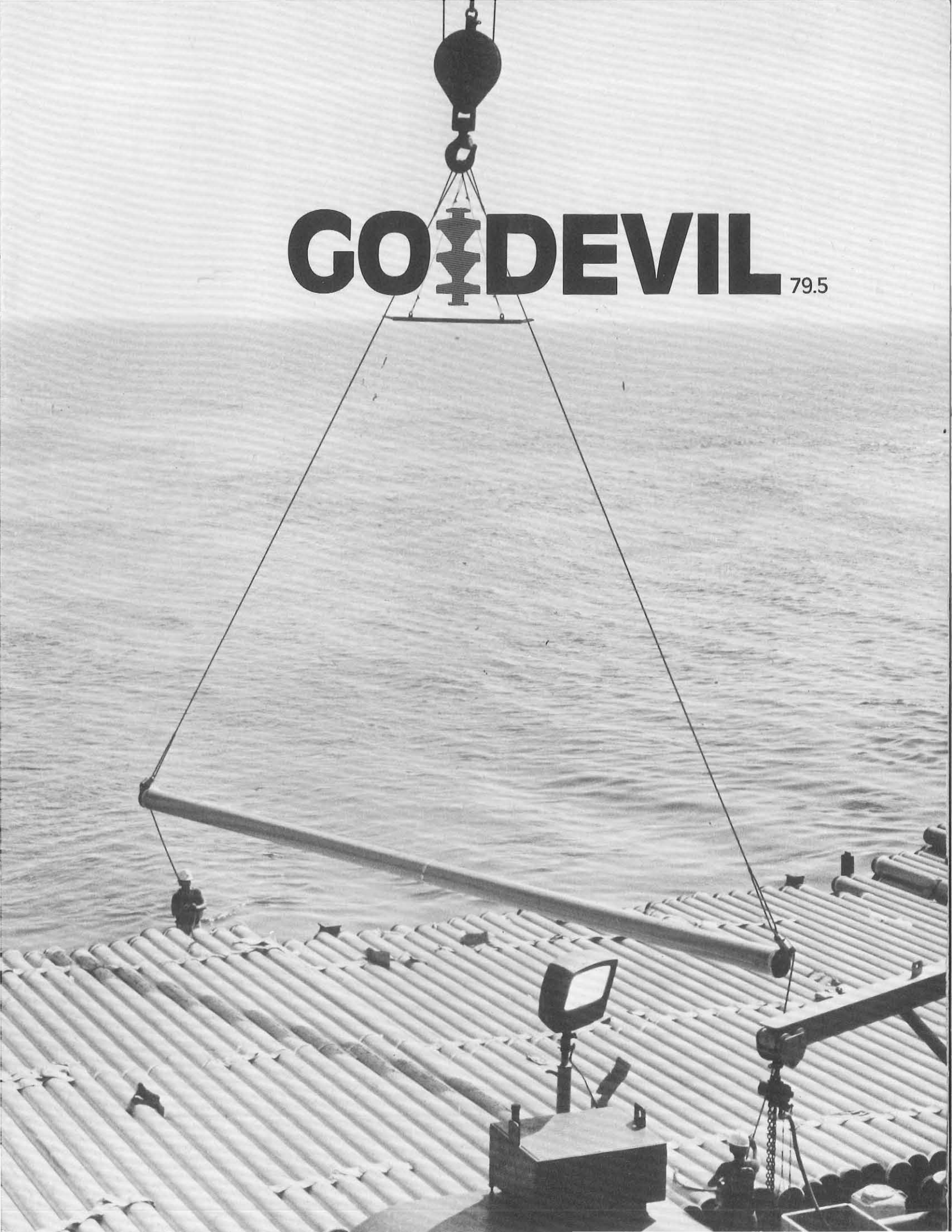
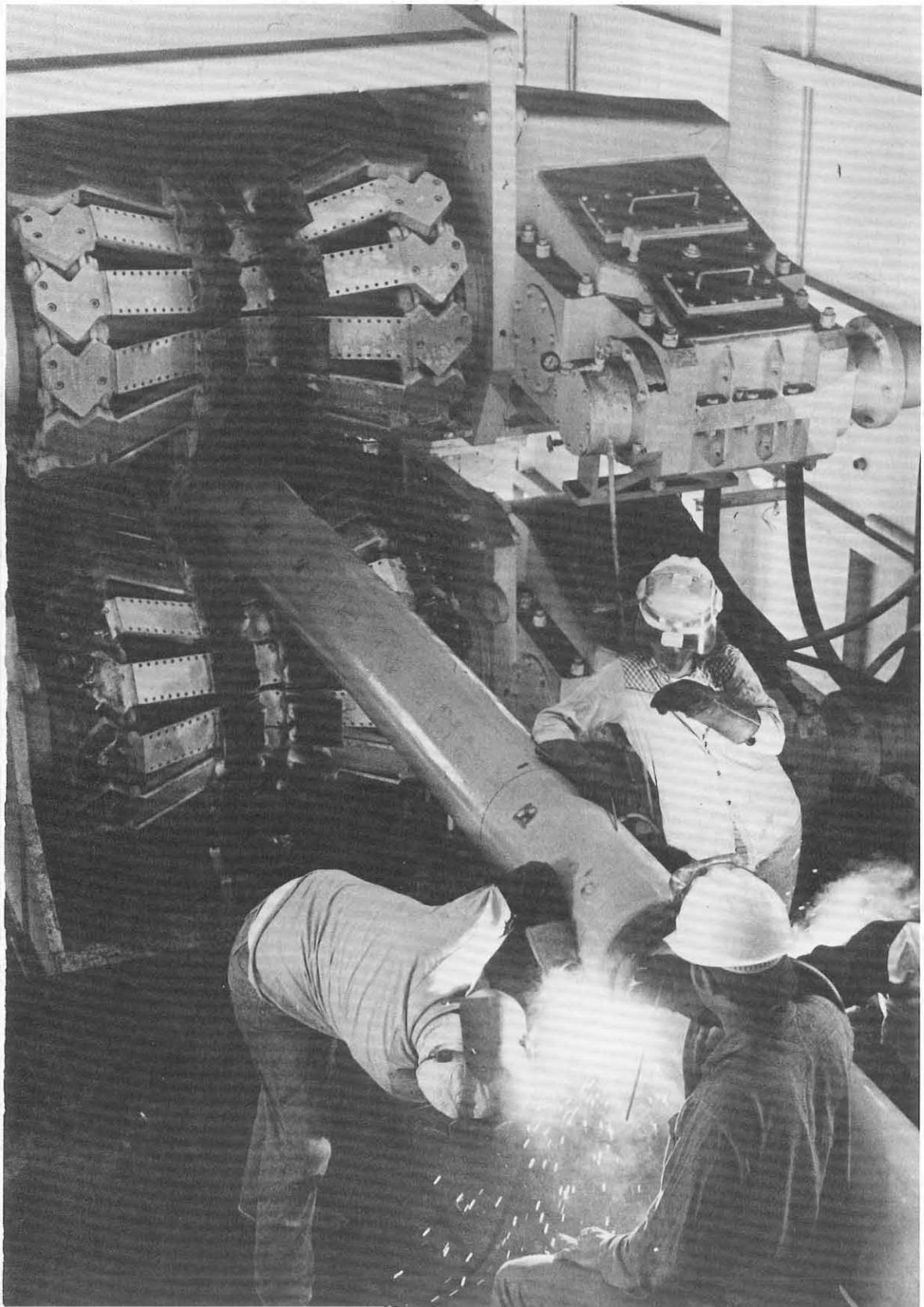

GODEVIL
79.5

Superlatives abound as Cognac hits new depths



"Reaching new heights" is an expression usually equated with achieving a goal. Such literally was the case with the successful installation of the Cognac production platform in the Gulf of Mexico, the world's tallest offshore platform.

But the opposite of that expression may also be true. With the laying of the Cognac pipeline in 1,025 feet of water in Southwest Pass, the company reached a goal that involved new depths in pipeline construction. When it goes into use this fall, the 12-inch line will be the deepest crude oil pipeline in the world to date.

The height and the depth aren't mutually exclusive, however. The history of the development of the pipeline pretty much parallels that of the platform, says Carl Langner, staff engineer, Pipeline Construction.

"When the platform initially was studied in 1973, everyone knew we were going to produce oil and therefore would have to transport it, so it followed naturally that we should study a pipeline to go with the platform," he says.

This cooperation became immediately crucial because the design of the riser — the part of the pipeline which goes from the seafloor to the top of the platform — had to be coordinated with the design of the platform. Designing a riser for the world's tallest platform presented a real challenge.

Tri-part riser conduit

A decision was made to go with a J-tube riser. "As the platform was built in three parts, the J-tube conduit was also built as three separate conduits. As a result there are gaps in the J-tube conduit where salt water

Assembling this pipeline (left) required approximately 20,000 pounds of welding rods, at a rate of 28 to 30 rods per weld.

The articulated stinger used on barge 29 (far right) is licensed to McDermott under a Shell patent co-authored by Carl Langner (right).

can flow in and out of it," says Langner. "To help prevent corrosion, we've used a special quarter-inch thick neoprene coating called Splashtron on the riser pipe. This is the first time we've used this material to coat an entire riser pipe."

The use of Splashtron on the J-tube riser is one of several new products and techniques which resulted from Pipeline Construction studies of this project. The Cognac design team — projects manager George Walker, projects engineer Harry Wilkinson, and Langner — also utilized other unique or first-time applications:

- thick-wall pipe coated with thin-film epoxy, instead of the usual thin-wall pipe coated with concrete and other materials;
- the same fusion-bonded epoxy material to coat the field joints on the lay barge;
- a Lucker cable puller to haul the pipe from the lay barge down to the sea bottom and then up through the J-tube conduit;
- an articulated stinger to lay the pipe in the deep water; and
- a special mooring system consisting of 12-40,000-pound anchors each connected to the laybarge by 135 feet of chain and 6500 feet of wire cable.

Also involved in these initial design phases were Ken Green, Bob Darwin, Kent Shellene, and Walter Nanny.

Pipe negates buckle

Because the line is designed for two-phase flow — transporting both oil and gas — the team proposed using a 12-inch line, a somewhat larger pipe than would have been needed for oil alone. The next question was, what *kind* of pipe?

"We chose to go with a heavy steel pipe (up to 0.688 inch wall) rather than a thin-wall pipe wrapped in concrete. While the thicker steel wall costs a little more, the heavy pipe solved two problems," says Wilkinson.

"It allows us to apply a stronger grip to the pipe without collapsing it in the tension machines that hold it on the lay barge, and it gives the pipe more resistance against buckling from bending and external pressure in deep water. One thing we're trying to avoid is buckle propagation — the process by which the pressure of the surrounding water will cause a flat spot to spread out and run along the pipe and flatten the whole piece.

"Using the wall thickness we've chosen, this phenomenon will not occur; the pipe could buckle but the damage will not propagate."

Shotblasted

While the use of this heavy pipe eliminates the need for a weight coating, the pipe does need the protection of a corrosion coating. A thin-film fusion-bonded epoxy coating, which Shell research efforts helped to develop for offshore projects, was chosen for this project. A product of Cook Paint Company, this coating uses as its primary ingredient Shell resins. It is applied to the pipe in the coating yard before the pipe is loaded on barges to go offshore

"To apply the coating, the pipe is first shotblasted with little metal pellets so that all the rust and scale are removed and the metal is cleaned to a bright finish," says Langner.

"The pipe then passes through a furnace where it's heated to about 500° Fahrenheit and the epoxy powder is sprayed onto the hot pipe. In a matter of a few seconds, the reaction in the chemical compound hardens the powder into a coating. It looks like paint but it adheres very strongly to the pipe."

Pulling the pipe

In another unique Cognac pipeline operation, a Lucker cable puller was suspended from Shell's Rig 11 on the Cognac platform. Used mainly for tightening cables in suspension bridges and similar applications, one of these cable pullers was purchased especially for this job by the prime contractor, J. Ray McDermott. Nominally this device can pull up to 400,000 pounds on a 2½-inch wire cable at a rate of 20 feet per minute.

"When we were ready to pull the pipe through the J-tube, drilling operations were suspended on Rig 11 and the Lucker puller was hung from the block on this rig to facilitate the installation of the pipeline riser," says Walker.

"This was part of the initial plan, a very well designed project both from the platform point of view — and also from the pipeline point of view — as we have now proven."

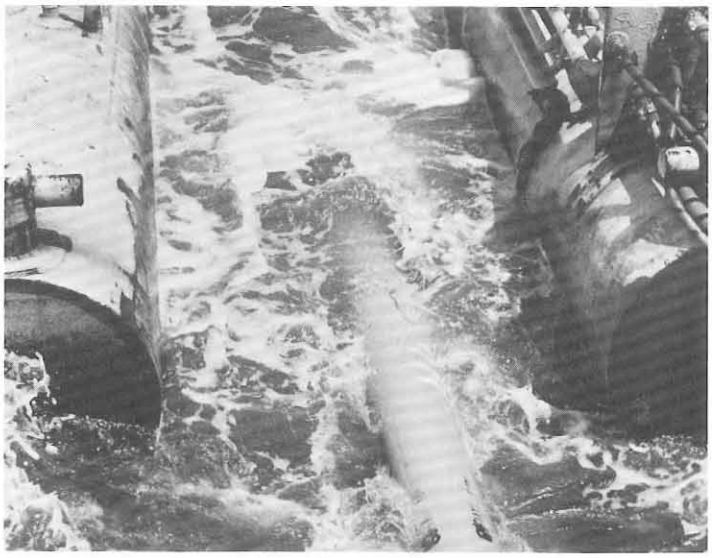
Stinger design

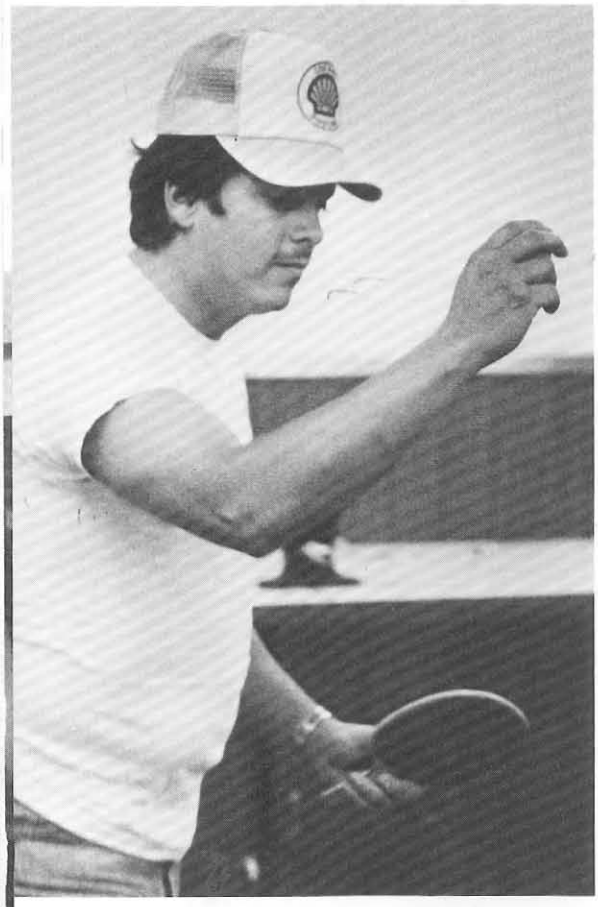
The use of an articulated stinger for this project is not a first, but, by virtue of its history, it is certainly appropriate. The stinger is licensed to McDermott under a Shell patent co-authored by Carl Langner.

Langner originally developed the articulated stinger concept on his first assignment at the Shell Pipeline Research and Development lab in 1967 and 1968. A stinger cradles the pipe on a series of rollers as it leaves the lay barge, and gives support to the pipe in the "overbend" until the pipe can safely sag down to the sea bottom.

"The stinger used for this project is McDermott's stinger No. 20, a North Sea-type stinger, meaning that it has a larger and deeper cross-sectional area than stingers normally used in the Gulf. McDermott decided on this stinger as a safety measure. The contractor did not want any failures, especially in the record water depths encountered on this project," says Langner.

The stinger has five sections, hinged together by special flexible connectors. The stinger is controlled by pumping either air or water into the sections in order to maintain the stinger in a 700-foot radius arc. In this deep water configuration, the stinger curves down from the stern of the barge to a maximum depth at the tip of about 140 feet and a maximum angle of about 40 degrees. In shallower water, the stinger straightens out, becoming less deep, and so continues to maintain the pipe in a smooth





Playing ping pong is one way Richard Lopez passes the time when he's not on duty.

On board barge 29 ...

IT was May 5, and J. Ray McDermott's lay barge No. 29 was under tow from Bayou Bouef, Louisiana, for the 40-mile trip to the Cognac platform out in the Gulf.

The trip out didn't take long. On May 6, the barge was on site, ready to begin the fabricating and laying of the world's deepest operating crude oil line, the 12-inch diameter Cognac pipeline.

The return trip was to take three weeks. With a supporting crew of more than 200 men, the floating pipe factory traveled at a rate of about a mile and a half a day, producing as much as 14,000 feet of finished pipe.

The crew, including both McDermott employees and Shell Pipe Line inspectors, works two 12-hour shifts, one beginning at 11 a.m. and the other at 11 p.m. The routine is tedious and requires constant attention.

To the casual observer, the assembly line is something to see. Every six to seven minutes one section of pipe is rolled into place at the beginning of the assembly process. Welders at the bead station make the pipe's first attachment to the line.

Jake Sullivan, lead pipeliner from Jackson, Mississippi, is the welding inspector on duty. Following the bead station, he sees each 40-foot piece of pipe through three filler stations and a capping station, with six minutes of welding devoted to each stop.

"These welders work constantly for the entire time limit, putting on as much weld as possible," says R.L. "Reggie" Prather, senior inspector from McCamey. "We're using the most up-to-the-minute stick rod welding technology, but it's not anything unusual, not like some of the exotic methods used in the North Sea. It's the same type that we used on the Bourbon pipeline," which, until Cognac, was the Gulf's deepest at 425 feet. (The 8-inch Bourbon line was built during April of this year.)

Bill Moates, Shell Oil Company construction superintendent in charge of the barge, estimates that assembling this line required approximately 20,000 pounds of welding rods, at a rate of 28 to 30 rods per weld.

The barge's whistle blows, the crewmen in the control tower engage the anchor winches, and the barge makes a 40-foot "S-curve" between the barge and the seabottom.

Mooring devices

Another of the superlatives of this job was the mooring system. At the appropriate times throughout the pipe assembly process, tugboats moved the 12-40,000 pound anchors and associated chain and wire line according to a precise plan which allowed the barge to position itself along the pipeline route.

"The barge moves on its anchors," says Walker. "To move forward you must pull in on the six forward anchor lines and pay out the six stern anchor lines. At the same time, the pipe is gripped in a pair of tension machines which apply up to 100,000 pounds tension to the pipe. It is imperative that constant tension be maintained on the pipeline, even while the barge is moving, in order to keep it from buckling."

Up to 6500 feet of 2¼-inch wire cable, plus 135 feet of chain between barge and anchors, made this the largest mooring system currently in use in the Gulf of Mexico.

Roving eye

Taylor Diving Company was engaged to have a saturation diving system and a team of divers standing by the barge, "in case we dropped a cable and had to pick it up, or if we had to do work on the pipe while it was on the bottom," says Wilkinson. The divers never had to be called into action. Instead, two remote-controlled vehicles were used, mainly for observation purposes.

One, Taylor's RCV 225, is essentially an underwater eye, employing a television camera and electrically powered thrustors to maneuver it from place to place. The other underwater vehicle was McDermott's TROV, which is equipped with thrustors and two TV cameras and also has two manipulating arms which were able to do a certain amount of work.

"We'd never used either of these on a pipeline job before," says Langner. "Before we could run pipe by the J-tube, we had to run a messenger wire down the tube and out to the lay barge. When we installed the wire in the J-tube, we used the RCV to verify that the wire indeed was properly in the tube. To retrieve the wire, we dropped a hook down over the stern of a work boat and positioned it just outside the end of the J-tube, which is 10 feet off bottom or 1010 feet below the water surface.

"Then we 'flew' the TROV down to the mouth of the J-tube, grabbed the hook with one of TROV's manipulator arms, and connected the hook into an eye on the end of our messenger wire. Then all we had to do was pull the wire up to the workboat. Due to the increasing restrictions placed on divers today, these unmanned vehicles are becoming increasingly popular in performing services which divers used to do."

As might be expected when dealing with superlatives, building the deepest operating crude

step toward land, which takes about 45 seconds. During the move, another piece of pipe is rolled into place.

The joint attached about 30 minutes ago has reached the x-ray station for a final pass on inspecting the weld. "Beside the x-ray, we make a visual inspection of all caps," says Dave Lewis, another head office inspector on board. "Each one has to be approximately ¾-inch wide and a nickel high."

On one side of the barge, a crane operator is continuously supplying the joints from another barge pulled up alongside No. 29, sometimes as many as 280 a day.

Six more minutes pass. The pipe is now in the domain of Richard Lopez, coating inspector from Kermit. A McDermott crewman in what looks like the latest in space suit designs from NASA fuses an epoxy coating to the weld area of the joint. It passes from vision as it moves out the stinger on its journey to the mud at the bottom of the Gulf.

Following this routine for 12 hours, a guy has to be ready to take a break. Richard Lopez was just getting off the 11 p.m. to 11 a.m. shift when he made these comments about life on the barge:

"Because we're out here for 14 days at a time (followed by seven days off), you get familiar with the different lifestyle pretty quickly. Even if it's a guy's first time out, he's able to readjust his body clock to the routine.

"I'll eat when I get off. Meals are served every six hours. If you just sit around, it's easy to gain weight. So I try to get some kind of exercise every day. We have a little weight room where we can jump rope, or lift weights, or play ping pong.

"Then I'll talk to the guys, or go to the movie if it's one I want to see."

There's a mini movie theater on board where current movies are shown several times during the day. Playing at the theater during this trip were films featuring Charles Bronson and the Three Stooges, among others.

About two o'clock, Richard says it's time to go to the bunk room he shares with three other crewmembers to try to get some sleep. He gets up at 9:30 p.m., eats, and resumes inspecting coatings.

Bill Moates, being the decision-maker, problem-solver, and "official in residence," on board, maintains a more hectic pattern. Over a steak lunch, Moates says, "When we're pulling a riser, or when crossing another pipeline, it's not unusual for me to go for 72-hour stretches without sleep. If I get five hours sleep, I consider it a good night.

"People are coming to me with questions, plus I just like to keep an eye on the operation." That's probably a reason for another of his actions; he rarely takes even one day off during a job.

Bill, while picking at his meal (he says he has put on a few pounds because of the boat's good food), says his Shell Pipe Line career began 33 years ago in Colorado City and includes much time offshore, including time on the Irish Sea off Wales.

Shortly before the Cognac line began, Moates spent 31 months offshore New Zealand on pipeline work.

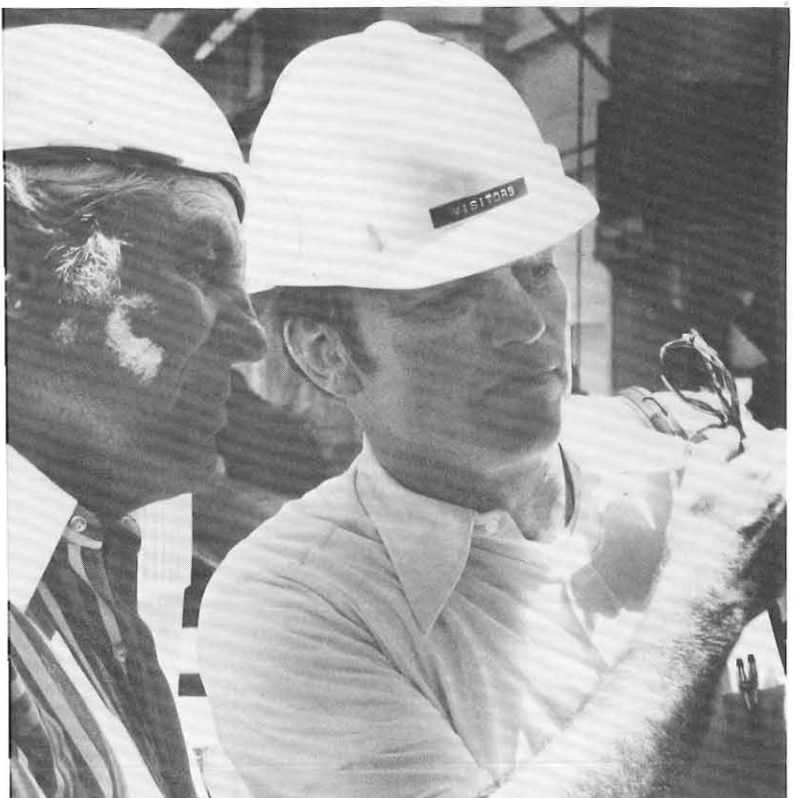
Back on land, there's activity, too. H. B. "Buster" Hughes and Company has completed the three-mile on-land segment connecting the line at Southwest Pass into the Delta System at East Bay facilities, for the eventual transport of Cognac production to the Norco refinery.

A McDermott "mini" barge started where the Hughes section ended, trenching and laying the pipe out about 4,000 feet into the bay to a water depth that would accommodate the huge lay barge 29.

On the barge, the tower operators find themselves maneuvering in shallower water, the pipe laying goes faster, and on May 27, the two lines come together. Tie-ins are made, the line is tested, and the lay barge is released.

Regulations require offshore pipelines to be buried three feet in the seabed in waters less than 200 feet deep. McDermott's bury barge "Jirafa," much smaller but much noisier than the 29, starts jetting at the tie-in point and trenching the line down three to seven feet. Jetting is stopped at 208 feet water depth — 37,000 feet buried. Hydrostatic testing of the entire line is complete on June 9.

Cognac has a pipeline.



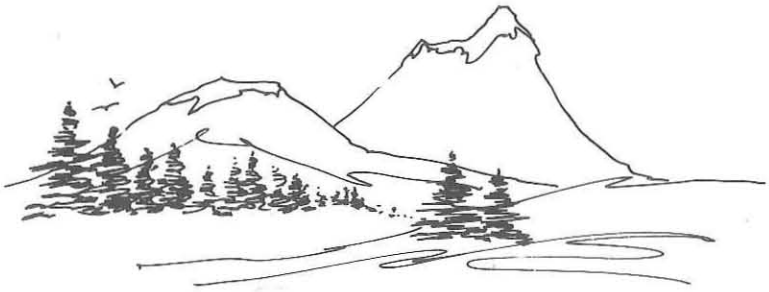
Moates (left, pictured with Walker, projects manager for the pipeline) has spent years offshore during his 33-year tenure with Shell Pipe Line.

oil pipeline is an expensive venture. "Our major costs and the major amount of time consumed were not during the pipe-laying itself, but rather during the preparations and during the various pipeline tie-ins," says Wilkinson. "Because the lay barge itself is primarily a floating pipe factory, it welds pipe together at a very fast rate (see related story)."

The team members estimated the "spread" cost to be approximately $125,000 per day while laying pipe, including the team of contingency divers on board.

The Cognac pipeline — that is, the riser, the pipe, the onshore section, and the tie-in, everything to get a pipeline from the platform to the Southwest Pass Station — was authorized for $16 million, whereas actual costs were less than $12 million.

The J-tube riser was installed on May 10, pipelay from the platform 23.5 miles to shore was completed May 27, burying with 3 feet of cover from shore to the — 200 depth contour was completed June 5, and the line was hydrostatically tested to 2160 psi for 24 hours on June 8 and 9.



A voice for

For more than 10 years, the voices have returned at the same time of the year—Labor Day weekend. A student of the John Muir trail high up in the California Sierra might think the voices belong to a band of pioneers ambushed along the way years ago. Actually, the voices of the quartet crooning around the campfire belong to a group of very much alive backpackers who are repeating a yearly ritual begun when their sons were Boy Scouts.

"When my son was in Scouts," says then assistant Scout Master Clyde Titus "we worked up a 'hike-a-month' plan. The troop was outdoor-activity related, and these outings served to get all the boys ready for the main event, the annual summer trek into the Sierras. On these monthly trips, we tried to impart how to as well as how not to camp—learning proper camping and a respect for it."

But when it was time to hit the John Muir trail for the yearly jaunt with 30 to 35 boys—all of whom had to qualify as First Class Scouts—it was time to call in the reserves, in the form of other dads who went along.

When the Scouting years were over, the dads decided to continue the ritual, and the association has resulted in Titus' calling these men his best friends now.

"During the years of working with the Scouts, we covered all 223 miles of the Muir trail, which begins in Yosemite National Park. We'd go out for 10 days a year, covering 50 to 80 miles a trip. It took five years to complete the entire trail which terminates near Mount Whitney," he says.

Taking about 50 people into remote areas for a number of days requires meticulous advance planning. "To begin with, you must file a hike plan with the Forest Service and get the required permits to make the trip. In addition, the Scouting program also required that we submit a copy of our menus and a list of who was in charge of the activity," says Titus.

"Then there was the matter of food for all these folks. One to two weeks ahead of the trip, we'd shop; a day or two in advance, we'd lay out the meals. In those days, we didn't have the selection of dehydrated food packages we have today. We took *food,* and along with clothes and utensils, those backpacks got mighty heavy."

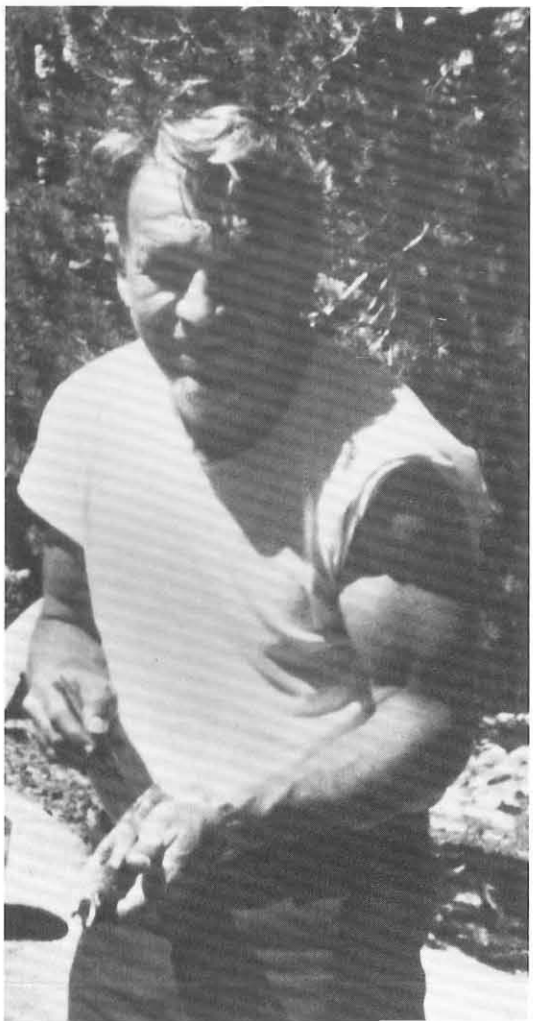
A typical day's menu read — breakfast—western omelette, bacon bar, hot fruit mix, and tang/coffee/cocoa; lunch — cheese and bread, nuts or gorp, and punch; dinner — soup, mashed potatoes and peas, meatballs and gravy, pudding, and coffee.

Also stuffed in those 50 to 60 pound packs were a first aid kit, sleeping bag, tube tent, and personal items. Also on the list of required items is a Titus touch, "a smile."

Out of respect for the wilderness and downstream campers, the boys never went swimming. They washed their clothes, but in a bag of stream water carried at least 100 yards away from the water source.

"The reward in taking the kids is seeing them grow and develop, be-

Titus—cleaning a fish...



...and in the landscape he loves.

the High Sierra

come self-reliant," Titus says. "We never had a failure. Yeah, a couple of borderline cases, but they worked out for the better. For example, the kid who left his trash around the fire had his mistake 'impressed' upon him when we had him carry the trash of the entire troop for the length of that trip."

As their sons grew out of Scouting, the adults took up the trail for their own enjoyment, setting aside the last week in August, through Labor Day weekend, as their time together. "We go cross country now on our own, with the help of a topographical map. It's all wilderness area; we have to get Department of the Interior permits to camp there," says Titus, one of the yearly organizers, along with two other 14-year veterans.

"We still follow much the same schedule as we did in Scouting—food preparation (although more grocery store items are available now) and keeping the trail close to water, for example."

Their concern for the environment is genuine and continues, too. "We take fishing equipment and eat a lot of fish, but we never catch more than we can eat."

One way the men have deviated from the Scouting routine is that they now take it easier on the trail, espousing 40 to 50 as a nearly optimal number of miles and 80 as "just too much. And if we find a particularly nice layover place, we may alter our plan and stay an extra day or so."

1979's trip was through Shepherd Pass. They've never duplicated a path, and they're contemplating Hawaii in a year or two, their first venture out of the Sierra.

Clyde is naturally athletically-inclined. He lettered as a starting right guard on the 1951 Iowa State University football team. He worked out regularly every day to train for the trip — jumping rope, swimming, always exerting himself.

"Every year, the first day or two, I get altitude sickness. After that, I feel like a million bucks. I usually lose ten pounds in those ten days from all the exercise and no snacks. And all my problems diminish in perspective; I come back a 'new man.'" says the operations assistant to Bill Grillos, West Coast Division manager.

A second reward of the Scouting experience comes into focus again this year. "A lot of our kids have graduated from college, gone to work, and plan their vacations around coming back and joining us for the trip. Our usual group of 10 has grown to about 18 this year," he says with pride.

The families have remained close, too, planning summer vacations together and having an annual "picture party" after each year's new venture. "It's kind of like we all grew up together."

With his friend with whom he's been hiking the longest, Clyde has a pact: "Whichever one of us goes first, I'll scatter his ashes over the Sierra, or he'll scatter mine. With all the mountains, streams, trees, and beautiful scenery, I can't think of a better place to be."

With deepwater pipelaying

"Problems not unlike those in space"

Story and photo by Carlos Vidal Greth

A jointly-sponsored effort between Shell and 19 other companies has been initiated to explore technology in what Ray Ayers calls "a significant challenge in deepwater pipelaying." This work has to do with developing the technology to align and connect up to 36-inch diameter pipe in water depths to 2,000 feet. "At those depths, some of the problems we encounter are not unlike those found in outer space," said Ayers, senior staff research engineer, in the Transportation Research and Engineering Department at Shell Development Company's Westhollow Research Center, formerly with the NASA space program.

Claude Sellars, Jr., supervisor senior staff, conceived the effort and called upon Ayers to formulate the program, titled "Subsea Alignment and Connection Methods in Deepwater Pipeline Construction." This project will take 15 months to complete and cost $650,000. Bob Kipp, research engineer, is involved in special analyses, while a number of consultants are used to round out the team.

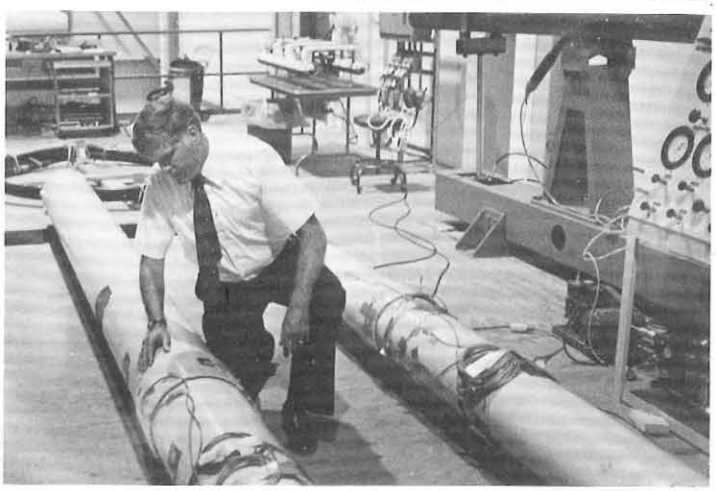
"The problem consists of two parts," said Ayers, "positioning the ends to be connected, then locking the ends together with a strong metal-to-metal seal between."

Because of the large pipe diameters involved, the pipe to be joined is extremely stiff and requires tremendous forces to achieve proper positioning. The problem is made more difficult due to the extreme water depths involved, often well below diver depth capability.

The major emphasis is on mechanical connectors to join pipe to pipes, pipe to risers, and pipe to subsea structures. There are major differences in the installation methods for these cases, largely in alignment aspects.

The installation of these tie-ins, or connections, at great depths poses special problems. For example, when divers are involved in installing pipeline tie-ins to risers in areas such as the North Sea, a single tie-in may take as long as a month to complete and cost as much as three million dollars. Those involved in the program also want to examine remote-controlled (connected by an operator on the surface) tie-ins which haven't been used yet, and welds accomplished within a submarine chamber or vessel.

This is not the first large deepwater pipeline research project conducted by Shell. Previous projects, also joint-industry supported, were two phases of a program, "Deepwater Pipeline Feasibility Study." The study was described by Sellars as "the bible of the offshore pipeline industry." Phase I began in September 1974, took 29 months to complete, and had 38 participating companies. It examined the feasibility of laying pipe at depths down to 3,000 feet. Phase II began September 1977, took 18 months to complete, and involved 20 companies. It examined the possibilities of improving conventional methods of pipelaying. All told, the "Feasibility Study," cost $1.32 million.



Ayers says it's a problem of positioning the ends and then locking them strongly together.

The research on developing systems for aligning and joining large-diameter pipes will have other applications: for smaller pipe in shallower waters, for pipeline repair and even for surface pipeline connections. Shell is considered to be in the forefront of such research and development efforts.

As exercises in technology development, joint ventures have proven to be very rewarding. "We're gratified," said Ayers, "that so many companies have recognized the need for the program. Out of 40 companies attending the proposal review meeting, 20 came through with money." Those involved include other oil companies, gas transmission firms, and both large and small contracting and service companies. Participants are: Amoco International, Blohm & Voss AG, Bouygues Offshore, Brown & Root, Inc., Coflexip & Services, Inc., Continental Oil Co., Exxon Production Research Co. (Supporting Company), Getty Oil, Gulf Research and Development Co., Hydrotech Systems, Inc., Marathon Pipe Line Co., Nippon Kokan KK, Petro-Canada, Phillips Petroleum, Saipem S.p.A., Standard Oil Co. of California, Sun Gas Co., Texas Gas Transmission Corp. and Transcontinental Gas Pipe Line.

An objective of the project is to develop reliable non-welded connections. "We hope to learn enough about mechanical joints," said Ayers, "to be able to develop confidence in their long-term integrity." Hyperbaric welding, metal-sealed mechanical flanges, and elastomer-sealed mechanisms have all been used with some success on flexible, small-diameter lines. This study will examine ways in which such tie-ins can be made cost-effective for much larger and stiffer pipe.

Scholarship deadline Nov. 1

Early as it may seem, it's not too soon for high school juniors to begin college plans. As a matter of fact, a deadline is already approaching for Shell children who will graduate from high school in 1981.

Again this year, the Shell Companies Foundation, Incorporated, has set November 1, 1979, as the deadline for submitting entry forms.

In its thirteenth Shell Companies Scholarship Competition, the Shell Companies Foundation, Incorporated, will sponsor 50 college scholarships for Shell children who will complete high school in 1981 and enter college in 1981. As in previous years, all phases of the Competition will be handled by the National Merit Scholarship Corporation (NMSC).

Those eligible are sons and daughters of regular full-time employees and retired or deceased employees of Shell Oil Company (including Shell Chemical Company and Shell Development Company) and Shell Pipe Line Corporation.

Completed 1981 Entry Forms must be submitted by November 1, 1979, to Scholarship Competition, Shell Companies Foundation, Incorporated, Two Shell Plaza, P.O. Box 2099, Houston, Texas 77001. Additionally, applicants must take the Preliminary Scholastic Aptitude Text/National Merit Scholarship Qualifying Test (PSAT/NMSQT) which will be given in high schools on October 23 or October 27, 1979.

Descriptive booklets covering the program and 1981 Entry Forms may be obtained from the Employee Relations office at any Company location or from the Shell Companies Foundation, Incorporated, Two Shell Plaza, P.O. Box 2099, Houston, TX 77001 (Telephone: 241-3078).

Steak sizzle

Log Lake Park in Kalkaska was the site of the Central Michigan District Steak Fry on July 20th. Chefs pictured are (left to right) Gib Pritchard, field gauger; Sandy Raudman, laborer; and Ed Renner, mechanical technician.

Submitted by Dedra Edgar

Retirement parties

J.E. (John) Burk, delivery gauger at El Paso, retired July 1, 1979. He and his wife **Blanche** were honored at a dinner held recently at Howard Johnson's. Fellow employees from Odessa and Midland attended, as did the entire personnel from the El Paso Terminal.

In addition to the gift certificates which they received, John was presented his 35-year service anniversary award and the Certificate of Appreciation by George Axmann, district superintendent, Western District, Odessa.

G. B. (Sarge) Campbell, operations foreman of El Paso, was MC.

Burk began his career at McCamey where he was hired as a laborer. He also served as pipeliner and tank farm gauger there before going to Wheeler as field gauger. He later worked as field gauger at Wasson and Midland Farms before being transferred to El Paso in his present assignment in September, 1965.

The Burks like to travel and share an interest in ceramics and Indian jewelry which they plan to pursue. He plays golf and both are looking forward to their retirement in El Paso.

Mr. and Mrs. H.H. Burnett were honorees at a party given at New Mexico Electric Reddi Room, Hobbs, New Mexico, on April 27, 1979. Burnett, a field gauger at Hobbs, retired May 1, after completing 37 years with Shell Pipe Line.

P. R. Wilson, gauger foreman at Hobbs, was master of ceremonies. Gifts for the couple were a mantle clock for "Speedy" and a stick pin for Bernice.

Forrest Underwood, district superintendent, Northern District, Hobbs, presented Speedy the certificate of appreciation in recognition of his long tenure of service with Shell and his original application for employment.

Cakes baked by the Northern District employee's wives were served along with punch and coffee to the 30 people attending the party.

A trip to Pennsylvania and Washington, D.C., is next on their agenda. For the present time, the Burnetts plan to make their retirement home in Hobbs.

Submitted by Martha Foster

Speedy and Bernice Burnett

Deaths

Ralph V. Conover, retired from Shell Pipe Line Corp. on January 1, 1960, died August 9. He is survived by his widow, Janet, of Lake Charles, LA.

Noble S. Hine, retired from Shell Pipe Line Cop. on January 1, 1955, died August 24. He is survived by his widow, Ruth, of Austin, TX.

Lewis C. Orr, retired from Shell Pipe Line Corp. on January 1, 1975, died July 15. He is survived by his widow, Helen, of Cushing, OK.

Earl A. Parnham, retired from Products Pipe Line on June 1, 1962, died August 1. He is survived by his widow, Esther, of Leominster, MA.

Harry T. Sullivan, communications technician, Hobbs, died July 23. He is survived by his widow, Dorothy, of Hobbs, NM.

W. E. Thompson, retired from Shell Pipe Line Corp. on October 31, 1959, died May 24. He is survived by his widow, Sophia, of Union, MO.

Robert L. Tynes, retired from Shell Pipe Line Corp. on May 1, 1961, died August 7. He is survived by his widow, Ella, of Belle MO.

Robert D. Westfall, retired from Products Pipe Lines on March 1, 1969, died August 15. He is survived by his widow, Berneice, of Kokoma, IN.

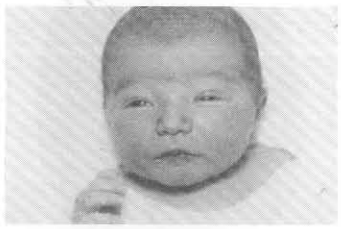
Tykeliners

Kathleen and Drew Cummings, engineer, Anaheim, announce the birth of their first child, a 7-lb., 1-oz. son, on August 9. Named Ryan Drew, he measured 20 inches long.

Anna and Dan Kite, district engineer, Pasadena, became parents for the second time on July 6 with the arrival of Johnathan Eric. The 7-lb., 5-oz., 20-1/2 inch long son joins a sister, two-year-old Bobbie Jo, at home.

Linda and Carl Lutz, pipeliner, Patoka, became the parents of a 6-lb., 10-oz. baby boy on August 4. He's named Michael Steven and was welcomed by a sister, Tanya, age 7.

Marilyn and Carlos Smith, meter measurement technician, Nairn, became parents for the first time on July 11. A daughter, Jamie Nicole, 8-lb., 2-1/2-oz., 20 inches long, arrived the same day as Hurricane "Bob" visited the New Orleans area.



Ryan Drew Cummings

Johnathan Eric Kite

Jaimie Nicole Smith

Personnel Changes

HO

J. F. Burkett
from Sr. Pipeline Analyst
to Oil Mvmt. Scheduler
HO — Oil Movements

V. B. Gorham
from Analyst
to Purchasing Analyst
HO — Purchasing

CD

R. C. Shahan
from Pipeliner-Welder 2nd
to Pipeliner-Welder 1st
CD — Odessa to Hamlin

R. T. Woodrow
from Asst. Gauger Foreman
to Gauger Foreman
CD — Eunice

F. N. Shanks
from Field Gauger
to Asst. Gauger Foreman
CD — Eunice

P. E. Hopson
from Office Assistant
to Employee Rel. Asst.
CD — Midland

C. B. McKee
from Pipeliner
to Pipeliner-Truck Driver
CD — McCamey

E. W. Hester
from Corrosion "A"
to Corrosion Technician
CD — Midland

F. T. Angel
from Pipeliner
to Field Gauger
CD — Baker

J. D. Bannister
from Sta. Attn.
to Field Gauger
CD — Kermit to Eunice

L. L. Belcher
from Pipeliner
to Station Attendant
CD — Hobbs to Kermit

T. T. Lambdin
from Communication "B"
to Communication "A"
CD — Midland

R. D. Winegeart
from Mechanic "B"
to Mechanic "A"
CD — Goldsmith

C. B. Treadwell
from Laborer
to Pipeliner (6-12)
CD — Hamlin

G. A. Culver
from Pipeliner (6-12)
to Pipeliner
CD — Denver City

GCD

C. E. Orn
from Laborer
to Pipeliner (6 mos.)
GCD — Pasadena

G. B. Harper
from Pipeliner
to Prod. Stor. Attn.
GCD — Goodrich to Mt. Belvieu

J. L. Hewett
from Communications "A"
to Communications Tech.
GCD — New Orleans to Mt. Belvieu

C. P. Gautreau
from Util. Pipeliner
to Trans. Attn.
GCD — St. James

V. R. Parish
from Pipeliner
to Mtr. Meas. Mech. C
GCD — Jackson to Gibson

E. Foster
from Pipeliner (6 mos.)
to Pipeliner (12 mos.)
GCD — Pasadena

W. D. Chumley
from Pipeliner (6 mos.)
to Pipeliner (12 mos.)
GCD — Pasadena

H. L. Freeman
from Oil Mvmnts. Scheduler
to Asst. Spvr. Oil Mvmnts.
HO — Oil Mvmnts. to GCD — Pasadena

C. H. Partney, Jr.
from Oil Mvmnts. Scheduler
to Asst. Spvr. Oil Mvmnts.
HO — Oil Mvmnts. to GCD — Norco

D. J. Kite
from Engineer
to Dist. Engineer
MCD — Indianapolis to GCD — Pasadena

D. A. Borne
from Office Secretary
to Sr. Clerk
GCD— St. James

J. R. McGuire
from Mech. "B"
to Mech. Tech.
GCD— Empire

G. B. Carabajal
from Delivery Gauger
to Staff Gauger
GCD— Pasadena

T. T. Shaddock
Mtr. Meas. Tech.
GCD— New Iberia to Gibson

R. S. Smith
from Mtr. Meas. Tech.
to Asst. Opers. Frmn.
GCD— New Iberia to Gibson

T. L. Gonzalez
from Delivery Gauger
to Mtr. Meas. Mech. C
GCD— Pasadena to Gibson

J. O. Jacobs
from Util. Pipeliner
to Delivery Gauger
GCD— Pasadena

E. J. Derouen
from Mech. "C"
to Mech. "B"
GCD— Empire

D. B. Ritchie
from Mech. C
to Mech. B
GCD— St. James to Gibson

J. M. Beard
from Mtr. Meas. Mech. "B"
to Mtr. Meas. Mech. "A"
GCD— Sorrento

R. A. Amedee
from Mtr. Meas. Mech. "C"
to Mtr. Meas. Mech. "B"
GCD— Sorrento

F. F. Allgaier
Oil Mvmnts. Contrlr.
GCD— Padadena to Norco

D. J. Davis
Oil Mvmnts. Contrlr.
GCD— Pasadena to Norco

MCD

B. T. Gallagher
from Laborer
to Pipeliner (6 mos.)
MCD— Kalkaska

C. E. Harper
from Gauger Opr. A
to Pipeline Analyst
MCD— Patoka

J. E. Bell
from Lead Pipeliner
to Operations Foreman
MCD— Healdton

R. M. Poterfield
from Truck Driver
to Lead Pipeliner
MCD— Healdton

T. M. Wood
from Pipeliner
to Truck Driver
MCD— Healdton

WCD

J. L. Erbe
from Station Operator
to Line Rider
WCD— Bakersfield to Simi

F. L. Sanders
Station Operator
WCD— Wasco to Bakersfield

Shell Welcomes

HO

E. M. Mitchell
Admin. Secretary
HO— PLO Administration

J. D. Miller
Sr. Engineer
HO— Oper. & Mtce. Control

CD

M. J. Barrett
Senior Clerk
CD— Midland

J. L. Martin
Office Assistant
CD— Midland

W. J. Widener
Supv. Admin. Services
CD— Midland

T. W. McGrew
Laborer
CD— McCamey

K. A. Jones
Typist
CD— Midland

F. L. Moore
Pipeliner-Welder 3rd
CD— Odessa

GCD

J. L. Clouatre
Laborer
GCD— Sorrento

J. W. Gantenbein
Laborer
GCD— Pasadena

S. A. Rustad
Laborer
GCD— Pasadena

G. B. Lush
Comm. Tech.
GCD— Peetsville

J. L. Hoecherl
Laborer
GCD— Goodrich

R. Johnson
Laborer
GCD— Goodrich

T. Magana
Laborer
GCD— Pasadena

D. A. LeBlanc
Office Secretary
GCD— St. James

G. L. Hallam
Laborer
GCD— Pasadena

J. G. Anderson
District Manager
GCD— Pasadena

MCD

J. F. Faris
Pipeline Accountant
MCD— Indianapolis

R. L. Britton
Engineer
MCD— Indianapolis

WCD

G. A. Crowell
Terminal Attendant
WCD— Fremont

J. M. Penland
Dist. Supt.
WCD— Caliola

Service Anniversaries

J. O. Dees
MCD— Patoka
30 years

R. M. Matson
WCD— Anaheim
30 years

R. E. Hinkle
MCD— Wood River
25 years

H. W. Scruggs
GCD— Austin
25 years

D. T. Calkins
MCD— Cushing
15 years

J. W. Kolb
MCD— Zionsville
15 years

B. A. Myers
HO— Houston
15 years

P. L. Pearson
GCD— Yazoo
15 years

W. A. Shuman
WCD— Bakersfield
15 years

S. A. Abbott
MCD— Indianapolis
10 years

R. D. Baggs
WCD— Caliola
10 years

A. Dennis, Jr.
CD— St. James
10 years

L. W. Harvey
GCD— Pasadena
10 years

J. D. Newnham
CD— Midland
10 years

D. C. Pollard
CD— Midland
10 years

T. T. Shaddock
GCD— Gibson
10 years

E. L. Tennimon
GCD— Nairn
10 years

C. H. Wells
WCD— Anaheim
10 years

Retirements

J. E. Burk
Delivery Gauger (Products)
CD— El Paso

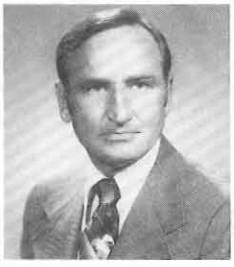
H. R. Good
Gauger Foreman
CD— Eunice

M. E. Foster
Sr. Employee Rel. Asst.
CD— Midland

E. D. Smith
Field Gauger
CD— Baker

F. C. Rhyne
Financial Analyst
MCD— Indianapolis

W. A. Bornemann
25 years— July



R. E. Hinkle
25 years— August

GO DEVIL 79.5

Billye Lynn Ratliff, editor

713-241-5396

SSN-421-5396

Published each month for employees, pensioners, families and friends of Shell Pipe Line Corporation. All correspondence should be addressed to **Go Devil,** 1591 One Shell Plaza, P.O. Box 2463, Houston, Tex. 77001, or to one of the following field reporters.

Mid-Continent Division
Indianapolis ..... Laurie Burch
North Line ..... Emily Smith
East Line ..... Shirley Abbott
Central Michigan ... Dedra Edgar
Cushing ..... Carolyn Maynard
Wood River ..... Ramona Porter

Central Division
Midland ..... Pat Hopson
Rocky Mountain ... Ann McColley

West Coast Division
Los Angeles ..... Dine Moore
Coalinga ..... Cecilia Wisotzke
Long Beach ..... Connie Sanford

Gulf Coast Division
New Orleans ..... Gail Melton
PL Construction .. Art LaRochelle

Bulk Rate
U.S. Postage
PAID
Houston, Texas
Permit No. 2264

JM BEARD
RT 3 BOX 190R
CANNON ROAD
GONZALES LA 70737

3100 07
8531228

COVER

In the case of the Cognac pipeline, reaching new heights literally meant reaching new depths with the completion of the laying of the 12-inch diameter line. For the story of the world's deepest operating crude oil pipeline, turn to page 2.

Glances backward

25 years ago

Only a month after celebrating his thirtieth service anniversary with the company on September 1, T. E. Swigart, president of Shell Pipe Line Corporation, will retire. Thus will close the active Shell career of a man who has been an officer of one or another of the Shell Companies for 22 years and has seen Shell grow in the United States from a mere infant to its present place as one of America's billion dollar corporations.

15 years ago

For the second straight year, the Four Corners Pipe Line booth was judged best Commercial Non-Competitive exhibit at the recent Navajo Tribal Fair.

Forrest Adrian, Shell photographer who has directed the booth for eight years, presented the award plaque to G. G. Billings, manager Operations.

D. W. Derry, right-of-way and claims agent from Compton, and T. C. Hogue (at left in photo), meter measurement mechanic B from Farmington, assisted Forrest. Tom's knowledge of the Navajo language contributed to the successful operation of the booth.

More than 32,000 polaroid photographs have been made of visitors to the Four Corners Booth since the exhibit was opened in 1956.

10 years ago

Crude oil from the Louisiana Gulf Coast arrived for the first time by pipeline at Shell Oil's Wood River Refinery via the Capwood Pipe Line System on July 8. This link marks the completion of the connection between Patoka, Capline Pipe Line destination, and Wood River.

Capwood, a 55-mile 20-inch system, has an initial delivery capacity of 65,000 barrels per day.

5 years ago

Representatives from 16 domestic and foreign companies which have agreed to participate in a $750,000 pipeline research program met in Houston this month to formulate a technical steering committee to oversee the program for developing technology for laying offshore pipelines in water depths up to 3,000 feet. Consideration will be given also to laying line of up to 30 inches in diameter in water depths of 6,000 feet where feasible.