

SEVENTY SIX

January/February 1983



**GINA
AND
GILDA**

**ONE
YEAR
LATER**



Late in the afternoon, the sunlight changes and the color of the sea changes with it. The gentle breezes that caressed the Santa Barbara Channel off the California coast all day have now intensified. Whitecaps like cotton puffs, appear on a pewter-colored sea that was emerald-tinged only a few minutes before. The land masses of Anacapa and Santa Cruz—two of the fabled Channel Islands—begin to mist over to the west, but the foothills of Ventura County in the east are still bathed in golden sunlight.

A few yards away a group of California sea lions keep a precarious hold to a buoy and bark their complaints, as if protesting the oncoming squall. Their yelps add counterpoint to the din of motors and pumps, that are the never-ending symphony of any offshore oil-producing platform.

But this is not a run-of-the-mill offshore platform. It is Platform Gilda, big sister to Union Oil's Platform Gina which sits a few miles further to the southeast. Both platforms—although producing in separate fields and different in design—began production one year ago and are prime examples of the cleanliness and efficiency associated with today's state-of-the-art energy technology.

Gina and Gilda—rugged steel islands designed to tap energy located deep beneath the sea—are soon expected to produce more than 11,000 barrels of crude oil and 4 million cubic feet of natural gas per day. Peak rate of 16,000 barrels per day from Gilda is expected in 1985.

Offshore platforms are designed and constructed for a number of purposes: to drill and produce from a number of wells that tap a given deposit of energy resources; to house

work crews and to safeguard both man and the environment.

Gina and Gilda are perhaps the most efficient offshore installations found on the West Coast. They are the result of years of planning, countless tests and the investment of a considerable amount of capital.

Although Gilda is dwarfed in size by some of the mammoth platforms found in the Gulf of Mexico, Cook Inlet and the North Sea, it can accommodate 96 wells, the largest such capacity in the world.

The skeleton-like steel structure is one hearty platform. It tipped the scales at 2,200 tons at launch. With pilings, drilling and production decks added, Gilda weighs 6,200 tons. Like most of those working sculptures that

Cranes load supplies onto Gilda's work deck (Left). Crews connect a kelly to a drill string.



sit offshore, producing to quench civilization's thirst for energy, it is secured to the ocean floor by large pilings driven deep into the subsoil. Twelve piles were used to anchor Gilda.

The platform has nearly one acre of deck space. According to Richard C. Keller, former district production superintendent of the Oil and Gas Division, Western Region, in Ventura, it currently has nine producing wells that yield 3,200 barrels of oil and 1.8 million cubic feet of natural gas per day."

In contrast, Gina, the smaller of the two structures, has five producing wells and five injectors. Current production is 4,000 barrels of crude oil and 600 thousand cubic feet of natural gas.

Gina sits in 95 feet of water and

Gilda in 210. Both, however, tap oil reservoirs at less than 6,000 feet below the bottom of the channel.

In time, exploratory work may be performed, from Gilda, into the even deeper Monterey formation, some 10,000 feet below the ocean floor.

According to Richard S. Gillen, regional production engineer, Oil and Gas Division, Western Region, "We are equipped to handle production from the Monterey, if there is any there."

Platforms, unfortunately, are only the first step in the long and involved process resulting in usable energy in today's world. Once production has been established, Union Oil project personnel involved must find a way to bring the production to shore and eventually to one of the company's refining centers. Natural gas from Gina and Gilda is sold to a public utility.

That meant that a separation facility had to be built on Mandalay Beach

near Oxnard. There, water produced from the fields is separated from the oil and then returned back to the platforms where the water is reinjected into the reservoir.

Following the separation process, the crude oil from both platforms is then sent into existing pipelines. Eventually it joins the Torrey Canyon pipeline system and it is transported to Union's Los Angeles Refinery.

In due time, crude produced from Gina and Gilda winds up as various refined products serving the public's energy needs. 76

Operations are directed from the control room (Top Left). Union's work boat carries crews to and from work (Top Right). Crews guide a drill through one of Gilda's 96 well slots (Bottom Left). The Mandalay Beach separation facility handles production from Gina and Gilda.



Board Tours Offshore Facilities


They are marvels of engineering and modern technology—and of all the varied Union Oil operations, offshore production platforms prove to be among the most interesting facilities for visitors. Platform Gilda was no exception when the company's board of directors toured there late last November.

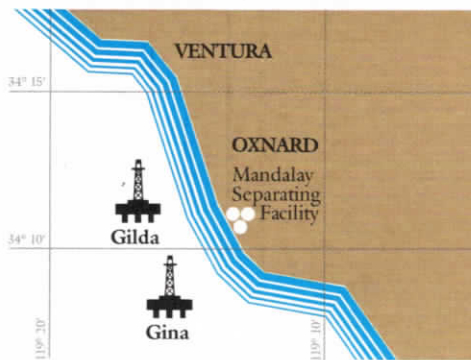
Union Oil and Gas Division Western Region personnel were host to the Union Oil Company board of directors meeting in Ventura, California, where a presentation of the company's west coast exploration and development activities were made.

Both onshore and offshore production from Alaska and California and the other states making up the Western Region, yields 67,000 barrels of crude

oil per day and an average of 227,000 million cubic feet of natural gas.

Highlighting the tour was a visit to the world's largest well capacity platform: Gilda, now producing from eight of its 96 well slots.

The directors boarded a Union crew boat for the 45-minute trip to the steel island in the Santa Barbara Channel. Enroute they inspected Gilda's sister platform, Gina, and the Mandalay Onshore Separation Terminal. 



Union and Aviation: A Lifelong Involvement

"They" have captured man's imagination since the mythical day when Icarus and his father, Daedalus, attempted to flee ancient Crete by taking to the skies on feathered wings held together with wax. Daedalus, if one is to believe the fable, became the first and most famous Hellenic ocean-crosser until Lindbergh took to the skies in his "Spirit of St. Louis" in 1927.

"They," too, captivated Leonardo Da Vinci—the quintessential Renaissance man—who, baffling his contemporaries, gave flight to his fancy by design-

ing prototypes for helicopters, dual-fuselage fixed-wing aircraft and even a primitive rocket that resembled the space shuttle Columbia.

"They" are flying machines—the wonderful contraptions that have given man the most thrilling and horrific moments of his airborne history.

Who, after all, hasn't felt a twang of nostalgia and excitement watching the jerky, scratchy and yellowed film clips of the Lone Eagle's landing in Paris? The 60-second, white-knuckle excitement of Howard Hughes' "Spruce Goose" leaving the

water? The terrifying newsreels of World War II dogfights?

In all these cases, airplanes were featured in the starring role while man generally played only a bit part.

Union Oil's own aviation history is as long as it is colorful and nostalgic. The company has supplied products for the machines that have propelled such famous pilots as Lindbergh, Hughes, Earhart, Post and others to fame. Following is a "Family Album" showing glimpses of Union and its involvement in aviation.



Contestants' planes being refueled in Kansas City for the 1928 National Air Races.



Wiley Post and his Lockheed Vega, Winnie Mae sponsored by Pure Oil Company, twice circumnavigated the globe in record time.

Marvel Crosson set a women's altitude record of 24,000 ft. in July 1929 in her Union sponsored Ryan Brougham.



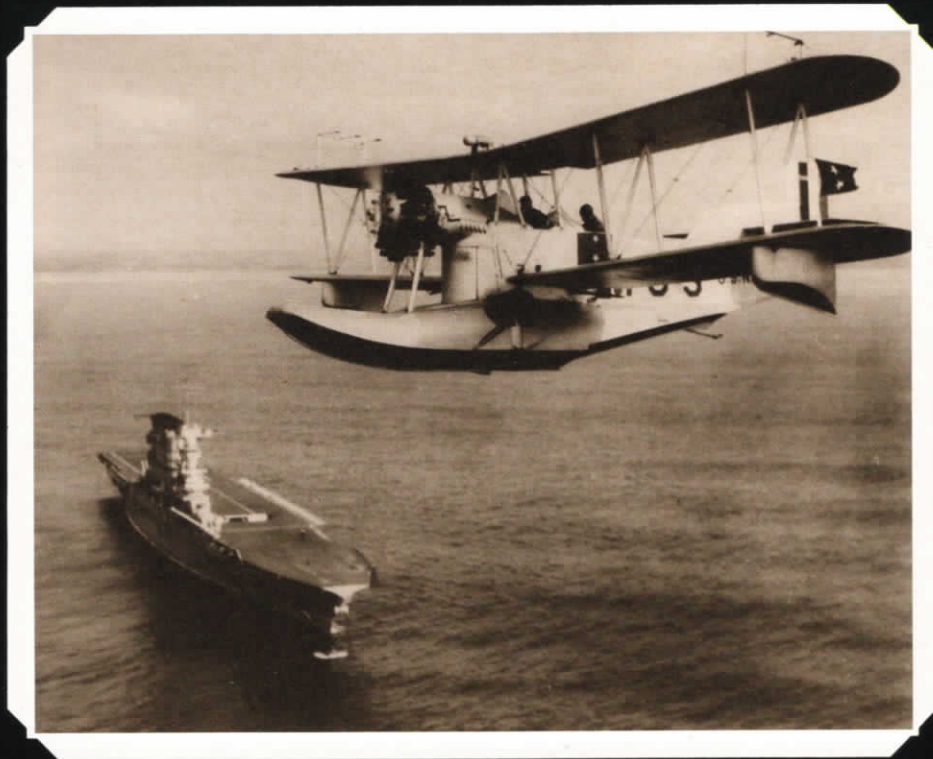
The Fokker trimotor Southern Cross using Union aviation gasoline made the first crossing of the Pacific Ocean.



A Ford trimotor, sometimes called fin goose at Scenic Airways, a Union account in Fredonia, Arizona. Circa 1929.



The Union Oil Employees Glider Club gathers at Vail Field, Los Angeles in 1980. The gliders were towed aloft by car.



A Loening amphibian soaring over the USS Saratoga in 1930. Union supplied the Navy with aviation gasoline at the time.



U.S. Army Air Corps' Boeing P-125S being refueled at Luke Field Phoenix, Arizona, in 1932.



Aviatrrix Amelia Earhart supervises the fueling of her Lockheed Vega monoplane for her record breaking transcontinental flight, July 1932



Art Chester won first place in the 1933 National Air Races, using Union Oil gasoline, at the Los Angeles Municipal Airport. Plane's wingspan is only 12' 10"



Union employees financed the Spirit of 76 Boeing B17-G Flying Fortress by purchasing War Bonds in 1944.



In 1947, then Union Vice President A. C. Rubel, Maria P. de Sanchez-Albarran and Mrs. Juan Pedretti, christened the company Douglas D.C.-3 Asuncion

the Wonders of Jet Fuel

Picture a person sitting comfortably in the non-flammable, wide and reclining seat of a contemporary jetliner. This person is perusing a newspaper produced only a few hours before with the aid of word processors, its type set by computers, the pictures that illustrate the front page were transmitted via satellite from half way around the world. The headlines blare that another successful space shuttle mission has been completed. Matter of factly, the weary passenger adjusts the ventilation system overhead, orders a drink distilled thousands of miles away and adjusts a stereo headset that only a few years back would have been considered revolutionary.

What would aviation pioneers depicted in the preceding story have thought?

At altitudes undreamed by the Posts, Lindberghs, Earharts and Hughes, his jet streaks across the sky at a speed nearly the velocity of a .45 caliber bullet—almost toying with the sound barrier.

Our imaginary passenger dozes as barely audible engines lull him with a mournful hum. Even when fully alert, he probably gives little thought to the wonderful fuel that is currently propelling the jet engines at some 20 odd thousand feet.





But the rather easy and enjoyable journey would not be possible without the machines and fuel that have turned today's flying machines into a reality from their early concepts on the drawing boards of aeronautical and refining engineers.

A modern commercial aircraft is, perhaps a quintessential example of two distinct industries—*aeronautics and energy*—cooperating to accomplish difficult goals.

For without jet fuel, today's jumbo jets would have been an idea that never left the ground.

Industry-wide cooperative research programs, plus considerable investment in refining hardware assure the quality product demanded by today's sophisticated aircraft.

What is this liquid marvel that keeps the nation in the skies?

According to Thomas B. Williams, general superintendent of operations at Union Oil's Los Angeles Refinery in Wilmington, Cal. "Jet fuel as used now is very close to kerosine in composition and must be produced under a rigid standard of regulations during the refining and pipeline operations."

Presently, Union Oil's Los Angeles Refinery produces only what is known throughout the industry as Jet A, the most popular commercial turbine fuel in use today. Jet A is a kerosine-type fuel that has a typical boiling range between 300 and 500 degrees (F). It has an extremely low freezing point and finds wide acceptance on high-altitude, long-distance flights where the fuel temperature could be reduced to as low as 50 degrees below zero.

These rigid specifications for the fuel were originally written by the American Society for Testing and Materials (ASTM). They cannot be altered.

The most important specifications dictate that jet fuel must have wide-range flow properties, it must be clean burning, and it must possess thermal stability.

These are all properties acquired during the long and complicated refining process that takes place within the confines of the refinery.

Wide range flow properties: turbine fuel must be deliverable to the engine under a wide variety of operating conditions. Not only must the jet fuel not deteriorate under normal storage conditions, be non-corrosive and harmless to the fuel system, but it must have a sufficiently low freezing point to assure adequate flow at high altitudes where tank temperatures can be sub-zero. At the same time, the fuel must be thick enough to provide adequate lubrication to the fuel pumps, yet thin enough to give consistent fuel nozzle spray patterns.

Clean burning: jet fuel must ignite and burn cleanly, with as large a heat release as possible. Ignition is, of course, controlled by the lowest boiling materials in the fuel. Significantly, "clean burning" is related to the hydrocarbon composition of the fuel. Aromatics, the chicken-wire shaped benzene-ring hydrocarbons, do not burn cleanly in modern jet engines and tend to increase undesirable engine deposits. Moreover, aromatics burn in such a manner as to adversely affect the life of jet engine combustion chambers. Therefore, aromatics content is reduced in the refining operation.





At the same time, jet fuel must have a high heat content, because it is heat that is ultimately converted into power. Any reduction in heat content is accompanied by an increase in fuel consumption, with a corresponding loss of flying range.

Thermal stability: according to Williams, thermal stability is perhaps the most important and delicate requirement in the process of refining jet fuel. In many jet engines, the turbine fuel is used to cool the engine lubricating oil before it is burned. In today's jumbo jets, turbine fuel also has the additional task of cooling the entire airplane, including the air-conditioning load. The fuel, therefore, may reach temperatures of 300 to 400 degrees. Under these conditions the turbine fuel must also be stable enough as to avoid formation of undesirable deposits in the engine's fuel system. These deposits may be likened to the varnish and gum that can form in automobile engines. They must be inhibited to assure long engine life. On a jet engine, these deposits can adversely affect heat transfer in heat exchangers and can plug filters and screens in the fuel system. In a commercial aircraft, this situation might be a potential hazard.

But how is jet fuel refined?

According to David J. Maier, superintendent of bulk operations at Union Oil's Los Angeles Refinery, the process is as delicate as it is complex.

“The first step in refining Jet A fuel takes place in the refinery’s Crude Distillation Unit where all the crude oil stream that results in a variety of products is originally processed,” Maier says.

Two refining streams from this large unit are destined to become jet fuel.

Maier explains: “These streams, the diesel distillate and what we call the 3050 stream (a name given to distillates that have a nominal boiling range between 300 and 500 degrees) are then sent into two Unionfiners. (Unionfining is a Union Oil innovation more technically known as catalytic hydrosulfurization.) Once there,” Maier continues, “the distillates undergo color improvement and sulfur removal. While undergoing this step, naphtha—or gasoline—diesel and turbine fuel are separated.”

After passing the Unionfiner, two stocks of turbine fuel are then transported to the Edeleanu Unit at the refinery where raffinate (low aromatics) and high aromatics are separated.

“Raffinate, or low aromatics turbine stock, is what we in the refining industry call Jet A,” Maier adds.

Industry guidelines dictate that jet fuel have a maximum aromatic count of 20.

Currently, the fuel that “keeps ’em flyin’ ” must, in addition, go through a rigid filtering system before it even reaches the tank farms at the various airports. There it undergoes still another filtering process before it is pumped into the tanks of an aircraft.

Refueling today’s commercial airlines is but the final step of a large and complex refining process that originates at the refineries’ crude blending units and ends at the various airport terminals throughout the Western Region where Union Oil’s Jet A fuel is used by many air carriers.





According to Williams, the Los Angeles Refinery produces some 60 percent of Union Oil's Western Region Jet A fuel each day. Union's San Francisco Refinery produces the other 40 percent. The fuel from both refineries is transported via pipeline or tankers throughout the Western Region.

"One must keep in mind that the heavy air traffic in today's skies must make fuel accessible to places that are out-of-the-way, but rely on air service," he says.

So it is feasible that a flight from maybe Anchorage to Los Angeles, or even Chicago to London could be fueled with the results of that crude oil that is first inserted into one of Union's refineries crude distillation units.

It is also reassuring to know that the imaginary passenger relaxing in the high-flying confines of a plush jumbo jet is protected on his trip by the most rigid standards of safety while at the same time enjoying the benefits of the best and latest refining and aeronautical innovations. 76



Fred L. Hartley, Union Oil's president and chairman of the board, addresses guests, visitors and dignitaries who gathered during the dedication of the company's newest geothermal project on the shores of California's Salton Sea last January. The project, Hartley said, "is a tribute to Union Oil's geothermal staff who developed the new technology that overcame many obstacles."

SALTON SEA GEO THERMAL PROJECT DEDICATED



The Salton Sea in southern California is America's version of the Dead Sea in the Middle East. It is a relatively small and shallow body of water situated in what was considered one of the most barren and inhospitable pieces of acreage in the southwest. If not for modern methods of irrigation and technologically advanced agricultural practices, little would grow here.

As it is, however, much of the land around the Salton Sea—a body of super saline—is highly productive. This area is known as the Imperial Valley.

Here, the seemingly endless fields stretch in all directions, carpeting the onetime desert with crops ranging from lettuce to strawberries.

Rich alluvial topsoil is not the Imperial Valley's only natural asset, however. Deep beneath its fertile fields, the whims of nature have conspired to produce a large quantity of geothermal energy—the natural heat of the earth captured in fluids in rock formations thousands of feet beneath the earth's surface.

In a few areas around the world—the Philippines, parts of Japan, Hawaii, Hawaii, Indonesia and especially in California—the heat source, molten rock or “magma,” lies relatively close

to the surface, heating the layers of rock above it. If these layers are water saturated and have enough flow capacity, the heat energy can be captured by drilling wells and extracting the hot fluids.

Union Oil Company is the world's largest producer of geothermal energy, supplying natural steam to power more than 1.5 million kilowatts of electrical generating capacity in the United States and the Philippines alone.



Surrounded by farmlands, the Salton Sea geothermal project produces enough steam to power a plant capable of generating 10,000 kilowatts (above). Olin D. Whitescarver, district operations manager of the Geothermal Division's Indio offices, explains the intricacies of the project's control room to (left to right) Carel Otte, president of Union's Geothermal Division; Fred L. Hartley; Cloyd P. Reeg, president of the Science and Technology Division and Richard J. Stegemeier, director and senior vice president (right). Whitescarver guides Hartley through grounds (facing page).





The company's latest effort to wrest this natural energy from deep within the earth was dedicated last January. It is the 10,000 kilowatt Salton Sea Geothermal Electric Project, a major technological advancement in the geothermal energy field.

The project, located at the southern tip of the Salton Sea produces geothermal energy from an underground reservoir using advance technology developed by Union Oil engineers and scientists.

During the dedication ceremonies—attended by more than 400 guests from government and business—Fred L. Hartley, chairman and president of

Union Oil and a long-time champion of geothermal projects, once again stressed the energy potential in this part of California.

Calling the Imperial Valley the "Saudi Arabia of geothermal energy," he noted that the resources deep beneath the surface at Imperial Valley are "believed to be capable of powering more than three million kilowatts of electrical generating capacity?"

Hartley said that Union persisted in developing the new technology to overcome the complicated problems unique to the Imperial Valley fluids.

These problems, the long-time nemesis of geothermal producers, include corrosion, scaling and injection-well plugging problems arising from the high levels of dissolved solids and salts in the fluids.

At Salton Sea, Union's wells produce sufficient geothermal energy to power a plant capable of generating 10,000 kilowatts. That is enough to supply the electric needs of a community of 9,200 persons.

The design of the Salton Sea project incorporates improvements based on the operating experience Union acquired at its nearby Brawley geothermal project.

Utilizing the fluids in the valley is not a new idea. "When we (Union Oil) drilled the first experimental wells in this area some 20 years ago, we discovered plenty of geothermal

(Clockwise from top): Overall view of the project, high-pressure crystallizers, visitors inspect the steam-producing facility.



Hartley reviews the newly dedicated geothermal project with William R. Gould, chairman of the board of Southern California Edison (left) and Alan C. Furth, president of the Southern Pacific Company, co-hosts of the dedication ceremonies.





energy,” Hartley said. “But it was contained in brines up to 10 times as salty as sea water. So corrosive were these hot, highly-saline fluids that ordinary pipes literally dissolved on contact.

“Many other would-be geothermal energy producers, including some of the world’s largest corporations, also tried these problems...they retreated in defeat, he added. “It is a tribute to Carel Otte’s staff in the Union Geothermal division and the scientists and engineers of the Union Science and Technology Division who persisted in developing the new technology that overcame these obstacles here and at our Brawley installation further south.”

Otte is the president of the Union Geothermal Division.

But surmounting technological barriers is not enough, Hartley asserted. To be economically feasible, Imperial Valley geothermal projects must be expanded from 50,000 to 100,000 kilowatt size.

This he warned, “requires new thinking and support by regulatory agencies, particularly the California Public Utilities Commission.

“Specifically, decisions on projects using geothermal energy should not be based solely on short-term fluctuations in fuel costs for conventional power plants,” Hartley stressed. “The decisions must also consider long-term benefits as well.”

Two separate activities occur in the commercial development of a geothermal project—resource production and electrical generation steps.

In the case of the Salton Sea, Union Oil is the resource producer. This involves drilling and operating wells, pipeline upkeep and other components of the production and injection systems.

The steam is then transported by pipeline to the generating plant operated by Southern California Edison where it is used to spin the turbine generators. Remaining fluids are treated and injected back into the reservoir.

76



1983:



a year to rejoice.



Athos, Portos and Aramis—the sword-wielding Three Musketeers of Alexandre Dumas—blazed their way from 17 century France into 1983 on a float sponsored by Union Oil Company in the 94th Annual Tournament of Roses Parade in Pasadena.

The flowery creation, entitled “All for One—One for All,” was the company’s 54th entry in the traditional pageant that welcomes each southern California new year, this year with the theme “Rejoice.”

Every inch of the three larger-than-life swashbucklers was covered with chrysanthemums, carnations, marigolds, dendrobium orchids and gladioli.

Underneath their plumed hats was hair fashioned from corn silk that turned from gold to red as it dried. They held drawn swords—made from silverleaf and eucalyptus leaves—in gallant defense of three live maidens.

Cascading vines of pink camellias and roses draped an elegant French castle that was encircled by a moat with a drawbridge.

Thousands of fresh flowers were painstakingly glued, one at a time, to the sculptures during the last five days of December, and kept fresh and beautiful for the world famous parade. But the design and actual construction of the colorful float is a year-long process.

Fiesta Floats, a company specializ-

ing in building floats, produced the Union Oil entry this year.

The process begins early in the year, when prize winning designer Raul Rodriguez submits color renderings of a handful of tentative ideas for Union Oil’s approval. Once a design is agreed upon, Fiesta’s crews begin construction.

I-beam steel, angle iron and reinforced steel pipes are welded to form a base around a truck chassis. Artists then bend and weld steel rods to outline the enormous figures that rise from the chassis. The figures next are covered with chicken wire, screen, cloth and, finally, the plastic webbing onto which the blossoms will be glued.

Fiesta’s regular 15-member staff begins to grow at this point. Extra employees are needed to help paint the floats with enough detail to provide a pattern for the flowers.

Approximately 150 people are hired for the final, tedious task of gluing the specially ordered flowers onto a float. This five-day job is usually completed only hours before the judging takes place and just before the floats are lined up for the New Year’s Day celebration.

The bright blue sky and nearly 70 degree temperature greeting parade goers this year bore little resemblance to the hurricane-force gales that swept through the southland early in December, toppling the 14-ton tent under which the Fiesta Floats crews were working.

Several of the 15 floats the company constructed for the event, including Union Oil’s entry, were damaged. Workers scrambled to repair the floats in time for the parade.

Grand Marshall Merlin Olsen, television personality and former Ram defensive lineman, led the colorful procession of floats through the downtown Pasadena streets. More than a million people lined the five and one-half-mile route, some camping out days in advance in order to get a good view of the parade. Millions more watched at home as television satellites flashed images of the 60 spectacular floats, regal equestrian units and spirited marching bands. 76





PROTECH EXPANDS UNION SERVICES



Today, when many oil companies are reducing customer services, the Union 76 approach continues to buck the trend. At Union, full service doesn't refer just to the gasoline pump, but to an ever-improving array of customer offerings, such as credit cards, quality tires, batteries, accessories and automotive maintenance.

Union's car care training programs for dealers and their employees have long set the company apart from competition.

More than 20 years ago, Union's pioneering Certified Services program produced trained mechanics that customers could rely on.

Prior to Certified Services, Union dealers offered their customers very little by way of back room (service bays) work. Oil changes, lubes, and fan belt replacements were as far as they went. Certified Services was initiated in 1962 and quickly earned dealer and customer acceptance. The program was updated annually.

Using teams of roving instructors, who often travelled their territories in station wagons full of gear, Union conducted clinics around the country. To become certified, a mechanic had to pass written and performance tests in the areas of tune-up, brakes, wheel alignment and air conditioning.

Four years ago, Union undertook a massive evaluation of its automotive services program. The growing complexity of new car models, coupled with an increasingly negative public perception of those who performed mechanical repairs, led the 76 Division's Western Region to an internal review of its training programs and policies.

"While the demand for automotive service was growing steadily, the number of outlets that performed this type of work was on the decline," explains Clay Warnock, marketing vice president, Western Region. "We knew that service stations had been steadily losing market share to specialty repair shops and auto care departments of mass merchandisers.

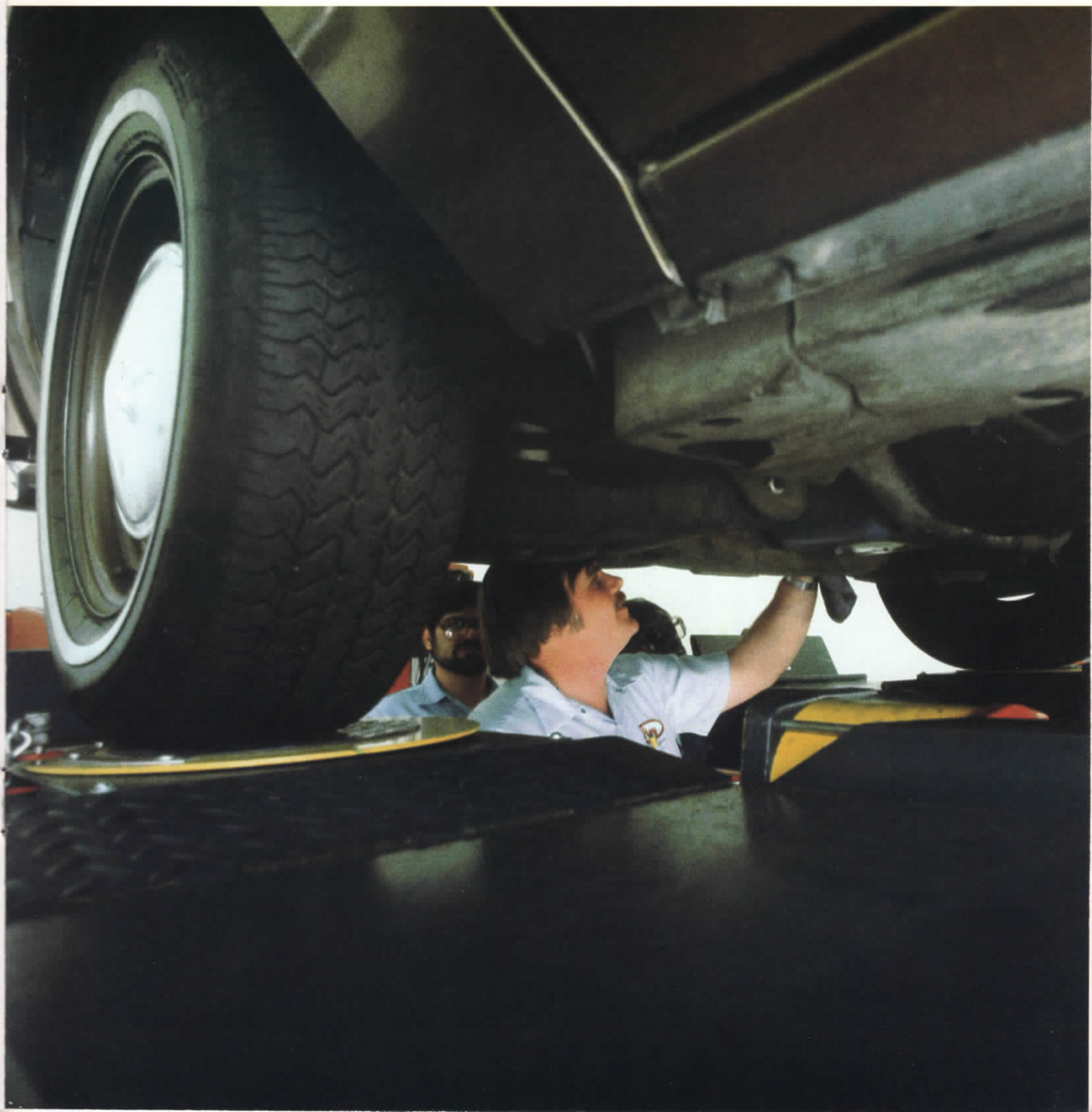
"Our very real concern was whether Union 76 dealers should remain in the service business," Warnock adds. "When we answered that affirmatively, the next step was to assess Certified Services."

Working with the national consulting service of McKinsey & Company, a Union group headed by Bruce Plantz, regional manager of automotive services, spent nearly eight months evaluating trends in the automotive services market, consumer needs and the company's ability to fulfill them.

"We identified the changes and enhancements necessary to greatly improve our current system," Plantz notes, "and we defined the means to implement and maintain a revitalized auto care system."

"For its time, Certified Services was the best program available," Warnock says. "But we wanted to develop a new consumer-oriented approach that would give customers confidence that the work would be done right."

A PROTECH trainee performs wheel alignments at the Union Oil Training Center in Pasadena, California.



Thus was born the Western Region's PROTECH guaranteed automotive services program. This new concept involves a program of mechanic training, testing and certification that is second to none.

It has to be.

Otherwise Union would not be able to offer its customers a no-nonsense money-back guarantee if they are dissatisfied with a PROTECH dealer's work.

Union tested the program in San Diego in 1980. "The enthusiasm with which it was received by customers and dealers alike led to a full bore commitment to take PROTECH regionwide," Warnock states.

Because of the time and manpower involved in establishing area learning centers and training sufficient dealers, Union introduced PROTECH on a market-by-market basis. The Pacific Northwest went on-line last spring and the San Francisco Bay area last fall. Los Angeles dealers are now in-training at a new modern learning center with three classrooms and seven service bays in Pasadena.

The program will be available to greater Los Angeles in the spring, and then PROTECH dealers, with their distinctive blue, white, and orange signs, will blanket the West Coast. Alaska and Hawaii eventually will be covered as well.

"We consider training to be the foundation of this program," Warnock remarks. "Without quality training, all other segments of any auto repair program will falter and eventually fail. If a mechanic doesn't know proper diagnostic and repair techniques, all of the warranties and advertising in the world are not going to satisfy the customer."



Electronic wheel alignment techniques are demonstrated to trainees at the company's Western Region Training facility (facing page). Instructor Tom Valley (facing page). Instructor Tom Valley demonstrates a voltage testing machine (top). A battery check is conducted by Instructor Ed Peralta (bottom left). A car is hoisted for an oil change (bottom right).







In order to put the PROTECH program in place, the region had to rethink what and how it teaches to assure quality training. "We had to have highly trained instructors, and we had to get them out of station wagons and into a formalized classroom setting," Plantz points out.

Sixteen PROTECH instructors successfully completed a battery of written technical tests comparable to that given a commercial sales engineer, received teaching courses that ranged from body language to the use of video and then trained for upwards of 18 months with Duane Ehrlich, the region's master trainer.

As for the learning environment, Plantz says, Union developed the concept of a specialized learning center with classrooms featuring audiovisual aids and modern up-to-date service bays with the latest in diagnostic equipment. These centers are in operation in San Diego; Renton, Washington; Hayward, California, and Pasadena.

What to teach? The areas under Certified Services—tune-up, brakes, wheel alignment, and air conditioning—are those that fit the bulk of customer needs and, at the same time, are most suited for the service station. Specialty work, such as transmissions, was ruled out because of environmental concerns or tooling requirements.

Union developed entirely new coursework in the four areas in conjunction with Creative Universal, one of the largest and most experienced companies in automotive training in the world. Based in Detroit, the heart of the American auto industry, Creative Universal is able to incorporate the latest data into its training package.

"Unlike an auto dealer mechanic, a service station mechanic must be versed in all makes of vehicles as there are subtle—and not so subtle—differences between companies. Coursework must therefore be both generic and specific to fill our requirements," Plantz says.

The exclusive, copyrighted courses that resulted are heavily oriented to "hands-on" experience in classwork and in the service bays, where 60 percent of the training takes place. Equal attention is given to theory and practice.

Courses vary in length, with tune-up/emission control requiring seven days and the others four days. They are taken one day at a time, with intervals between to allow on-station practice and application.

"Class size is limited so that each can receive as much individualized instruction as possible," Plantz explains.

To ensure the overall competency of PROTECH-trained mechanics, Union contracted with an independent testing agency, Colorado State University. It is one of the nation's leading academic centers for automotive education, vehicle testing standards and vehicle inspection procedures. CSU's sophisticated computerized systems can create in-depth tests that are fair from the test taker's point of view and realistic in pinpointing real-world performance capabilities.

Tests are created individually from the computer's vast data bank containing information and questions on all pertinent service areas.

Written testing is followed by a rigid hands-on performance test. Only after passing both tests is the individual certified.

Mechanic certification in a PROTECH area is not a lifetime license. Because automobiles change continually, certification runs only two years, after which the mechanic must attend an update class and again pass a written test.

"As automobiles became more and more complicated due to government regulations, fuel economy standards, and emission controls, the backyard, do-it-yourself mechanic was put out of business," Warnock says. "You just have to open the hood of a new car. What you'll see is complex, with very sophisticated electronics. Many special tools are needed for maintenance and repair."

Union requires PROTECH dealers to have these tools and electronic testing devices and the knowledge to operate them properly.

Training, testing and retesting enable Union to offer its unique company-backed warranty. Not only are its terms competitive with most others offered, but the company goes beyond that by making warranty service available at any PROTECH location. The customer isn't required to go back to the original dealer if a problem arises.

"We know that nationwide, auto repairs are a leading source of consumer complaints. PROTECH was designed to get the job done the first time," Warnock notes, "and from all indications the program is doing just that."

Bill Foxen, instructor, explains the fine intricacies of shock absorbers to trainees (top left). Instructors look on as (l to r) Setrak Kopoushian, Pasadena, and Dave Cardoza, Garden Grove, install shock absorbers (bottom left). Cars line up in busy service bays (bottom right).

UNION CHEMICALS DIVISION DEDICATES TECHNICAL SERVICE CENTER

"If you were a paper manufacturer, where would you go to find a styrene butadiene paper coating that yields higher optical efficiency?"

If you were a food packager, where would you have to go to get an improved moisture-impervious wrapper developed?"

In the high technology world of polymers, the best answers these days are coming from industry's newest Technical Service Center owned and operated by Union Chemicals Division. The purpose of the new Center is to maximize application research in the area of polymer emulsions.

Union Chemicals Division, with an avowed intent to achieve an even greater technological momentum in polymer chemistry, dedicated its new Technical Service Center on October 5, 1982. Top corporate officials from Union Oil, the leaders of Union Chemicals Division, and national and

local government officials all convened in Charlotte, North Carolina. William F. Murphy, General Manager of the Polymers Group, was host for the occasion.

Fred L. Hartley, Union's Chairman and President, along with Charlotte's Mayor, Eddie Knox, cut the ribbon on the new facility which occupies 25,000 square feet of office and laboratory space in Charlotte's luxurious University Research Park. Union Chemical's President T. Craig Henderson, and Senior Vice President Nicholas Lynam, also were present.

Hartley expressed his enthusiastic support of the development in remarks to more than 100 officials, customers, and suppliers: "Industry has the responsibility to make investments to increase productivity," he said, "and the new Technical Service Center is an expression of Union Oil's corporate responsibility." Many



observers of the American industrial scene feel that the lack of funds deployed in the research and development sector has created a technological shortfall in America's international and domestic marketing efforts. This has been especially true in polymers technology, according to remarks made by Murphy at a formal dinner party on the evening before the ribbon cutting.

"The dedication of this facility is the reinforcement of a commitment, a commitment to ourselves, to our customers, to our suppliers, and to our industry," he said. Murphy noted that, "While many competitors are cutting back expenditures on research and development, quality control, product development, exploratory research, and customer technical assistance programs, we at Union Chemicals believe our industry to be both highly technical and specialized. We are committed

to a complete product line, and increased product development and applications technology. All of this will have its base in our new Technical Service Center."

The concept of technical service is a must item for companies who deal in high-technology areas. According to Ken Rose, manager of the Polymer Group's new Technical Service Center, the primary mission is "to help our existing customers use the products we make, and to assist our sales department in introducing and selling our polymer emulsion products to new customers and markets.

"The markets we serve are both increasingly complex and more rapidly changing than we have experienced before," said Rose. "The true test of a good technical service group is whether it stays in tune with the needs of the markets it serves." For the Polymers Group, this is a large task,

because the Group produces the broadest line of polymer emulsion products in the industry.

The 25,000 square-foot, \$2.5 million facility is located on a 5.5 acre tract in a site selected for its Sunbelt growth appeal, relatively low land cost, its proximity to Union Chemical Division's existing production facilities, and the availability of recruitable talent. And there is a historic link as well: it was in Charlotte that Union Chemicals Division's polymer emulsion program began some 16 years ago, with a 750-gallon reactor. Today, the Polymers Group has an annual production capacity of close to a half-billion pounds.

The Center is divided into four major laboratory sections: a heavy-equipment testing area, a temperature humidity controlled test room, library and conference rooms, and a variety of support room and stations. The peace-



ful campus-like setting was designed to maximize the working efficiency of the 28 employees currently working there. Each office has a view of the lovely pine woods that surround the building.

The building is an energy-efficient structure, using up-to-date heat pump technology. Care also was taken in landscaping and the orientation of the building itself to optimally balance the impact of seasonally changing sunlight patterns.

Synthetic polymer emulsion products are usually milky-white fluids that vary from water-thin to very thick, like a heavy paste. In fact, the white glue that many consumers use for home furniture repair and crafts projects is in fact a water-based polymer emulsion.

The word *polymer* tells much of the story for these complex chemical units. It comes from the Greek *polymeres* meaning "having many parts." The

primary constituent parts, or units of a polymer, are the basic building blocks and are called "monomers," or "single units." These monomers are usually produced from petrochemical feedstock, and then chemically assembled in a water-based emulsion to form the polymer products the polymer group sells. (Nature produces a number of polymers, including corn starch.) Vinyl acetate, styrene, and butadiene are typical monomers. There are families of monomers, such as the acrylates, including principally butyl acrylate, or ethyl acrylate.

If vinyl acetate, a very hard monomer, and butyl acrylate, a soft flexible monomer, are reacted together in a water emulsion, the result is a vinyl acrylic polymer.

Vinyl acrylics are commonly used as the "latex" portion of latex paints. Union Chemicals Division (UCD) supplies polymer emulsions to many of

the major paint producers in the U.S. Interior latex paints made with UCD vinyl acrylics are noted for their excellent scrub properties. Vinyl acrylics have a variety of other application areas. One cannot get dressed or enter a modern room without coming into contact with polymers, according to Rose, "Our finished products are things you rarely see as such, but they are all around us."

Polymers are also important to paper makers. Without a protective coating, high quality paper products for printing would not be practical. High-performance coatings based on UCD vinyl acetate products seal the surface of the newly-made paper, smoothing it to receive inks in the printing process. Without such coatings, the inks would blur typographic letters and photographic images would consequently become illegible.

One particularly valuable polymer



product is polyvinylidene dichloride (PVDC) which is used in thin film form as a food wrap. The clear refrigerator food wrap available in most supermarkets is a PVDC product. PVDC is more transparent than polyethylene, which has a matte finish; PVDC polymers are commonly used in packaging foods such as potato chips to keep water and oxygen from degrading the food product.

The versatility of PVDC polymers can be seen in their application as binders for fire-retardant air-filter products used in home and industrial areas. The high chlorine content of the polymer is what lends it fire retardancy.

The UCD liquid adhesives program is one of the best in the business. From typical white wood glue to sophisticated pressure-sensitive systems for tapes and labels, the Union Chemicals Division is considered an industry leader. Currently, attention

focuses on a development effort to create a high-technology water-based product that will replace the traditional solvent-based products.

Another high-use market segment for Union polymers is the fabric backing business. Polymer emulsions are used as a binder in carpeting and upholstery fabrics which receive a lot of physical wear. The polymer emulsions hold the threads together after they have been woven. Another binder application is the use of styrene butadiene polymers in disposable nonwoven diaper fabrics, a high-technology effort to keep baby dry. Polymer binders are also used in the surgical supply market in disposable non-woven surgical drapes and gowns.

In the area of fashion, firm vinyl acetate polymers are used as binders for the high-loft, non-woven fiberfill products used to make quilted textiles such as ski jackets, bedspreads, and pil-

lows. These non-disposable products must withstand numerous washings, and possess good compression-recovery properties.

Union Chemicals Division Polymers Technical Service Center specialists and the technicians who support them are experts in these industries and many more. Many of them have been recruited from the industries they serve, so their expertise is based on hands-on experience in dealing with the problems typical of these areas.

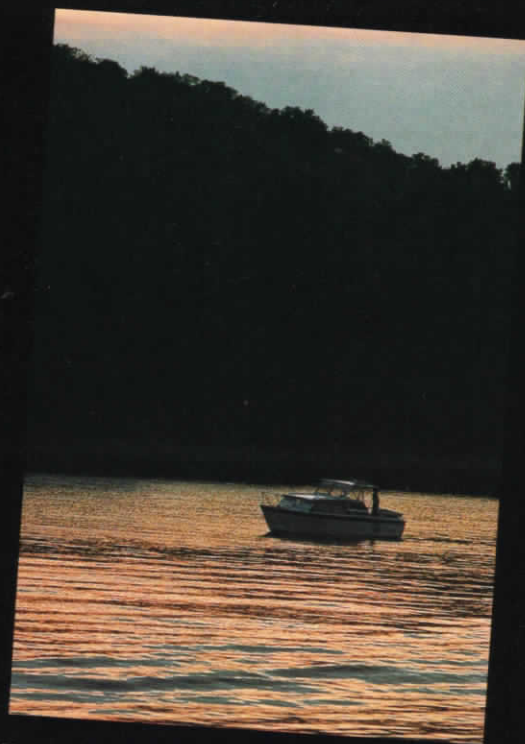
The New Technical Service Center is an exceptional resource for industry: people, products, and facilities carefully blended to create a dynamic, aggressive, continuing presence in the high-technology polymers applications area. The center reflects a commitment on the part of the Union Oil Company of California to maintain technical leadership in all the diverse markets it serves.

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THE WORLD AROUND US

Third annual
Seventy Six
magazine
photo contest



Dawn—Mississippi River, Arkansas.



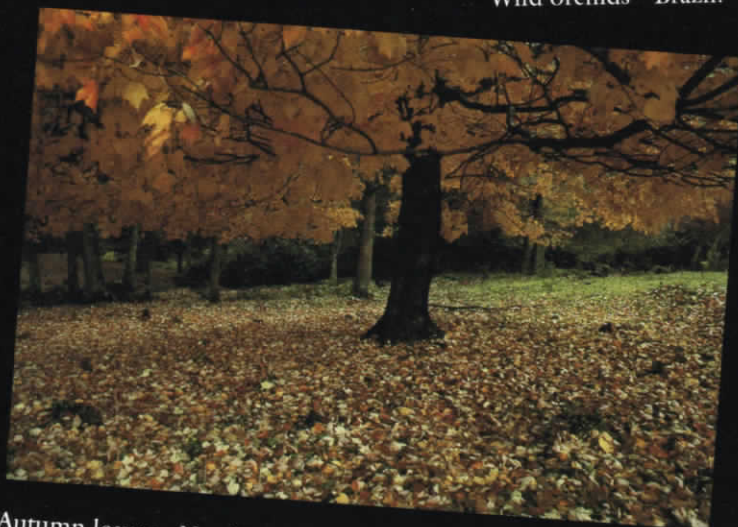
Khmer refugees—Gulf of Siam.



Wild orchids—Brazil.



Rainbow—Los Angeles.



Autumn leaves—North Carolina.

Photos by Sergio Ortiz

The world around us affects everyone differently. Sometimes commonplace things can be viewed in different ways if one only stops to look and consider. A photograph is one of the best ways to actually see sometimes mundane things in a different light.

With that in mind, the third annual *Seventy Six Magazine* Photo Contest will have "The World Around Us" as a theme. Unlike other years, we will limit the contest to color photographs only. Last year, for our second annual contest, we were overwhelmed by the number of entries which depicted the theme of "Energy and its Uses."

This year we will select the best entries depicting the world we live in.

Employees and retirees of Union Oil (its subsidiaries and divisions), plus their spouses and children, are all eligible to win the grand prize of \$400.

The seven highest award-winning photographs will be announced and published in the May/June issue of *Seventy Six*.

HOW TO ENTER:

Number of entries. There will be one category—color. You may submit up to three entries. For example, one color transparency and two color prints add up to three color entries.

Mounting and labeling. Full 8 x 10 prints can be submitted unmounted, 5 x 7 prints must be attached to 8 x 10 single-weight mounting boards. No framed prints will be accepted. For your protection, slides should be mailed in the boxes that come with developed film, glassine envelopes or plastic mounts. Fill out the entry form; then tape it to the back of each print. Do not write on the back of prints. Write your name and title of the entry on each slide mount. Each entry must be accompanied by a completed entry form or a facsimile of the form.

Mailing. Mail entries in Manila clasp envelopes, including your return address and entry forms. Include any cardboard necessary to protect photographs.

Liability. All entries are to be submitted with the understanding that neither Union Oil Company nor any of its employees will be responsible or liable for loss or damage. Entries may be held beyond the publication date of the contest, but we will attempt to return all entries.

Right to publish. Union Oil retains the right to publish or republish any photograph submitted in the contest. Entrants waive any claims for royalty payments or copyright infringement.

Model release. Contestants must be able to furnish a written "consent to use" statement upon request for recognizable people appearing in the photographs.

Judging. Three professional photographers from outside the company will judge the contest. Their decision will be final.

Deadline. All entries must be mailed by March 1, 1983.

Awards.

| | |
|-------------------|-------|
| Grand Prize | \$400 |
| 1st place | \$200 |
| 2nd place | \$100 |
| 3rd place | \$ 50 |
| Honorable Mention | \$ 50 |
| Honorable Mention | \$ 50 |
| Honorable Mention | \$ 50 |

Entry Form

Send to: Editor, M-17
Union Oil Center
Los Angeles, CA 90051

Name: _____

Job Title/relationship to employee: _____

Division/Subsidiary: _____

Office Location: _____

Home Address: _____ Zip Code: _____

Phone: _____ (Network) _____

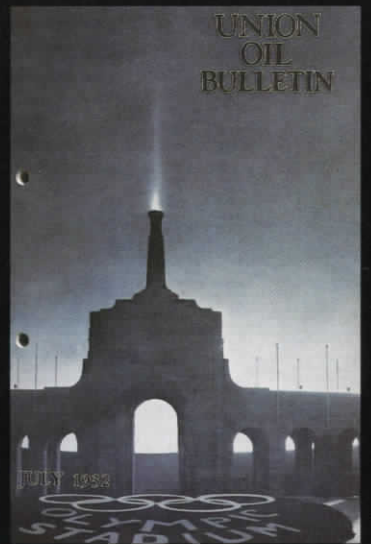
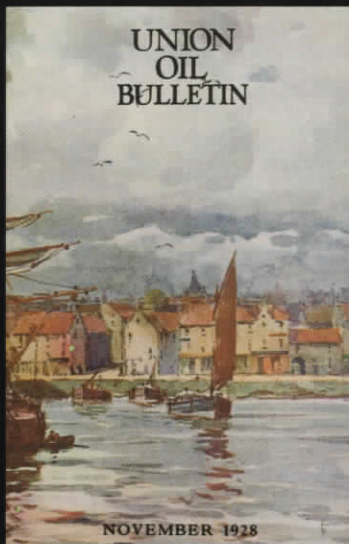
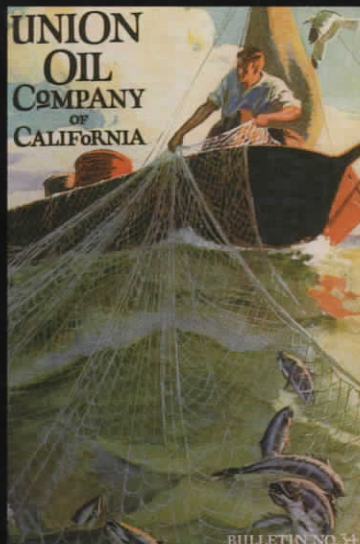
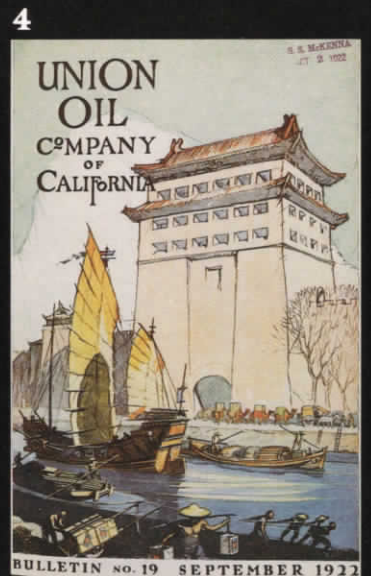
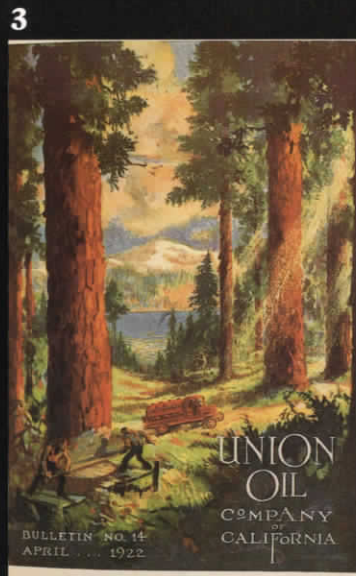
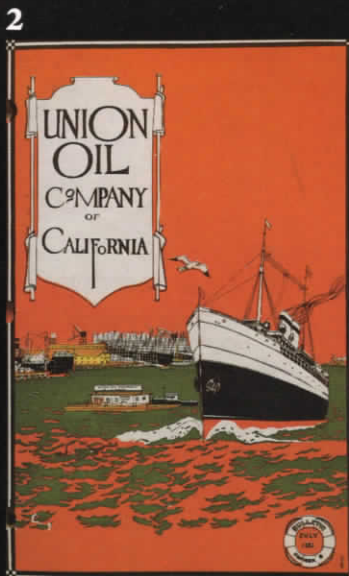
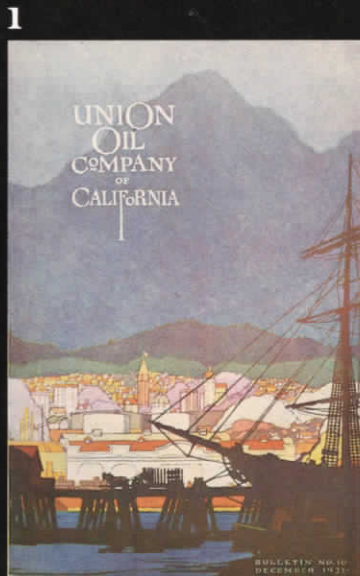
Title of Entry: _____ .Print _____ Slide _____

I have read and agree to the official rules of the contest.

Signature: _____ Date: _____

If under 18, signature of parent or guardian: _____

Historical Posters Offered



Due to an overwhelming demand from readers of **Seventy Six Magazine** wanting reprints of the **Bulletin** covers that appeared in the July-August issue, we have printed a limited number of them and are making them available to our readers.

These 18 x 24-inch posters can be obtained by sending \$1.00 for each one along with your name and address to Union Oil, Corporate Communications, Union Oil Center, Los Angeles, CA 90017. Please send checks, no cash and indicate which poster you desire. The entire set of eight is also available.



CORPORATE

January 1983

- 30 YEARS Marshall N. Madsen, Atlanta, Ga.
- 25 YEARS Errol L. Anderson, Houston, Tx.
Betty Jean Johnson, Union Oil Center
- 20 YEARS William M. Redding, Schaumburg, Il.
- 15 YEARS Terry K. H. Yuen, Union Oil Center
Richard Stolzke, Union Oil Center
- 10 YEARS Maureen McGarr, Schaumburg, Il.
Kenneth Vaughn Bone, Union Oil Center
Betty May Ewing, Union Oil Center
Nina F. Krueger, Schaumburg, Il.
- 5 YEARS Ritter S. Coy, Union Oil Center
Mary A. Walsh, Union Oil Center
Barbara A. Vale, Union Oil Center
Charles L. Jaffe, Schaumburg, Il.
Olga Sabria, Union Oil Center

February 1983

- 35 YEARS Norman H. Pedersen, Union Oil Center
- 25 YEARS Bobby Lynn Paslay, Union Oil Center
- 20 YEARS Jack J. Laak, Union Oil Center
- 15 YEARS Robert E. Dolan, Union Oil Center
- 10 YEARS Joseph G. Bower, Union Oil Center
- 5 YEARS Silvia Gonzalez, Union Oil Center
Benjamin Y. Sabino, Union Oil Center
William B. Lane, Union Oil Center
Nancy A. Wheelington, Union Oil Center
Daniel F. Sanchez, Union Oil Center

UNION SCIENCE AND TECHNOLOGY DIVISION

January 1983

- 35 YEARS Roland F. Krueger, Brea, Ca.
- 30 YEARS Patrick W. McGinnis, Brea, Ca.
Larry V. Muzzall, Brea, Ca.
Heinrich D. Woebken, Brea, Ca.
- 25 YEARS Duane L. Flint, Brea, Ca.
- 20 YEARS Valentine M. Ayala, Brea, Ca.
Lenke E. Staumont, Brea, Ca.
Gary H. Wilkinson, Brea, Ca.

- 15 YEARS Selma S. Doumani, Brea, Ca.
- 10 YEARS Jack E. Nace, Brea, Ca.
Robert E. Palmer, Brea, Ca.
- 5 YEARS Steven A. Bates, Brea, Ca.
Gary W. Elliott, Brea, Ca.
Laura J. Fuller, Brea, Ca.

February 1983

- 35 YEARS Herbert R. Metcalfe, Jr., Brea, Ca.
- 30 YEARS Homer E. Rea, Jr., Brea, Ca.
- 25 YEARS Wayne A. Chisholm, Brea, Ca.
Edward C. Copeline, Brea, Ca.
- 15 YEARS Esther I. Lee, Brea, Ca.
Reon P. Moag, Brea, Ca.
- 10 YEARS Rudolph Gonzales, Jr., Brea, Ca.
Frank J. Mireles, Brea, Ca.
- 5 YEARS William M. Deviny, Jr., Brea, Ca.
Allen W. Doty, Brea, Ca.
Charlotte A. Hamann, Brea, Ca.
Frederick F. Hargrett, Brea, Ca.
John D. Levy, Brea, Ca.
Anthony B. Osborne, Brea, Ca.

UNION 76 DIVISION

November 1982

- 35 YEARS James B. Bunn, Los Angeles, Ca.
Alden V. Donatoni, Edmonds, Ca.
Norma F. Gavette, San Francisco Refinery
Glen J. Knolls, San Francisco Refinery
Max B. Southwick, Los Angeles, Ca.
- 30 YEARS Robert J. Ceballos, San Francisco Refinery
- 25 YEARS Robert A. Huenergardt, Los Angeles, Ca.
- 20 YEARS Joseph J. Milkowski, Los Angeles, Ca.
Donald J. Robinson, Taft, Ca.
Micki Furuya, Los Angeles, Ca.
- 15 YEARS John M. Clark, Los Angeles, Ca.
Larry A. Molzahn, Edmonds, Ca.
Roger N. Rhine, Los Angeles, Ca.
- 10 YEARS Bobby J. Clemons, San Francisco Refinery
Robert T. Skinner, Los Angeles, Ca.
Tommy D. Stevenson, San Francisco Refinery
Richard D. Walloch, San Francisco Refinery

- 5 YEARS Jack R. Amerson, Los Angeles, Ca.
Christopher D. Barnes, San Francisco Refinery
David M. Black, San Francisco Refinery
Deryl G. Caviness, San Francisco Refinery
Ronald Cook, Los Angeles, Ca.
Ronald F. Earl, Los Angeles, Ca.
David L. Franklin, San Francisco Refinery
Eulogie Galiste, Jr., San Francisco Refinery
Janice E. Hansen, Edmonds, Ca.
Richard M. Hendrix, Edmonds, Ca.
Elmer Vallejos, Los Angeles, Ca.
Darlene E. Wallace, Los Angeles, Ca.
Wendill L. White, San Francisco Refinery

December 1982

- 35 YEARS Walter R. Losier, Los Angeles Refinery
- 30 YEARS Richard Cameron, Los Angeles, Ca.
Oscar C. Eubank, Los Angeles Refinery
Louis R. Jacques, San Francisco Refinery
Stanley Sutton, Los Angeles Refinery
- 25 YEARS Sheila Anderson, Los Angeles, Ca.
David McKeague, Seattle, Wa.
- 15 YEARS Donald C. Budoh, San Francisco Refinery
Jan K. Bunes, Los Angeles Refinery
Erik V. Frederiksen, Santa Maria Refinery
Joan F. Franco, Los Angeles, Ca.
Dale L. Hoffman, Portland, Or.
Gerald W. Hogan, San Francisco Refinery
Frank I. Landry, Los Angeles Refinery
Ellanore C. Lettich, San Francisco Refinery
Roman E. Vidas, Los Angeles Refinery
- 10 YEARS Alejandro Arellano, Richmond, Ca.
Richard B. Carter, Los Angeles, Ca.
Francisco L. Garcia, Richmond, Ca.
Gregory Haupt, Los Angeles Refinery
Clarence R. Hively, Honolulu, Hi.

5 YEARS **Carlos R. Arvizu**, Los Angeles Refinery
Ronald G. Boyd, Phoenix, Az.
Doris M. Chun, Honolulu, Hi.
Michael H. De Lacey, Los Angeles Refinery
Richard Haverstock, Los Angeles Refinery
William H. Rooks III, Los Angeles, Ca.
Wilbert L. Thompson, Los Angeles, Ca.
Jackie L. Wood, San Diego, Ca.

January 1983

35 YEARS **Virginia B. Cline**, Charleston, W.V.
Walter C. Isaacs, Beaumont Refinery
Rufus B. King, Sr., Atlanta, Ga.
Guy C. Neal, Charleston, W.V.
Lester J. Parsons, Beaumont Refinery
Lloyd E. Thompson, Belton, S.C.

30 YEARS **Buck F. Allison**, Gueydan, La.
Winters J. Bump, Tallmadge, Oh.
James H. Dainwood, Beaumont Refinery
Eugene J. Domayer, Los Angeles Refinery
Bradford E. Freeman, Beaumont Refinery
Shirley A. Gaudet, Beaumont Refinery
Robert C. Lewis, Chicago Refinery
Jimmy T. Rawls, Beaumont Refinery
Paul H. Schlett, Beaumont Refinery
William C. Smiley, Schaumburg, Il.
Calvin D. Spell, Beaumont Refinery
James P. Stoker, Jr., Beaumont Refinery
Barlow H. Thompson, Los Angeles, Ca.
Morton A. Wagner, Los Angeles Refinery
George E. Wolfe, Phoenix, Az.
Grace C. Wong, San Francisco, Ca.

25 YEARS **Arthur H. Hammerstrom**, Schaumburg, Il.
William J. Jergens, Schaumburg, Il.
Moses Pires, Honolulu, Hi.

20 YEARS **Jack B. Bragg**, Lookout Mtn., Ga.
Clayton M. Engstrom, Richmond, Ca.
James E. Penry, Beaumont Refinery
Albert C. Podruchny, Norfolk, Va.
Edward N. Rimola, Richmond, Ca.
James E. Skinner, Beaumont Refinery

15 YEARS **Wagar G. Carey**, Portland, Or.
Wilson B. Coleman III, Beaumont Refinery
Maria L. Collard, Schaumburg, Il.
Mary K. Flynt, Richmond, Va.
William M. Foxen, Pasadena, Ca.
Hal T. German, Beaumont Refinery
David C. Hillsman, San Jose, Ca.
Pleasant N. Hughes, Tampa, Fl.
Frances L. Johnson, Van, Tx.
Jerry M. Johnson, Los Angeles Refinery
Margaret H. Kinslow, Schaumburg, Il.
Adrian C. Kuyper, Romulus, Mi.
Charles W. Osborne, Schaumburg, Il.
Henry J. Ryan, Jr., Schaumburg, Il.
Jeanne S. Seigerdt, Schaumburg, Il.
Lonnie W. West, Tampa, Fl.

10 YEARS **Florencia H. Coronado**, San Francisco, Ca.
Madeline Gabbard, San Diego, Ca.
Frederick G. Hallett, Los Angeles, Ca.
Helene Halm, San Francisco, Ca.
Robert Roger Herndon, Los Angeles, Ca.
John W. James, Beaumont Refinery
Irmtraud S. Mayer, San Francisco, Ca.
Roger W. Morris, Patoka, Il.
Christopher P. Porter, Los Angeles Refinery
William C. Seigler, D. D. Irwin, Nederland, Tx.
Lynn C. Witty, Schaumburg, Il.

5 YEARS **Robin A. Alt**, Schaumburg, Il.
Dennis J. Brodie, Schaumburg, Il.
Kathy A. Budach, Schaumburg, Il.
Robert S. Castorina, Los Angeles, Ca.
Eduardo De La Ossa, Los Angeles Refinery
Richard Duarte, Los Angeles Refinery
John C. Espinoza, Los Angeles Refinery
Deborah K. Giant, San Francisco, Ca.
Carl K. Gregoli, San Francisco, Ca.
Robert L. Honeycutt, Cincinnati, Oh.
Roy R. Kollen, Brisbane, Ca.
Patricia A. Mallon, Schaumburg, Il.
Robert A. McElroy, Jr., Los Angeles, Ca.
Jeffrey S. Moses, Chicago Refinery
James J. Pfeil, Los Angeles, Ca.
William E. Pickett, Wildwood, Fl.
William B. Rodenhi, Santa Maria Refinery
James W. Slater, Santa Maria Refinery

February 1983

40 YEARS **Francis L. Bump**, Pakota, Il.
William G. Milburn, Los Angeles Refinery

35 YEARS **Eddie J. McNulty, Jr.**, Beaumont Refinery
John L. Mize, Beaumont Refinery
Walker E. Polson, Chicago Refinery
Robert E. Vicha, Schaumburg, Il.
Joseph F. Walker, Miami, Fl.
Alfred D. Weeks, Beaumont Refinery

30 YEARS **Anita M. Brentlinger**, Columbus, Oh.
J. L. Gallien, Jr., Beaumont Refinery
David E. Hammond, Los Angeles Refinery
Jack F. Hill, Schaumburg, Il.
Richard Kay, Miami, Fl.
Beverly H. Miller, Chicago Refinery
Carl V. Perricone, Sr., Beaumont Refinery
Donald D. Perricone, Beaumont Refinery
Robert T. Pierce, Schaumburg, Il.
Howard A. Platt, Los Angeles, Ca.
John L. Schoeff, San Francisco Refinery
Percy G. Taylor, Beaumont Refinery
Richard A. Wieland, Schaumburg, Il.
Theodore P. Westmoreland, Beaumont Refinery

25 YEARS **Elizabeth K. Conry**, Los Angeles, Ca.
H. R. Taylor, Hollywood, Ca.

20 YEARS **Gerald W. Fletcher**, Beaumont Refinery
Farrell R. Gallaher, Santa Fe Springs, Ca.
Michael R. Garrity, San Francisco Refinery
Donald J. Hess, Tallmadge, Oh.
William C. Hill, San Francisco Refinery
Robert A. Matson, Schaumburg, Il.
Dean W. Phillips, San Francisco Refinery
Jimmy D. Rose, Fresno, Ca.
Paul J. Shimer, Eugene, Or.

15 YEARS **William V. Afflerbach**, Redding, Ca.
Philip G. Baker, Schaumburg, Il.
Edward J. Brooks, Schaumburg, Il.
Newell D. Carter, Olney, Il.
Robert J. Endecavagheh, Chicago Refinery
Robert E. Goehring, Schaumburg, Il.
Marvin L. Haseltine, Los Angeles, Ca.
Terrence W. Hill, Los Angeles Refinery
Frank E. James, Portland, Or.
James L. Kyle, Los Angeles Refinery
Carolyn Leong, Honolulu, Hi.
Thomas L. Letulle, Beaumont Refinery
Thomas T. Mason, S.S. Blue Ridge, Nederland, Tx.
Belton Olleson, Portland, Or.
Lillian A. Poss, Los Angeles, Ca.
Henry M. Smyth, Jr., Atlanta, Ga.
Ruth E. Wellborn, Atlanta, Ga.

10 YEARS **Sheila I. Bennett**, Los Angeles Refinery
Merlin J. Bird, Los Angeles Refinery
Francis X. Blum, Los Angeles, Ca.
Joseph A. Bonner, Los Angeles Refinery
Allen G. Burson, Beaumont Refinery
Tommy J. Chase, Beaumont Refinery
David P. Devincenzi, San Francisco, Ca.
Doris J. Dewey, Schaumburg, Il.
June Gibson, Wildwood, Fl.
Herman Hodges, Los Angeles Refinery
Dale G. Iverson, San Francisco Refinery
Ruth S. Jahnke, Schaumburg, Il.
Henry A. Kacinkas, Schaumburg, Il.
Bernadette Kopecky, Schaumburg, Il.
Georgia C. Lane, Schaumburg, Il.
Oscar M. Lopez, Richmond, Ca.
Joan Lowery, Schaumburg, Il.
Richard F. Manley, Los Angeles, Ca.
Thomas O. Mueller, Colton, Ca.
Joe F. Robbins, Beaumont Refinery
Raul S. Rosaes, Schaumburg, Il.
Refugio Ruvalcaba, Jr., Los Angeles Refinery
Alice J. Satkovich, Schaumburg, Il.
Mary Lu A. Taylor, Norfolk, Va.
Joseph Torres, Los Angeles Refinery
Douglas T. Wong, Los Angeles Refinery

5 YEARS **Kenneth W. Abbott, Jr.**, Chicago Refinery
Roosevelt Alexander, San Francisco Refinery
John D. Allvei, Jr., Miami, Fl.
Bruce W. Arnold, S.S. Blue Ridge, Nederland, Tx.
Sharon A. Beard, Colton, Ca.
Joan M. Brenner, Schaumburg, Il.
George A. Brown, San Francisco Refinery
Billy D. Castleman, Beaumont Refinery
Jerome G. Clifford II, Chicago Refinery
Willie E. Dade, Beaumont Refinery
Earl De Sues, Los Angeles Refinery
William C. Draper, Schaumburg, Il.
Jon A. Dunnington, Chicago Refinery
Richard E. Engle, San Francisco Refinery
Daniel Esquivel, Jr., Beaumont Refinery
Paul K. Evans, Beaumont Refinery
Chris L. Flink, Schaumburg, Il.
Ronald Fontenot, Beaumont Refinery
Linda A. Forster, Beaumont Refinery
Wesley K. Gonsalves, San Francisco Refinery
Clint A. Hollier, Beaumont Refinery
Milton L. Hucks, San Francisco Refinery
Eugene H. Ketchum, Chicago Refinery
David G. Kirksey, Beaumont Refinery
James Lee McDonald, Beaumont Refinery
Helen E. Morel, San Francisco Refinery
Harold M. Nelson, Jr., Santa Maria Refinery
Thelma J. Perkins, Beaumont Refinery
Byron K. Petterson, San Francisco Refinery
Elizabeth Payerli, Schaumburg, Il.
Harvey Polovin, Schaumburg, Il.
Robert N. Rose, Los Angeles Refinery
William H. Sanders, Beaumont Refinery
Jane B. Sitton, Beaumont Refinery
Theresa D. Snider, Columbus, Oh.
Lewis W. Stewart, San Francisco Refinery
Cleveland J. Young, Beaumont Refinery

UNION OIL AND GAS DIVISION

January 1983

35 YEARS **Robert Wheeler**, Pasadena, Ca.
30 YEARS **Tyler Brinker**, Pasadena, Ca.
William R. Dudley, Santa Paula, Ca.
Lillie M. James, Houston, Tx.
Don W. Reynolds, Ventura, Ca.
Julia I. Stimson, Midland, Tx.
Kenneth Winch, Houma, La.
25 YEARS **Deloris D. Rollins**, Lafayette, La.

20 YEARS **Charles H. Case**, Anchorage, Ak.
Leroy G. Evans, Santa Fe Springs, Ca.
Cyrus Guidry, Jr., Taft, Ca.
Marie L. Healey, Union Oil Center
R. Margaret Hill, Houston, Tx.
Gail A. Reid, Brea, Ca.
Carlos W. Taylor, Coalinga, Ca.
Sam P. Wildman, Lafayette, La.
15 YEARS **David L. Mathews**, Anchorage, Ak.
Harry J. Michel, Houma, La.
Dale R. Peterson, Ventura, Ca.
10 YEARS **Jose S. Garcia**, Ganado, Tx.
Claudia D. Green, Houston, Tx.
Willie J. Miller, Coalinga, Ca.
Beverly Lee Neeley, Anchorage, Ak.
Harold L. Price, Clay City, Il.
5 YEARS **Mercedes A. Adkins**, Pasadena, Ca.
David Bautista, Ventura, Ca.
Michael L. Beal, Taft, Ca.
Larry D. Bray, Ventura, Ca.
Susan C. De La Rosa, Ventura, Ca.
George N. Folks, Jr., Coalinga, Ca.
Mike A. Gaona, Orcutt, Ca.
John M. Kachelmeyer, Anchorage, Ak.
Ben F. Koonce, Van, Tx.
Xonie B. Lloyd, Orcutt, Ca.
Michael C. McCarthy, Cut Bank, Mt.
Daniel E. Murphy, Ventura, Ca.
Rocky D. Pollock, Santa Paula, Ca.
Barry K. Woitena, Houston, Tx.

February 1983

35 YEARS **E. De Solminihac**, Orcutt, Ca.
30 YEARS **William W. Henry**, Midland, Tx.
Billy L. Kofahl, Taft, Ca.
James C. Newton, Lafayette, Ca.
William E. Sullivan, Union Oil Center
20 YEARS **Gordon Hockman**, Houma, La.
Mark A. Voisin, Houma, La.
15 YEARS **Simon S. Dawson**, Santa Fe Springs, Ca.
Edward R. Mathews, Midland, Tx.
David L. Miller, Pasadena, Ca.
10 YEARS **Freddie R. Billizon**, Houma, La.
Jeri M. Bringas, Pasadena, Ca.
Steve D. Butler, Anchorage, Ak.
James D. Collier, Lafayette, La.
5 YEARS **Ronald D. Bass**, Anchorage, Ak.
Allen L. Brown, Cut Bank, Mt.
John D. Chauvin, Jr., Houma, La.
Georgia M. Crues, Midland, Tx.
Karen M. Cumberland, Jackson, Ms.
Donald R. Delaney, Clay City, Il.
Mary E. Hedges, Ventura, Ca.
Olan D. Ingram, Ganado, Tx.
Linda C. Lemons, Taft, Ca.
Robert N. Nelson, Cut Bank, Mt.
Kevin L. Ramage, Taft, Ca.
George R. Ramirez, Houston, Tx.
Linda L. Townsend, Orcutt, Ca.

UNION GEOTHERMAL

January 1983

5 YEARS **Marie L. Roche**, Union Oil Center

February 1983

20 YEARS **Stephen C. Lipman**, Santa Rosa, Ca.
5 YEARS **Lawrence M. Farnady**, Big Geysers, Ca.

UNION CHEMICALS DIVISION

January 1983

30 YEARS **Jesse F. Aldridge**, Charlotte, N.C.
20 YEARS **Ronald Perkins**, Newark, Ca.
15 YEARS **Robert Walker**, Chicago, Il.
10 YEARS **Ronald Meyer**, Chicago, Il.
George Renwick, Chicago, Il.
William W. Walls, Denver, Co.
Alfred A. Woodruff, Mobile, Al.
5 YEARS **Dean G. Bell**, Clark, N.J.
Gary L. Bezella, Neenah, Wi.
Douglas J. Bigford, Schaumburg, Il.
Marlene M. Donegan, Schaumburg, Il.
Gary Gatewood, Sacramento, Ca.
Steven Laird, Brea, Ca.
George Leighton, Kenai, Ak.
Steven R. Moody, La Mirada, Ca.
Stephen Mullins, Kenai, Ak.
Drew O'Brien, Kenai, Ak.
Donald A. Osborne, La Mirada, Ca.
Mark Schaafsma, Kenai, Ak.
Victor Segura, Kenai, Ak.
Kenneth Wrenchey, Rodeo, Ca.
Peggy L. Zoellick, Rolling Meadows, Il.

February 1983

20 YEARS **Ralph A. Riker**, Clark, N.J.
15 YEARS **Luis M. Barreto**, La Mirada, Ca.
Robert Brownscombe, Union Oil Center
Frank Walter, Union Oil Center
10 YEARS **Hazel H. Parker**, Charlotte, N.C.
5 YEARS **Jose L. Amat**, Miami, Fl.
Odell Armstrong, Chicago, Il.
Robyn Brown, Union Oil Center
Donna M. Hammond, Mulga, Al.
James Perkins, Kenai, Ak.
Doris Renick, Brea, Ca.
David Robles, Brea, Ca.
Joan Sammons, Brea, Ca.
Donna Turner, Union Oil Center

UNION OIL INTERNATIONAL DIVISION

January 1983

35 YEARS **Edwin J. Schmidt**, Balikpapan, Indonesia
10 YEARS **Susana M. Pierri**, Los Angeles, Ca.

February 1983

25 YEARS **Vernon E. Roe**, Sandes, Norway
10 YEARS **John M. Parmigiano**, The Hague, Netherlands
5 YEARS **Mark E. Thistlewiate**, Los Angeles, Ca.

UNION OIL CO. OF CANADA, LTD.

January 1983

15 YEARS **Al Rasmussen**, Calgary, Alberta
5 YEARS **Dave Bramsen**, Calgary, Alberta
Chuck Eggert, Calgary, Alberta

February 1983

5 YEARS **Eric Beresford**, Calgary, Alberta
Marc Degluck, Calgary, Alberta

UNION OIL CO. OF GREAT BRITAIN

January 1983

- 15 YEARS G. Van Steveninck
5 YEARS A. Grant

February 1983

- 5 YEARS L. Grant
E. Smith

UNION OIL COMPANY OF INDONESIA

January 1983

- 10 YEARS Ackmal
Mohammad Arsjad
Marto Asa
Gustaaf Atihuta
Bardi Atmawidjaya
Sjamsoel Bahar
Bartno
Elham Herman
Johannes Malua
Musrin
Prapto Ngadiran
Dan Patandi
Josef Papilaya
Eddy Poelono
Soekadji Rasdja
A. Sajiran
Saminanto
Samuel Sampe
Paulus Sapan
Sjachmardan
Sair Soemarjono
Slamet Soeprapto
Sudarsono
Sih Sapto Susilo
Tahi Lomban Tobing
Toding
Freida J. Tungka
Turwijono
Abdul Wahab
Suhanan Wiraprana

February 1983

- 10 YEARS Harun Arbain
Benjamin Baru
Abdul Halim
Abdul Halim Haq
H. Mei Kusdiah
Jackson Makagiansar
Abdul Muin
Bambang Muwahyu
Riduansjahrani
Slamet Ryanto
Bambang Seinedan
Sjachran
Soedarti Sjacroni
Franciscus Sudarto
Sudjarwoto
Sukur
Mashudi Taher
Umberi

UNION ENERGY MINING DIVISION

February 1983

- 5 YEARS Houston L. Snyder, Rawlins, Wyo.

MOLYCORP, INC.

January 1983

- 20 YEARS Clyde Johnson, Washington, Pa.
15 YEARS Darline Christensen, Denver, Co.
Frank Leatherman,
Mountain Pass, Ca.
Max Nelson, Questa, N.M.
Delbert Westfall, Louviers, Co.
10 YEARS Glen Anderson, Mountain Pass, Ca.
Chester Canepa, Mountain Pass, Ca.
George Dawes, Washington, Pa.
Robert Hixon, Mountain Pass, Ca.
Keith Peterson, Mountain Pass, Ca.
Vernon Quinn, Mountain Pass, Ca.
Alan Vandersloot, York, Pa.
Robert Young, Questa, N.M.

February 1983

- 30 YEARS Lael Dillon, Washington, Pa.
25 YEARS Fredolin Rael, Questa, N.M.
15 YEARS Sixto Duran, Questa, N.M.
John Landreth, Union Oil Center
Bolivar Quintana, Questa, N.M.
Frutoso Vialpando, Questo, N.M.
10 YEARS Howard Fitzgerald,
Mountain Pass, Ca.
Jimmy Heacock, Mountain Pass, Ca.
Larry Ling, Mountain Pass, Ca.
5 YEARS Julie Hander, Questa, N.M.
Oscar Palmer, Mountain Pass, Ca.
Mark Powell, Mountain Pass, Ca.
George Ratz, Pittsburgh, Pa.

JOBBER AND DISTRIBUTORS

January 1983

- 50 YEARS Cahill Oil Co., Senatobia, Ms.
35 YEARS Kauai Petroleum Co. Ltd.,
Lihue, Hi.
25 YEARS McElroy and Kivett,
Waynesville, N.C.
20 YEARS Fiester Oil Co., Westland, Mi.
John Sietz Petroleum Jobber and
Distributor, Dearborn, Mi.
15 YEARS Ted Hearne, Show Low, Az.
Key Oil Co., Tuscaloosa, Al.
Tidewater Oil Service, Mojack, Va.
J. E. Tranmer, Oroville, Wa.
10 YEARS Central Indiana Oil Co.,
Kokomo, In.
Chapman Oil Co., Louisville, Ms.
Draper Oil Co., Anniston, Al.
Independent Oil Co.,
Rock Island, Il.
5 YEARS David T. Grant &
Randy R. Jones, Ontario, Or.

February 1983

- 40 YEARS Adkins Oil Co., Lewes, De.
30 YEARS King Oil Co., Ansonia, Oh.
25 YEARS West Channel Marine Calif. Yacht
Anchorage Inc., San Pedro, Ca.
Balco Oil Co., Inc., Bridgeport, Oh.
20 YEARS Clifford B. Jenne, Willamina, Or.
15 YEARS Blackwell Oil Co., Wiggins, Ms.

- 10 YEARS Alleghany Oil Co., Inc.,
Covington, Va.
Kent K. Bucher, Ritzville, Wa.
Grantham Oil Co., Inc.,
Douglas, Ga.
Martin Distributing Co.,
Haleyville, Al.
Ries Oil Co., Jackson, Tn.
5 YEARS Allen Oil Co., Florence, S.C.

RETIREMENTS

October 1982

- Ronald C. Blackstock, Oil and Gas,
Van, Tx. February 17, 1946
Roland F. Lejeune, Oil and Gas,
Gueydan, La. May 31, 1964
Lois W. Rea, Science and Technology,
Anaheim, Ca. December 15, 1971
Lotis R. Reeves, Oil and Gas,
Van, Tx. May 10, 1937

November 1982

- Emgard A. Burns, Union 76 Division,
Eastern Region, Elgin, Il. September 6, 1967
James D. Howard, Energy Mining,
Casper, Wyo. July 1, 1972
John H. Slinde, Molycorp,
Ranchos De Taos, N.M. January 1, 1973
Joseph Smudak, Union 76 Division,
Eastern Region, Uniontown, Oh.
October 15, 1951
Paul R. Sybrant, Union 76 Division,
Western Region, Phoenix, Az. January 14, 1942
Mary E. Winchester, Oil and Gas,
Olney, Il. April 6, 1964

December 1982

- Vera L. Bernth, Energy Mining,
Placentia, Ca. April 2, 1951
Robert E. Carnal, Oil and Gas,
Flora, Il. June 13, 1941
Virgil Comsia, Union 76 Division,
Eastern Region, San Lorenzo, Ca.
February 5, 1947
Harold L. Fothergill, Oil and Gas,
Arcadia, Ca. July 8, 1946
John Hadden, Union 76 Division,
Eastern Region, Bollingbrook, Il.
December 6, 1940
Elwood L. Hisey, Oil and Gas,
Midland, Tx. December 1, 1947
Elmer R. Holland, Union 76 Division,
Eastern Region, Lockport, Il.
November 4, 1940
Eugene B. Loop, Union 76 Division,
Western Region, Walnut Creek, Ca.
June 30, 1948
Ralph W. Miller, Union 76 Division,
Western Region, Napa, Ca. November 8, 1945
Julian H. Mitchell, Union 76 Division,
Eastern Region, Chicago, Il. February 11, 1952
Edmund L. Povalish, Union 76 Division,
Eastern Region, Creal Springs, Il.
August 1, 1954
Manford M. Ralston, Science and Technology,
Anaheim, Ca. October 17, 1940
Carl M. Ryan, Union 76 Division,
Eastern Region, Tallmadge, Oh.
October 26, 1953

January 1983

Robert L. Abercrombie, Science and Technology, Anaheim, Ca. July 5, 1944
Donovan C. Allee, Oil and Gas, Rio Vista, Ca. July 23, 1953
Raymond W. Barnes, Union 76 Division, Western Region, Carson, Ca. June 27, 1946
Marianne E. Bregenzer, Union 76 Division, Western Region, San Luis Obispo, Ca. October 18, 1948
James J. Burns, Union 76 Division, Eastern Region, Port Arthur, Tx. August 18, 1962
William M. Busby, Union 76 Division, Western Region, San Marino, Ca. February 3, 1941
Warren L. Darnes, Union 76 Division, Eastern Region, Newark, Oh. September 6, 1942
Edward S. Dastych, Union 76 Division, Eastern Region, Lemont, Il. January 21, 1952
Leslie H. Dinwiddie, Oil and Gas, Cushing, Ok. August 13, 1940
William A. Dolosic, Union 76 Division, Eastern Region, Lockport, Il. March 29, 1949
Cameron A. Dystrup, Union 76 Division, Eastern Region, Lockport, Il. June 7, 1937
Cleo J. Goyette, Union 76 Division, Western Region, Long Beach, Ca. May 8, 1941
Harry J. Grabo, Union 76 Division, Eastern Region, Lemont, Il. March 29, 1940
Harry E. Gregg, Union 76 Division, Eastern Region, Tampa, Fl. November 12, 1945
Joseph W. Hersil, Union 76 Division, Eastern Region, Cudahy, Wi. July 30, 1963
Robert E. Hominda, Union Chemicals, Walnut Creek, Ca. June 23, 1952
Louis S. Knudsen, Corporate, Palos Verdes, Ca. July 12, 1946
John F. Kolenc, Union 76 Division, Eastern Region, Joliet, Il. April 7, 1949
Willis J. Luebs, Union 76 Division, Eastern Region, Lockport, Il. March 26, 1951
Hilda E. North, Union 76 Division, Western Region, Los Angeles, Ca. September 20, 1970
O. B. Parham, Jr., Union 76 Division, Eastern Region, Beaumont, Tx. January 4, 1946
Glenn S. Park, Union 76 Division, Eastern Region, Nederland, Tx. September 29, 1952
Leo E. Paulsen, Oil and Gas, Orange, Ca. January 22, 1946
Morley Pence, Union 76 Division, Western Region, San Pedro, Ca. November 3, 1948
Margaret A. Reese, Union 76 Division, Eastern Region, Dania, Fl. September 2, 1956
Grady A. Russell, Union 76 Division, Western Region, Sonoma, Ca. June 2, 1952
Paul F. Schwab, Jr., Union 76 Division, Western Region, El Cajon, Ca. October 13, 1952
Ercell H. Smith, Corporate, Santa Paula, Ca. March 24, 1941
Edward R. Stofko, Union 76 Division, Eastern Region, Joliet, Il. July 7, 1952
Raymond A. Stukel, Union 76 Division, Eastern Region, Lockport, Il. July 7, 1952
Bernard J. Subka, Union 76 Division, Eastern Region, Lockport, Il. January 8, 1951
Raymond S. Thomas, Union 76 Division,

Eastern Region, Dayton, Oh. May 21, 1951
S. T. Thompson, Pure Transportation, Sterling, Co. October 8, 1951
Peter B. Tondini, Union 76 Division, Eastern Region, Lockport, Il. July 12, 1948
John F. Vanderhoff, Jr., Union 76 Division, Eastern Region, Nederland, Tx. September 29, 1969
Frank J. Wasielewski, Science and Technology, Anaheim, Ca. July 13, 1953

IN MEMORIAM

Employees

Howard L. Bartlett, Molycorp, Las Vegas, Nv. October 7, 1982
Tommy J. Chase, Union 76 Division, Eastern Region, Lumberton, Tx. November 4, 1982
Hernando Jaramillo, Molycorp, Questa, N.M. October 13, 1982
Marvin F. LeBlanc, Oil and Gas, Abbeville, La. October 18, 1982
Mario Santinelli, Union 76 Division, Eastern Region, Pensacola, Fl. September 25, 1982
Delbert R. Spurlock, Union Chemicals, Elgin, Il. November 20, 1982
Bruce A. Youngs, Sedgwick, Ks., November 27, 1982

Retirees

Louise Albert, Union Chemicals, Summit, N.J. November 4, 1982
Hubert S. Atchinson, Union 76 Division, Eastern Region, Tuscaloosa, Al. October 10, 1982
Louise Beeson, Oil and Gas, Ft. Worth, Tx. October 1, 1982
Robert B. Broome, Union 76 Division, Eastern Region, Worthington, Oh. November 5, 1982
James H. Brown, Oil and Gas, Van, Tx. October 2, 1982
Lloyd K. Brown, Oil and Gas, Seminole, Ok. October 31, 1982
Frederick E. Burnette, Union 76 Division, Eastern Region, Sylvania, Oh. October 21, 1982
Wiley A. Cole, Union 76 Division, Western Region, Santa Barbara, Ca. October 22, 1982
E. P. Copeland, Union 76 Division, Western Region, Vallejo, Ca. November 30, 1982
William T. Cowdrey, Union 76 Division, Eastern Region, Worthington, Oh. October 24, 1982
Bernard S. Cawmer, Oil and Gas, Newark, Oh. September 15, 1982
Vern E. Dillon, Union 76 Division, Western Region, Hemet, Ca. November 15, 1982
Paul A. Fischbach, Union 76 Division, Eastern Region, St. Paul, Mn. November 13, 1982
Howard H. Fleenor, Oil and Gas, Clay City, Il. November 7, 1982
William G. Gilbert, Oil and Gas, Van, Tx. October 8, 1982
Haywood Glass, Union 76 Division, Eastern Region, Lake City, Fl. October 18, 1982
Holly G. Greathouse, Oil and Gas, Dawes, W.V. October 2, 1982
William E. Hall, Oil and Gas, Clay City, Il. October 11, 1982
Ladene O. Hargrove, Corporate, Bonsall, Ca. September 29, 1982
James R. Heaton, Union 76 Division, Eastern Region, Newark, Oh. October 21, 1982
Clarence Hickok, Union 76 Division, Eastern Region, Toledo, Oh. August 8, 1982
Pearlie M. Ingwersen, Union 76 Division, Eastern Region, Nederland, Tx. October 13, 1982
Paul E. King, Union 76 Division, Eastern Region, Oregon, Oh. August 6, 1982
Alfred E. Kramp, Union 76 Division, Eastern Region, Phoenix, Az. September 28, 1982
Richard W. Ling, Union 76 Division, Eastern Region, Detroit, Mi. November 23, 1982
Ray Ludden, Union 76 Division, Western Region, Pollock Pines, Ca. October 13, 1982
Sylvan McClure, Oil and Gas, Midland, Tx. October 11, 1982
Joseph M. McGarah, Union 76 Division, Eastern Region, Heth, Az. October 11, 1982
James H. McGee, International, Bothell, Wa. September 29, 1982
Dorothy A. McGillen, Union 76 Division, Eastern Region, Chicago, Il. August 17, 1982
Jens L. Olson, Oil and Gas, Laguna Hills, Ca. November 22, 1982
Theodore Radcoff, Union 76 Division, Eastern Region, Toledo, Oh. November 14, 1982
Mabel L. Randall, Science and Technology, Long Beach, Ca. October 1, 1982
Lonnie D. Rush, Oil and Gas, Rayne, La. November 7, 1982
Frank J. Scarpace, Union 76 Division, Eastern Region, Detroit, Mi. November 12, 1982
Amos J. Schoneman, Union 76 Division, Western Region, Escondido, Ca. October 21, 1982
Thomas Seigers, Union 76 Division, Western Region, Compton, Ca. November 4, 1982
Fred K. Sherman, Union 76 Division, Western Region, El Toro, Ca. September 30, 1982
Joseph B. Stone, Oil and Gas, Hot Springs, Mt. October 19, 1982
John A. Swann, Union 76 Division, Eastern Region, Woodson Terr., Md. October 30, 1982
Newell J. Taylor, Union Chemicals, Placentia, Ca. October 6, 1982
Cornelius C. Tipton, Oil and Gas, Salem, Il. November 4, 1982
Lloyd A. Warren, Pure Transportation, Madill, Ok. November 6, 1982
Richard H. Wells, Union 76 Division, Eastern Region, Denton, Tx. October 30, 1982
David H. Yarbrough, Union 76 Division, Eastern Region, Atlanta, Ga. November 2, 1982
George G. York, Union 76 Division, Eastern Region, Madison, Ct. September 26, 1982



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COVER: Platform Gilda offshore California is capable of accommodating 96 wells, thus making it the largest in the world. Union Oil first started drilling from it and its sister structure Gina one year ago—**Photograph** by Sergio Ortiz. Story on page 1.

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