



THE *Luffkin* **LINE**
MAY-JUNE • 1966

"Wisdom is to the soul
what health is to the body."
— La Rochefoucauld

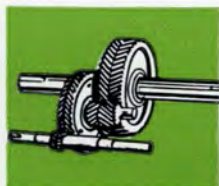




OIL FIELD PUMPING UNITS

THE *Lufkin* LINE

GEARS FOR INDUSTRY



May • June, 1966
Volume 41 Number 3

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Virginia R. Allen, Editor

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TRAILERS FOR EVERY HAULING NEED



SURPRISE Glacier, one of 27 ice rivers that melt and spawn Lake George annually, with its moraine rising above the waters and an iceberg floating in the distance.

Photo by Conrad Puhr

BY GEORGE AVERY

SINCE the early 1950s, oil scouts, geologists, seismograph parties and, later, drilling crews have been bringing back tall tales from Alaska, the nation's newest oil producing state.

Oil is no stranger to our Last Frontier as it was discovered at the turn of the century, not long after the Spindletop gusher spudded in the Lone Star State's petroleum industry.

A few-barrel, "po-boy" shallow oil field was brought in at Katalla, near the present town of Cordova, and a small refinery was built for local markets. It operated until it burned down in the thirties. A victim of fire and the Depression, the plant was never rebuilt, and the wells were abandoned.

It has been known for years that there were good oil formations in Alaska, but this natural resource lay dormant until the Korean War triggered petroleum exploration in our far north territory.

Present day drilling first explored the old Ka-

ALASKA Spectacu

talla field, but the wildcatting proved a failure to find anything in paying quantities. Then a discovery well was brought in on the Moose Preserve on Kenai Peninsula.

It has developed into a promising field for both gas and oil and has resulted in the construction of a refinery at Kenai, a deep water port on Cook's Inlet below Anchorage. Natural gas from this field is now supplying the burners of this booming city.

Today, wildcatting is being roughnecked in many Alaska locations, and a big strike has been made out in Cook's Inlet.



THESE brown bears, fishing at McNeil Creek, Kamishak Bay, are catching salmon going up stream



THIS is one of several oil rigs operating on the Kenai Peninsula in southcentral Alaska. Oil companies, cooperating with state and federal agencies, have gone to great lengths to preserve the wildlife and wilderness while extracting oil and gas from beneath the ground

By letter and word of mouth from returning oilmen, Alaska has been getting a free load of publicity about its vast natural resources, hunting and fishing bonanzas, scenery by the megaton and diversified tourist attractions.

Southwestern oilmen, sportsmen and tourists alike have watched the unending show of the 49th State's photogenic sights as that beautiful siren parades her lovely face and form in the rugged outdoor theatre with the brooding mountains and ice-river glaciers furnishing a dramatic backdrop. The scenic production is staged in color on the huge cosmic screen of the Creator with midnight

sun footlights in the summer. At other seasons, Alaska walks across the stage with sunrise and sunset jewelry adorning her by day, stars in her eyes and the Northern Lights in her hair by night.

On the regular programs, parades of industry show the gold dredges gobbling up the tundra down to bedrock, gold-plating the sluice boxes with nuggets and flour gold, and spewing out the muck, sand, and gravel residue behind in dunes of tailings.

The fur seal industry of the Pribiloff Islands is an interesting short subject. Then there are the cannery production lines processing the red gold



LARGE gold dredge gobbles up river bed down to bed-rock, goldplating sluice boxes with nuggets and flour gold.



NORTHERN Lights weave and float in ghostly dances, then skyrocket in adagio jumps and jitterbugging as a grand finale.



CHILKAT Indian dances have been preserved by Port Chilkoot and Haines teenagers who help make their costumes.

and silver of the salmon. The ivory carvings of Nome, the jade jewelery of Shungnak on the Kobuk, the mukluk and parka manufacture of Kotzebue display Eskimo handicraft at first hand.

Animal shorts are shown all over the vast Last Frontier—brown bear snagging fish in the rushing streams, the seemingly endless caribou migration of the Lake Louise, Steese and Forty Mile herds, the old seal beachmasters battling the young bulls for possession of the harems on the beaches of St. Paul Island.

Ballet extravaganzas feature the Northern Lights weaving in stately minuets, floating in ghostly

dances, then putting on a grand finale with skyrocketing adagio jumps and whirling jitterbugging.

Alaska also presents dramas that feature the military defending the Top of the Continent with Nikes, radar eyes, and blasting jets whose vapor trails trace the sentry patrols across the Ice Cap, the pioneer tale of farms and cities springing up in the wilderness, the epic story of the bush pilots blazing their aerial highways to all parts of the farflung outback.

Then there are Nature's travelogs of the snow-saddled peaks of the mountain ranges trooping across the distant horizon like pack trains in the sky, the lovely lakes strung together like jade beads by whitewater torrents rushing down to tidewater, the valley-deep fjords and island-studded channels of the Inside Passage with the ice rivers of the glaciers grinding down the terrain and breaking off into the sea.

For the Western addicts, Skagway presents "The Shooting of Dan McGrew" and Haines displays the traditional Chilkat Indian dances.

The ordinary, run-of-the-mill Alaskan programs have high ratings. When the Great Land stages a spectacular, it is colossal. Such a production is the annual break-up of Lake George which usually takes place in August.

Fifty miles from Anchorage, Lake George is cupped below the spawning heights of 27 glaciers. Here the mighty forces of Nature clash in a primeval struggle. During the winter, Knik Glacier



POWERFUL hydraulic forces of captive waters break the 300-foot ice dam at the west abutment and drain Lake George
Photo by Conrad Puhr

throws a huge ice dam across the Knik River, buttressed against the mountain shoulder. Fed by the melting snow and ice of the glaciers from March to July, Lake George is formed and builds up back of the glacial barrier. The captive waters, rising to a depth of 290 feet, gather their powerful hydraulic forces to breach the icy coffin and escape downstream to fulfill their destiny with the sea.

This epic conflict has been repeated yearly since the dawn of time when the great glaciers of the Ice Age buried the mammoths and the mountain valleys in their shrouds of ice. The impounded water of the lake slowly cuts under the base of the ice dam near the west abutment as the Crusaders undermined a castle wall. An irresistible force is fighting an immovable object.

The terrific head pressure of the lake cannot be denied. For about ten days, the struggle lasts until the raging torrent breaks through and rips the 300-foot ice walls.

The noise is deafening. Icebergs are born as the gaping breach is widening by gigantic falls of ice which thunder in the narrow gorge like explosions. Once a clear channel is cut through Knik Glacier's dam, Lake George empties rapidly as if

the plug in a Paul Bunyan-sized tub had been pulled.

Although this spectacular of primeval forces is staged close to Anchorage, the site is very isolated and accessible only by plane. The timing of the show varies from year to year. Prospective spectators and camera buffs judge the timing by observing the increased milky flow in the Knik River at the bridge on the highway between Anchorage and Palmer. When the first ice floes sail by, the glacier dam has been breached and the breakup is underway.

Charter planes are available at Anchorage to provide grandstand seats for this production of Nature as the bush pilot flies over the location. To obtain closeup stills and movies of the disintegration of the ice dam, the float plane lands the photographer in Lake George opposite Surprise Glacier and moors to the west bank about five miles above the site of the conflict in an area of the lake protected from icebergs by the glacier moraine. From there it is a rough hike to the scene of action at the west abutment.

Of all the spectacles which Alaska stages, this glacial breakup of Lake George rates the highest.



HELMUT RATH, left, BOB MacDONELL
both with Shell Oil Company,
Calgary, Alberta



BRANDT HOLMBERG
British American Oil Co.
Ltd., Calgary, Alberta



JACK TOD
Imperial Oil, Ltd.
Edmonton, Alberta



DOUG BAISLEY
Pacific Petroleum, Ltd.
Calgary, Alberta



SNAP



G. W. WEST
Texaco Canada
Edmonton, Alberta



RON RICHARDSON
The California Standard Co.
Edmonton, Alberta



CLIFF HADERER
Canada-Cities Service Oil Co.
Drayton Valley, Alberta



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VERN LINDEBURG
Texaco Exploration Co.
Edmonton, Alberta



LLOYD ALEXANDER
Imperial Oil, Ltd.
Edmonton, Alberta



LES CHRISTIE
Hudson Bay Oil & Gas Co.
Edmonton, Alberta

J. C. McDOUGALL
Imperial Oil, Ltd.
Edmonton, Alberta

ART BOR
Canadian Fina Oil, Ltd.
Calgary, Alberta

BILL WARD
Imperial Oil, Ltd.
Edmonton, Alberta

E. S. ARMSTRONG
Canada-Cities Service Oil
Co., Drayton Valley, Alberta

BOB CUASGROVE
The California Standard Co.
Edmonton, Alberta





BILL GROGAN
Socony Mobil Oil Co.
Calgary, Alberta



R. S. WEBB
Shell Oil Company
Calgary, Alberta



LLOYD CUNNINGHAM
Imperial Oil, Ltd.
Edmonton, Alberta



Standing, left to right: **ED MATTAGIS**,
A. C. ANDERSON, **ROY FISHER**, all in Calgary,
Alberta. Seated, **KEN BLANCETT**, Tulsa,
Oklahoma. All with Canadian Kewanee, Ltd.

SHOTS

by the *Lufkin Cameraman*



DAVE JUMPSSEN
Texaco Exploration Co.
Calgary, Alberta



ALEX ANDERSON
Pan American Petroleum Corp.
Calgary, Alberta



JOHN UIBEL
Central Del Rio Oils, Ltd.
Calgary, Alberta



ROY CUMMER
Amerada Petroleum Corp.
Calgary, Alberta



DON BURLEY
Lakehead Pipe Line Co., Inc.
Bay City, Michigan



DON BORWICK
Texaco Exploration Co.
Edmonton, Alberta



RICK KNIGHT
Seafort Petroleum, Ltd.
Calgary, Alberta



JIM TERRIS
British American Oil Co., Ltd.
Stettler, Alberta

ALF LEMKE
The California Standard Co.
Edmonton, Alberta

OLIVER OJCHAUDY
Amerada Petroleum Corp.
Calgary, Alberta

JOHN KOCH
Hudson Bay Oil & Gas Co.
Edmonton, Alberta

HUGH MacKENZIE
Imperial Oil, Ltd.
Drayton Valley, Alberta





ED CHAPUT
Hudson Bay Oil & Gas Co.
Edmonton, Alberta



JACK ROSS
The California Standard Co.
Calgary, Alberta



DON RUTHERFORD
Champlin Oil & Refining Co.
Calgary, Alberta



JIM BONSTALL
Hudson Bay Oil & Gas Co.
Calgary, Alberta



JOHN O'ROURKE
Sinclair Canada Oil Co.
Calgary, Alberta



K. NEISH
Apache Corporation
Calgary, Alberta



BILL ERICKSON
Imperial Oil, Ltd.
Edmonton, Alberta



BILL LUNDBERG
Home Oil Company
Calgary, Alberta



JIM RILEY
Imperial Oil, Ltd.
Dawson Creek, British Columbia



DICK ROUSSEAU
Texaco Canada
Edmonton, Alberta



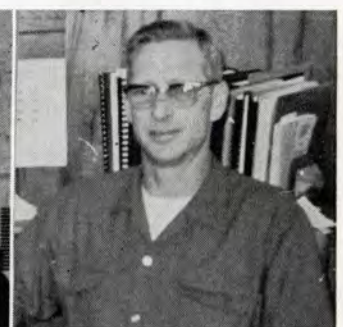
JACK BROOKS
Champlin Oil & Refining Co.
Calgary, Alberta



HERB CHANNEL
Home Oil Company
Calgary, Alberta



JIM FRASER
Home Oil Company
Calgary, Alberta



RAY WICKENS
Socony Mobil Oil Co.
Drayton Valley, Alberta

AL HODGESON
Shell Oil Company
Calgary, Alberta

AL KING
Shell Oil Company
Calgary, Alberta

TERRY HALPEN
Sun Oil Company
Calgary, Alberta

PETER DYCK
DeKalb Petroleum Corp.
Calgary, Alberta

DOUG FOSTER
Imperial Oil, Ltd.
Edmonton, Alberta



APSHOTS



Left to right: J. E. NEWKIRK,
J. CLAMPITT, TONY BABINGTON, all with
Amerada Petroleum Corp., Calgary, Alberta



JOHN PEAKE
Calgary & Edmonton Corp.
Calgary, Alberta



ED GASIOR
Pennzoil Company
Calgary, Alberta



J. D. BURNS
Pan American Petroleum Corp.
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BLAND WOOLFTER
Texaco Exploration Co.
Calgary, Alberta



BILL BARNETT
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LEO ZERR
The California Standard Co.
Calgary, Alberta



T. M. WILLIAMS
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ART LUGG
Tenneco Oil Company
Calgary, Alberta



E. B. BARNETT
Superior Oil Company
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BOB EDLUND
The California Standard Co.
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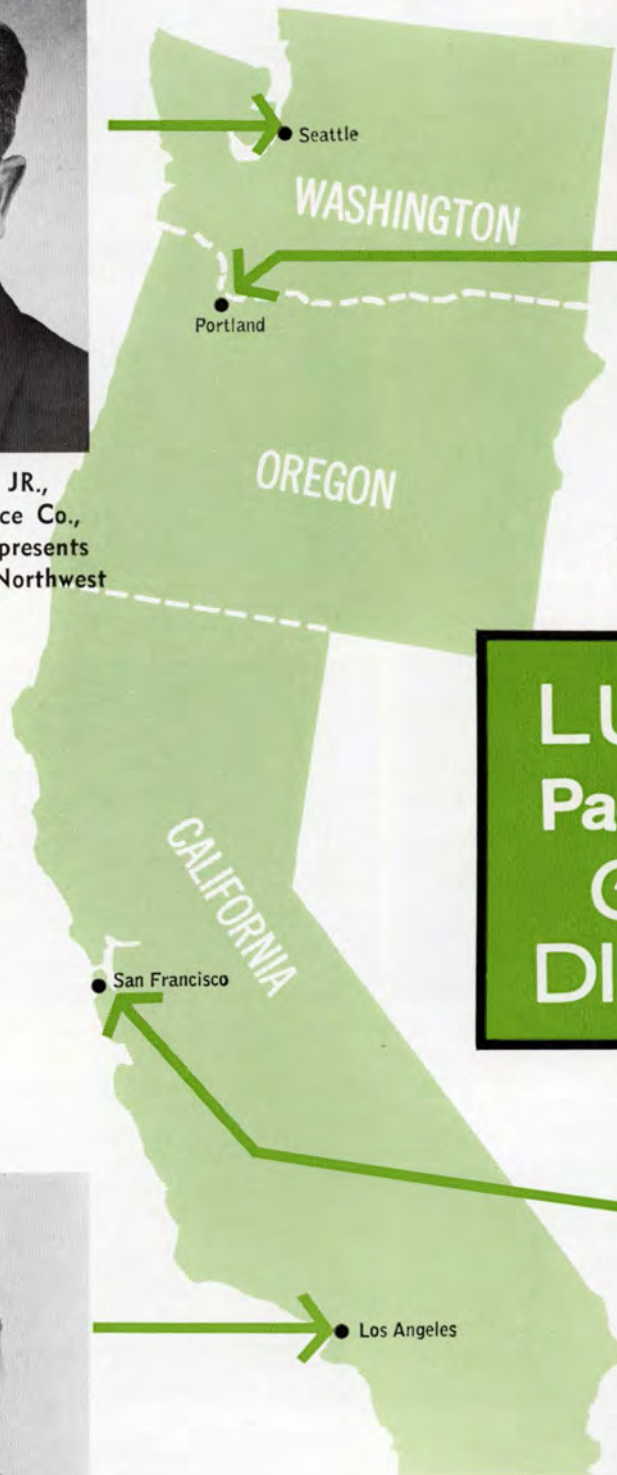




WILLIAM A. KIRK, JR.,
Frost Engineering Service Co.,
Seattle, Washington, represents
Lufkin Gears in Pacific Northwest



CARL O. MORTENSEN,
Vice President, J. W. Minder
Chair & Gear Company, Portland,
Oregon, represents Lufkin
in Oregon



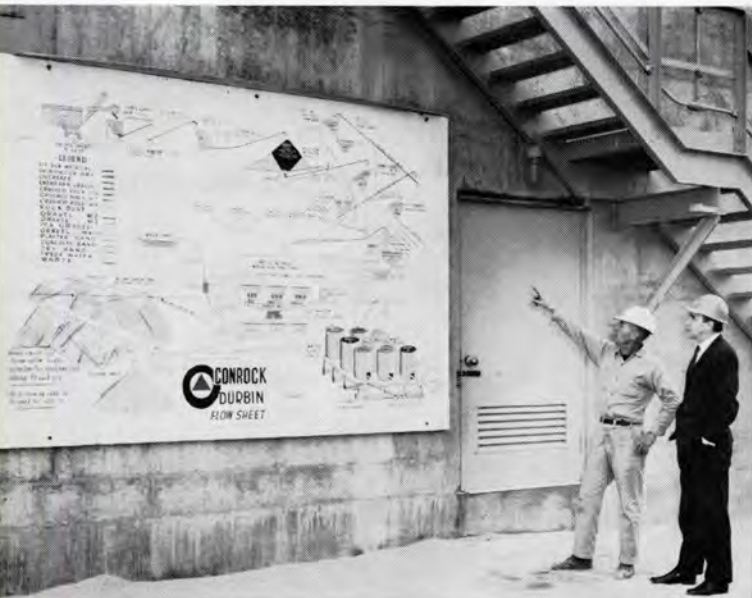
LUFKIN'S Pacific Coast GEAR DIVISION



V. J. FAWCETT, Los Angeles,
Manager, Pacific Coast Gear Division



WILLIAM C. SHERMAN,
Fremont, California, Lufkin's
Representative in the
San Francisco-Oakland Bay area
and northern California



BILL COZAD, left, of Conrock, and V. J. FAWCETT, Lufkin's Pacific Coast Gear manager, study descriptive flow sheet of Durbin operation. Production began in March, 1965.

BIRD'S EYE VIEW OF CONSOLIDATED'S DURBIN PLANT...

CONSOLIDATED Rock Products Company, a long-time friend of LUFKIN, opened its new Durbin Plant in Irwindale, California, on March 5, 1965. This newest and most advanced aggregate plant on the Pacific Coast is currently processing 800 tons per hour. However, it was designed for ultimate capacity of 2000 tons per hour.

Consolidated's Durbin Plant history goes back to 1923 when the original plant was built by the Los Angeles Rock and Gravel Company. Operation by this company continued until 1925 when the operation was purchased by the Union Rock Company who, in 1929, merged with several other companies to form Consolidated Rock Products Company.

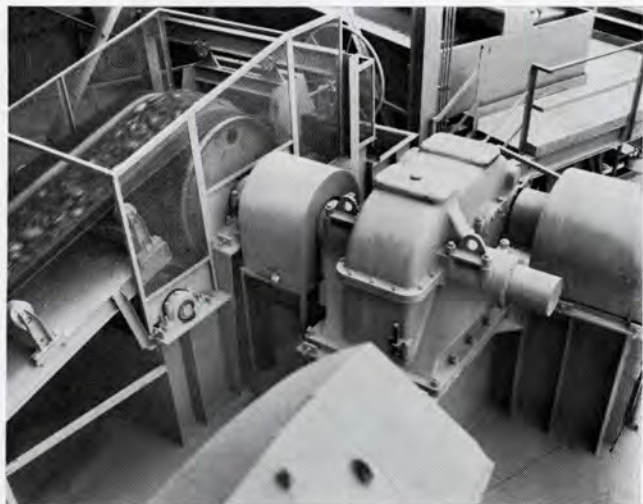
This plant, built mostly of timber, operated until 1931 when it burned. The property was dormant until Consolidated completed preliminary studies of the Durbin deposit and began actual field work in August, 1964. By March, 1965, the plant was in production.



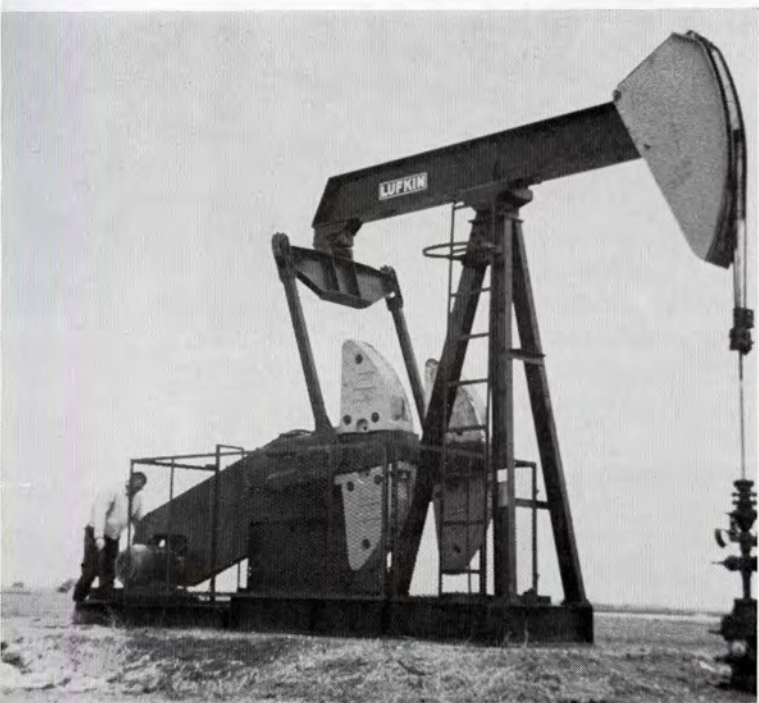
CONROCK'S efficient and smooth running Durbin operation at Irwindale, California utilizes a vast complex of conveyor belts to process daily thousands of tons of rock, sand and gravel. Eight LUFKIN HI-Q Reducers are in service on head pulley conveyor drives, sizes 456DC, 320DA and 160D.



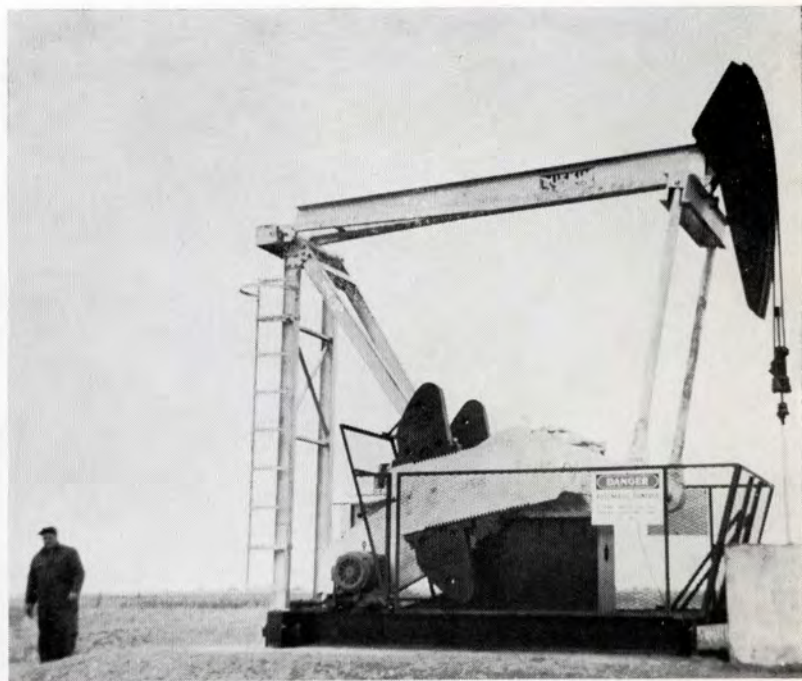
LUFKIN 160D HI-Q Reducer, 25 HP motor, 1200 RPM, 29.4-1 gear ratio, drives the Number Two crushed rock conveyor.



LUFKIN 456DC HI-Q Reducer transmits 125 HP, 1200 RPM motor, with gear ratio of 29.0-1, driving the Number One conveyor head pulley, bringing raw aggregate up to 130-foot level at belt speed of 500 feet per minute.



1



2

LUFKIN



5



3



4

INSTALLATIONS

- 1 LUFKIN C-114D-143-64 Unit, Placid Oil Company, Sherwood Field, Saskatchewan, Canada.
- 2 LUFKIN M-114D-143-86 Unit, British American Oil Co., Ltd., Estevan, Saskatchewan, Canada.
- 3 LUFKIN M-456D-256-120 Unit, Central Del Rio Oils, Ltd., Lake Alma, Saskatchewan, Canada.
- 4 LUFKIN C-57D-109-42 Unit, Supertest Investments and Petroleum, Ltd., Warburg, Alberta, Canada.
- 5 LUFKIN C-228D-180-100 Unit, Canadian Fina Oil, Ltd., Sherwood Field, Saskatchewan, Canada.
- 6 LUFKIN M-228D-213-120 Unit, Central Del Rio Oils, Ltd., Weyburn, Saskatchewan, Canada.
- 7 LUFKIN M-456D-305-168 Unit, Shell Oil Co. of Canada, Ltd., Midale Field, Saskatchewan, Canada.



6

7



ROMANCE of the SEA... A SAGA OF FOSS



THESE sister ships "Henry Foss" and "Arthur Foss" are the biggest ocean-going tugs in the United States operated by Foss Launch & Tug Company. They are 149 feet long with beams 33 feet wide. Propulsion gears are LUFKIN CSQ-8414 compounds, twin quill pinion type, rated 5000 shaft HP. Each tug is powered by two 2500 HP Nordberg Diesel engines, Model No. FS-138-HSC. Propellers are 11' KaMeWa controllable pitch.

Left: S. D. CAMPBELL, President
Foss Launch & Tug Company



PAUL A. PEARSON, left, Vice President & General Manager;
RALPH J. STAEHLI, Marine Representative, Foss Launch & Tug Company.



WILLIAM P. WOOD, Vice President,
Foss Launch & Tug Company



**HENRY FOSS, Honorary Chairman of the Board,
Foss Launch & Tug Company**

THE story of the 87-year-old Foss Launch & Tug Company of Seattle and Tacoma, Washington, reads like a romantic sea story and the proverbial Horatio Alger legend all in one.

Back in 1879, a poor immigrant Norwegian couple parlayed a \$5 investment in a rowboat into what today is the largest towing and barging operation in the Pacific Northwest and one of the three or four largest of its kind in the United States.

This Pacific Coast business empire, which today grosses between \$12 and \$14 million yearly, has a fleet of 80 tug-boats and some 200 barges which criss-cross a wide expanse of waters, traversing the Pacific Coast from the Panama Canal to the Arctic Ocean and westward to Hawaii.

The saga of this company began when Thea Foss bought a used rowboat with her hard-earned savings while her husband, Andrew, was away on a carpentering job. By the time Andrew returned two months later, she had re-sold her boat at a profit and purchased two others, selling them and buying four more which she had hired out to fishermen and duck hunters at 25 and 50 cents a day. When Andrew showed her his proud-earned \$32, she counted out almost that much money which she had stashed away in her cookie jar.

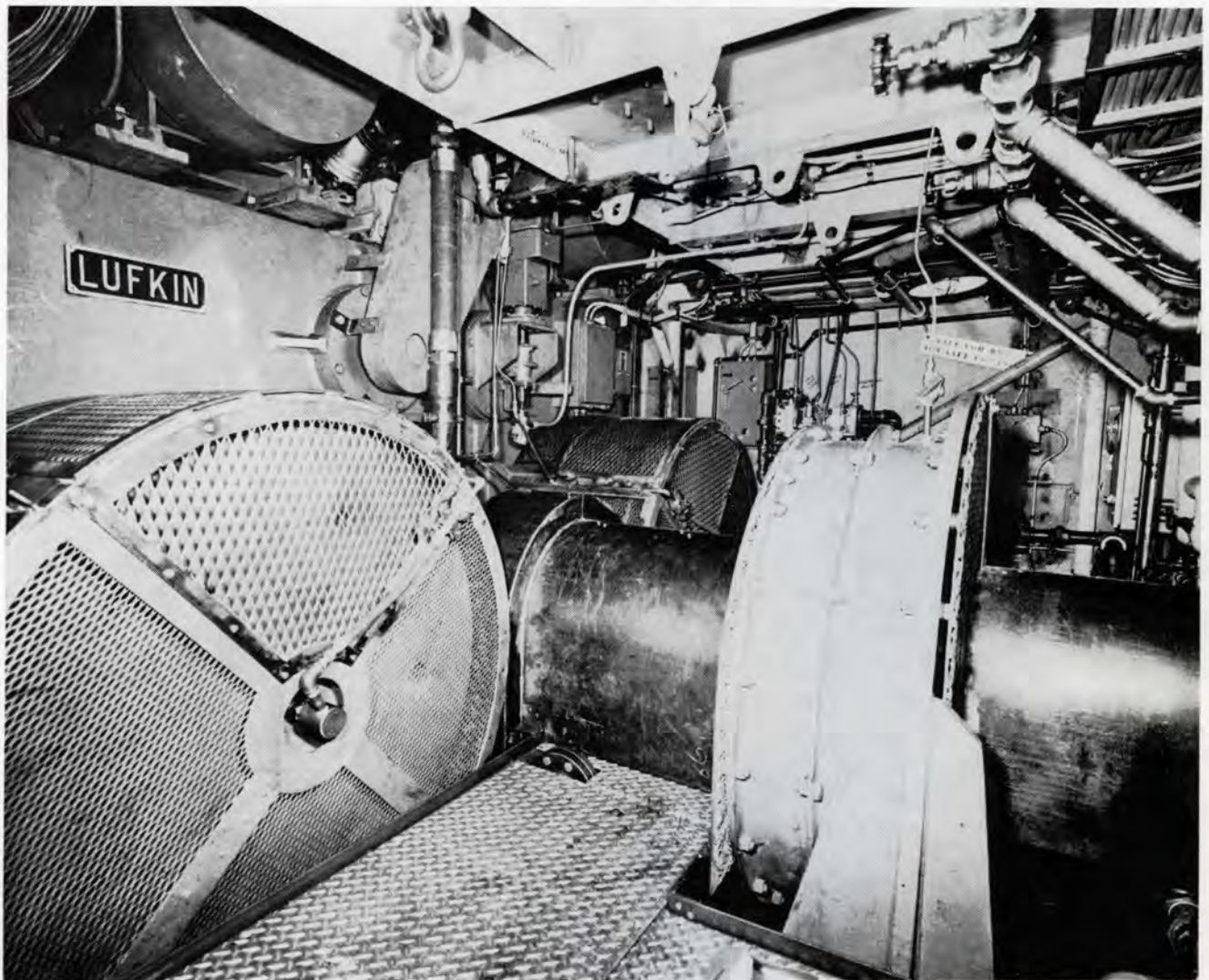
Her comment to her husband gave birth to the company's motto. "No matter what time of day or night people come to rent a boat, I am Always

Ready." The "Always Ready" still typifies the company's philosophy.

Enthusiastically, Andrew joined his wife in the new venture, adding his carpenter skills to her business acumen. He built boats and whittled spruce oars, which were light compared to the heavy factory-made oars of ash and oak. Trading, buying and salvaging, Andrew and Thea assembled a fleet of more than 200 sail and rowboats. Not only their business grew, but also their family. There were six children, four of whom survived: Arthur, Wedell, Henry and Lillian. Lillian died in 1914, and Henry now honorary chairman of the board, is the only son still living.

Around the turn of the century, the green and white boats belonging to the Fosses were quite in evidence. About this time, they bought a small two horsepower naphtha launch which they named "Hope." This was the beginning of a big fleet of launches which not only delivered packages to sailing vessels in the harbor but nudged ships from anchorage to loading berths. These launches also were pressed into service ferrying vacationers to recreational areas and resorts around Puget Sound.

As times changed and steamships replaced sailing vessels as carriers of lumber and grain, the Foss launch business had to change. Horsepower was stepped up and the launches were used to tow barges and log rafts. This proved inadequate be-



INSTALLED aboard the new "Henry Foss" tug is a LUFKIN CSQ-8414 twin pinion compound propulsion

gear transmitting 5000 HP from two Nordberg Diesel engines at 531 RPM. Gear reduction is 2.383-1.

cause the launches were not designed to tow loads that were constantly getting bigger. So Andrew designed and built new tugboats that were low-squatting, snub-nosed and rounded stern, which eventually became the prototype of most tugs in Puget Sound.

As Andrew and Thea grew older, the management of the firm was shifted to their sons. Thea Foss died in 1927 and Andrew in 1937.

But Thea's influence lived on. Norman Reilly Raine whose famous "Tugboat Annie" series had its inspiration in the adventures and exploits of Thea Foss, as related to Raine by her son, Wedell.

When the series was ready for filming, some of the Foss employees and the Foss tugs were used. Thea herself never did see the "Tugboat Annie" series, which starred the famed actress, Marie

Dressler, since the series did not reach the screen until after Thea's death.

There have been many unusual and interesting jobs performed by the "Always Ready" Foss fleet. Union Oil Company's magazine "Seventy-Six" describes the operations as follows:

"Foss tugs used to be commandeered by law authorities to chase smugglers and outlaws. Crews often found themselves facing problems that were a scenario writer's delight. The story of the *Sophia Christianson* is an example. She was a schooner that beached on an uncharted sandbar in the Aleutians. A 500-horsepower Foss tug was dispatched. Unable to free the schooner, the captain deliberately ran his stern aground, and spent the next two days chewing out a channel with the tug's propellers. The schooner slipped into the channel at



TWO NORDBERG 2500 HP eight-cylinder Supair-thermal diesels aboard the "Henry Foss" replaced

a steam engine in the tug, giving the boat free running speed of 16 knots.

high tide and the tug pulled her out.

"Tugboating is still as exciting as ever. Last year, for example, the tug *Iver Foss* hauled a floating pen containing Namu, the killer whale captured in British Columbia. Capt. George Losey, in a great feat of seamanship, towed the rickety pen for 19 days through 400 miles of the roughest waters in the Northwest. The whale is now the star attraction of a Seattle aquarium.

"One of the daring techniques Foss pioneered in 1950, which is still in use, is deliberately beaching barges in dockless areas. After being unloaded, the barges are re-floated at high tide. Heavy seas, currents and bad weather make this a most difficult operation.

"There are a hundred tales about the long hauls of Foss tugboaters. Among them are trips to Kwajalein, to Japan, and a triple tow to China. Henry's son, Drew, took a tug to Wake Island late in 1940 and was captured there by the Japanese. Henry, then a captain, personally greeted his son after the war, in Hawaii, aboard a ship repatriating prisoners of war.

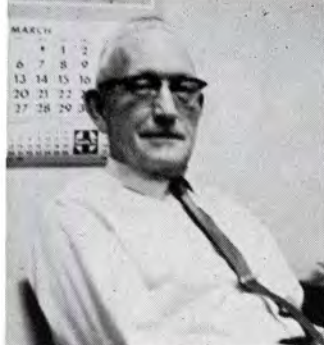
"Today Foss runs an operation with nearly 800 employees. Foss tugs ply the Pacific from Panama

to the Arctic Sea, and westward to Hawaii. Last year they moved some five million tons of commodities aboard 80 tugs and 200 barges. The company also has huge floating derricks that service oil-well drilling platforms in Alaska or erect steelwork for high-level bridges. Foss derricks once salvaged an airliner lying under 500 feet of water, and a train that had plunged into Puget Sound."

In the beginning, all Foss tugs were named after members of the immediate family, but when the number of tugs began to increase rapidly, they started naming them after cousins and in-laws. According to one story, a tug naming was held up to await the birth of a baby to one of the Fosses. All barges were given numerical designations.

Today, ownership of the firm still rests mainly with the Foss family. Henry O. Foss is honorary chairman of the board and his son, Drew, is board chairman. Sidney D. Campbell, son-in-law of Wedell Foss, is president.

The home office is in Tacoma. Henry and Drew Foss are in that city while Campbell is in the Seattle office. Paul Pearson, vice president, is manager of Seattle operations and Orville Sund, vice president, is manager of Tacoma operations.



HARLEY BOOHER
Deflon-Anderson Company
San Dimas, California



JACK MULKEY
Waukesha Motor Company
Huntington Park, California



FRANK CANADA
Pacific Pumps, Inc.
Huntington Park, California



BILL COZAD
Consolidated Rock Products Co.
Irwindale, California

WEST COAST GEAR INDUSTRY



RICHARD JENKINS
Fluor Products Company
Santa Rosa, California



W. T. HAILEY, Fairbanks-Morse, Inc.,
Div. of Colt Industries, Inc.
South San Francisco, California



PAUL PREPPERNAU
Medford Corporation
Medford, Oregon



GEORGE E. LEWELLEN
Waukesha Pacific Equipment Co.
Emeryville, California



W. F. WAHLENMAIER
Enterprise Div., De Laval Turbine, Inc.
Oakland, California



JERRY C. COLE
Enterprise Div., De Laval Turbine, Inc.
Oakland, California



L. C. NORGAARD
L. C. Norgaard & Associates
San Francisco, California



ALEX BALAZS
Byron Jackson Pumps, Inc.
Los Angeles, California



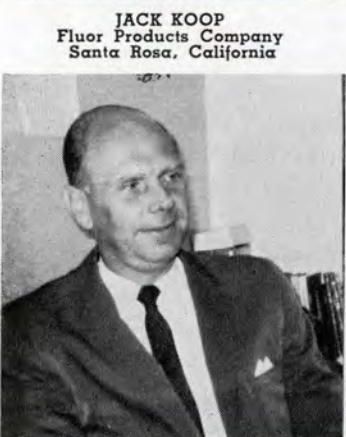
H. M. HAENRAETS
Byron Jackson Pumps, Inc.
Los Angeles, California



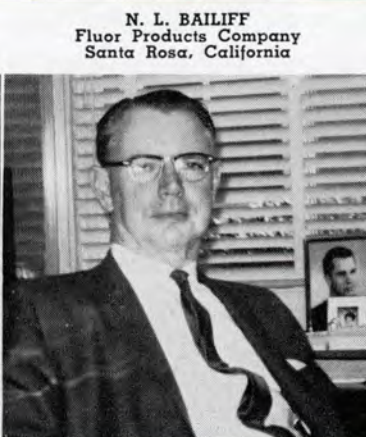
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J. W. Minder Chain & Gear Co.,
Los Angeles, California



ERNEST E. LINDROS
Byron Jackson Pumps, Inc.
Los Angeles, California



JACK KOOP
Fluor Products Company
Santa Rosa, California



N. L. BAILIFF
Fluor Products Company
Santa Rosa, California



MIKE ORESKOVICH
Medford Corporation
Medford, Oregon



NORM ROUX
Fluor Products Company
Santa Rosa, California

SNAP- SHOTS



VINCE ROTTA, Crane Hoist
Engineering & Manufacturing Co.
San Leandro, California



R. E. BANGS, Enterprise
Div., De Laval Turbine, Inc.
Oakland, California



HARRY G. NAGEL, Fairbanks-Morse,
Inc., Div. of Colt Industries, Inc.
South San Francisco, California



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Consolidated Rock Products Co.
Los Angeles, California



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Consolidated Rock Products Co.
Irwindale, California



DAVE COLES
Fluor Products Company
Santa Rosa, California



J. KRMPOTIC
Fluor Products Company
Santa Rosa, California



BOB GARDNER
J. W. Minder Chain & Gear Co.
Los Angeles, California



LOREN J. BAEBLER
Central Plants, Inc., Century City
Los Angeles, California



A. M. KUEHMSTED
Fluor Products Company
Santa Rosa, California



BRUCE CAMERON
Fluor Products Company
Santa Rosa, California



NEIL CREWS
Central Plants, Inc., Century City
Los Angeles, California



HAROLD DERUS
Waukesha Motor Company
Huntington Park, California



MAX REIDENBACH
Fluor Products Company
Santa Rosa, California



CHARLES COX
Nordberg Manufacturing Co.
San Francisco, California



JAMES G. DeFLON
DeFlon-Anderson Company
San Dimas, California



CARROLL F. REEVES
Waukesha Pacific Equipment Co.
Emeryville, California



H. W. STONEBRAKER
Fluor Products Company
Santa Rosa, California



JACK MCKAY
Fluor Products Company
Santa Rosa, California



JACK FISHER
Lufkin Foundry & Machine Co.
Los Angeles, California



AL COWAN
DeFlon-Anderson Company
San Dimas, California

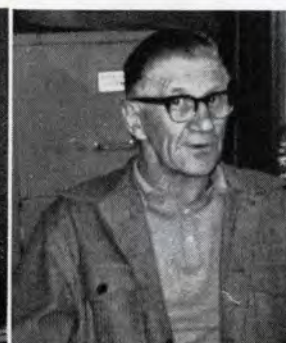
MORE GEAR Snapshots



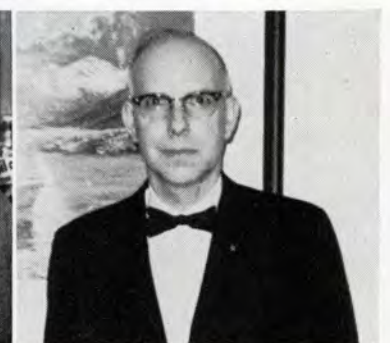
GENE SMITH
Fluor Products Company
Santa Rosa, California



FRANK C. VIBRANS, JR.
W. C. Nickum & Sons Co.
Seattle, Washington



CLAIR OGLE
Foss Launch & Tug Co.
Seattle, Washington



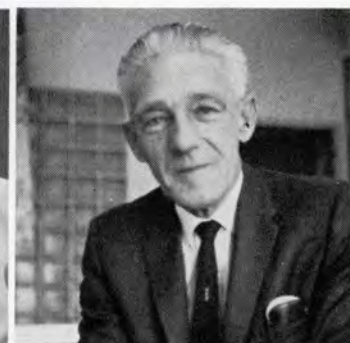
JOHN WEIKS
Philip F. Spaulding & Assts., Inc.
Seattle, Washington



ED WEIS
Fluor Products Company
Santa Rosa, California



KEITH ROSS
J. W. Minder Chain & Gear Co.
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VERL PETERSON
Consolidated Rock Products Co.
Los Angeles, California



GERALD C. MILLER
DeFlon-Anderson Company
San Dimas, California

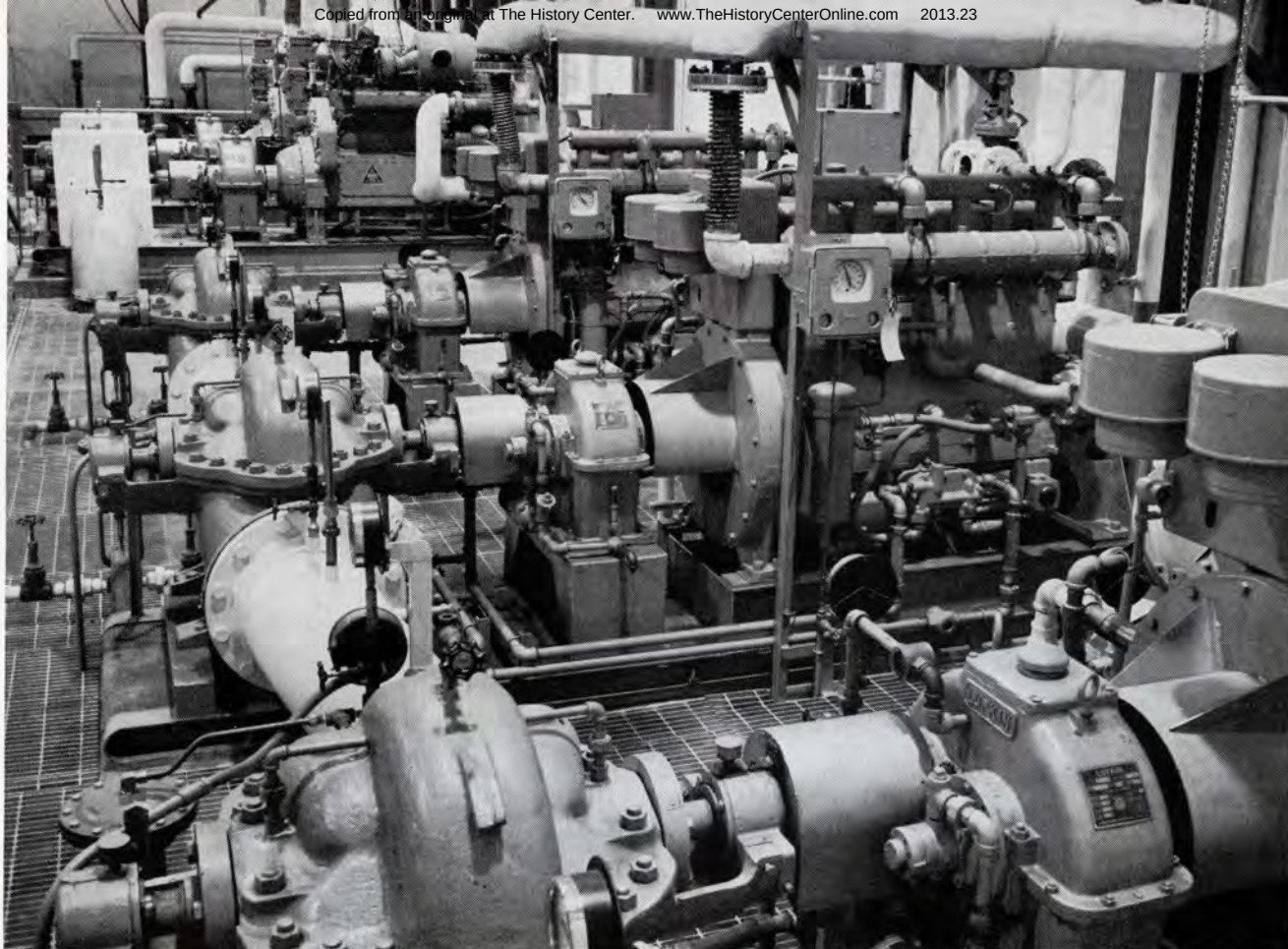
NORRIS MONG
Foss Launch & Tug Co.
Seattle, Washington

GEORGE C. NICKUM
W. C. Nickum & Sons Co.
Seattle, Washington

PHILIP F. SPAULDING
Philip F. Spaulding & Assts., Inc.
Seattle, Washington

J. A. GARRETT
Foss Launch & Tug Co.
Seattle, Washington





THREE identical LUFKIN S-84B Gear Reducers (foreground) transmit 130 HP each from Waukesha F817GU Engines at 1500 RPM. Centrifugal pumps are Worthington Model 10LN14 on condenser service with 4325 GPM each capacity.

TWO LUFKIN S-126B Speed Increasers (top left) transit 350 HP each at 1200 RPM input from Caterpillar Model D353 engines. Gears drive Worthington pumps on chilled water service at 3760 GPM rate.

CENTRAL PLANTS, Inc. *...a New Venture*

CENTRAL Plants, Inc. represents a whole new concept in refrigeration and heating from a central location to various commercial, residential and industrial users.

Century City is a new, highly sophisticated complex of high rise office buildings, apartments, hotels, theatres, medical center, etc. now under development by ALCOA on the site of the old 20th Century-Fox Studio lot in West Los Angeles.

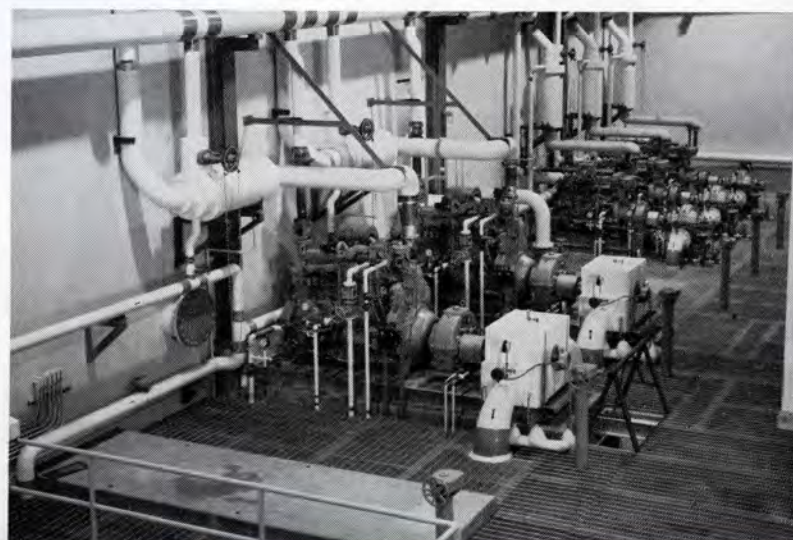
Instead of each of these large buildings maintaining its own heating and cooling systems, the gas company in this city developed the idea of a cen-

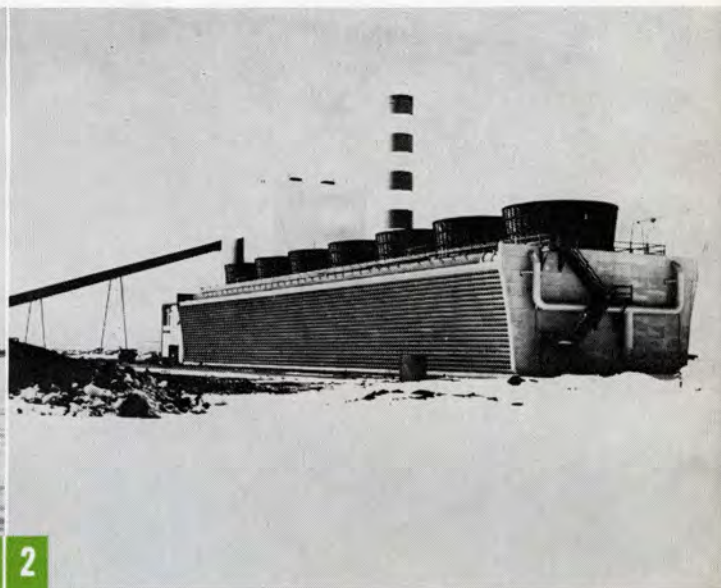
tral source. This idea is rapidly expanding to other metropolitan areas.

The refrigeration capacity of the plant at the present time is 2500 tons, but its ultimate capacity will be 20,000 tons. There are 750,000 gallons of 40-degree chilled water in the system, and 30,000 gallons at 350 pounds per square inch of 375-degree heated water.

This plant started on stream in January, 1966.

THIS is a general view of chilled water circulating system foreground and condenser pumps. Two LUFKIN S-126B Increasers and three S-84B Reducers drive Worthington pumps. Not shown are two LUFKIN M-63B Reducers on forced air fan duty, and one M-63B Increaser on high temperature water pump.





1 2



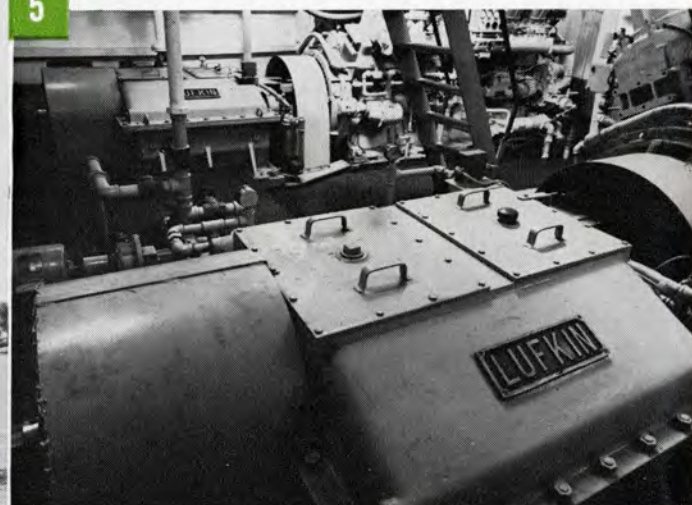
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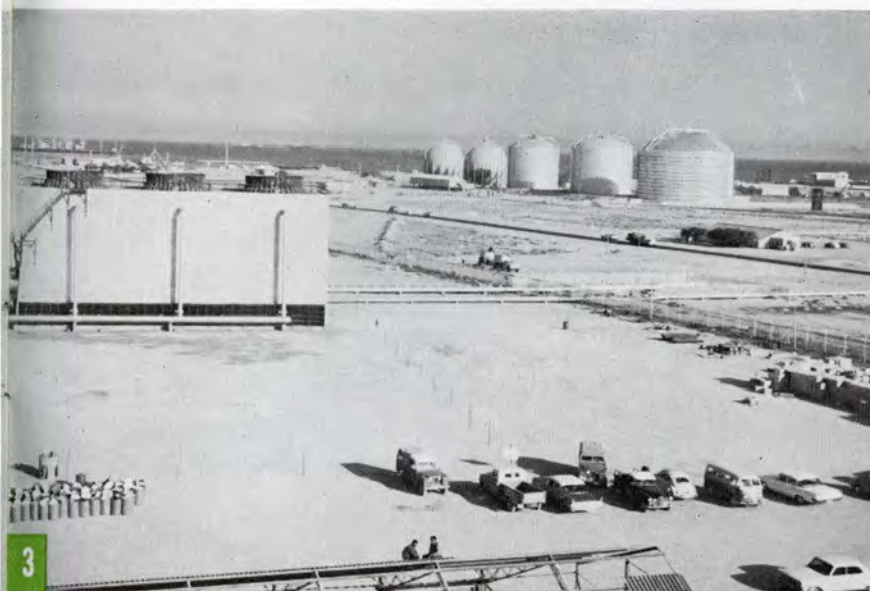
GEAR INDUSTRY

- 1 TWO LUFKIN H-2524 Marine Gears transmit combined output of twin Fairbanks-Morse OP-38D8½ diesel engines, or 3320 HP. Tug "MIKIONA" is twin screw, ocean-going vessel owned by Hawaiian Tug & Barge Co., Ltd., Honolulu, Hawaii. The "Mikiona" was launched by Albina Engine and Machine Works, Portland, Oregon.
- 2 SEVEN-CELL cooling tower utilizes seven LUFKIN DVB-80 right angle double reduction reducers. The tower was built and erected by Fluor Products Company, Santa Rosa, California, for Colorado Public Utilities Corp., Hayden Station, Colorado.



5





INSTALLATIONS

3 THREE LUFKIN 150VB Gears, ratio 9.22-1 driving fans in three-cell cooling tower for Kuwait Oil Company, Kuwait. Tower manufacturer is Fluor Products Company, Santa Rosa, California.

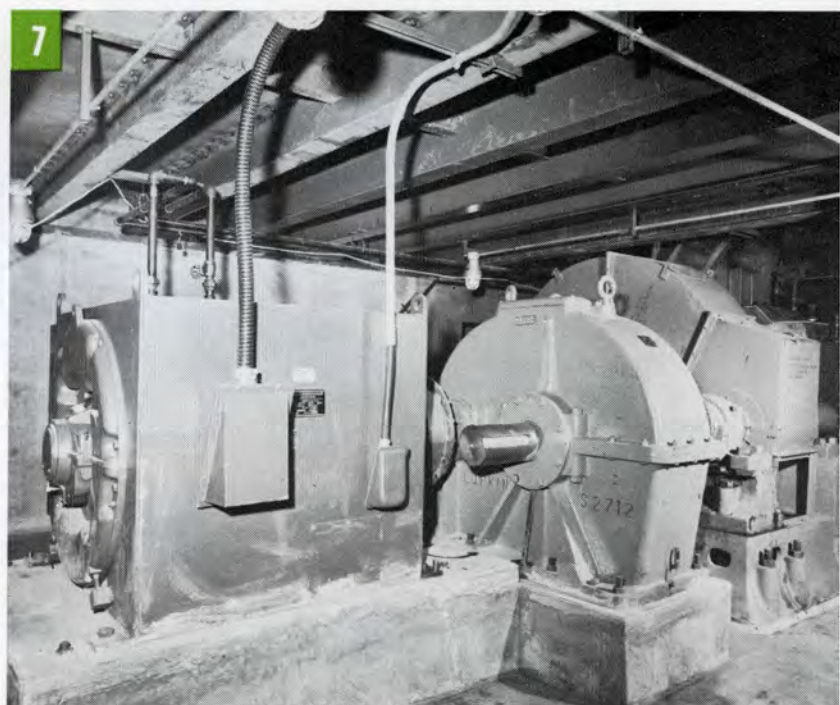
4 THREE-CELL cooling tower equipped with three LUFKIN 150VB right angle reducers driving 22-foot diameter Koppers Fans. Tower manufacturer is DeFlon-Anderson Company, San Dimas, California, who installed the tower for Amoniac Espanol, Malaga, Spain.

5 TUG "LASSEN" is in service on Sacramento River; it also serves various San Francisco Bay points.

ABOARD the "LASSEN" are two LUFKIN RSQ-1818 forward-reverse marine gears, powered by two Waukesha Diesels, Model L-5788DM. Owner and operator is the Riverlines, Inc., Sacramento, California.

6 LUFKIN D-290 Gear Reducer, ratio 68.7-1, 30 HP electric motor on log haul conveyor service for high production plywood mill owned by Medford Corporation, Medford, Oregon. There are several other Lufkin Gear Reducers in service throughout the plant.

7 LUFKIN S-2712B Single Reduction Reducer driving #11 Banbury mixer, Firestone Tire and Rubber Company, Salinas, California.





She: "Is it true 'Men never make passes at girls who wear glasses'?"

He: "It all depends on their frames."

Young woman to psychiatrist: "I'll pass up the couch if you don't mind. That's part of my trouble."

Do you know the definition of piece d'resistance? It's a French Virgin.

The worried husband went to the doctor and told him about his wife. "I'm worried, doc," the husband said. "My wife thinks she's a chicken."

"A chicken," the doctor asked. "What does she eat?"

"I feed her laying mash," the husband answered.

"Well, why haven't you done something about it before now?"

"I would have," the husband replied, "but she lays too good."

"Keeping your eye on a hula dancer's hands is like going through an art gallery and looking at the ceiling."

"I think the cowboy I was out with the other night is a rustler."

"What makes you say that?"

"Well, I hadn't been in his car for ten minutes before he tried to grab my calves."

An Indian was girl-watching on a street corner. As each one approached, he would raise his hand and say, "Chance."

One girl stopped and asked him, "Why do you say 'chance'? Why don't you say 'how'?"

"Me know how," said the Indian. "Me just want chance."

Chances are there's nothing to rumors that a bra maker is coming out with a model called the New Front Tier.

It was their first date and they were both thinking of the same thing. She called it mental telepathy; he called it beginner's luck.

"It was all Eve's fault she didn't know how to leaf well enough alone."

On a pessimist's tombstone: "I expected this and here I am."

He: "I feel like I've known you for years."

She: "You certainly do."

"Big Daddyoo," cooed she, "am I the only girl that ever slept with you?"

"If you do," replied he, "you are."

Did you know that very few topless bathing suits were sold or worn? Apparently the whole thing was a bust.

There's less cotton in the modern bathing suit than in a bottle of aspirin.

The definition of a Roman orgy is group therapy.

On some islands in the South Seas the girls wear nothing but grass skirts . . . what a place to hit the hay!

There are some Texans who even claim George Washington as their own. According to their version of Parson Weem's fable, George is supposed to have confessed to his Pop:

"Father, I cannot lie. I cut the tree down with my little hatchet."

"George," roared his parent, "if you can't tell a better story than that, get the hell out of Texas!"

Every time he looks at his wife he's sorry he learned to whistle.

A shapely Hollywood starlet, about to go for an interview with a producer, was warned by her girl friend, "Listen, honey, I don't want to upset you, but this guy has a bad reputation with women. If he gets you alone in his office, he's liable to rip the dress right off your back!"

"Thanks for the warning," said the starlet. "I'll go change into an old one."

A husband is a man who wishes he had as much fun when he is out as his wife thinks he does.

Model: "If I didn't wear all these beautiful clothes would you still be attracted to me?"

Boy friend: "Test me."

An old farmer was telling his neighbor about seeing his first movie: "Yep, 'twas good," he said, "but there was one scene where a bunch of girls started to undress to go swimming. Then a train would zoom by and the next thing the girls would be in the water. I sat through four shows waitin' for that durn train to show up late!"

A park policeman making his rounds observed a young couple tussling on the grass. He went over and asked them what they were doing. The pair hastily jumped up. "Nothing," stammered the embarrassed sweet young thing. "We were just exercising to keep fit."

"Well," said the policeman. "That's all right, but be sure it's not the kind of exercise that will get you out of shape, Miss."

Some men are so interested in their wives' continued happiness that they hire detectives to find out the reasons for it.

Boudreaux, with a voluptuous blonde clinging to his arm, went into a certain New Orleans hostelry. When the clerk indicated there was a vacancy, and asked him to sign the register, Boudreaux scrawled an "O" on the card.

Amazed, the clerk said, "I've seen lots of people sign with an 'X' but never have I seen anyone sign with an 'O' before."

"This ain't really my wife," Boudreaux explained confidentially. "So you don't think I'd be fool enough to sign my right name, do you?"

A promiscuous gal is one you can have fun with even if you play your cards wrong.

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DRY FREIGHTS,
REFRIGERATED



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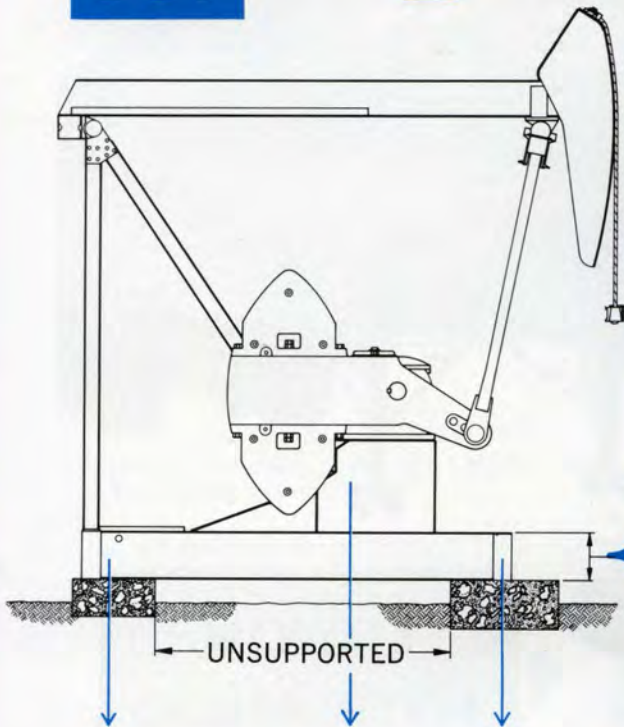
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