . . .

AND . . . RIGHT
NEARBY — Be Sure
& Visit
Both at Custer City

Singer's
AMERICANA
furniture barn



The 100th Anniversary of Bradford Oil is a record to be proud of . . . and we are proud, too, of having served Bradford 71 Years out of the last 100 years!

The Smith Agency

INC.

3 Mechanic St.

Bradford

BMW-MONARCH

Formerly BRADFORD MOTOR WORKS
Located at 57 Holley Avenue, Bradford, Pa.

For
60 Years
Serving
The Oil Industry

Manufacturing
One of the Most Vital Pieces
of Equipment

"The Pump"

PRODUCTION and INCOME Bradford Oil Field

McKean County — Pennsylvania and Cattaraugus County — New York
COMPILED AT BRADFORD, PA. — BY Victor H. Samuelson

Year	PRODUCTION		Daily Average	INCOME	
	Annual	Cumulative		Annual	Cumulative
1871	1,000	1,000	2.74	\$4,340	\$ 4,340
1872	2,000	3,000	5.46	3,840	11,530
1873	2,000	5,000	5.46	1,330	15,250
1874	3,000	8,000	8.22	1,170	18,790
1875	25,000	33,000	68.49	1,350	32,540
1876	302,744	415,744	1,048.98	2,560	979,884
1877	1,468,481	1,884,240	4,023.24	2,420	5,533,724
1878	6,208,746	8,092,986	17,010.26	1,190	7,388,408
1879	13,914,500	22,007,504	35,556.19	0.860	11,966,478
1880	22,312,000	44,219,504	60,854.79	0.950	21,101,400
1881	22,945,000	67,164,504	62,862.00	0.860	19,732,150
1882	17,958,000	85,122,504	49,202.74	0.960	15,444,740
1883	13,294,886	98,417,390	36,224.35	1.050	13,959,830
1884	11,883,000	110,300,390	32,556.17	0.830	9,862,890
1885	10,364,288	120,664,678	28,543.28	0.880	9,296,562
1886	9,752,797	130,417,475	26,719.99	0.880	8,582,461
1887	7,580,879	138,000,354	20,769.81	0.670	5,069,256
1888	5,006,062	143,006,416	14,537.16	0.870	4,616,274
1889	5,765,033	148,771,449	15,794.67	0.940	5,419,154
1890	5,698,733	154,470,182	15,366.40	0.870	4,679,690
1891	5,452,418	160,331,801	14,938.13	0.670	3,653,120
1892	4,291,081	164,622,882	11,756.33	0.560	2,402,994
1893	3,502,136	168,125,018	9,584.90	0.640	2,241,367
1894	3,339,835	171,464,853	9,205.05	0.840	2,822,261
1895	3,244,808	174,709,661	8,889.88	1.220	3,556,666
1896	3,694,771	178,404,432	8,776.08	1.190	4,289,677
1897	3,094,230	181,498,662	10,696.02	0.790	3,084,342
1898	3,444,329	184,942,991	9,434.38	0.910	3,124,312
1899	3,206,845	188,149,836	8,785.88	1.290	4,136,830
1900	3,022,482	191,172,318	8,280.80	1.350	4,080,366
1901	2,737,603	193,909,921	7,555.07	1.210	3,336,700
1902	2,948,981	196,858,902	8,086.44	1.230	3,083,587
1903	2,305,413	199,164,315	6,371.73	1.590	3,698,997
1904	2,187,883	201,352,198	5,994.20	1.630	3,566,240
1905	2,115,225	203,467,423	5,786.14	1.390	2,940,163
1906	2,022,000	205,489,423	5,539.73	1.600	3,255,200
1907	2,048,000	207,537,423	5,610.96	1.750	3,284,000
1908	2,074,000	209,611,423	5,682.19	1.780	3,691,720
1909	2,100,000	211,711,423	5,753.43	1.640	3,444,000
1910	2,132,000	213,843,423	5,830.14	1.340	2,851,320
1911	2,152,000	215,995,423	5,855.88	1.300	2,797,620
1912	2,176,000	218,171,423	5,967.13	1.590	3,482,622
1913	2,204,000	220,375,423	6,038.36	2.463	5,426,452
1914	2,230,000	222,605,423	6,109.89	1.885	4,203,550
1915	2,256,000	224,861,423	6,180.80	1.885	3,821,920
1916	2,282,000	227,143,423	6,252.05	2.505	5,716,410
1917	2,308,000	229,451,423	6,323.29	3.249	7,486,692
1918	2,334,000	231,785,423	6,394.52	3.974	9,275,316
1919	2,360,000	234,145,423	6,465.75	4.123	11,770,280
1920	2,386,000	236,531,423	6,536.99	5.967	14,227,282
1921	2,412,000	238,943,423	6,608.22	8.009,406	22,236,688
1922	2,438,000	241,381,423	6,679.45	3.175	8,184,280
1923	2,464,000	243,845,423	6,750.68	3.328	8,662,042
1924	2,490,000	246,335,423	6,821.91	3.985	9,155,595
1925	2,516,000	248,851,423	6,893.14	3.762	10,326,346
1926	2,542,000	251,393,423	6,964.37	3.765	11,790,574
1927	2,568,000	253,961,423	7,035.60	3.156	14,824,939
1928	2,594,000	256,555,423	7,106.83	3.390	17,375,322
1929	2,620,000	259,175,423	7,178.06	3.947	21,322,269
1930	2,646,000	261,821,423	7,249.29	2.596	24,101,361
1931	2,672,000	264,493,423	7,320.52	2.022	17,818,133
1932	2,698,000	267,191,423	7,391.75	1.881	16,742,726
1933	2,724,000	269,915,423	7,462.98	1.860	15,582,352
1934	2,750,000	272,665,423	7,534.21	2.460	20,496,019
1935	2,776,000	275,441,423	7,605.44	2.176	22,671,595
1936	2,802,000	278,243,423	7,676.67	2.570	27,444,232
1937	2,828,000	281,071,423	7,747.90	4.263	41,033,363
1938	2,854,000	283,925,423	7,819.13	1.899	28,838,362
1939	2,880,000	286,805,423	7,890.36	2.059	30,050,366
1940	2,906,000	289,711,423	7,961.59	2.287	32,669,827
1941	2,932,000	292,643,423	8,032.82	2.869	35,539,696
1942	2,958,000	295,591,423	8,104.05	2.942	38,483,638
1943	2,984,000	298,565,423	8,175.28	3.000	41,052,358
1944	3,010,000	301,575,423	8,246.51	3.312	46,362,270
1945	3,036,000	304,611,423	8,317.74	3.750	50,473,731
1946	3,062,000	307,673,423	8,388.97	3.825	44,966,692
1947	3,088,000	310,761,423	8,460.20	4.210	48,886,777
1948	3,114,000	313,875,423	8,531.43	4.971	53,543,608
1949	3,140,000	317,015,423	8,602.66	5.261	58,808,232
1950	3,166,000	320,181,423	8,673.89	3.802	37,824,286
1951	3,192,000	323,373,423	8,745.12	4.250	41,843,735
1952	3,218,000	326,591,423	8,816.35	4.350	41,007,113
1953	3,244,000	329,835,423	8,887.58	4.394	40,238,453
1954	3,270,000	333,105,423	8,958.81	4.547	44,353,144
1955	3,296,000	336,401,423	9,029.04	3.573	25,621,922
1956	3,322,000	339,723,423	9,100.27	4.425	30,792,831
1957	3,348,000	343,071,423	9,171.50	4.772	33,791,581
1958	3,374,000	346,445,423	9,242.73	4.223	24,790,676
1959	3,400,000	349,845,423	9,313.96	4.130	22,839,690
1960	3,426,000	353,271,423	9,385.19	4.601	23,888,223
1961	3,452,000	356,723,423	9,456.42	4.791	23,200,983
1962	3,478,000	360,191,423	9,527.65	4.630	20,644,391
1963	3,504,000	363,685,423	9,598.88	4.480	19,155,994
1964	3,530,000	367,205,423	9,670.11	4.480	18,638,917
1965	3,556,000	370,741,423	9,741.34	4.696	16,828,796
1966	3,582,000	374,303,423	9,812.57	4.530	17,531,324
1967	3,608,000	377,891,423	9,883.80	4.630	16,163,138
1968	3,634,000	381,505,423	9,955.03	4.630	15,969,321
1969	3,660,000	385,145,423	10,026.26	4.630	15,422,518
1970	3,686,000	388,811,423	10,097.49		

Natural gasoline industry started in Bradford area

Natural gasoline, which became a factor in revitalizing the Bradford district after the production decline of the 1930s, had its birth here.

As August 1969 editorial, The Era drew attention to this development. The story said:

"A plant for gasoline manufacture at Bingham in this county, the pioneer establishment of its kind, will doubtless be followed by many other similar plants in the oil fields of the county."

The late Dr. A. J. Paris, Jr., who began his research work in Bradford in 1900, was treasurer and later president of the

plant of the Petroleum Products Co. In 1909 the Butler, Pa., Citizen described the output of this plant as three to four gallons of gasoline from each 1,000 feet of natural gas.

It was understood that prior to this development, the gasoline potential of oil well gas had been ignored or unknown. Oil men of the time felt that this process represented an additional profit to the producer on a part of his production then receiving little attention.

The Bingham plant was in operation for only about a year. Dr. Paris then set up a similar plant at Charleston, W. Va., and during the first World War, the second plant was turned over to the government for experimental work.

From its pioneer beginnings at Bingham, the manufacture of gasoline from natural gas grew until millions of gallons were being produced annually from gas.

In 1921, there were 12 plants in the Bradford field alone.

Water flooding may have started as an accident

Water flooding — a major method of secondary oil recovery — may have started by accident.

One version has it that the whole thing started in 1896 on the Balton lease in the vicinity of Allen in McKean County.

The story goes, operations had been abandoned because the oil had fallen off on the Balton lease. When the lease was pulled on, the oil came back. The water, which was said to be allowed water from levels above the producing sand to flow into the holes.

Then later, when drilling operations were resumed, an unaccountably rich flow of oil was piped to receivers.

AND... MORE CONGRATULATIONS

TO YOU THE
BRADFORD OIL INDUSTRY

ON YOUR CENTENNIAL
1871-1971

PAUL COLBURN Jeweler

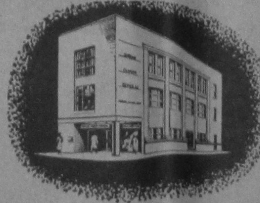
399 E. MAIN ST. BRADFORD, PA.

54 YEARS OF HELPING TO BUILD A BETTER BRADFORD



The Discovery of Oil 100 Years Ago Started It All In Bradford

On this 100th Anniversary of the discovery of oil in the Bradford field, we point with pride to our record of over 54 years of service in this market area. From a very humble beginning, we have grown in size and strength with this community. We look forward in the future with a firm resolve to continue to provide whatever services that may be necessary to continue the economic progress vital to "building a better Bradford."



First Federal

SAVINGS AND LOAN ASSOCIATION

Main at Pine Bradford Telephone 362-3544

"Helping to Build a Better Bradford Area"

Everyone at the Bradford Mall Extends Their

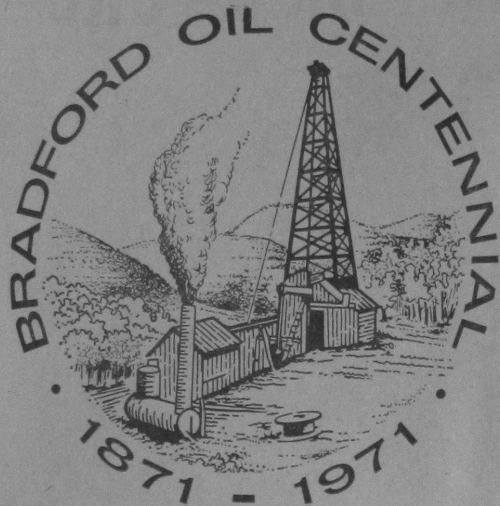
Congratulations

to the entire

**BRADFORD
OIL
INDUSTRY**

*on its first 100
Years of Progress*

*we're proud to jointly
acknowledge this notable
achievement.*



Here's our

INVITATION

To You To Come To Bradford and The Bradford Mall and Witness A Full Week of Celebration Commemorating Bradford's Oil Centennial Year.

BE OUR GUESTS FOR THE FOLLOWING ACTIVITIES AT THE MALL

THURSDAY, AUG. 19

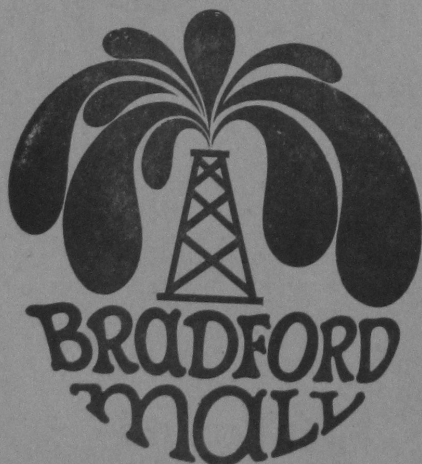
- 10:00 A. M. to 10:00 P. M.
Bradford Mall Centennial Sale Days
- 10:00 A. M. to 10:00 P. M.
Bradford Art Center Art Show
- 12:00 Noon to 8:00 P. M.
Demonstration of Bit Dressing

FRIDAY, AUG. 20

- 10:00 A. M. to 10:00 P. M.
Bradford Mall Centennial Sale Days
- 10:00 A. M. to 10:00 P. M.
Bradford Art Center Art Show

SATURDAY, AUG. 21

- Noon to 8:00 P. M.
Demonstration of Bit Dressing
- 2:00 P. M.
Oil Well Shooting 500 Ft. North of Bradford Mall
- 2:30 P. M.
Special presentation to Grand Old Man of Oil Centennial at Bradford Mall Parking Area



This invitation is extended to you through the courtesy of the Bradford Mall Merchants Association

- BRADFORD NATIONAL BANK
- CADET CLEANERS
- GALLINKAMP SHOES

- JO ANN FABRICS
- LOBLAWS
- NORTHWEST SAVINGS ASS'N.
- OAKLEAF'S HALLMARK

- PARK LANE HOSIERY
- PENNEYS
- REA & DERICK DRUGS
- ROYCE SHOES

- SINGER SEWING CENTER
- SUZY BOUTIQUE
- WOOLWORTH'S

**A FULL WEEK OF EXCITING ACTIVITIES AWAIT YOU
AT BRADFORD'S OIL CENTENNIAL CELEBRATION**

Here's the Program:

BRADFORD OIL CENTENNIAL

1871 — 1971

Aug. 16 — Aug. 22

MONDAY, AUG. 16

- 12 Noon to 1:30 p.m. —
Bradford Rotary Commemorates the Bradford Oil Centennial, Holiday Inn.
- 6:00 to 8:00 p.m. —
Reception for patrons of the Annual Antiques Show, Landmark Society, Emery Engineering Center, 45-47 Main St.
- 8:30 to 9:30 p.m. —
Concert by Bradford Area High School Band and announcement of Miss Bradford Oil Centennial — Miss Bradford Area United Fund, Veterans Square.
- 10:00 p.m. —
St. Rocco's Day traditional fireworks display, atop Mount Raub.

TUESDAY, AUG. 17

- Regular Store Hours —
Sidewalk Days — Bradford Downtown Area Merchants.
- 11:00 a.m. to 10:00 p.m. —
Annual Antiques Show, sponsored by Landmark Society, 45-47 Main St.
- 12 Noon —
Bradford Kiwanis salutes the Bradford Oil Centennial, Hotel Holley.

WEDNESDAY, AUG. 18

- Regular Store Hours —
Sidewalk Days — Bradford Downtown Area Merchants.
- 11:00 a.m. to 6:00 p.m. —
Annual Antiques Show, Landmark Society, 45-47 Main St.

THURSDAY, AUG. 19

- 10:00 a.m. to 10:00 p.m. —
Bradford Mall Centennial Sales Days.
- 10:00 a.m. to 10:00 p.m. —
Bradford Art Center Art Show, Bradford Mall.
- 12 Noon to 8:00 p.m. —
Demonstrations of Bit Dressing, Bradford Mall.
- 8:00 p.m. —
Seneca Highland Players, "Arsenic & Old Lace", First United Methodist Church.

FRIDAY, AUG. 20

- 10:00 a.m. to 10:00 p.m. —
Bradford Mall Centennial Sales Days.
- 10:00 a.m. to 10:00 p.m. —
Bradford Art Center Art Show, Bradford Mall.
- Noon to 8:00 p.m. —
Demonstrations of Bit Dressing, Bradford Mall.
- 2:00 p.m. —
Dedication of Penn-Brad Historical Well and Museum at Custer City. This facility will be open daily during the Centennial from 8:00 a.m. to 8:00 p.m., with special demonstrations at 10:00 a.m. and 2:00 p.m.
- 4:00 p.m. —
Mighty Watson Shows — 60th Annual Clambake — Valley Hunt Club, Lewis Run.
- 8:00 p.m. —
Seneca Highland Players, "Arsenic & Old Lace", First United Methodist Church.
- 8:00 p.m. —
Dance presented by Bradford's three Square Dance Clubs, Bradford National Bank Parking Lot, Main St.

SATURDAY, AUG. 21

- 9:30 a.m. to 5:00 p.m. —
Antique Car Show, Bradford National Bank Lot, Main St.
- 10:00 a.m. to 10:00 p.m. —
Bradford Mall Centennial Sales Days.
- 10:00 a.m. to 9:00 p.m. —
Bradford Art Center Art Show, Bradford Mall.
- Noon to 8:00 p.m. —
Demonstrations of Bit Dressing, Bradford Mall.
- 2:00 p.m. —
Oil Well Shooting, 500 feet north of Bradford Mall.
- 2:30 p.m. —
Special Presentation to Grand Old Man of Oil Centennial, Bradford Mall Parking Lot.
- 3:00 p.m. —
Brief Ceremonial, Job Moses 1871 Well Site.
- 4:00 p.m. —
Bradford Oil Centennial Parade, Congress St., Main and E. Main through East Bradford, presented by Bradford Jaycees.
- 8:00 P. M. —
Seneca Highland Players, "Arsenic & Old Lace", First United Methodist Church.

SUNDAY, AUG. 22

- Noon to 8:00 p.m. —
Open House for views of Bradford Oil Field Memorabilia, the Bradford Club, 32-38 Boylston St.

WEEKLONG SPECIAL SERVICES AND POINTS OF INTEREST

- Monday through Saturday —
1:00 p.m. to 11:00 p.m. —
Bradford Exchange and Lions Clubs present Frankie's Carnival, on the Neighborhood Development Program property in downtown area.
- Display of Church Memorabilia, Emery Hall, University of Pittsburgh at Bradford, 2 South Ave.
- Firemen's Museum, second floor, Central Fire Station, Chestnut and East Corydon St. 9:30 a.m. to 5:00 p.m. staffed by Landmark Society.
- Information Booth — data, souvenirs, mementos and similar material. 9:30 a.m. to 8:00 p.m., staffed by the Desk and Derrick Club.
- Art Show — students of Bradford Area Schools — windows of various downtown locations.

Penn-Brad Historical Well and Museum at Custer City mecca for tourists

Two pictures of Penn-Bradford Historical Oil Well and Tool House Museum appear on Page 12A of this edition.

Not one, but two of the area's major industries in years past are recognized by the Penn-Brad Historical Oil Well and its Tool House Museum located on U.S. Route 219 South, between Custer City and Dugonia.

Standing proud its full 72 feet height, the old-style natural wood derrick cuts the skyline above the derrick floor, the bell hall, the engine house, and the newly-opened tool house, a memorial to both the oil and the lumber found here in the era 1871.

Equipment in the standard rig set-up is typical of that found throughout Bradford's oil field in its hey-day of the late 1800s, according to Penn-Brad Board Chairman E. James Bryner.

The Buffalo four-cylinder gas engine, for example, was used as a drilling engine by Fred Dittman, a tool foreman for Kendall Refining Co., for many years. It is still functional today, Bryner said, on either natural gas or gasoline.

All of the mud sills and timbers used for the rig were hand hewn by Carl (Red) Seagren and his brother, Art, the last of the old time rig builders to "run a rig," Mr. Bryner said.

The 24 ft. by 60 ft. tool house museum complex is a true one to both oil and lumber. Built of rough lumber saved by Oliver M. (Bucky) Leach at Cyclone, the building stands on oak stringers on supports of 6 1/2 in. casing, a common sized pipe used in drilling an oil well, and sucker rods.

One inch boards of virgin white pine were used for sheathing the building and three inch wide battens of pine were used to strip the exterior. Wooden shingles form the roof and the interior of the building has been left with the rough studding and rafters exposed in keeping with the early custom.

Lloyd Heller, long-time standard rig driller, contractor and general carpenter, was in charge of the museum's construction. Assisting him were Al Lloyd, Clarence Wright and Bill Wagner.

Some of the pine sheathing boards measure 24 inches in width, and were donated by Quaker State Oil Refining Corp. from the Slinger, near at Red Rock, Mr. Bryner said.

Oak trees for stringers, mud sills, etc., were donated by Kendall Refining Co. and The Kinley Oil and Gas Co. of Oilman, N.Y. from the Knapp Creek area. Kendall Refining donated the pine for battens from their Guernsey lease.

James S. Giles is the curator of the museum which will house all types of oil field production equipment as well as regional antiques. Related souvenirs will also be available there.

The museum and rig area is now welcoming visitors. There are on site the "Lay Bench" and dream of yesterday, and see such oil field commodities as bull wheels, the bailer, the pitman, the crown block, the gin pole and yellow dogs.

You don't know what those terms mean? Just ask any old-timer "oil field bums" or better yet, visit the museum and examine them yourself. They're all there.

Square dancing Friday

Bradford and the area in recent years have enjoyed renewed interest in square dancing — most appropriate for note during the Bradford Oil Centennial Days.

In the spirit of the occasion, the three Square Dance Clubs here have scheduled a gala square-dancing party for Friday, beginning at 8 p.m. in the parking lot of Bradford National Bank on Main St.



HAPPY CENTENNIAL

from Everyone at **POPIEL TRUCKING**

22 Marrow Ave.
Bradford, Pa.



FAMILIAR SIGHTS in earlier days were power houses, lines from which operated wells in a circle around the central power house. This aerial view by Don Tanner shows two former power houses then in operation on a South Penn Oil Co. (now Pennsoil United Inc.) at Irish-town, Lafayette Township.

Otto Koch Sr. leading oil figure here

One of the men closely associated with the Bradford Oil Field for many years was the late Otto Koch Sr., who rose to become head of the Kendall Refining Co., now associated with Wilco Chemical Corp.

The company that Mr. Koch headed for so many years was then actually only 10 years after the Job Moses Well of 1871. When the company published a special publication on its 50th anniversary in 1928, this caption appeared under the name of Mr. Koch: "Otto Koch ... his vision gave wings to Kendall Progress."

High School Band Plays at Veterans Sq.

The Bradford Oil Centennial was scheduled to get started on a musical note Monday evening with a concert in Veterans Square by the Bradford Area High School Band.

Scheduled highlight of the occasion was to be the announcement of the young lady wearing two crowns — Miss Bradford Oil Centennial and Miss Bradford Area United Fund and two runners-up.

The publication recalled the San Francisco fire of 1906 and another fire of the same year that destroyed the entire Kendall Refinery, except for the brick-constructed wax plant built only the year before.

Mr. Koch, who was to become secretary-treasurer and general manager of the company that same year, walked through the ruins, his eyes not on the blasted remains but on the brick building still standing.

"We shall rebuild," he said, "using only brick, concrete and steel."

Mr. Koch was a man of vision and his dream of a fully integrated company — with producing properties, pipe lines, refinery, gasoline marketing outlets and a national marketing group for branded lubricants — was on its way to realization.

He ordered an acceleration in laying pipe lines to producing properties until there was a system of 125 miles in these area hills and valleys. In 1921, after waterflooding of oil sands was approved, secondary recovery upped annual production and Mr. Koch looked ahead to greater sales and expanded marketing.

In 1928, after two years of planning, Kendall launched a program of national distribution with advertisements in the Saturday Evening Post. At the same time, Mr. Koch and his company introduced the 2,000 mile oil.

Otto Koch was one of Bradford's and the Bradford Oil Field's most dynamic leaders. Otto Koch Sr. died Oct. 12, 1949.

Mighty Watson Shows will celebrate Friday at Valley Hunt Club

In festive spirit befitting the Centennial occasion, a long established Bradford area group, the Mighty Watson Shows, will have a celebration at the Valley Hunt Club on Friday, starting at 4 p.m.

Every year, the Mighty Watson Shows is led by an "active manager." This year, F.W. Fesenmyer, president of Minard Run Oil Co. and president of the Bradford District Producers Association during its silver anniversary in 1956, holds the post.

IT IS A PLEASURE
TO BE A PART OF
THE OIL INDUSTRY
WILLARD M. CLINE
OIL PRODUCER
16 E. MAIN ST. BRADFORD

100 YEARS AGO...

Oil was discovered in
The Bradford Field!

108 YEARS AGO...

We were helping people in
McKean County with our banking facilities!

We were founded in 1863 and ever since that first day of Banking way back then we've been proud of McKean County... its people, and the industries we serve.

We are particularly proud now to be a part of and Congratulate the great Bradford Centennial 1871-1971.



"The Pioneer Bank of McKean County"
HAMLIN BANK & TRUST CO.

KANE SMETHPORT MT. JEWETT

The Castle

RESTAURANT
AND CASTLE INN MOTEL
N.Y.S. Rt. 17 — 1 Mile West of Olean, N.Y.

One of the Nation's
Twenty
Leading Restaurants

Acclaims the Great
Bradford Oil Centennial

In celebrating our first
anniversary in Bradford,
we're happy to have
arrived in time to celebrate
Bradford's Centennial Year
in the Oil business.



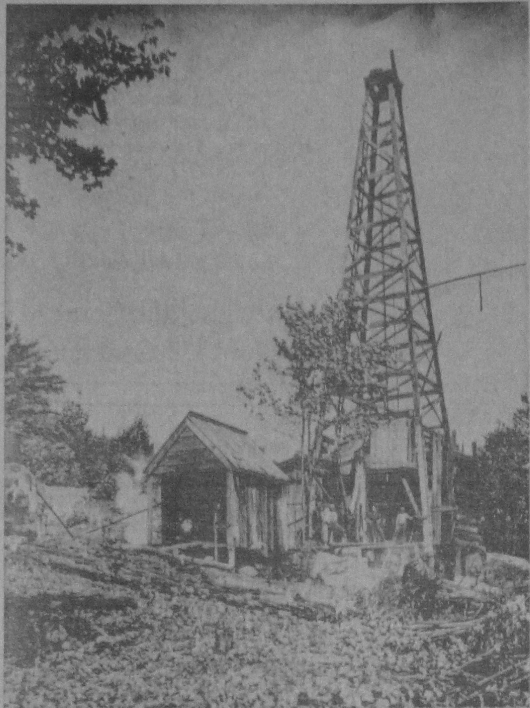
We wish you
many more
years of success
and progress

Michele's
"FINE LADIES' APPAREL"

(FORMERLY THE JOHNSTON STORE)

51 Main Street Bradford, Pa.





REMEMBRANCES of earlier days in the exciting history of the Bradford Oil Field, now observing its centennial year, are captured in this photograph from the Mrs. E.J. Hyatt collection of priceless photos of the early days of oil. This hillside operation must have been a sight to behold for a moment while the workmen standing near the floor of the derrick, stopped to have their pictures taken for history. Notice the partial view of the portable boiler at the extreme left.

Carnegie Public Library has special collection of books on oil and gas

The Carnegie Public Library of Bradford has a special collection of books on the oil and gas industry, consisting of about 800 volumes.

The collection, housed in the periodical room, also includes

bound volumes of the Producers Monthly, from 1939 through 1959.

Prior to 1941, the number of books on oil was small. After the death of J. Clifford Martin in a nitroglycerin explosion, the

Bradford District Pennsylvania Oil Producers Association established a memorial fund in his name.

The Martin Fund was started for the purchase of technical, historical and other types of oil books, as Mr. Martin had helped to build the present oil collection and had been secretary of the association.

The late G.G. Bauer, long associated with the Bradford District group and founding editor of Producers Monthly, said of the Martin collection:

"Its continuation in his honor will help in some small measure to acknowledge his grand contribution to our industry."

Several hundred dollars given as memorials were used to begin the expansion of the collection, and the memorial fund is still used for adding more books. A special book plate with a picture of an oil rig and Mr. Martin's name is placed in the front of each volume.

A few of the interesting books include: "Bradford Oil Exchange," published in 1864 and containing the charter, by-laws, conference rules and list of members, beginning with 1878. President at that time was the late C.L. Wheeler. The book lists all the original stockholders, many of them familiar names in Bradford history.

The daily transactions are given in the number of barrels of oil traded.

"The Oil Well Driller," by Charles A. Whiteshot, published in 1948, contains many pictures of Bradford during the height of the oil excitement. John McLaughlin's "Sketches in Crude Oil," published in 1886, is another valuable source of the early history of the entire Pennsylvania oil field known at that time.

"The Early Days of Oil" by Dr. Paul Giddens, published in 1948, is a good pictorial history of the industry, with hundreds of old photos. Of interest to many Bradfordians is "Go Devil," written by Mrs. T.E. Eysen of Redding Road in 1948. It is a novel of the Pennsylvania oil boom, for which the author did research for a decade.

She stated recently that the book went into several printings, and then into a paperback edition, but is now out of print. She used the Dresser home on Jackson Avenue and old local newspapers for much of her background material.

Ida Tardella's "History of the Standard Oil Co.," published in 1901, according to Mrs. Eysen, furnished her with much information about the disputes between the Rockefeller interests and local oil producers.

BEGAN AS TEACHER
Sen. Lewis Emery Jr., one of the field's best known leaders, was one of the organizers of the Pure Oil Co. and the U.S. Pipe Line Co. He first was a teacher in Milldale, Mich.

Statues of St. Rocco are displayed in St. Bernard Church and in Our Mother of Perpetual Help Church, Lewis Run.

Oil refined 117 years ago marketed as medicine

The 117th year of petroleum refining in America recalls that Samuel M. Kier turned out that first illuminating "carbon oil" from his one-barrel still at Seventh Ave. and Grant St. in Pittsburgh about 1854. Mr. Kier was born in Indiana County, near Pittsburgh on Sept. 19, 1813. After completing grammar school, he moved to Pittsburgh and went to work for a forwarding merchant, finally becoming a partner in the business, Hewitt & Kier. The firm operated a system of canal boats along the Pennsylvania Canal.

He went broke in the panic of 1837. His credit was good and he quickly returned to the transportation business, being joined as partners by B.F. Jones, and later founded the Jones Laughlin Steel Corp., and James Buchanan, who soon became the 15th president of the United States.

Competition from eastern railroads caused him to close out the canal boat business in 1854. Kier as early as 1839 had been dabbling in the oil business, drilling salt wells with his father near Tarentum. Petroleum was produced with the brine and was a nuisance, until an accidental fire on the old canal showed it could be used for fuel.

Mr. Kier's restless imagination found the first commercial use for petroleum, however, as a medicine. He put it in half pint bottles labeled "Kier's Petroleum or Rock Oil," selling for 50 cents. Traveling medicine show barkers offered the product as a cure for rheumatism, gores and neuralgia.

"It is efficacious," they claimed, "against innumerable disorders and ailments, can be used as a liniment for aches, sprains and bruises, and is a marvelous cure-all for man and beast."

Mr. Kier wondered how to develop much larger markets for the increasing supplies of petroleum from the brine wells. He took his problem to J.G. Booth, a Philadelphia chemist. Booth suggested that a good illuminant could be produced by distillation of the crude oil. Booth prepared a plan for a new-barrel still which Kier set up in a one-story building at Seventh Ave. and Grant St., the first oil refinery in America.

A fire and explosion nearly wiped him out and at the invita-

Fireworks Show Revives History

Fireworks were scheduled to rise above Bradford last evening in a renewed observance of St. Rocco's Day. The saint, popular particularly with the Italian community, has his feast day observed on Aug. 16 and was honored annually for many years with a fireworks display atop Mount Raub. The display also honored the Feast of the Assumption of Aug. Band music was also featured.

The late Michael Rich was one of the leaders of the annual event. This year, the event was chaired by Grandtman Walter R. Peoria, with John W. Bryner, Sr. responsible for the fireworks display.

The name of Rocco has been a popular one for many Bradfordians including Rocco Rich, Michael Rich's son, and Rocco Tito, who once operated a truck business here; then went into radio here, Olean, N.Y., and Erie, before joining the Voice of America in World War II, beaming broadcasts via short wave to Italy. For many years, Mr. Tito was commercial manager of the NBC Radio Network weekend program, "Monitor."

Statues of St. Rocco are displayed in St. Bernard Church and in Our Mother of Perpetual Help Church, Lewis Run.

Antiques Show and Sale open today

What is meant by "antique?" Webster defines it as "old, of olden times, old as respects the present age, of a bygone style or era, among the oldest of its class, anything made at a much earlier period than the present."

Probably all these definitions will apply to some of the displays of the dealers who will fill the Pitt Emery Engineering Building at 45-47 Main St. from 11 a.m. to 10 p.m. today and from 11 a.m. to 6 p.m. Wednesday, at the tenth Annual Bradford Antiques Show and Sale.

The show is being sponsored by the Bradford Landmark Society and the proceeds for the work of the historically-minded group.

Dealers from three states will be present, and antique lovers will have a wide choice of glassware, china, silver, furni-

ture, pictures and all the other items that are now being sought in a craze that has swept the country in a constant succession of antique shows, auctions and "flea markets."

Anything no longer made is now considered as "collectible" and there are hundreds of classes of such items, many of them not too old.

Many of them are articles which in grandmother's day were in regular use but because of their scarcity now understandably cause excitement as their worth and rareness increase.

Women of the First United Presbyterian Church will serve luncheon and snacks both days.

Mrs. T.L. McDowell is general chairman, and Mrs. Robert B. Bromley, co-chairman with Charles A. Day as advisor. Other committee chairmen are:

patron tickets, Mrs. Thomas Ordway and Mrs. Donald W. Mackie; general admission, Mrs. Howard D. Yates; exhibitors and finance, Mrs. Edward Walker; hospitality, Mrs. Raymond Schweizer; facilities, Mr. and Mrs. Allan Jones; decorating, Mrs. F. Wayne Fessenden; poster distribution, Mrs. Rich and McDowell; craft displays, Mrs. Robert Bromley; and publicity, Miss Margaret Tanner.

EARLY PRODUCER
R.J. Straight, major Bradford oil producer beginning in 1876, started in the business in Titusville. Later, he was in charge of the Noble well in that area, largest of its time. He was the father of H.R. Straight of Empire Oil & Refining Co.

CONGRATULATIONS

TO THE OIL INDUSTRY
ON 100 YRS. OF PROGRESS
WE HAVE BEEN HAPPY
TO SERVE THEM FOR THE
PAST 25 YEARS.

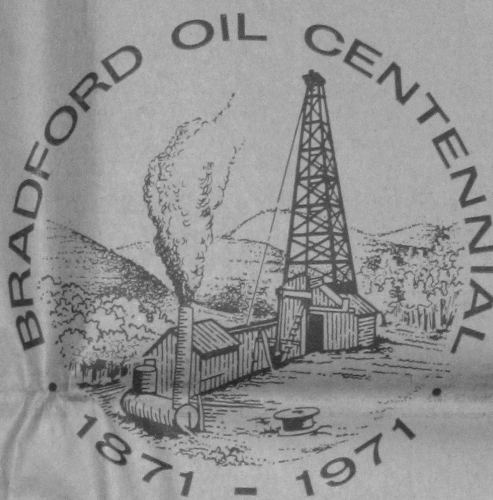
WASSON MOTOR SALES

RIXFORD, PA.

JEEP

INTERNATIONAL

Let's All CELEBRATE



A Great Time Is Planned For All...

We take off our hats to the Oil Producers and others in the Oil Industry on the 100th Anniversary of the Discovery of Oil in the Famous Bradford Field.

We, too, are celebrating our 50th Year in selling and serving the Oil and Gas Fields.

LLOYD-SMITH COMPANY

INC.

Store & Office 18 S. Kendall Avenue

Bradford, Pa.

Yellow Dog is symbol of early days of crude oil

The Yellow Dog is a symbol of the early day oil fields, and along with furnishing light for the early cable tool drilling rigs, it has had several other purposes.

The two spouts of the Yellow Dog were stuffed with candle wicking, and the body or reservoir filled with crude oil, kerosene, or later on, fuel oil. When lighted, three or four Yellow Dogs produced enough light for

the driller and tool dresser to work by.

The job of keeping the Yellow Dogs burning brightly fell upon the tool dresser. Periodically throughout the night he would have to brush off the accumulated soot deposits; trim the wicking and refill them with oil. He always had a pail of water close at hand as usually the Yellow Dogs would boil over and a hot fire would soon be going on the derrick floor.

One of the disadvantages of the Yellow Dog, and a costly one both to the contractor and producer was that when "drilling in" (when the oil or gas sand was reached), drilling operations were confined to daylight. So, drilling in a well was a daylight job in the days of the old Yellow Dog.

In the gas fields, the Yellow Dogs went out of use as light with the invention of the Moon Steam Generator. But the old Yellow Dog stayed on as a bail-bulb, and was also used for a weight on the wrench poles of the standard rigs.

Depth of sand in area led to some dry wells

The early wells drilled here in the middle-80s which stopped short of the Bradford Sand, were thus drilled, according to Charles R. Fetyke's "Bradford Oil Field," because of the mistaken notion of the operators that oil would be found in oil sands of about the same depth along Oil Creek in Venango County.

Hence, the failures resulted because the Venango oil sand group crops out in the Bradford District and the Bradford Sands occur much lower in the geologic column.

Dr. Fetyke says the producing sand is still called the Third sand here as a result of the early erroneous correlation with the Third sand of the Venango district.

NPOPA formed to advance oil in Bradford area

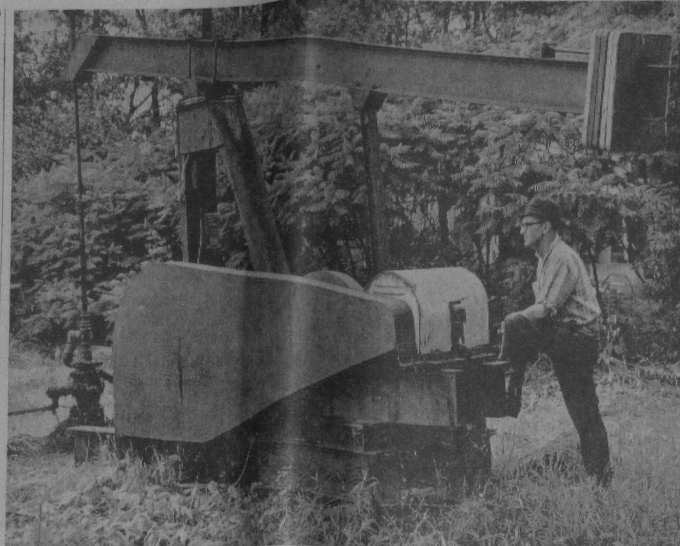
Predecessor of the Bradford District Pennsylvania Oil Producers Association was the Northwestern Pennsylvania Oil Producers Association, formed in 1918 to advance the cause of the Bradford Field.

First officers were: F.D. Wood, president; Lewis Emery Jr., vice president; Hugh Grant, second vice president; George Bovard, treasurer, and E.S. Weber, secretary.

Formation of the group is considered by many as the beginning of the scientific development of the Bradford Field.

CENTENNIAL NEARS

The Union Pipe Line Co. pumped its first oil from the Bradford field to Olean, N.Y. on Nov. 23, 1875.



OLDEST PRODUCER — What is believed to be the oldest producing oil well in the Bradford Field is owned by James Bauer, 720 E. Main St. The well, drilled on John F. Melvin's property in September of 1875, still produces about half-a-barrel a day. The lease is only a few hundred feet behind the Witco-Kendall office building. Mr. Bauer cleaned the well out in 1953 and had it electrologged by Birdwell. The original casing is still in the well. The record shows that 237 feet of drive pipe was driven and 320 feet of 5 1/2-inch casing was set. The Third Sand was topped at 1005 feet and at the bottom at 1042 feet. No pocket was drilled; so, the total depth is 1042.

Discovery wells drilled

Oilmen with special background in the Bradford Field believe that there were probably five or six early wells drilled far enough apart geographically within the field that

Storm sends lightning that destroyed rig

The Bradford Era of Sept. 27, 1882 carried this item:

On Wednesday evening last during the storm, the rig at Messrs. Kearns and Vosberg's No. 1, Quintuple tract, was struck by lightning and destroyed by fire. Fortunately they had run the oil from the tank a few days previous or more serious loss might have been sustained to adjacent property.

they could be called "discovery wells," even though — as it turned out — they were all a part of what was to be defined as the Bradford Oil Field.

One drilled by the late Sen. Lewis Emery Jr. in Tread Hollow was started in November of 1875 and was completed the following January.

It is on the Tibbitts lease less than a half-mile from the Minard Run Co. office in South Bradford. The lease is still producing commercial quantities of Bradford Pennsylvania Crude under waterflood.

The area surrounding this was being extensively drilled by 1876-1877. While the date of the Job Moses Well is 1877, the "real oil excitement" and production began in earnest in the mid-late 1870s, some oil field historians point out.

STARTER ON FARM

Wesley Chambers, who with Tidoute where he transported the famed Capt. J.T. Jones started the Bradford Oil Co., 1860-61, worked on the home farm and taught school before going to Boost Bradford Crude.

WE ARE HAPPY TO BE PART OF THE BRADFORD OIL INDUSTRY ANNIVERSARY

BRADFORD ASSOCIATES INSURANCE

HOOKER FULTON BLDG. BRADFORD, PA.

Bradford Mall gears for Centennial

Merchants at the Bradford Mall at Foster Brook have banded together to present special Bradford Mall Centennial Sales Days during the regular 10 a.m. to 10 p.m. store hours, Thursday through Saturday.

Store employees, garbed in attire of the early days, will be competing for special awards for their costumes. The Bradford Art Center will have an art show and sale Thursday through Saturday.

There will be demonstrations of "bit dressing" in the Mall parking lot on a continuing schedule from noon until 8 p.m. on the three days.

An oil well will be "shot" 500 feet north of the Mall on Saturday at 2 p.m., followed by the "Grand Old Man of Oil" ceremony for J.B. (Jake) Randall of Duke Center on Saturday at 2:30 p.m. in the Mall parking lot.

DANCING SLATED

Just as there will be square dancing for the Bradford Oil Centennial Friday at 8 p.m., so The Era of Aug. 19, 1901 — just 80 years ago — announced a dance to be held at Foster Brook, with transportation by train for 75 cents.

WE EXTEND OUR SINCERE CONRATULATIONS

TO THE OIL INDUSTRY

ON



CHODROW ELECTRIC CO.
28 MAIN ST.
BRADFORD, PA.

WE HAVE JUST PURCHASED NEW COMFORTABLE, QUALITY SHOES AT THE ASH SHOE STORE SO WE WILL BE ABLE TO TAKE IN THE WEEK-LONG . . .



Aug. 16 — Aug. 22

THE MANAGEMENT AND STAFF OF OUR STORE SALUTES THE BRADFORD OIL INDUSTRY ON 100 YEARS OF GREAT ACHIEVEMENTS!

ASH SHOE CO.

25 MAIN — BRADFORD, PA.



Our Compliments to the Oil Industry On 100 Years of Progress

Hugh A. Grant

BRADFORD

Our business is packaging.

But you could say we're in oil.

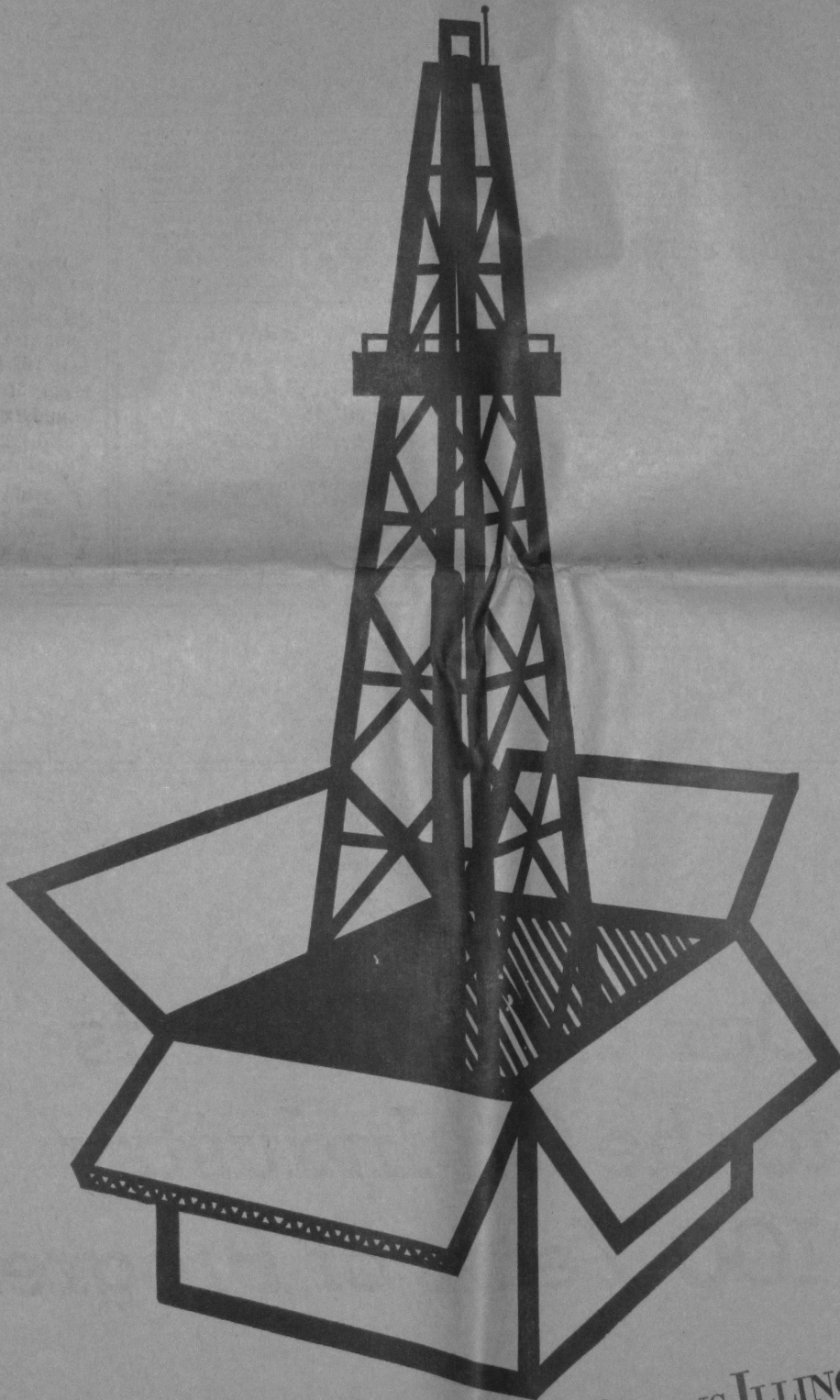
Corrugated shipping containers for motor oil (and for a lot of other things too) are produced at the Owens-Illinois box plant in Bradford. So, while our

specialty is packaging, we're definitely part of the oil industry. Since the discovery of oil in the Bradford field one hundred years ago,

Pennsylvania has earned a world-wide reputation for premium engine oil. Owens-Illinois congratulates the

Pennsylvania oil industry on its 100th anniversary. We're glad to be in oil.

And we're glad to be in Bradford.



OWENS-ILLINOIS
FOREST PRODUCTS CORPORATION
Bradford, Pennsylvania ①

Bradford for many years was secondary oil research center for entire world

By DR. J.N. BRESTON

The Bradford oilfield is not only the birthplace of secondary oil recovery, it was for many years the secondary recovery research center of the world. The research started back in the 1930s to improve on the new-born method for producing oil.

In the 1930s, a co-ordinated research program was initiated by the Bradford District Pennsylvanian Oil Producers Association which was performed at the Pennsylvania State University and other institutions in the Penn Grade area. In 1944, the sponsorship of the research program was assumed by the Pennsylvania Grade Crude Oil Association and expanded by the establishment of a Production Research Laboratory in Bradford.

IN THE EARLY 1940s, World War II was starting to reshape the destinies of many nations. Hitler had plundered Poland, taken France and America had staggered under the blow at Pearl Harbor. Retaliation by the free world called for oil, and more oil, to lubricate the machines of war.

The Pennsylvania oil industry graded itself to meet this challenge. Prior to that, production of Pennsylvania Grade crude oil was on a decline which started in 1937.

The stimulus of patriotic fervor encouraged producers to step up production on existing wells. Despite their best efforts, however, production was again on the decline in 1940. At one of the Penn Grade Association's annual meetings, R. T. Zook, a pioneer proponent of research, indicated that production would be dangerously low by 1952 unless something was done. Since the maintenance of production could not be sustained through new discoveries, the additional oil would have to come from more efficient recovery of the reserves existing in the existing pools. This could only be done by developing improved production methods and techniques.

The Association formed a research committee which designed a program calling for:

1. An effort which would have as its object an immediate increase in production through the use of engineering data and better production practices.
2. A long-range program of fundamental research that would make available additional crude oil by new methods and techniques.
3. Development of a "third crop of oil in existing fields."

ASSOCIATION PRESIDENT

Don Adams, editor of the *Bradford Era*, where the Penn Grade Association would furnish funds that would be matched by additional monies from various contributors to finance the first three-year period of the projected research program.

The Research Laboratory was organized in 1944 under Dr. Richard V. Hughes, the director of production research. It was placed in operation late in 1944 in a building at the corner of Boylston and Davis Sts., by Dr. Rudolph J. Plaster, the laboratory's first director, who came to Bradford from Penn State. Assisting in the initial activities of the local laboratory were Willard E. Johnson from Kent, and Dr. Joseph N. Breston of Penn State, who later became laboratory director when Dr. Plaster left to start the Plaster Well Service Co. Dr. Joseph C. Ireland of Oklahoma A. and M. College came to Bradford to test the usefulness of certain strains of bacteria in oil recovery. He remained only a short time and was succeeded by Dr. J. V. Beck of the University of Idaho.

Field research personnel included Eugene P. Bonker, a Penn State graduate in petroleum engineering, David L. Evans and Robert Neal, from Howard C. Lawton, from Shell Oil Research in California came in as a research associate to investigate the possibilities of silicic acid as a selective plugging

BUSY MOMENT in the old Penn Grade Research Laboratory when it was situated at Boylston and Davis Sts. Don Neil of the Laboratory Staff shows

Dr. J.N. Breston, Willard Johnson and Robert MacFarlane the additional oil recovered from sand core by flooding with high pressure carbon-

agent. This technique later became the primary product of the new laboratory, characterized by the quest for the ideal flood water.

In the course of this research, it was also discovered that dissolved oxygen was a harmful ingredient in flood water and by its removal or avoidance, countless dollars in pipe and well clean-outs could be saved, not considering the beneficial effect of increased and maintained water intake rates and oil production.

Field research at the start was a continuation of tests well the water input profile measuring device developed by Dr. Plaster and Robert McCormick as a joint project by Penn State and the Bradford District Oil Producers Association.

ONE OF THE discoveries coming out of the research on the ideal flood water was the "organic method" of treating flood water for bacteria and corrosion control. Dr. Ireland's research followed by that of Dr. Beck pointed out the harmful significance of bacteria in flood water and the detrimental role they could exert on oil recovery efficiency. It was found by Dr. Breston in his research in corrosion control that very small concentrations of certain organic compounds, high molecular weight amines, would not only protect iron pipe against corrosion and scale formation, but also control bacteria.

This revolutionary concept in water treatment was soon "snapped up" by the water treating service industry and today is the most widely practiced method of water treatment, both fresh and produced waters. This discovery also led to the use of similar organic compounds in controlling corrosion in producing wells.

BEFORE THE END of the first three-year program, the laboratory staff was increased by the addition of Louis Schiffman from New York University, Joseph Saxon and Paul

Sturm from Penn State, Robert MacFarlane, St. Bonaventure University, and technician Robert Neal, Willard Johnson, Carl Hallberg, and Robert Bloomquist. Laboratory staff secretaries included Norma Wallace, Winnie Lloyd and Barbara Lorschbaugh.

Being in the heart of the Bradford oilfield, the laboratory's location offered the most ideal conditions for conducting secondary recovery research. Surrounding it on all sides were thousands of wells of shallow depth and variable sand conditions and, most important, the willing cooperation of the producers and their employees. The active interest and participation of the producers made the Bradford field an immense secondary recovery research laboratory. The headquarters or heart, so to speak, of this research area was the Production Research Laboratory of Bradford Oil executives and research personnel from all over the world were immediately attracted to this "peep-hole in the frontier of science" and made pilgrimages to the laboratory to pick up ideas which they could take back to their laboratories or countries.

1948 SAW A change in the basis of the research program and also an expansion. A new three-year program was launched under the joint sponsorship of the oil industry within the Bradford field region and many nationally known oil companies operating outside of the Penn Grade region. Accordingly, the research budget was nearly tripled and additional projects were undertaken not only in the Bradford based laboratory but also in co-operative research at Penn State, Battelle Institute, the Bureau of Mines, Armour Research Foundation and Ohio State University.

Laboratory experiments illustrated that the clay content of oil sands was responsible for their increased or decreased permeability to brines and acid waters. The role of gas in water flooding was also explored which led to techniques of improving recovery by pre-flooding with gas injection. The flooding pressure gradient and rate of water injection were also studied and led to the discovery that there was a critical velocity beyond which an increase would not exert any significant effect on oil recovery. Experiments also showed there was a geographic direction to the maximum permeability of an oil sandstone. In the Bradford third sand the permeability in the northeast-southwest geographic direction is 25 per cent to 30 per cent less than in the northwest-southeast direction.

This pointed out the desirability of adjusting drilling patterns in the correct geographic orientation. This led to studies by other laboratories all over the country.

EXPERIMENTS in the laboratory and on a lease show of Bradford showed that the use

ANTI-CAR GROUP

About 75 years ago, Pennsylvania formed an anti-automobile society. When a team of horses approached the motorist was expected to pull out of the road and cover his head with a carriage with a canvas or dust cover covered to blend with the landscape.

of certain wetting agents could increase oil recovery as well as improve the water injection rate. These experiments required the use of chemical tracers to follow the progress of the injection water. Such tracers, in addition to chemical dyes, have become standard methods in the industry today.

There also were laboratory and field tests of the role of gas in waterflooding. These included gases such as nitrogen, methane, propane, and carbon dioxide. The experiments with carbon dioxide led to experiments with carbonated water and liquid carbon dioxide injection for the "flood-gate" effect. These were first field tested by Bradley Producing Co. at one of their leases outside of Wells, N.Y. Both laboratory and field tests showed that under certain conditions a very substantial amount of oil could be recovered from flooded oil sand by reflooding with high pressure carbonated water. These pioneering experiments were then taken up by other companies and, in collaboration with the Orco Co., led to numerous carbonated waterfloods throughout the southeast. This method is still being used in some oil pools of the country and also abroad.

Following the revelation of the atomic bomb and radioactive chemistry, a program was undertaken in the Laboratory to test the applicability of radioactive tracers to determine the distribution of the fluids in an oil sand core such as is used in the experiments for improving oil recovery. Radioactive materials produce very penetrating rays that can penetrate the sandstone and be detected by an instrument on the outside. These experiments were transferred to the Penn State group and subsequently spread to most oil company research laboratories of the world.

OTHER PROJECTS in the research program included the use of heat and hot water to increase water intake rate, shaped charges in shooting wells, using bacteria to release oil from oil sands, comparison of core analysis methods, stratigraphic rearrangement of water input rates by selective plugging of input wells, and the injection of engine exhaust gas into oil reservoirs as a secondary or tertiary recovery method. This latter experiment was conducted on a lease of the Thornton Oil Co. outside of Wellsville. Subsequently, the idea was taken up and expanded by major oil companies in oilfields from Texas to Wyoming.

Big Bonuses

McDonald, July 23, 1961 — Barney Ford has leased one-half the Robert Gladden farm, containing 321 acres, located southwest of the town, and paid for it \$3,000. The price of other unleased territory has appreciated at a rapid rate since the advent of the Butler lot well, and the farmers are holding out for stiff bonuses. James Garland has commenced to drill on his No. 1 on the Miller farm and is spudding on Nov. 1 and 3 on the V. Miller farm. The well of the Royal Gas Company on the Ed McDonald farm was shot Saturday and is now doing 75 barrels a day.

Ralph T. Zook was one of Bradford's big boosters

Ralph T. Zook, who, until his death in Seattle, Wash., on Jan. 11, 1961, was one of the Bradford Area's greatest boosters, had the distinction of being the only Bradford field oil man ever to be president of the Independent Petroleum Association of America (I.P.A.A.).

He was also a leader in the waterflooding technique of secondary recovery. He and the late W.J. Sloan formed the firm of Sloan and Zook and were active in oil production.

Mr. Zook was an outstanding example of a Bradford oil man who was a leader both in petroleum and civic affairs. He was an honorary member, past director and president of I.P.A.A., a leader in the Pennsylvania Grade Crude Oil Association and the Bradford District Pennsylvanian Oil Producers Association; a director of the American Oil Institute.

In World War II, he was a member of the production committee for District 1; the National Oil Policy Committee and the Petroleum Industry War Council. He also served as an advisor to Interior Secretary Harold I. Ickes in negotiating the Anglo-American Oil Agreement. Mr. Zook was also a member of the National Petroleum Council.

One of Mr. Zook's greatest enthusiasms was the development and expansion of the Bradford-McKean Airport, now the Bradford Regional Airport. Promotion of the airport and the airport commission, of which he long served as executive vice chairman was one of his greatest interests. He was also a world traveler and developed an outstanding library of pictures that he took on his extensive travels.

L'n'A Dress Shop
CORNER HOLLEY HOTEL
DOWNTOWN BRADFORD

Right this Way
to Celebrate
Oil's Big Centennial!

A GREAT WEEK COMING — FULL OF EXCITEMENT — JUST AS THE DISCOVERY OF OIL WAS IN THE BRADFORD FIELD.

COMPLIMENTS

TO THE
BRADFORD OIL INDUSTRY

ON YOUR 100TH BIRTHDAY!

• JACK & JILL SHOP •

117 MAIN — BRADFORD

LIKE THE OIL BUSINESS... THE MUSIC OF TODAY HAS COME A LONG WAY!

WE WISH TO CONGRATULATE ALL IN THE BRADFORD OIL INDUSTRY



STUDLEY'S MUSIC HOUSE
Corner Mechanic and W. Washington
Phone 348-3000

STARTING AUG. 16 and including AUG. 22 A GREAT SCHEDULE OF EVENTS TO CELEBRATE THIS GREAT CENTENNIAL HAS BEEN PLANNED SO BE SURE TO VISIT BRADFORD!

May the next
100 Years
be as
Successful--

MINARD RUN OIL CO.
BRADFORD, PA.



ORIGINAL HASKELL WELL, according to C.M. Baker drilled in 1875 and now on the Baker lease, Smethport. Mr. Baker says it is referred to as the Haskell sand well, below the Bradford sand. The well is 1800 feet deep and is still producing. Mr. Baker says it is the oldest in the area. (Era photo by Stewart)

Opinions differ on height of standard drilling rig in Bradford oil field

One of the most-discussed questions in the days prior to the current observance of the Bradford Oil Centennial related to specifications of the standard rig, especially its height. Some people took the position the height was 74, with the base

20 by 20; others held out for 74 feet high and some claimed the base was 24 by 24. Still others spoke of 84 feet as the height.

Victor H. Samuelson's treasure 1884 illustrated catalogue of Oil Well Supply Co. was specific in describing the base as 20 feet square and the height 72 feet.

But it appears that over the years, there were differences, well summed up by Gerald Reck of 129 E. Main St., who wrote "Round the Square, in part:

"Having spent more than half a century in the oil and drilling business, I have come to the conclusion that there was no standard for the 'Standard Rig.' It was an expression used more to denote a rig that had four legs. They have been from 65 to 84 feet, measured from the framing sills to the watertable.

"On the watertable rests the Crown Block with a large shieve for the drilling cable and a smaller one for the sand line or bailer line. Some rigs that had to carry a long string of pipe had another shieve for a call line.

"The length of the rig was determined mostly by what kind of work that the rig was intended for and how much pipe was to be used."

Mr. Reck recalls standard rigs with 15-foot walking beams and framing sills called "bob-tailed rigs." He also mentions

rigs with 30-foot beam and framing sills. There were rigs with 28-foot beams and 24-foot framing sills where a calf reel was used.

As Mr. Reck says:

"The contractors generally had the rigs built to suit their requirements in the early days. There was no real standard — only what was needed for the work. Only the longer the walking beam, the nearer the center of the cable would run."

Students art work on display at downtown windows

Interesting works of art by students in Bradford Area Schools — Bradford High, School St. Junior High and Floyd C. Fretz Junior High are to be prominently displayed this week in various downtown window locations, in conjunction with the Bradford Oil Centennial.

The local schools have an extensive program of art education and the works of local young people will attest to the success of the art curriculum.

STARTED AS PUMPER

Thomas Chestnut, president of Chestnut & Smith Corp., for many years one of the world's largest makers of casinghead gasoline, started as a pumper in the Bradford field in the 1870's.

HAPPY BIRTHDAY!

HAHN SCHAFFNER
INC.

BOLIVAR
NEW YORK

BEGAN AS TEACHER
W.R. (Riley) Weaver, partner of Lewis Emery Jr. and L.E. Hamner, oil producers and hardware dealers, started as a school teacher. He joined Mr. Emery in Titusville in 1870 and became a partner later.

First Bradford producer drilled at Foster Brook

The Bradford oil field was first tapped in 1871 when a three-man company drilled a producing well near Foster Brook.

Various known as the Job Moses well and the Hinchey farm well, the Bradford area's first producer was considered a failure because its flow was

a disappointing 10 barrels a day.

However, within five years of the Job Moses attempt, Bradford was on its way to becoming a boom town. Oil production in the Bradford field in that year of beginnings, 1871, amounted to 1,000 barrels. The production in 1876 was 382,000 barrels. The big spurt came after Bradford was aroused to oil consciousness in 1874, when a 70-barrel well came in in Buchanan Hollow.

The pioneer well was drilled in November of 1871 by James E. Butts, C. H. Foster and Job Moses, as the Foster Oil Co. The first producer was located on a hilly, meadow-like site on Bradford Mall.

AVIATION AND OIL
Aviation entered the oil business in the 1920s when a few companies bought planes as an advertising feature.

the former Patrick Hinchey homestead, near Foster Brook. A then record depth of 1,300 feet was reached, the driller going down four times as far as required in the Venango field experiment.

Memorial visit of well

A brief ceremonial at the historic Job Moses 1871 well site on Seward Ave. Ext. will be held Saturday at 3 p.m., following the 2:30 p.m. "Grand Old Man of Oil" observance at Bradford Mall.

J.P. Jones, chairman of the event and president of the Pennsylvania Grade Crude Oil Association, will join S.W. Gregg Jr., Centennial chairman and president of the Bradford District Pennsylvania Oil Producers Association and J.B. (Jake) Randall of Duke Center, the honoree, in a brief memorial visit to the well site.

SHORT LIFE

The Era of July 22, 1891, reported that the Hemlock Producers Association organized here the winter before "has passed away in a natural death. There were no obsequies."

EARLY PIPE LINES

Early pipe lines in this district included the Melissa County Pipe Line, Olsen Petroleum Line, Empire Pipe Line and American Transfer Pipe Line.

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Bolivar, New York
Rodney, Ontario
New Harmony, Indiana
Beattyville, Ky.

Owensboro, Kentucky
Mt. Carmel, Illinois
Robinson, Illinois
Casey, Illinois
Paintsville, Kentucky
Tulsa, Oklahoma

**"We Will Do It
Again!"**

Antique Auto Show to be at Bradford National lot

As part of the Bradford Oil Centennial, the Bradford Landmark Society will sponsor an Antique Auto Show on Saturday at the Bradford National Bank parking lot, Main Street. Chairing this event is Robert F. Sikes, Jr., for honorary chairman for the late W.W. Robertson, who died shortly after he had the show well under way.

Registration will be until 1 p.m. at which time judging will commence. This year's judging team will be headed by Hilson "Woody" Woodruff, assisted by Patrick J. Costello.

There will be 11 classes, three pieces being awarded to each. The eleven classes are: Late production 1914-19, early production 1900-1913, Model T Ford brass, Model T Ford steel, special interest 1914-19, Model A Ford open, Model A Ford closed, classic, antique, commercial, and antique brass. Also, a best of show award will be given through the courtesy of Alci. This will be a large silver bowl engraved with recipient's name and class.

Bradford landmarks has tied the theme of oil into the auto show by using miniature yellow dogs as awards. A ribbon will designate the place. These should be cherished as a new and different trophy of the Antique Auto Patch — another first for Bradford.

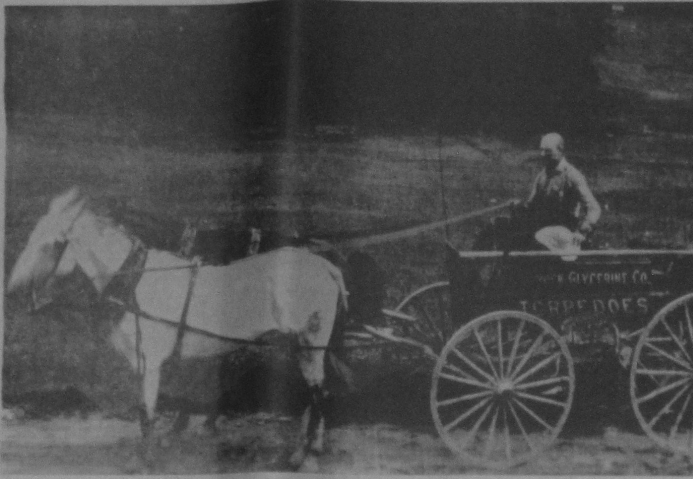
In the day before the electric light, these little engines were used to operate water pumps, saws, machine shop equipment, crumple separators, and even churns. Of course they played an important role in the oil patch, too, pumping water to the drilling rigs for drilling operations, and pumping oil through the pipe lines.

Most every machinery manufacturing company turned out these little engines ranging from 1 to 10 horsepower, depending on its purpose. Some were cooled with water while others used air. Some of the early engines used a hot tube for ignition, some used igniters, and most of the later ones were equipped with magneto. These promise to be a real treat for the mechanically minded.

Cars will begin arriving about 4 a.m., and the area will be open from then until 4 p.m. The public is invited.

SHERIFF'S SALE
The Era on Oct. 4, 1902, announced that the property of the Petroleum Age had been sold the day before by the sheriff to Matthews, Northrup & Co. of Buffalo who held claims for printing.

A continuous amount of natural seepage known to occur in the area could have caused the marine life to develop a tolerance for oil, thereby reducing the effect of the spill.



EARLY SHOOTING WAGON — The legend on the wagon reads: "Rock Glycerine Co. Torpedoes." and the two-horse drawn wagon is itself something to behold. Even the horses were colorful — one, white; the other, dark. The driver, who holds the reins with a look of concentration on his face, is unidentified. Note the large hat — probably a great protection from the heat of steamy summer days. Many a glycerine wagon and later truck have traveled these hills and valleys in the past 100 years of Bradford Pennsylvania Grade Crude Oil. Photo courtesy, Producers Monthly files.

Producers Monthly, petroleum technical journal, served oilmen over wide area for over 30 years

Producers Monthly, a technical journal which specialized in stories about secondary recovery, performed a useful service for oilmen for over 30 years.

It was founded in November of 1908, while Cornell Pined Jr. was Bradford District president, when unanimous approval was given to a motion for its establishment by the late H.J. (Doc) Waller, seconded by C.E. Streeter.

The attractive magazine replaced the mimeographed bulletin published by the association in its earlier years. The late G. Gerald Bauer, association secretary, was founding editor and held the post until his unexpected death in the late 1930s.

It was operated then by private interests and continued to enjoy wide circulation and produce articles of interest for many years, until conclusion of publication, a few years ago.

And that is how Aiken got his name

Friend Martin Aiken landed in Bradford in 1878 and opened the Aiken district in the Bradford field. The community of Aiken, which became famous in the annals of oil, is named after him. Later he operated successfully in the most westerly fields including the Mid-Continent.

Circulation at one time was 3,500 or more with a magazine that went into every oil field in this country where secondary recovery methods were being used and into 11 other countries, ranging from Algeria to Venezuela.

Producers, engineers, manufacturers and oil supply and service companies supported the publication for many, many years.

Its reputation was worldwide for the technical and practical data published on secondary recovery by waterflooding and air gas injection.

In 1968, publication was taken over by Producers Publishing Co., a local business group that continued to publish the magazine until January of 1969 when it was phased out because of a decline in oil production and reduced advertising support. Until the very last issue, Producers Monthly upheld its reputation for high quality technical and practical information.

Well flows at rate of 720 barrels — but it is only water
July 30, 1891

Talk about big wells, there is a well just drilled in the village of Angelica, up in Allegany County, which at a depth of 118 feet is flowing at the rate of 720 barrels daily. But, it is plain, every day water, so don't all rush to get leases in the new field.

Custer City had well in 1865

The year the Civil War ended — in 1865 — F.E. Dean and his brothers drilled a well to 900 feet in the Sheppard farm (was this where Shep Run got its name?), near today's Custer City. Drilling stopped about 230 feet above the Bradford Sand.

Roman writers called oil deposits Bitumen

The word naphtha comes from the Russian, nafta, to exude. Russians call all petroleum naphtha.

The Roman writer Strabo and Pliny in the time of Christ, called burning surface oil deposits, bitumen and liquid candles.

During the first half of the nineteenth century, salt wells were often abandoned when evil-smelling petroleum appeared.

SOUVENIR SPOON
Just as souvenirs of the Bradford Oil Centennial are available, so they were in August of 1891 when The Era announced that Stewart, the jeweler "has received the souvenir spoon for the oil country."

100 YEARS OF THE FINEST



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100 YEARS OF PROGRESS

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BRADFORD, PA.

Quaker State people are working for a better community.

QUAKER STATE

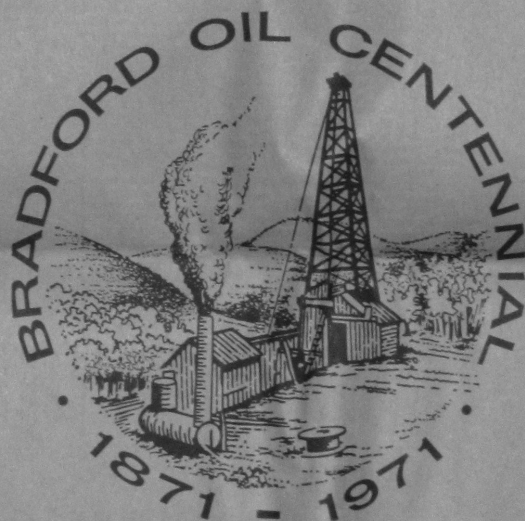
From the board chairman to the maintenance employees, Quaker State people are working for a better community. They are active participants in civic, religious and fraternal organizations which are making positive contributions to the economic and social welfare of their localities.

For them, participating in community affairs is a form of adult education . . . providing personal benefits from learning how to do new things, from working with others in a spirit of cooperation, and from contributing their own ideas, skills and experience. They are competent, dedicated people who have the desire to help set community goals, to recognize problems and to work toward their solutions.

Unselfishly devoting their time, energy and money, they realize that every individual has a stake in the community in which he lives and works. This is one of the primary reasons they promptly meet the challenges facing them as individuals, parents, taxpayers and citizens. Quaker State people are involved. They are your friends and neighbors.

FIRST...

- ★ **The Bradford Oil Field** Producers and oil men are known the world over for their many noteworthy "Firsts."
- ★ **Bradford Crude Oil** Is recognized everywhere for being "First in Quality"...



We are particularly happy to add our
Congratulations to all on this im-
portant Centennial Celebration...

And,

Here's to another 100 years to
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World's Finest Cutlery.

CASE
XX

W. R. CASE & SONS CUTLERY CO.

Manufacturers of Quality Cutlery

BRADFORD, PA.



THE HEAD OF MAIN ST. before the turn of the century. Note the trolley en route down street and the horse pulled vehicles. In the background is Mount Raub, scene of the fireworks displays on St. Rocco's Day.

WESB to air long schedule of Centennial events in Bradford

WESB, Bradford, which will mark a quarter of a century of service to the Greater Bradford Area and beyond next April, will feature the Bradford Oil Centennial in many ways during the week.

In addition to the special "thumbtack" interviews with Bradford Area oilmen from all aspects of the business, WESB will, of course, concentrate

heavily on the various facets of the week's program during regularly-scheduled newscasts.

THE BRADFORD station will also do several live broadcasts of various special events during the Centennial.

Last night, the station was scheduled to broadcast the concert by Bradford Area High School Band in Veterans Square and the announcement and crowning of Miss Bradford Oil Centennial and also Miss Bradford Area United Fund.

Friday, the WESB remote equipment will be in Custer City for the official dedication of the

Penn-Bradford Historical Well and Museum, initiated by the Bradford District Pennsylvania Oil Producers Association and assisted by many Bradford oil boosters, with E. James Bryner

TARPOT RUNAWAY

The Era of June 3, 1932, reported a lively runaway on Tarpot's Railroad St. "The vehicle capsize and the wagon box covered a child who, when rescued, was nearly drowned in a mudhole. The Council burials' attention is called to look after repairing our streets."

in charge. Dedication ceremonies will be broadcast, starting at 2 p.m.

FOR THE FIRST time in the history of the station, the actual shooting of an oil well will be aired Saturday at 2 p.m. a short distance north of the Bradford Mall. WESB broadcast will have "shooting experts" to assist in the word picture of the developments as they occur.

Immediately following at approximately 2:30 p.m. Saturday, in the Bradford Mall parking lot, WESB plans air the brief ceremony in which J.B.

(Jake) Randall of Duke Center will be officially designated as the "Grand Old Man of Oil."

CLIMAX of the day's special broadcast activities will be an on-the-spot description of the massive Bradford Oil Centennial Parade, a function of the Bradford Jaycees with support from the Desk & Derrick Club. The parade is scheduled to get underway at 4 p.m. Some area television stations have also given assurance that their cameras will be in Bradford at times during the Bradford Oil Centennial to prepare "film clips" for use on newscasts.

Bradford Club sets open house for this Sunday

The Bradford Club, in its new headquarters at 32 3/4 Bevelton St. will hold open house for the general public Sunday from noon to 8 p.m.

Over the years, many of the members have been active in the Pennsylvania oil industry, and walls of rooms and corridors are lined with historic pictures and drawings in relation to the early days of Bradford oil. Also on display are many maps, including those of old railroads serving the region.

Reception is held for show patrons

A reception was held last night in Emery Engineering Center, University of Pittsburgh at Bradford for patrons of the Annual Antiques Show, being held in that location from 11 a.m. to 10 p.m. today and tomorrow from 11 a.m. to 6 p.m.

Mrs. Dorothy McDowell is chairman of the annual show, proceeds of which will be used by the Bradford Landmark Society.

Receipts will go toward the Landmark Society's plans to create an oil village here as a permanent memento of "the early days of oil" here.

Our Best Wishes
on the
100th ANNIVERSARY
OF
BRADFORD OIL
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WE SALUTE BRADFORD OIL FIELDS



We Salute the Oil Industry On This Great Centennial and Upon the World-Wide Attention It Has Focused Upon Our Area.

FIRST NATIONAL BANK

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"The Bank of Friendly Service!"

Moonlighters, go-devils, used often

Moonlighters and go-devils don't sound as if they were in a class with geological surveys and boards of directors, but they were part of Bradford's oil scene in the early days — and made more of an impression.

In the 1880s, wells were shot by lowering tin shells of nitroglycerine into the hole, to be detonated with heavy sharp-pointed iron weights dropped onto the shells. The weights were called "go-devils."

Trouble came when drillers sought to use the patented torpedo without paying inventor W. B. Roberts of Titusville his royalty. Adventure-seeking men formed crews to shoot wells on their own, bypassing the inventor and his bills.

Naturally these dare-devils

worked by the light of the moon. Hence the name "moonlighters," and their dangerous business, "moonlighting."

As if that weren't bad enough, the torpedo companies complicated matters by deploying detectives along roads used by the moonlighters. Old-timers remember hearing stories about midnight chases down the trails — the cops on fast horses, the moonlighter whipping along in his nitro wagon, making for an explosive situation.

Oilmen tell us there was another kind of "go-devil," too. One of the initial woes of pipe line operators developed when cold weather caused a paraffin-like deposit to form, clogging lines.

Chemical solutions were unavailable and a wooden ball

scraper was worn out by friction after being pumped through the line a few miles. Finally an arrangement of leather and sheet-iron washers, strung on a bolt, was designed.

Farmers, hearing the rumble of the scraper as it was pumped along underground, thought the devil was in pursuit and pipe line men named the device "go-devil."

As perfected, it was a gadget about three feet long, with a series of knives to loosen and scrape off dirt and sediment clinging to the pipes. At one end was a disc about the size of the pipe. The oil flow forced the scraper ahead, the knives being set to give it a rotary movement.

Boost Bradford Crude

Kiwanis Club hosts oil luncheon today

Bradford Kiwanis Club, as its part of the Bradford Oil Centennial, has scheduled a community-wide luncheon from noon until 2 p.m. today in the main dining room of Hotel Holley.

Three industry spokesmen, top executives of Wilco-Kendall, Pennzoil United Inc. and Quaker State Oil Refining Corp. — will give brief talks in relation to the history, production, refining and marketing of Pennsylvania Grade Crude Oil.

In charge of arrangements are J.B. Fisher, President, Francis Cahill, D. Harvey Phillips and Robert Gress.

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DUKE CENTER, PA.

Waterflooding is leading contribution of Bradford's oil field to the petroleum industry

(Editor's Note: Material for this story was prepared with the cooperation and technical assistance of Dr. Edward T. Heck, vice president, Minard Run Oil Co.)

Of all the technical and engineering — production contributions of the century-old Bradford Oil Field to oil production throughout the world were the discovery and perfection of the waterflooding technique — known familiarly as "five-spotting."

Probably the very first discovery step in this technical breakthrough came in the near-by Middle District in the Titusville area around 1903, even before the Bradford Field had begun operations.

Early History

Some of the first recorded occurrences were written up by John Carl of the Pennsylvania Geological Survey. He was apparently the first man to recognize that oil was actually in the little, minute space between sand grains in sandstone — the type we normally see in building stone, such as used frequently as trim on banks.

Mr. Carl further understood that to recover the oil, it would have to be replaced by another fluid. His findings and discussions — as is so often the case in early discoveries — were largely unrecognized and unused.

Only many years later was it noticed that their wells were marked increases in production near wells in which the casing had started to leak.

Process Rediscovered

Then, the waterflooding process was independently rediscovered and was first used as a clandestine method to avert possible conflict with the law. Some owners, it was feared, would charge that their wells were watered out and they would sustain a financial loss.

About half a century ago, the

reality of waterflooding was recognized by the state legislature and the intentional introduction of water into the sand was authorized by law for certain specific sandstone formations, foremost of which was the world-famous Bradford Third Sand. To this date, there is a scientific question as to whether the process would be applicable to every sandstone in Pennsylvania, although waterflooding is used with much success in many areas of the world.

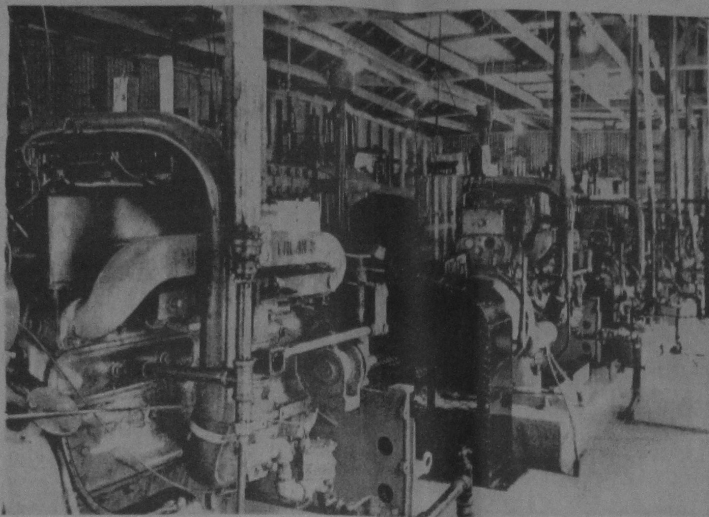
Role of Dorn, Zeek

There were many oilmen of foresight and dynamic action who led the industry in development of the waterflooding process, prominent among them, the late Forest L. Dorn, whose Forest Oil Corp. is now internationally known, and the late Ralph T. Zeek, a man of immense personal energy who was long active in the Independent Petroleum Association of America and who is considered by many as "the father" of Bradford Regional Airport. A tablet in his memory holds a place of prominence in the administration building at the area air facility.

During the middle 1920s and early 1930s, there was a vast amount of waterflooding experimentation in the Bradford Field by such firms as Forest Oil, Messer Oil, Sloan & Zeek and Reclamation Supply to determine the best arrangement of water-injection pressure wells and actual producing wells. The system whereby the water wells were aligned in circles and individual lines or rows was experimented with, and demonstrated that substantial quantities of oil could be recovered by various arrangements or patterns.

Five-Spot Emerges

After the expenditures of many millions of dollars, it was clearly demonstrated that an arrangement known as the "five-spot" would recover appreciably more oil from any



ENGINE AND PUMPS on Minard Run Oil Co. property in the Kennedy Springs area used to provide pressure of 1400 pounds per square inch for waterflooding — "five-spotting" — operations. (Era photo by W. Forrest Stewart)

given area or number of acres. Meanwhile, at the same time, successful, would favor motorists and other users of refined petroleum products with an enormous continuing supply of Bradford Crude, which in 100 years has never found to have a superior any place in any other oil field on the entire globe!

Laboratory Efforts

There has been considerable laboratory study and there has been great support given to the development and improvement of the waterflooding process. This activity was spearheaded by the Bradford District Pennsylvania Oil Producers Association, of which S.W. Gregg Jr., Wilcox-Kendall executive and chairman of the Bradford Oil Centennial, is currently president.

Founded in 1928, the Bradford District has played an active role in Bradford Field matters for 45 years. The Bradford District found enormous support from the Pennsylvania Grade Crude Oil Association, headed by J.P. Jones of this city, long a leader in oil activities, former member of the Interstate Oil Compact Commission and former president of the National Stripper Well Association, among many other responsibilities.

Penn Grade maintained a laboratory here for many years in the late 1940s and early 1960s. The studies and technical contributions sponsored by these organizations with the experts at the Pennsylvania State University have been recognized throughout the oil-producing world.

How It Started

Looking back on the pioneer days of the process, the early

Ministers to display early church items

The ministers of the Bradford Area are sponsoring an exhibit of pictures and mementoes of the early history of the religions in the area.

The University of Pittsburgh at Bradford has graciously made available the former office of the Emery Travel Service in Emery Hall for the Bradford Oil Centennial Week. The display will be open from 1 p.m. to 5 p.m. each day of the celebration.

The Very Rev. Edward M. Philipson, rector of the Episcopal Church of the Ascension, is in charge of arrangements. He said a few comfortable chairs and a place to rest will be available and has invited visitors to make the display part of the itinerary. Copies of the American Bible Society's modern version of the New Testament will be on sale.

waterflooding was accomplished simply by making holes in the casing and letting the water gradually seep into the sand. It was soon recognized that this procedure resulted in both dirt and organic material, particularly bacteria, gradually flooding off the intake well.

As time progressed, oilmen recognized there was insuffi-

cient water getting into the sand by this procedure and chemists were called upon to aid in handling water, developing a method of treating it so it would cause a minimum amount of plugging of the sand and permitted it to enter the sand and "push" the oil to the producing well.

Water Treatment

It was also found that if the water were lifted to the surface and exposed to the air, many problems were caused. The procedure was thereby evolved for producing the water; keeping it carefully excluded from the air and treating it in a manner that would prevent anything from being precipitated from the water.

From the standpoint of clarity and sanitation, the water used for flooding of the oil sand must be of much higher quality than that required for drinking purposes by state law. On the other hand, this water does not have

to be odorless or have any particular taste qualities.

As this procedure was used through the years, it was learned that the water would remove salt and various other substances from the oil sand and, as a result, it has received considerable attention from those concerned with water pollution. It had been recognized for years that any oil permitted to enter streams would cause an unsightly smear and, if extreme, the oil would interfere with the normal life of plants and fish.

But as one oil scientist said, it should be pointed out that the oil coming out of the ground is the product that makes the entire oil production process economic. Therefore, the better and more successful producers have long recognized this and the oil industry goes to great lengths to permit the very minimum amount of oil to escape — for a double reason.

Efforts for Purity

One is that crude oil is the sole source of revenue and, two, that the cleanliness of streams is their civic concern.

At the initiation of both the state authorities and the more progressive producers, including the Bradford District Oil Producers Association, very specific procedures have been outlined and, when they are followed, there is very little evidence of the water's coming from the oil sand except in very local and special circumstances, which are exceptions. Very recently, there

(Continued on Page 27-A)

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WISHES**

to
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OIL INDUSTRY**



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acknowledge this
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**"Everybody's
Talking..."**

About the Bradford Oil Cen-
tennial. We are too. It's a
memorable event for our
community, and our hats are
off to the Bradford men and
women who helped make it
all possible.

**BRADFORD
LAUNDRY & DRY CLEANING**

210 LANGMAID LANE

Old
time
greetings
and
best wishes



to all our friends in the Bradford
oil fields during Oil Centennial Week.

HARVEST BARGAIN CITY

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**Our
CONGRATULATIONS
To the Bradford Oil Industry
On 100 Years**

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WATERFLOODING

(Continued from Page 26-A)

has been a program of research by graduate students of the Pennsylvania State University to identify both the problems involved and the severity with the produced water. These studies have shown that the salt content of the water is not a serious problem in this area but that locally there may be some damage apparently due to some of the organic material.

Record Is Good

This is a geographic region where the precipitation is substantially greater than the amount of evaporation or transpiration and therefore the natural dilution virtually eliminates any effect of salt from waterflooding processes or any other sources. Actual chemical tests show that there is less chemical chloride in the Allegheny River Reservoir, collection point for water from the area, than is shown for 99 per cent of the water used for drinking in the nation. It also is lower than the chemical chloride content in the Great Lakes.

(During the peak of waterflooding in the 1930s and 1940s, it was recognized that the volumes of water needed for the process exceeded the annual rainfall. So, water was brought into the Bradford oil fields through a 24-inch-diameter line from the Allegheny River west of Olean, N.Y., to pump water into the Bradford Field in sufficient quantities. For its time, it was one of the largest operations of its type known.)

Forest Oil, Sloan and Zook, Messer Oil, South Penn Oil Co. and other firms were involved.

Use of Nitro

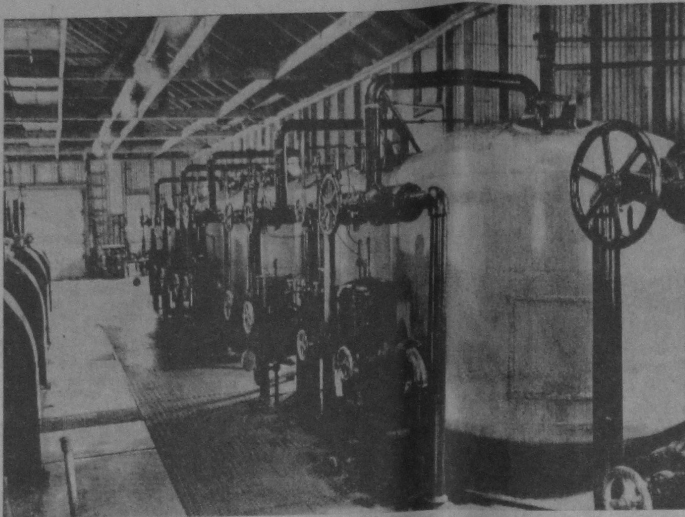
In still another recovery development, back in the early days in Titusville, it was determined that the rate of oil production could be greatly increased by the use of explosives such as nitroglycerine.

During the major part of the

Exchange, Lions sponsor carnival

The Bradford Exchange and Lions Clubs are jointly sponsoring Franklin's Carnival, each afternoon and evening — from 1 to 11 o'clock — this week.

The carnival is on the Neighborhood Development Program property in the downtown area. Today and Thursday are Kiddie Days. The carnival features 35 rides and other attractions.



SAND FILTER. This battery of giant containers is actually a collection of sand filters on Minard Run Oil Co. property in the Kennedy Springs section. Their function is to filter the water going through the pressure plant for waterflooding operations there.

history of the Bradford Field to date, this was the procedure used in well operation. One of the unique features of this method was selective shooting of the oil sand which involved careful study of details of the producing formation and precise placing of various quantities of explosives. This procedure is still used in a large number of areas of the world.

As part of the research work of the Pennsylvania Grade Crude Oil Association Research Laboratory during its long years here in Bradford, many studies of this nature were carried out as well as studies that were identified as pressure parting of the producing formation. This latter idea was studied largely because it was an

Seneca Plays will present production

As part of the Bradford Oil Centennial, the Seneca Highland Players will present "Arsenic & Old Lace." The show will be scheduled for 8 p.m. in First United Methodist Church, Thursday, Friday and Saturday.

operating problem in the water flood.

Fracturing Processes

At the same time, a process was perfected by the Pan American Petroleum Corp. (now where the oil formation would be intentionally pressure parted and the crack properly open by the use of sand grains. This procedure is commonly known by the trade name of Hydratrac. It's also known by a series of allied names, depending on slight modifications in the original procedure. This system requires use of

Supply exceeds need in early oil days

From 1870 until 1894, the production of crude oil reportedly was each year greatly in excess of its consumption for all purposes. Consequently, oil accumulated and was stored in iron tanks at Colegrove, Sugar Grove, Warren, Tiona, Oil City, Parkers Landing and Olean, N.Y. In August of 1894, this accumulated crude reached the amount of in excess of 39 million barrels.

very large trucks with their high pressure pumps and large volume loads of a special type of sand.

Method Explained

In specific operations, fluid (usually water) is pumped into the well at the rate of 15 to 30 barrels a minute, carrying a mixture of sand with a density of one pound of sand to a gallon of fluid. A treatment for an individual job may involve injecting 15 tons of sand.

This method opens up large sections of the oil sand so that oil can be produced much more rapidly and water can be injected more quickly. It has resulted in the change in the economics of water flooding so that substantial parts of the Bradford Field are now amenable to economic waterflooding when they would not have been under the older method.

The use of this process has resulted in the discovery that the cracks created by this process are oriented in a given compass direction and are parallel. As a result of this particular discovery, largely pioneered by Minard Run Oil Co., it is now known that the location of the well can be modified to take advantage of this arrangement and greatly improve the efficiency of the waterflood process.

This system is also being actively studied by the United States Bureau of Mines Energy Research Center in Morgantown, W. Va. The laboratory this summer has had a truck on location in the Bradford Field on a Minard Run Oil Co. property to study the fractures generated in one of the first waterfloods using the fracturing method.

The study is near Aiken in the Bradford Field on what is called the Moody Lease, Lot 11. It is anticipated that additional research activity will be carried on this year.

BUILT PIPELINE

James H. Snow, general superintendent of Standard Oil Co.'s trunk line system started to work for Abbott & Harley's pipe line in 1865. He headed construction of the first pipe lines to the eastern seaboard from Olean, N.Y. to Saddle River, N.J. in 1860-81.

Boost Bradford Crude



REALLY GOING BACK — Fortunately, photography played an important part in preserving the vivid memories of the early days of oil. Here from the files of Producers Monthly, the authoritative journal of waterflooding which was published for many years until recently, is a priceless picture of a really early oil derrick. The good old days of oil — Pennsylvania Grade — a memento on the occasion of the Bradford Oil Centennial!

First drilling tried in 1862

The first attempt to find oil within the limits of the Bradford pool was made nine years before the historic Job Moess Well of 1871.

In 1862, three years after completion of the Drake Well near Titusville, the Barnsall Well was drilled to 200 feet with a spring pole and then abandoned.

Site was on the south side of West Branch on the Whitney farm near the western edge of Bradford.

The following year, townspeople banded together and drilled to 875 feet, within 200 feet of the Bradford Sand.

100 YEARS OF BRADFORD OIL



We're proud to acknowledge this outstanding event.

BRADFORD MILK COMPANY
44 State St.

Through 100 Years, Bradford Oil Industry Has Been An Important Link In The Petroleum World.

WE SALUTE YOU . . .

SEHMAN'S TIRE SERVICE

11 E. CORYDON ST., BRADFORD, PA.



1851 - 1971

Partners In Progress!!

Our Congratulations

to the

Bradford Oil Industry

On This Great Celebration...

**CORNING GLASS WORKS
BRADFORD PLANT**





BRADFORD FROM QUINTUPLE—This was the way central Bradford looked from a vantage point on the Quintuple late in the 19th Century. As a guide, the church in the center foreground is today Grace Lutheran Church. Derricks dotted the hillsides in profusion.



ROAD SCENE NEAR DEGOLIA in the closing years of the 19th Century when horse-drawn vehicles service the Bradford Oil Field. Note the derricks on left side of the photo. Note, too, the young man, getting a "rough ride" as he approaches on his bicycle.

Gallery seats sold on local oil exchange

Last evening in accordance with a previous announcement the seats of the gallery in the Exchange were sold to the highest bidder. There was a large attendance in the rooms of the Exchange and the bidding was lively.

There were 27 seats sold in the front row and 22 in the second row. Each seat in the former line rented for \$40 per year and in the latter at \$30 per year. The total amount realized from the sale was \$4,348. At 8 o'clock President Wheeler

announced the rental value of the seats and said the amount which could be bid would simply be the premium for each one.

Bingham given initial patent

The original patent to Warrant No. 3906, of which Bradford is a part, was issued to William Bingham over the signature of Gov. Thomas Mifflin on Dec. 12, 1794. The parchment document, with Seal of the Commonwealth attached has been embellished with notes of several transfers of ownership. The original document is in the files of Victor H. Samuelson, real estate broker, 15 Chestnut St.

Oil often hidden

While, such as was the case with the Seneca Oil Spring at a spot near Cuba, N.Y., discovered by Franciscan Fr. Joseph de la Roche D'Aillon in 1627, the absence of surface indications is no proof that oil will not be found.

It may be that the oil, if there, is sealed so efficiently that it cannot escape. Thus, whether or not it is present in commercial quantities can be determined only by drilling.

ly be the premium for each one. The bidding was lively and not more than an hour was consumed in selling the 49 seats. First choice sold at \$30, and from this there was a gradual advance, the highest being \$76 premium, which added to the rental amounts to \$116 for a year. Others sold for \$30 to \$71, and the lowest premium for seats in the front row was \$30 and for the second row \$22.

Parties owning tickets entitling them to a seat in the gallery will be permitted to loan them to any person they choose, and a messenger will be provided at the expense of the Exchange to carry messages from the gallery to anyone on the floor and also a messenger to carry communications from the floor to parties in the gallery. This will enable the occupants of the latter to transact business quite conveniently with their brokers who may be doing business for them. The amount realized by this sale is much larger than was expected it might be. The managers now regret that they haven't more galleries to dispose of. (The Bradford Era, Nov. 14, 1923)

REFINERIES NUMBERED

An Era article in 1946 reported the nation then had 394 petroleum refineries.

Origin of crude seems organic

Petroleum, unlike coal, retains within itself no visible evidence of the material from which it was formed.

In Dr. Arthur Holmes' book, "Principles of Physical Geology," he points out that it has been suggested purely speculatively that oil may have been formed by volcanic or deep-seated chemical processes, akin to the production of acetylene by the action of water on calcium carbide.

However, Dr. Holmes comments: "But these hypotheses are quite incompatible with the geological distribution of oil and with certain peculiarities of its composition and properties. All the relevant evidence points convincingly to an organic origin."

Capt. J.T. Jones once top producer

Capt. Joseph T. Jones, founder and later sole owner of the Bradford Oil Company and the largest individual producer in the Bradford field at one time, later a railroad magnate and electric traction pioneer, arrived on Oil Creek in 1865 at the age of 23. He promoted and drilled 13 dry holes before he got a well which started him on the road to fortune.

Do You Remember Noise of the Barker?

"The Barker," what does it mean to you? To those of high school age, it probably will immediately call to mind the title of the Bradford High School Year Book adopted in 1928.

The old timers, however, will let their minds drift back in retrospection for a far different meaning.

Webster says: "A barker is a person who stands outside of a side show or place of amusement to attract attention of passersby."

But, we'll forgive Webster, for he probably was not too familiar with the early oil field days. In the "Naughty Eighties" and "Gay Nineties" a barker, as used in the Bradford oil fields, was a whistle-like contraption attached to the exhaust pipe of a steam engine at a pumping oil well. This whistle served as a warning that the well was "pumped off" and that the engine had finished its day's work.

Steam power, in those early oil country days, was used in pumping oil wells and a steam engine functioned at every pumping oil well. In every direction from the boiler house extended the "steam hoses" which carried the steam lines to the wells. The boiler house stood in the center of a group of oil wells and sheltered the boiler which generated the steam used to pump the wells.

Some wells were 1,500 to 1,600 feet away in the deep woods or over and down a small ravine. These were the wells which were always equipped with a barker.

In the winter the pumper sat in the warm boiler house, or in the summer "vested" just outside the boiler house does if no one was around, on a hammock made from wooden sugar barrel staves. From this spot, with his keen and barker minded ear, he could detect that the whistling of the device had increased in volume indicating that the well was pumped off.

Barkers were of various designs and could not be purchased in the oil well supply stores. They were the invention of the individual pumper, with the whistle type the most popular.

One important thing in their construction was that they be of different tone so that one could distinguish just what well was pumped off. This was accomplished by the depth of the cut in the whistle pipe or by placing an empty tin can over the end of the gadget.

Today, in this age of electricity, gas and airpower, a barker is so typical of the Bradford oil country, it is but a topic of conversation when old timers meet.

Chamber of Commerce welcomes visitors

Visitors for the Bradford Oil Centennial this week will find a friendly welcome at the Bradford Area Chamber of Commerce Information Booth at Main and Davis Sts.

In addition to general information, members of the Desk and Derrick Club, who are staffing the booth from 9:30 a.m. to 8 p.m. daily, have a variety of informational data, mementos and souvenirs of the Bradford Oil Centennial available.

A PROUD SALUTE TO BRADFORD'S OIL INDUSTRY ON THEIR 100 ANNIVERSARY

We're happy to join to many others on this great occasion

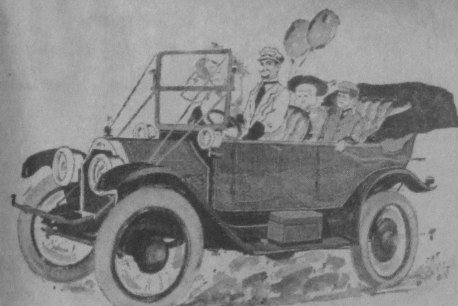
REISNER AUTO PARTS

32 N. Kendall Ave. Bradford, Pa.

WELL SELL PENNZOIL PRODUCTS PRODUCED FROM LOCAL 100% PENNA. GRADE CRUDE OIL

SOUTH PENN SERVICE

PENNZOIL DISTRIBUTOR
156 SEWARD AVE
BRADFORD, PA.



Which came first?...

WELL, naturally the discovery and production of Petroleum was first. Otherwise, we'd all be walking . . . paddling . . . or on horseback.

It's a lot easier and quicker - driving!

Many oil production and refining techniques, and automobile inventions were made right here in the Bradford area. Old timers recall the Holley Carburetor, etc. And, when it comes to Oil, almost everybody concerned knows about Famous Bradford Crude.

We are proud to salute the Bradford Oil Industry!

BRADFORD AUTOMOBILE DEALERS ASSOCIATION

CASEY COLE CHEVROLET, INC.
RINK BROS.
STAR GARAGE CO.

HAROLD C. BAUSCHARD
FAIRWAY FORD
WEST BUICK CADILLAC

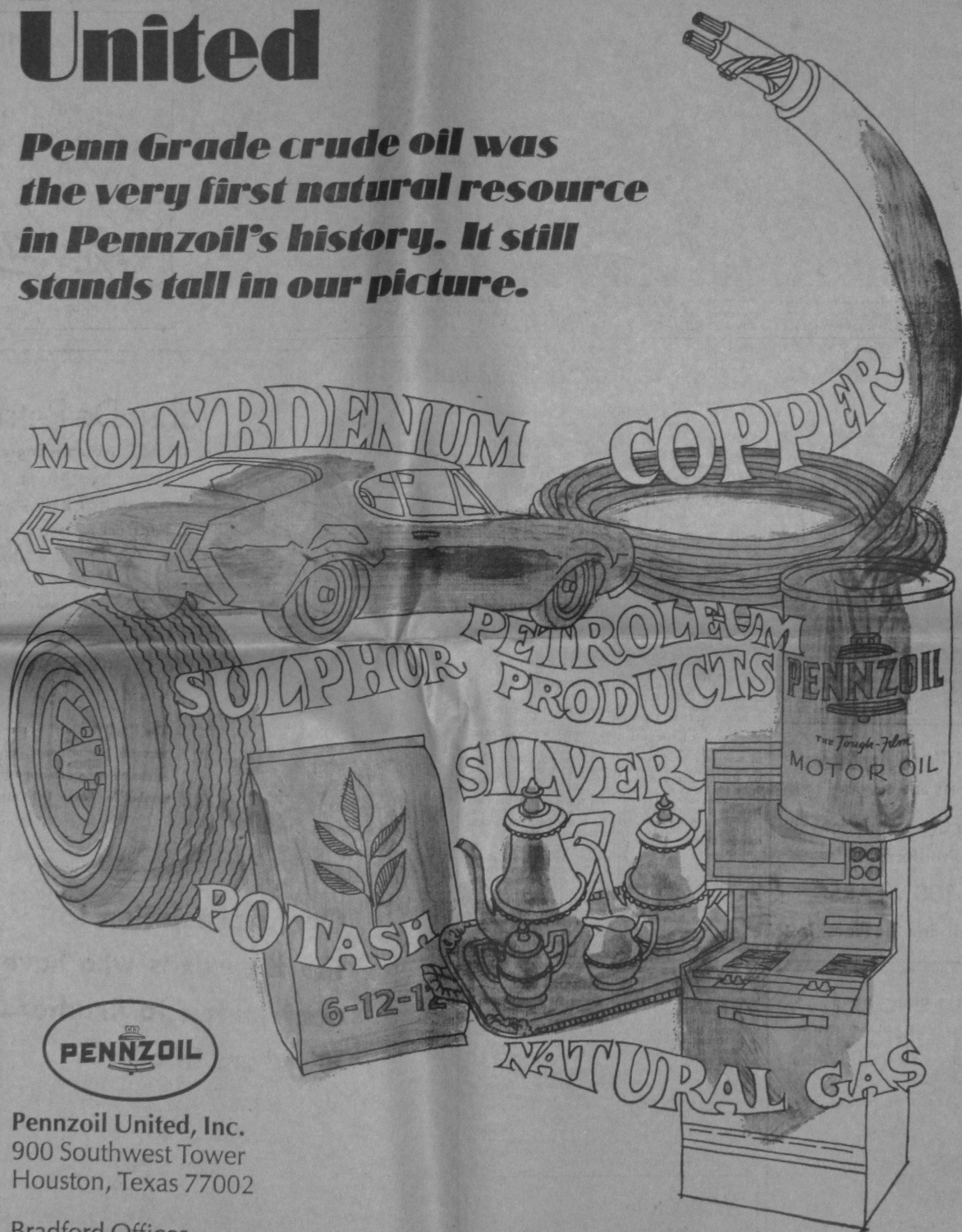
Firemen's Museum to be staffed by Landmark Society

In addition to sponsorship of the annual Antiques Show in Pitt Bradford's Emery Engineering Center, 45-47 Main St., members of the Landmark Society are staffing the Firemen's Museum on the second floor of Central Fire Station, Chestnut and E. Corydon Sts. from 9:30 a.m. to 5 p.m., through Saturday.

Bradford is renowned for the many volunteer fire companies that served the area before the creation of the Bradford Fire Department. Interesting memorabilia of the early days of firefighting are on display.

Pennzoil United

***Penn Grade crude oil was
the very first natural resource
in Pennzoil's history. It still
stands tall in our picture.***



Pennzoil United, Inc.
900 Southwest Tower
Houston, Texas 77002

Bradford Offices
54 Boylston Street
Bradford, Pennsylvania 16701

The billion-dollar company that is deeply concerned with the earth's resources.

Principal subsidiaries: Duval Corporation • Pennzoil Producing Company • United Gas Pipe Line Company

Here's report on drilling back in 1891

Forty-four producing wells were completed in the Bradford and Allegheny oil fields in July, 1891, a check of old records reveals.

A news story on Aug. 1, says: "Bradford has just finished up much work cut out, and it has resulted in a greater proportion of 10-barrel wells than last month, while the usual good luck prevails, and only one well is dry. The operation is within defined limits and there is little temptation to go a wildcatting just now."

The summary for June and July 1891:

Wells Completed July, 1891		Wells Comp. Prod.	
Bradford	44	239	3
Allegheny	36	296	3
Middle Field	81	471	9
Ven. Clarion	11	1569	12
Butler-Armstrong	112	3970	40
Southwest	354	6543	67
Wells Comp.	304	5363	72
June	30	1280	9
Difference	274	4083	63
Drilling Wells and Rigs			
Bradford	22	34	56
Middle Field	15	24	39
Ven. Clarion	40	43	92
Butler-Armstrong	29	71	180
Southwest	67	248	315
Total	182	420	602
Total May 31	234	407	641
Difference	52	13	20

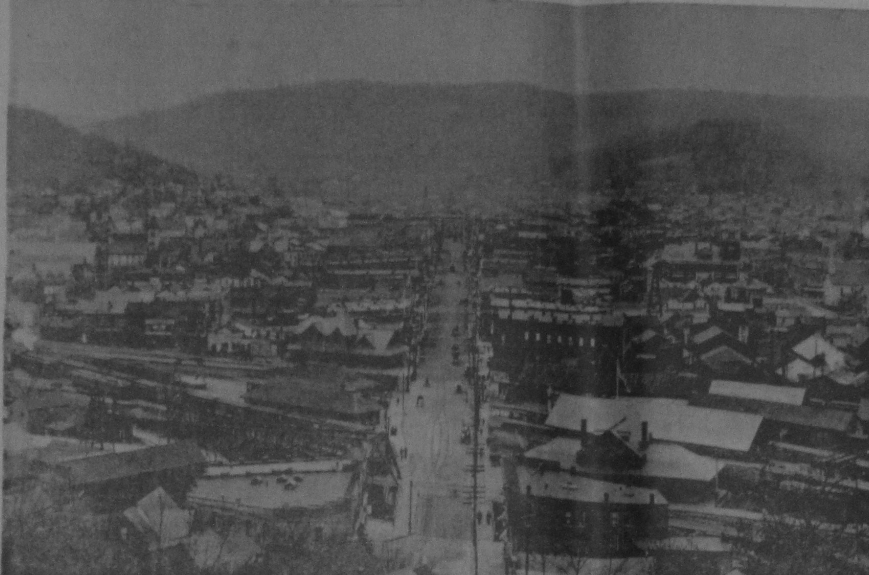
Wells Completed, June 1891		Wells Comp. Prod. Dry	
Bradford	24	123	1
Middle Field	34	356	2
Ven. Clarion	64	313	1
Butler-Armstrong	48	911	11
Southwest	134	3519	47
Total	304	5363	72

OIL'S GREAT LENSMAN

Many of the early photographic gems of the early days of oil are the work of John A. Mather, prolific lensman on the scene of Titusville 112 years ago.

Like his famed contemporary, Matthew Brady, the Civil War photographer, John Mather photographed history in the making. More than 16,000 of his camera plates were destroyed in a fire and flood in 1892 but some 3,000 were saved and are now treasured possessions.

Boost Bradford Crude



SCENE FROM MOUNT RAUB — Looking up Main St. a photographer in the 1890s took this picture from Mount Raub. Note the familiar (now B & O) station in right foreground. The old Erie station, with its colorful roof treatment has long since been replaced by Davis St. South. Oil derricks dot the hills beyond.

Excitement gripped city as oil hit \$1 bbl. in 1882

Oil hit a dollar a barrel in November, 1882 and the excitement which attended the event led to a special report in The Bradford Era of Nov. 4, that year. It is printed below.

Oil Went Hell Bent

A dense mass of men about the bullring, each one pushing and elbowing to get nearest the inner circle, a thicket of waving arms, a covey of telegraph boys running like a flock of frightened quail, a mass of excited spectators packing the gallery, such were the sights seen in the Oil Exchange at 2 o'clock yesterday afternoon. A babel of hoarse shouts arose, stunning the ear of the spectator, and a few ladies who were sandwiched around the outside looked at each other appalled at the uproar of the bovine and ursine strife. Oil was rising like Lulu shot from a Roman catapult and the hands that were raised to arrest it in its flight

seemed as puny as a Kickapoo Indian trying to lassoo an express train. For a year the market had been struggling under a load that threatened to snap its backbone, and when the weight was suddenly rolled off it took a little time to remove the cramp but it was bound to straighten up. The gates of Hades could not prevail against it. It was felt early in the day that something unusual was about to happen on Change and the floor was thronged at the opening. The small army of outside spectators became imbued with the prevailing spirit of the times and flocked to the scene to look after their bundles. The gallery was in sufficient to contain them and they packed the corridor eagerly questioning every member as he came out of the sacred portals through which they could not pass. One spectator kindly kept an ear turned in the direction of the door and passed out such meager scraps of intelligence to the crowd as he was able to glean. Shortly after 2 o'clock the excitement became wilder and men crawled over each other in order to get to the bullring. The market was reaching a charmed figure and buyers outnumbered sellers. Amid the storm of cries from the struggling brokers at 3:30 Wing was heard to cry: "I'll give one dollar for 1,000 delivered Monday."

"You can have it," promptly responded Dr. Book, who had climbed upon one rail of the bullring and was wildly gesticulating.

"I'll take five," yelled H. E. Pickett, as he forced himself forward.

"You can have it," John P. Zane thundered in a voice like the bass pipe of a callope.

A roar went up that rendered individual voices inaudible and it was some months before comparative order was reduced out of chaos. The weaker went to the wall in the muscular strife about the ring and men's faces became convulsed with the storm of conflicting emotions. All the sales thus far at the dollar mark were for future deliveries, but A. J. Stephenson came to the front by offering cash price for 1,000 old. This was promptly furnished by H. James. Immediately after this little episode a broker rushed in waving a telegram and shouted, "A dollar five bid in New York." This increased the

floor was again animated for put and call market was in full blast. Two dollars was bid to call 1,000 when the bell rang at \$1.07; \$1 to call 1,000 at a \$1.15, and \$5 to call a 1,000 at \$1.10. There were a few transactions at the latter figure. All over this city the effects of dollar oil were apparent. People had a sort of lam-better-now appearance and spent their money more freely on the strength of the good news. The day was accepted as a hopeful augury of the future, and if the market holds at its present figure, we will lose our guess. The ballheaded bird of freedom has its back up and his feet in coal oil and is bound to scream.

Mahoney named to region post on API group

WASHINGTON — William W. Mahoney of Towson, Md., has been appointed Eastern regional representative of the American Petroleum Institute's Committee on Public Affairs.

Mr. Mahoney, who had been executive secretary of the Maryland Petroleum Association, assumed his new post on Aug. 1. The position was formerly filled by Leroy T. Snowden, who is now the API's manager of State services.

Stephen P. Potter, API vice president for public affairs, said Mr. Mahoney will maintain liaison with state petroleum public affairs organizations in Pennsylvania, Delaware, Maryland, Ohio, Virginia, West Virginia and the District of Columbia.

A native of Milwaukee, Wis., Mr. Mahoney holds an A.B. degree from Loyola College (Baltimore) and an LL.B. degree from the University of Maryland Law School.

During the administration of Mayor Harold T. Grady, Mr. Mahoney was director of public relations for the City of Baltimore. Prior to joining the Maryland Petroleum Association as associate executive secretary in 1962, he had also practiced law in Baltimore and had been a legislative correspondent for the Baltimore News-American.

Mr. Mahoney is headquartered in Towson, where he resides with his wife and three children.

A Special Salute to the Bradford Area Oil Men...

CANTWELL-JOHNSON

INC.
434 E. Main St. Bradford



100 ROSES TO THE OIL INDUSTRY

We are happy to have served the Bradford area for over 70 years.

Graham FLORIST

9 KENNEDY ST. BRADFORD, PA.

John De Petro
Registered Petroleum Engineer

Serving the Oil Industry
For Over 35 Years

TERMINAL BUILDING

BRADFORD, PA.



The "Yellow Dog" symbolizes light, versatile performance, and service. It was chosen as an appropriate symbol for Forest Oil Corporation.

Our appreciation to the thousands who have contributed to Bradford's 100 years in oil.



Forest Oil Corporation

A Bradford Company

1916 - 1971

Bradford Home Appliances

115 Main St.

"Sincere Congratulations to Bradford OIL" ON 100 YEARS of Producing the Finest!

OUR SINCERE
BEST WISHES



After 40 years in business ourselves... We're happy to salute the granddaddy of 'em all - Happy Centennial!

CUSTER CITY OIL COMPANY
BRADFORD, PENNSYLVANIA

With Pride And Pleasure...

On this 100th Anniversary, it is with pride and pleasure that we salute Bradford's Oil Industry.

Barnsdall's, Inc.

66 Main St.

Oil poured on fire didn't help much

Most of us have at some time or another heard the remark that "it's like trying to put out a fire by pouring oil on it," but few probably ever realized that such a circumstance actually occurred.

The United States Hotel in Pithole was ablaze during the early part of 1886 and firemen were exerting all their efforts toward saving the structure and the town.

The more water they poured on the flames, the greater they seemed to grow. It was then discovered that the well from which the water was obtained was covered with a layer of oil several inches thick.

They soon discovered that oil was running into other water wells in the neighborhood. Excitement followed. Thousands visited these strange wells and large prices were offered for them. Several springs in the area also were found to be yielding oil.

The original water and oil well was only 16 feet deep and more than 50 barrels of oil were taken from it with a common pump. Another well, 23 feet deep, gave up more than 100 barrels of oil. Land owners dug wells of moderate depth and some of them got oil. One, at a depth of only 12 feet, struck a crevice in the surface rock, from which flowed a fine stream of oil.

All these wells were 150 feet above the level of Oil Creek and a half mile from where producing oil wells were being drilled. Various theories were offered. Then the real explanation was discovered.

The pipe line from Pithole to the Miller Farm on Oil Creek had sprung a leak and all this lost was running into water wells in the neighborhood.

HENRY E. MILKS

Electrical Contractor

40 Cross Drive
Bradford

Congratulations

to

All My

Friends

in the

Oil Industry

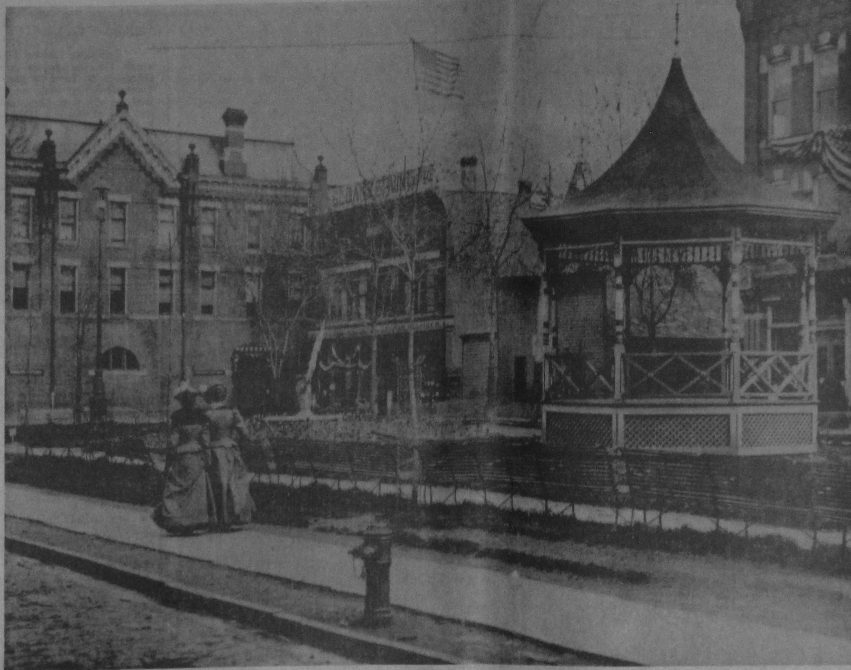


Rolling Merrily Along!

Our Best Wishes for Your 2nd "100"

Rudolph C. Nelson Agency

4 Chestnut St.



PUBLIC SQUARE as it appeared in those days before 1900. Two local belles are strolling down Main St. in their finery. Note the bandstand at that time and that a frame building occupied the site of today's Elks Club. Building at extreme right is part of the old Producers Petroleum Exchange.

Crude oil prices in '46

These were the prices on Penn Grade crudes when the Bradford Field was celebrating its 75th anniversary. (Prices quoted below do not include the government premium or Pennsylvania grade crude.)

SEEP PURCHASING AGENCY OF SOUTH PENN OIL CO.

(Effective Sept. 1, 1946)

Allegany district oil in Bradford Transit Co. \$3.41

Bradford district oil in Bradford Transit Co. \$3.41

Bradford district oil in National Transit Co. \$3.41

Bradford district oil (Tionola) National Transit Co. \$3.41

Pennsylvania grade oil in South West Pennsylvania \$3.20

Pennsylvania grade oil in Eureka Pipe Line Co. \$3.20

Buckeye — Pennsylvania grade oil in Buckeye Pipe Line Co. \$3.16

Corning grade oil in Buckeye Pipe Line \$1.96

TIDE WATER ASSOCIATED (Effective Sept. 1, 1946)

Bradford district \$3.41

Allegany district \$3.41

PENNZOIL CO. (Effective Aug. 1, 1946)

Pennsylvania Grade Oil in National Transit Lines \$3.28

Grade A \$3.28

Includes Cochran, Franklin,

Hamilton and Doolittle districts.

Group B Includes Titusville district \$3.27

Group C Includes Turkey and Tidoute districts \$3.26

Group D Includes Bear Creek and Portkey districts \$3.25

Group E Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipper, Bredin, McLunkin, Jameson, Keenerdell, Embleton and Kinross districts \$3.28

Price depends on length of pipe line haul to plant at Oil City.

QUAKER STATE (Effective Sept. 1, 1946)

Penn'a Grade Oil in Buckeye Pipe Line Co. \$3.16

Penn'a Grade Oil in Eureka Pipe Line Co. \$3.20

VALVOLINE PIPE LINES (Effective Sept. 1, 1946)

Bradford district oil \$3.41

Bradford district—Tionola \$3.41

Penn'a Grade Middle District \$3.28

Penn'a Grade Southwest District \$3.30

Penn'a Grade West Virginia \$3.20

Penn'a Grade Southeastern Ohio \$3.16

Water search unearths oil

A search for water led to oil in Pennsylvania — by accident.

Dr. Arthur Holmes in his "Principles of Physical Geology," points out that the modern oil industry as such began "as a result of a boring for water in Pennsylvania which brought up oil and salt water."

"This was in 1848 and the oil was sold for medicinal purposes."

Meanwhile, the natural gas of western Canada, where great reserves were proved, was first tapped in 1885 when water was being sought for building the Canadian Pacific Railway.

'Petroleum' from two languages

Whence the origin of the word "petroleum?"

Actually, the name came from two ancient languages — "petra," Greek word for rock, and "oleum," Latin word for oil.

It is the general term for all the various natural hydrocarbons — be they solid, liquid or gaseous — found in rocks.

But in common usage, petroleum refers more particularly to liquid oils. Natural gas is the name for gaseous varieties. Bitumen or asphalt applies to highly viscous, solid varieties. It is also applied to bituminous residues when petroleum is refined and to certain natural and artificial paving materials.

Localities active in Oil Centennial

Three Bradford oil executives played key roles in preparations for the Titusville Oil Centennial in 1959.

They are J.P. Jones, president of the Pennsylvania Grade Crude Oil Association, who

served as chairman of the board of Oil Centennial Inc.

Serving with him were J.B. Fisher, now retired president of Kendall Refining Co., and retired vice president and director of Wilco Chemical Corp., and F. Wayne Fesemyer, president of Minard Run Oil Co., all members of the oil industry advisory committee.

Pithole prospered, then quickly faded

Pithole was the first American oil boom town. Near Titusville, it started in 1865 with a well that produced 650 barrels a day. It had 20,000 people and declined to two families in 10 years.

QUITE A GUSHER

Bradford oilmen were excited in 1891 at a Maryland well in Hancock County that supplied 500 barrels a day. It was owned by the Ohio Oil Co.

Col. E. Drake oil's discoverer died in poverty

The man who opened up one of the modern world's great industries, petroleum, Col. Edwin L. Drake, died in poverty.

As the Bradford Oil Field marks its own 100th anniversary, it notes also the news from Col. Drake of August 1889 that oil had been struck at Oil Creek, not far from Titusville.

The world's pioneer oil producer, Edwin Laurence Drake, died in poverty, a pensioner of the Commonwealth. He had written "colonel" before his name to impress the residents of the Titusville area.

Born in Greenville, N.Y., on March 20, 1819, he died on Nov. 8, 1889, nine years after the Job Moses Well here.

In his varied career, Edwin L. Drake had been a night clerk on a Buffalo-to-Detroit steamboat, a farmer in Michigan, hotel clerk in Tecumseh, Mich., salesman in a New Haven, Conn., dry goods store, express agent on the Boston and Albany Railroad at \$50 a month and a conductor on the New York and New Haven Railroad until 1867.

Two years later, he was to go down into history for his oil discovery at Titusville, the beginning of the Pennsylvania and world petroleum industry.

First oil shipment overseas made in '61

First transoceanic shipment of oil was made in 1861 when the rapid decrease of whales and the attendant shortage of sperm and whale oil made the question of producing a cheap, safe and efficient illuminant important.

This first shipment was five barrels and was sent from Philadelphia to London in November of 1861 by Peter Wright and Sons, who chartered a 224-ton brig, the "Elizabeth Watts," to load a cargo of barrelled oil for London.

The first oil tanker, a sailing vessel, was loaded with petroleum at Port Sania on the River St. Charles, Canada and was lost in the Gulf of the St. Lawrence as she was about to enter the Atlantic.

Recent Bradford Crude

HAPPY TO HAVE SERVED THE OIL INDUSTRY FOR THE PAST QUARTER OF A CENTURY

TECK -- LABS
CHEMICAL & PETROLEUM ENGINEERS
DR. JOSEPH N. BRESTON
Director

McQuilkin Plumbing COMPANY

17 Chestnut St.

Bradford

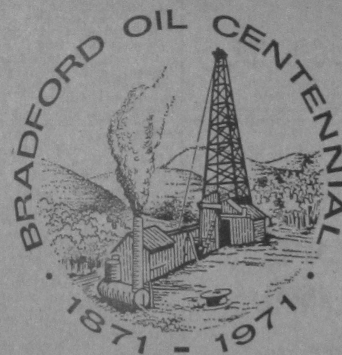
We are pleased to add our Best Wishes to the thousands of others today to the Famous Bradford Oil Industry!

WE AT THE BROASTER — WISH TO ADD OUR SINCERE GOOD WISHES TO THE OIL INDUSTRY OF BRADFORD

in all the festivities during the Oil Centennial You'll be too busy taking Week of Celebrations, so stop or call us at the Broaster for that delicious BROASTED CHICKEN!

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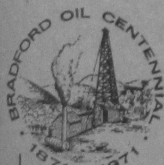
Established 1893

CONGRATULATIONS

• TO THE
BRADFORD OIL INDUSTRY

The record of 100 years of continuous Oil Production is one to be proud of, and on this great occasion we join with the Bradford community in public recognition and commemoration of our Centennial Year.

Pennsylvania Grade Crude Oil Assn.
National Transit Bldg. Oil City, Pa.



Classroom is converted into miniature oil field

Washington — Drilling for oil can be exciting and profitable — or you can go flat broke. That is the lesson geology students are learning in a classroom which has been converted into a miniature oil field.

Normally, their course of instruction would be called "geology." But at the Norris L. Brokens Junior High School in Urbana, Ill. is something much more. It is the entire world of oil production: geology, oil exploration, oil drilling, buying and selling of oil leases, financing of drilling, paying taxes and picking yourself off the floor if you drill dry holes.

All this is being simulated by the pupils in the classes of the school's Earth Science teacher, Ronald W. Prescott.

The story of the pupils and their "wildcating" for oil is told in the current edition of Petroleum Today, magazine of the American Petroleum Institute.

Mr. Prescott, who has spent the last five summers working for the Illinois State Geophysical Survey, explains: "Originally, I thought if the kids just completed their contour maps, that would be sufficient. However, it seemed to me that the map by itself was a rather cold, detached thing. I thought it would be far more exciting if we could demonstrate — in the classroom — the actual worth and use of such maps. All the children knew of oil. Here was a chance to let them experience first-hand what a scientific industry was all about. In short, each class has formed and is managing its own highly specialized version of the petroleum exploration and production business. I have given them the basic operating rules — they take it from there."

The basic rules require: — That most of the students in each class be divided into two groups: the buyers and the landowners. Both groups are

given land maps which are to be contoured and which will form the basis for their wildcatting.

At the beginning of the game, the buyers are supplied with a base working capital of \$30,000 each. The landowners each possess 12 acres of the work map, valued at \$15,000 per 12-acre block.

The value of the land either increases or decreases according to the daily drilling reports furnished by the teacher.

Each class has a certain number of bankers, who deliver balance sheets on their clients at the end of each semester. There are also legal officers, who record land deeds.

At the end of the semester, each student is graded on the quality of his geological map work, the degree to which he has been able to increase his net worth from his original financial base, and the overall manner in which he played the game.

Darrell Helm, principal of the Illinois State Geophysical Survey, explains: "Originally, I thought if the kids just completed their contour maps, that would be sufficient. However, it seemed to me that the map by itself was a rather cold, detached thing. I thought it would be far more exciting if we could demonstrate — in the classroom — the actual worth and use of such maps. All the children knew of oil. Here was a chance to let them experience first-hand what a scientific industry was all about. In short, each class has formed and is managing its own highly specialized version of the petroleum exploration and production business. I have given them the basic operating rules — they take it from there."

Oil well shooting keenly expected

Many people who have lived in the Bradford area for several years and have never seen a well shot, look forward with keen anticipation to Saturday afternoon. At 2 p.m., Saturday, the schedule calls for the shooting of a well some 500 feet north of the Bradford Mall. The event will afford thousands of people an experience never to be forgotten.

Boost Bradford Crude



PRODUCERS PETROLEUM EXCHANGE before the turn of the century, on the present site of the Odd Fellows Building. Note that Post Office occupied

the "corner" location downstairs. Note, too, the attire of the times on the couple at the corner.

Second Crude Oil Exchange formed here in 1882

A second oil exchange was organized in Bradford on Nov. 21, 1882 and soon boasted 500 members.

Seven directors were elected at the organization meeting a partial account of which follows:

According to announcement the stockholders of the Producers Petroleum Exchange met at Army Hall yesterday afternoon to elect a permanent organization, none but those who held receipts for the first assessment on stock being admitted. Over 400 of the original subscribers were present.

A. Leo Weil called the meeting to order and J.H. Conant was elected temporary secretary in place of R. G. Bailey, absent.

The following gentlemen were named (nominated) for permanent officers: For President — David Kirk, Maj. A. C. Hawkins, D. A. Wray. For Vice President — George W. Ralph, N. R. Collins, C. H. McKevett, Messrs. Dempsey, Boggs, Smiley and Weibel declined nomination. Second Vice President — Wellington Smith, E. W. Coleman, Messrs. Vero, Watson and Haggerty declined nomination. For treasurer — Robert Borchman. For Secretary J. H. Conant, George H. Hawkins and S. S. Grandin. A number of other nominees declined.

Nominations for directors being next in order a bubble of voices were heard and when the nomination was quieted down and the names taken it was found that there were 40 nominees for the 11 positions. It was moved that the election of directors be first proceeded with and this entailed a long discussion on the proper method to be observed in following the recommendations of the committee. There seemed to be a misunderstanding on the legal point in choosing permanent officers for an organization that had as yet no by-laws and Messrs. N. B. Smiley and W. M. Boggs took opposite grounds. The discussion was generally participated in, after which it was resolved to go ahead with the election of directors. Previous to the voting those officers of the election board who were on the list of nominees for permanent officers withdrew their names. Balloting then began about 3:30 p.m. and continued until sometime after sup-

per, the meeting having adjourned in the meantime until 8 p.m. At the appointed hour, the meeting recommenced, and while the tellers were counting the ballots, a work that consumed over four hours, the Exchange discussed a few important topics.

At about 10 o'clock Chairman Weil stated that the election would not be ready to report in two hours and asked the further pleasure of the meeting.

A motion by Colonel Beatty that the five shares of stock remaining unpaid be sold at auction caused considerable discussion and the resolution was finally lost.

A motion that the five shares remaining undelivered be held by directors to be elected, and disposed of by them was adopted.

Mr. Kirk moved to increase the capital stock to \$100,000 and the membership to 1,000 and in support of his resolution stated that a large number of persons desired to get in and that the stock would be readily taken. He did not want anyone barred out. This discussion of the motion with others and amendments offered regarding the increase of capital stock consumed nearly two hours and many earnest speeches were made pro and con. The adjournment of the hour at which the meeting closed, almost 1 o'clock this morning, prevents giving any synopsis of the varied ideas evolved, some of which were interesting and amusing. It was decided that the capital stock and the membership should remain for the present as they are.

At 12:20 a.m. the election board came in with the returns on the vote for directors. The total vote cast was 219 and it required 110 to elect. Of the 50 candidates seven were chosen by the following votes: David Kirk, 219; George W. Ralph, 218; Wellington Smith, 206; L. Emery Jr. 194; N. B. Smiley, 182; A. C. Hawkins, 141; W. S. Watson, 138.

C. H. McKevett polled 106, thus missing being elected by one vote. Six more directors remain to be elected and since each have a majority several more ballots may be required. Another vote at that hour was out of the question and it was

resolved to adjourn the election until 9 o'clock this morning. Besides the remaining directors there still are to be chosen a president, two vice presidents, a secretary and treasurer. David Kirk, First Vice President, George W. Ralph, Second Vice President, Wellington Smith, treasurer, R. F. Borchman, and the meeting was adjourned.

(Other directors named at the next meeting were A. Leo Weil, C. H. McKevett, E. S. Williamson, W. F. Weibel, I. B. Lockwood, W. A. Imus. Officers named were: President, David Kirk; First Vice President, George W. Ralph; Second Vice President, Wellington Smith; treasurer, R. F. Borchman; secretary, J. H. Conant.)

Parade expected to draw thousands

Estimates running high into the thousands have been made for the Jaycee-sponsored Oil Centennial Parade, scheduled to form in the Congress St. area and march down Congress, Main and E. Main streets to East Bradford, as of 4 p.m. Saturday. Response has been outstanding and one of the highlights of the Centennial should be the final verdict.

OIL Excitement

Everybody is excited about
BRADFORD OIL CENTENNIAL WEEK
... and we're happy to add our Congratulations!

Main & Congress **ARCHER'S**



distinguished
portrait
in oil!

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created
By Bradford's
Pioneer Oil Men

PROPER'S

GREENHOUSE
350 W. WASHINGTON ST.

THIS YEAR MARKS
100 YEARS OF PROGRESS
IN THE OIL INDUSTRY
CONGRATULATIONS

McCRORY'S

62 MAIN ST.
BRADFORD, PA.

Congratulations On A Century of Great Progress in Oil ...

Bradford Methods of finding, drilling, producing, refining, marketing of oil have put our community on the map.

W. O. KESSEL CO., INC.
95 Rutherford Run

B-B Electric Supply Co.
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**Bradford's
OIL CENTENNIAL**

"... truly an electrifying,
community-wide event!"

A message to —

**THE BRADFORD
OIL INDUSTRY!**

We are very happy to note the Centennial Celebration this week of the founding of your great industry right here in Bradford. Your fame and growth is recorded all over the world.

Congratulations from

**Hugh Johnson & Company
Inc.**

Members New York Stock Exchange
66 Main St. — Bradford — 363-3857

It's A Pleasure

to extend our Congratulations to Bradford Oil Men on their 100th Anniversary.

Bradford Meats & Provisions

42 Davis St.

Bradford

Ventron Corp.

A New Name
On the
Bradford Horizon

Extends

Sincere



CONGRATULATIONS

To Bradford's Oil Industry
On 100 Years Of Progress

Oil industry to achieve goal of needs of future

Washington — A leading petroleum executive predicts that industry will achieve its goal of protecting the environment, while at the same time meeting the projected soaring energy needs of the future.

Writing in Petroleum Today, P. N. Gammelgard, the American Petroleum Institute's senior vice president for public and environmental affairs, said that:

"With the enormous increase in petroleum demand — as a fuel and as a base for thousands of products — the question has been raised as to whether we can continue to protect our environment while meeting our soaring energy needs.

"Today, through the efforts of many people and the expenditure of literally billions of dollars, the petroleum industry believes that both goals can be achieved — that we need not darken our houses for lack of energy, and that we need not sacrifice the environment to obtain this energy."

Inevitably, he said, we must be willing to accept the fact that the costs of environmental protection "are a legitimate part of our cost of living — a part of the cost of producing the goods and services we enjoy. At one time, it was possible to pass these costs on to nature because nature could handle them. But with our increased population, this is no longer possible.

The cost to the nation of the cleaning up will be significant, he added, "according to one estimate over 70 billion in the next five years — but so will the benefits — provided we spend our dollars effectively."

Mr. Gammelgard pointed out, too, that the solution to the nation's environmental problems will not be found overnight.

"Nevertheless," he went on, "a multi-billion dollar commitment of the petroleum industry in environmental conservation does prove that the industry is strongly determined to find lasting solutions. And, as a result of this determination, real progress is being made in many areas of pollution control."

Some of these areas, he said, include:

— The API's Committee on Air and Water Conservation, which, since 1966, has spent some \$14 million on environmental research, and currently spending at the rate of \$10 million a year for the same purpose. Much of this research is carried out in cooperation with government and other industries. Gammelgard said, and the results are freely published — even if they reflect adversely on the petroleum industry.

— The Air Pollution Research Advisory Committee of the Coordinating Research Council (APRAC). Under a joint sponsorship of the API, the Automobile Manufacturers Association, and the U.S. Environmental Protection Agency, APRAC currently is directing some \$10 million in search projects on vehicle emissions and air pollution.

— Advances in tanker and pollution safeguards. These include the "load-on-top" technique, whereby water used to clean out the oil residue in tankers is retained instead of being discharged overboard immediately. The oil is separated from the water before the water is discharged, and the oil remains on board. This innovation is responsible for retaining more than three million tons of oil a year which otherwise would be dumped overboard.

— Reimbursement plans such as TOVALOP (Tanker Owners Voluntary Agreement concerning Liability for Oil Pollution) and CRISTAL (Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution). TOVALOP requires tanker owners either to clean up oil spills caused by their negligence or to reimburse a government whose shoreline is damaged, up to \$14 million for each incident. CRISTAL requires the cargo owners to provide reimbursement to private citizens as well as to national governments to the extent of \$10 million.

— Harbor cooperatives, in which oil companies pool their resources, sometimes jointly purchasing booms, skimmers, boats and equipment, and work in cooperation with the U.S. Coast Guard and other government agencies in cleaning up spills. Today there are about 116 of these cooperatives in operation, or under development, in harbors around the nation.

Mr. Gammelgard pointed out that though it is unrealistic to expect a dramatic overnight improvement in the quality of our environment, at the same time "it is equally unrealistic to predict environmental disaster."

He urged that industry, government, and the general public develop "new attitudes" toward environmental problems. Industry and government, he said, should strive for closer cooperation, and the public should understand "that the cleanup process takes time — time for essential research and time for designing and installing needed control equipment."



SHOOTING AN OIL WELL in the 1890s — familiar sight on the Bradford Field horizon over the years. Note a second derrick in left background and the boiler in right foreground.

Retired oil executive donates land for park

Washington — "It was — and is — the most beautiful spot in Texas."

Thus does Wallace E. Pratt, 86-year-old retired oil executive, describe the McKittick Canyon area of the Guadalupe Mountains in West Texas.

Because of Mr. Pratt's love for this wild Guadalupe country, one of the nation's newest national parks is now coming into being. An article in the current issue of Petroleum Today, the magazine of the American Petroleum Institute, relates how Mr. Pratt came to donate 5,632 acres plus his McKittick Canyon home as the keystone of the new \$2,000-acre Guadalupe Mountain National Park.

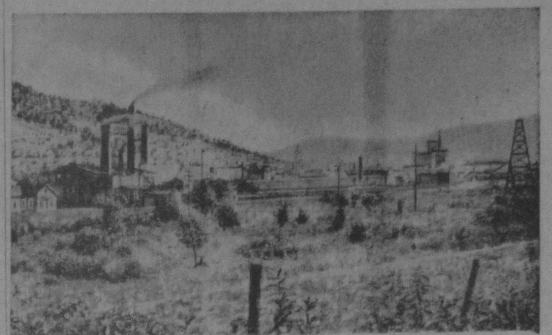
As a geologist in the early days of this century, Mr. Pratt, last, later built a stone cabin on it, and he and his family spent summers there, driving 700 miles from Houston.

Now the Guadalupe Mountain National Park is well on its way, scheduled to open within a few years. But its fragile beauty, its herds of deer and elk, its 200 species of birds, and 70 kinds of reptiles and amphibians, will be protected under strict limited access rules.

Says Mr. Pratt of this ecological wonderland: "We must compromise between ruining the ecology and keeping ourselves alive. We can only live at the expense of the ecology."

SIR WILLIAM PENN
Pennsylvania was named for William Penn's father, Adm. Sir William Penn.

Boast Bradford Office



EMERY OIL REFINING — Here, from the William L. Branch collection, is an old photograph of the Emery Oil Refinery, owned by the late Sen. Lewis E. Emery, and situated in East Bradford. "Historical Bradford — 1901" — in a comment about the Senator said in part, — "his success is attested by the immense refinery in Bradford and the independent pipe line to the seaboard owned by him."

Conservation of oil field advocated '82

The boom is a good one, and based on conditions that make it substantial and sound. Everything looks bright in the market and nothing but the discovery and development of another field such as Cherry Grove can bring another cloud over it. And that is what the restless producer is trying his utmost to do. Day and night he is scouring the forests of Western Pennsylvania and pursuing his investigations with the one end in view of opening up another oil field. If he does not succeed the market will continue upward as the production gets less. It is now more than 20,000 barrels a day less than it was a month ago, and the news is

that all the fields are showing a steady decline — not a falling out of the bottom, like Cherry Grove, but a gradual and steady decline. There is oil enough for many years yet, even at this rate of decline, and if the future oil field can only be controlled and managed

by wiser heads than have been influential in exhausting the rich storehouses now almost empty, the petroleum market will take its place in the ranks of commerce to which it is entitled, and from which it has been so long kept. (Oil and Paine Review Sept. 27, 1902.)

Diamond drill core

The coring of a Custer City well in 1924 marked the first oil field use of the diamond drill core.

Previously, the method had been confined to prospecting and ore evaluation.

The Northwestern Pennsylvania Oil Producers Association applied diamond drill coring in the summer of 1924 on a well located one-half mile west of Custer City.

The U.S. Geological Survey made porosity determinations on the core laying the foundation for core analysis.



A
Wonderful
100
years...

Our Congratulations
and Best Wishes!

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READY-TO-WEAR

8-10 W. WASHINGTON ST.

100 YEARS AGO

OIL WAS DISCOVERED IN THE
BRADFORD FIELD!
WE CONGRATULATE
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INDUSTRY ON THIS,
THEIR 100TH BIRTHDAY!



We are particularly proud now to be a
part of and Congratulate the great
Bradford Centennial 1871-1971.

AUGUST 16 TO AUGUST 22 ARE
GOING TO BE GREAT DAYS IN THE



"OLD OIL TOWN"
COME TO BRADFORD
"THE OIL METROPOLIS
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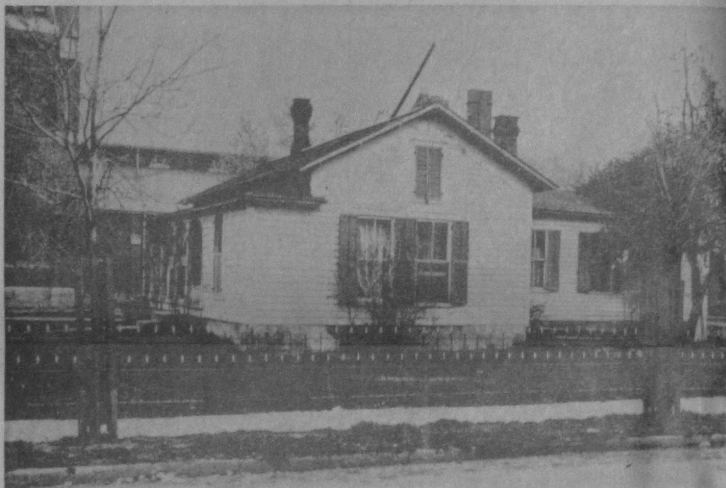
We are very happy to
Extend Our Best
CONGRATULATIONS
to the Great
Bradford Oil Industry
on its
100th Anniversary!

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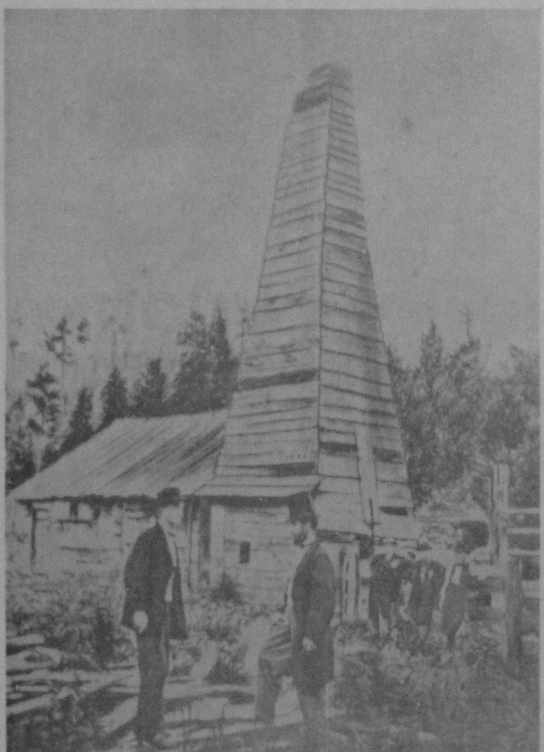
106 Main St. Bradford



ST. JAMES HOTEL — This historic hostelry at the head of Main St., where Emery Hall now stands, played a dominant role in the community. The picture was taken in the 1890s.



OLDEST HOUSE IN CITY — At the turn of the century, the P. L. Webster house on the southeast corner of E. Corydon and Chestnut Sts. was listed in a folio of pictures as the oldest residence in the site. The Bradford Post Office occupies the location today. Note St. Bernard's Church in the background.



WHERE IT STARTED — This historic photo of the First Oil Well, the Drake Well near Titusville, is a part of the Bradford Club collection. Drilling began on May 20, 1859, and oil was produced on Aug. 27. With a depth of only 69 and a half feet, the Drake Well produced 30 barrels a day for a year. Men in the top hat is Col. E.L. Drake. With him is Peter Wilson, his friend. In the background are sons of William Smith, the driller, who assisted their father. The photo was taken by the noted J.A. Mather in August of 1861.

Many local firms made products for oil business

A present-day Bradfordian, looking back over the years, recalls that the oil production in the Bradford Field and elsewhere led to the growth and development of many manufacturers.

Among them, as examples, the Bradfordian names Boardman & Seyfang, S.R. Dresser, Boardman Co., Bradford Supply Co., Fickinger Iron Works, Blaisdell Machine Co. and Locke Machine Works.

In fact, he suggests that contributors to RTS in subsequent editions may come up with many more names and products manufactured.

This oil executive thinks of steam engines, boilers, air compressors, pumping powers, bull wheels, hand wheels, drilling engines, iron work for rigs as products made by local firms for use in the oil field here and elsewhere.

Bradford Field has helped others

The Bradford Oil Field, home of the world's finest crude, has seen many of its great oilmen make significant contributions to other oil fields around the globe.

Men who gained their early experience in this century-old oil field, still actively producing superior crude after 100 years, were actively sought in other areas to bring their experience, knowledge, methods and enthusiasm to develop other fields.

Around the world, the history of oil has been filled with names of oilmen who began their careers in Bradford.

The first cable streetcar began operations in San Francisco in 1873.

Boost Bradford Crude

PMOC founded in local area back in 1943

(Editor's Note: Material for this article was supplied by Gale Weisner, Quaker State Oil Refining Corp.)

The Practical Operating Methods Committee, founded in 1943 with 6 members, is observing its 28th anniversary with a roster of 30.

Founded by the late Gerald G. Bauer, longtime executive secretary of the Bradford District Pennsylvania Oil Producers Association.

SOME 20 FIRMS laboratories, agencies and organizations are involved through membership and support. Purposes are or have been as follows:

1. To call attention to the development taking place in operating practices in the Bradford field.

2. To help the producer maintain and keep in operation the field equipment during World War II when this equipment was in limited supply.

3. To be of service to the oil operator and producer in the Bradford District.

4. To bring to the attention of area operators and producers a first-hand report of new scientific developments worthy of practical application.

Meetings are held once a month. There was an average attendance of about 40 members during the 1970-71 season.

The six original members were John DePetro, J. P. Healy, Jack Lent, Harry Murphy, Oscar Carlson and Mr. Bauer — all well-known in the continuing story of the Bradford Field.

A new chairman is elected yearly. Gilbert Ledebur currently heads the group. His immediate predecessors have been Dan Tanner, Darrell Huntington, Leonard Brigger and Thomas Sutto.

LOOKING AHEAD the Practical Operating Methods Committee, still sponsored by the Bradford District Pennsylvania Oil Producers Association, plans to continue to operate on a monthly or bi-monthly meeting basis "as an important service to Bradford oil producers."

Subjects at meetings over the years have caused considerable interest. For example, back in February of 1968, Dr. Jack Davis, a research engineer from the Marathon Research Center in Littleton, Colo., discussed "Maraflood — A New Oil Recovery Process." Some 150 people attended.

There is always a Ladies Night to close each year.

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ON 100 YEARS

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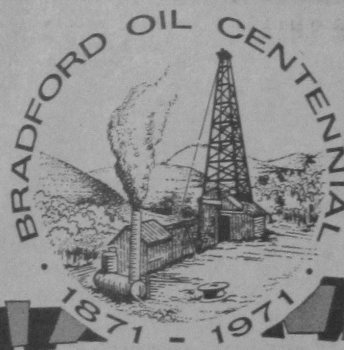
TO THE

OIL INDUSTRY
ON 100 YEARS
OF PROGRESS

EVAN'S ROLLERDROME

SENECA PRECAST PRODUCTS CO.

1020 E. MAIN ST. BRADFORD, PA.

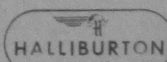


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"TO RENDER USEFUL SERVICE TO THE OIL INDUSTRY AT A REASONABLE PRICE . . . UNIFORM QUALITY OF SERVICE REGARDLESS OF LOCATION A NEVER - ENDING PROGRAM OF ENTERGETIC RESEARCH . . . CONSTANT DEVELOPMENT OF NEW EQUIPMENT . . . OR, BRIEFLY, TO MAINTAIN LEADERSHIP IN ITS CHOSEN FIELD."

THE WORDS WE LIVE BY

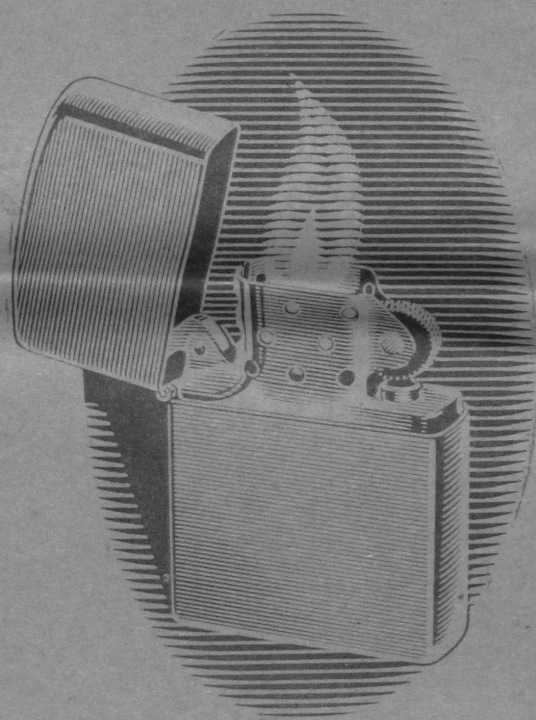
Simple words. Direct words. No-nonsense words. They have couched Halliburton policies since 1924. They are words of commitment and dedication to the industry that has inspired us for nearly half a century. When you have a creed that is worth putting into words, you should live by it. We do.



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