

BEFORE THE
Federal Communications Commission

WASHINGTON, D.C. 20554

ORIGINAL

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Amendment of the Commission's)
Rules to Establish Part 27, the)
Wireless Communications Service)
(WCS))

GN Docket No. 96-228

DOCKET FILE COPY ORIGINAL

To: The Commission

COMMENTS
OF
PETROLEUM COMMUNICATIONS, INC.

Petroleum Communications, Inc. ("PetroCom"), by its attorneys, pursuant to Section 1.415 of the Rules and Regulations of the Federal Communications Commission ("Commission or "FCC") respectfully submits these Comments in response to the Notice of Proposed Rule Making ("Notice")^{1/} adopted by the Commission in the above-styled proceeding.

I. SUMMARY

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1. The Commission proposed to allocate the bands 2305-2320 MHz and 2345-2360 MHz to the fixed, mobile, and

^{1/} 61 Fed. Reg. 59048 (November 20, 1996).

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radiolocation services on a primary basis. PetroCom supports use of these frequency bands for the provision of Wireless Local Loop ("WLL") service in the Gulf of Mexico; however, PetroCom finds this spectrum inadequate to provide WLL service in the Gulf of Mexico.

II. INTRODUCTION

2. PetroCom is the Frequency Block A licensee of Cellular Radiotelephone Service station KNKA 411, whose authorized Cellular Geographic Service Area ("CGSA") lies within the Gulf of Mexico Service Area. PetroCom's KNKA 411 cellular telephone system is heavily relied upon by the oil and gas industries, as well as those organizations that support their activities. These include companies engaged in providing specialized services and materials to the energy industry such as drilling supplies, storage tanks, compressors, food and marine transportation. For many working in the Gulf of Mexico, such as individuals engaged in operations on drilling rigs and production platforms, PetroCom's cellular system constitutes a vital link to their families and onshore suppliers.

III. BACKGROUND

3. Although PetroCom's cellular system provides a voice link for workers to the onshore world, the cellular system does not satisfy the data requirements of the oil and gas industries in the Gulf of Mexico. PetroCom would like to utilize a wireless local loop ("WLL") system to provide high-speed dial-up and standard telephone features such as dual tone multifrequency transparency. An affiliate, Gulf Coast MDS Service Company ("Gulf Coast"), has extensively researched WLL options for the Gulf of Mexico market. WLL service in the Gulf of Mexico will serve the public interest because it will provide workers on remote rigs and platforms with high-speed data communications, such as wide area networks, Internet access, and facsimile service.

IV. COMMENTS

A. **The Bands 2305-2320 MHz and 2345-2360 MHz Are Inadequate to Support WLL Operations.**

4. The FCC proposed to allocate the bands 2305-2320 MHz and the 2345-2360 MHz to fixed, mobile and radiolocation services on a primary basis. The FCC specifically requested comments on the appropriate range of spectrum to auction per license area.

5. PetroCom generally supports the FCC's proposed spectrum auction for fixed and mobile services. However, based upon our extensive research, PetroCom does not believe that the bands 2305-2320 MHz and 2345-2360 MHz provide sufficient spectrum to support a WLL system in the Gulf of Mexico.

6. PetroCom believes that, even if the FCC auctions the maximum amount of spectrum per band -- 15 MHz -- WCS licensees would not be capable of providing WLL services with equipment available today. PetroCom urges the FCC to consider additional allocations for WLL service in the Gulf of Mexico. Several WLL allocations were proposed in DSC Communication Corporations's Petition for Rule Making^{2/} ("DSC Petition") and in comments filed in that proceeding.^{3/} PetroCom strongly urges the FCC to consider additional allocations consistent with those views.

7. In studying the possibility of the construction of a WLL system in the Gulf of Mexico, PetroCom has reviewed extensively the WLL equipment which is either currently

^{2/} Petition for Rule Making filed by DSC Communications Corporation, dated June 4, 1996, RM-8837 ("DSC Petition").

^{3/} See, for example, Comments of Northern Telecom, Inc. to the Petition for Allocation of Radio Spectrum in the 2 GHz Band for the Provision of Wireless Fixed Access Local Loop Services in RM-8837 (August 12, 1996) ("Nortel Comments").

available or in development. Gulf Coast retained an engineering consultant firm, CommTech Industries of Louisiana, to assist it in planning the construction of a WLL system in the Gulf of Mexico. CommTech sent over twenty RFPs to WLL vendors with WLL experience in the global market. Based on the responses to the RFP, CommTech concluded that only two vendors provided viable alternatives for a WLL system in the Gulf of Mexico. CommTech, at Gulf Coast's request, analyzed whether the WLL equipment of the two vendors selected could operate in the 2.3 GHz band which the Commission is proposing to auction. CommTech concluded that a WLL system in the Gulf of Mexico requires at least 49 MHz of spectrum for both the transmit and receive channels with 84 MHz of separation between the transmit and receive channels. Accordingly, the Commission is urged to expand this proposal to provide a meaningful WLL allocation.

B. The Commission Should License the Gulf of Mexico as a Service Area for Purposes of the 2.3 GHz Auction

8. In the hope that WLL equipment will be developed in the near future to operate in the 2.3 GHz band, PetroCom urges the Commission to license the Gulf of Mexico as a single service area. Oil and gas exploration and production is the dominant industry in this area, and oil and gas companies, government agencies and other marine

transportation companies rely on dependable, cost-effective voice and data communications to operate safely and successfully.

9. Oil exploration and production has increased sharply in the past year.^{4/} As major oil exploration and production companies are moving to deep-water sites in the Gulf of Mexico, expanded data requirements will demand reliable point-to-point and point-to-multipoint communication facilities. There is currently an unmet need for expanded communications in the Gulf of Mexico. PetroCom believes that WLL service in this area can meet the oil and gas industry's demand for a high-capacity voice and data communications network.

V. CONCLUSION

10. Although the FCC's proposal to license the 2305-2320 MHz and the 2345-2360 MHz bands appears premature in light of the fact that there is no existing WLL equipment

^{4/} The following articles, which are attached as Appendix A, discuss this increase. Daniel Southerland, "Getting A Leg Up," The Washington Post, March 31, 1996, H1; "Shell lines up Exxon, 2 others for gulf project," The Dallas Morning News, 1D, July 3, 1996; Mary Judice, "Ursa Major," Times-Picayune, C1, July 3, 1996; Martha M. Hamilton, "Loews Corp. Hits a Gusher," The Washington Post, D1, November 21, 1996.

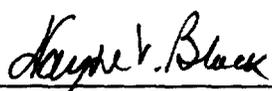
for operations in these frequency bands, PetroCom supports the proposed auction in the hope that such equipment will be developed in the near future. Based upon the significant increase in demand for advanced communication systems in the Gulf of Mexico, PetroCom urges the FCC to designate additional spectrum for WLL service in this important area.

WHEREFORE, THE PREMISES CONSIDERED, Petroleum Communications, Inc. respectfully urges the Federal Communications Commission to act in a manner fully consistent with the views expressed herein.

Respectfully submitted,

PETROLEUM COMMUNICATIONS, INC.

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Dated: December 4, 1996

GETTING A LEG UP

In Gulf of Mexico's Depths, Shell Finds Lots of Oil—and a Way to Restructure

By Daniel Southerland
 Washington Post Staff Writer

O IN THE GULF OF MEXICO on April 10, five powerful tugboats will slowly tow a massive platform into the Gulf of Mexico, where it is expected to set a water depth record for offshore oil production.

Resembling a small industrial complex, the platform, code-named Mars, is designed to process oil and gas, house 106 people, generate enough power for a town of 6,500 people, and withstand hurricane-force, 71-foot waves and 140 mph winds.

Once Mars's 23,000-ton floating superstructure is anchored to the floor of the sea by 12 tubular steel pipe tendons each more than a half mile long, it will become the deepest man-made structure in the world.

Mars represents a huge investment, even for a major oil company. Shell Offshore Inc., a New Orleans-based subsidiary of Shell Oil Co. that owns 71.5 percent of the project, and its partner BP Exploration Inc., which owns about 28 percent, will spend \$1.2 billion during Mars's construction and development phase.

But despite the costs, other big oil companies are watching Mars—and Shell's march deeper into the Gulf of Mexico—not only because of the record depth, the technology, and the monumental size of Shell's oil platforms, but also because of their profit-making potential.

The technology's effectiveness is no longer in question and the profit potential has become clear, in part because Shell re-engineered itself and

its relationships with its contractors to get the costs down.

Auger, Shell's first deep-water platform and a forerunner to Mars, was designed to produce a peak of 40,000 barrels of oil a day. It is now producing 70,000 barrels a day. That is more than 1 percent of total U.S. daily oil production, estimated in February at 6.45 million barrels.

Analysts now predict that the Gulf of Mexico will become the largest oil and gas frontier in the United States, exceeding the reserves of Alaska's Prudhoe Bay, and that it will produce sizable profits despite today's relatively low oil and gas prices.

Shell is now by far the leader in the deep-water gulf. Shell commands nearly a third of all acreage leased from the federal government in water depths of more than 1,500 feet and the company has seven large deep-water projects such as Mars under development or in production.

Just a decade ago, the Gulf of Mexico looked like a dead end for the major oil companies. Most U.S.-based firms began moving overseas, and

Gulf of Mexico production went into steep decline. In 1994, oil production in the United States hit a 40-year low, and the nation for the first time imported more than 50 percent of its crude oil.

But in that same year, Shell Oil Co., the U.S. subsidiary of the Royal Dutch/Shell Group, stabilized its U.S. production primarily through the development of new fields in the gulf and along the Gulf Coast. Shell Oil at that time had nowhere else to look because Royal Dutch/Shell had re-

See MARS, H6, Col. 3

"I like being out here because this is where the future is."

— Roy Farrow, Auger technician, while showing a visitor around drilling platform



THE MARS OIL PLATFORM

Mars is a tension-leg oil drilling platform, meaning its position is controlled not by a rigid tower but by tension on 12 steel pipe tendons that connect in groups of three at the platform's corners and are anchored to concrete piles on the sea floor.

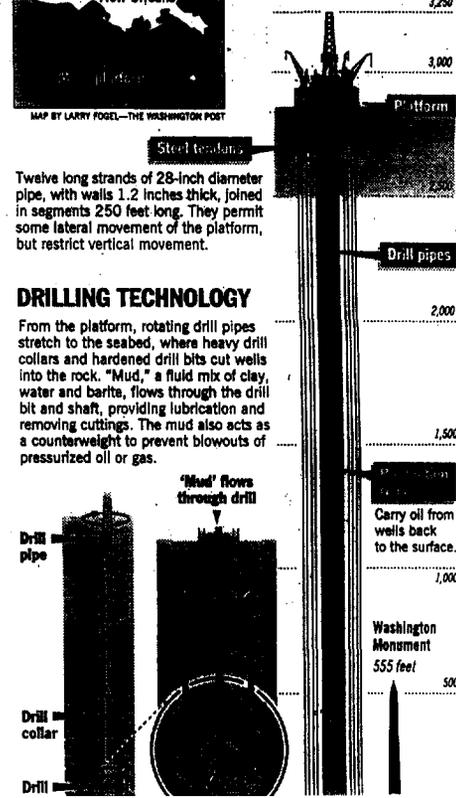
- Other features:
- **Total weight:** 36,500 tons.
 - **Designed:** To withstand 71-foot waves and 140-mph winds.
 - **Production:** 100,000 barrels of oil and 110 million cubic feet of natural gas a day.
 - **Oil delivery:** Oil will be moved 116 miles via an 18 1/4-inch pipeline to the mainland.



MAP BY LARRY FOGEL—THE WASHINGTON POST

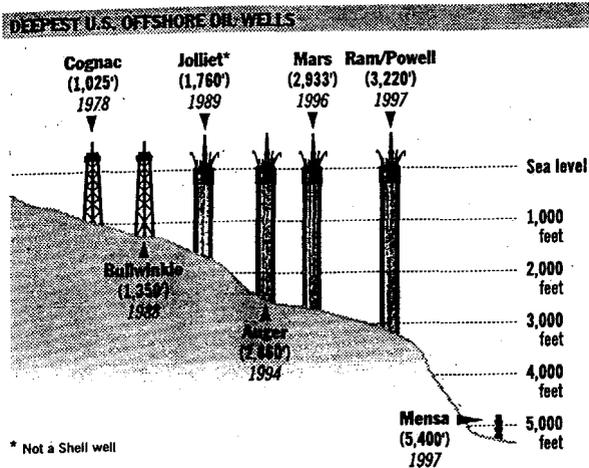
- COMPONENTS**
- 1 **Deck**
 - 2 **Quarters module**
Houses 106 people.
 - 3 **Power module**
 - 4 **Hull**
Four circular steel columns, each 66.5 feet wide and 162 feet high, connected by four 24-foot high pontoons. The hull weighs 15,650 tons.
 - 5 **Processing module**
Contains separation and treatment facilities to process oil and natural gas.
 - 6 **Drilling module**
Houses drilling equipment.
 - 7 **Well bay module**
Houses drilling motors.

Mars oil platform
 3,250 feet from sea floor to top of drilling rig (deepest structure in the world)



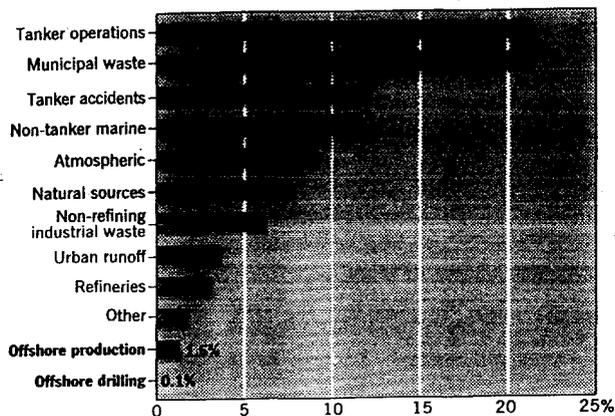
DRILLING DEEPER FOR CRUDE

Shell Offshore Inc. keeps sinking deeper wells in the productive Gulf of Mexico. The steady progress of deep-water wells:



MARINE HYDROCARBON POLLUTION IN THE GULF OF MEXICO

PERCENTAGES, BY SOURCE OF POLLUTION



SOURCES: Shell Offshore Inc., National Academy of Sciences, Warlick

Shell Finds Profits in Going Deep for Oil

MARS, From H1

stricted its exploration and production activities to the United States, and California and East Coast states had banned most offshore drilling.

In December 1995, the American Petroleum Institute reported that crude oil production in the lower 48 states fell by 1.4 percent during the year, compared with an average of more than 3 percent for each of the two previous years. Offshore drilling in the Gulf of Mexico, API said, partly explained the reduced rate of decline.

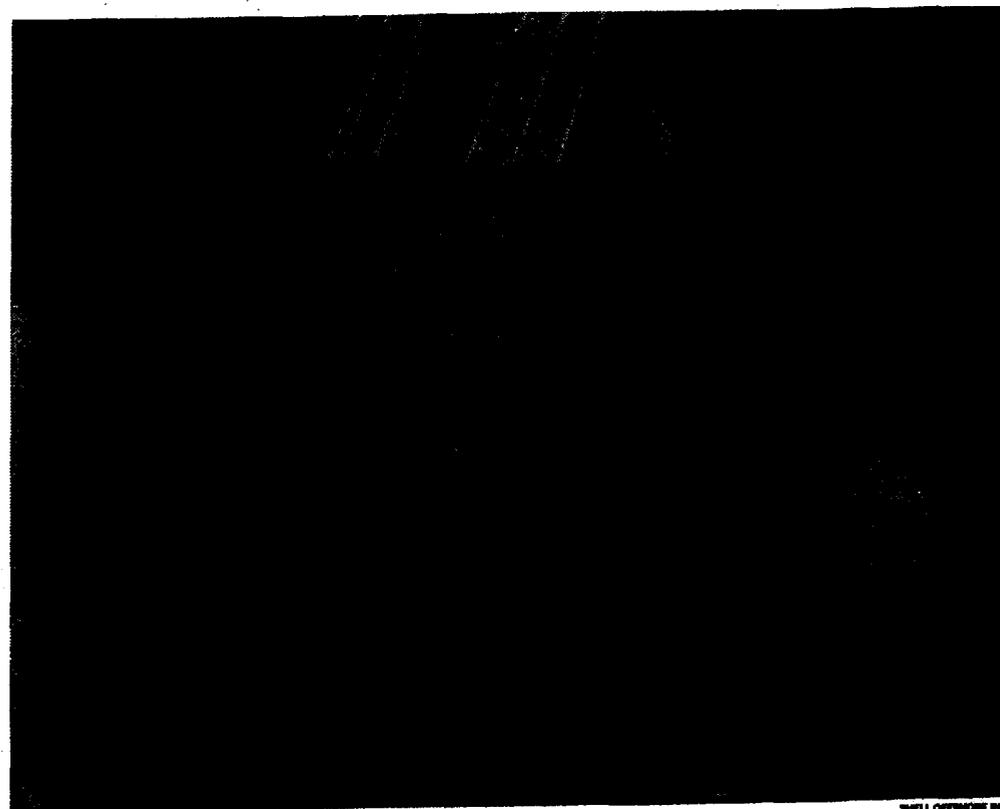
"The Gulf of Mexico is not going to eliminate imports, but it will lessen the need for them," said Rich Pattarozzi, 52, general manager of the deep-water division of Shell Offshore. According to Pattarozzi, Shell and other companies have sharply increased their exploration and drilling activities in the gulf over the past year. Lease sales have risen significantly.

Shell also is demonstrating that bigger reserves exist in the deep-water gulf than originally estimated. Mars, for example, will be drilling 130 miles southeast of New Orleans into the largest oil and gas discovery to be made in the gulf in 25 years.

With an estimated 700 million barrels of oil and gas equivalent in recoverable reserves, Mars is designed to produce much more each day than Auger.

Shell is proving that it can sharply reduce the time required between discovery of reserves and production of oil and gas. It built Mars more cheaply and much more quickly than Auger.

But Shell also is actively teaming up with other companies on a number of projects. In the latest development, Shell announced on March 11 that it will soon begin drilling an exploratory well at a world-record depth of 7,625 feet in the Gulf of Mexico in partner-



The Mars platform under construction at Ingleside, Tex., near Corpus Christi. Booms are lowering modules onto hull.

ship with Mobil Corp. of Fairfax, Amoco Corp. and Texaco Inc.

Although the operations of Shell Oil Co.'s parent have sometimes been affected by the concerns of environmentalists, Shell has met little such resistance in the gulf. No scenic views are threatened, and industry statistics show that offshore drilling and production

there and elsewhere are among the most environmentally safe operations in the oil business. In 1985, for example, the National Academy of Sciences found that oil tanker operations—and municipal hydrocarbon wastes—caused roughly 25 times as much pollution as offshore drilling.

Shell owes its success in the gulf partly to cost-cutting. Like other oil companies, Shell has "downsized" and used advances in 3-D seismic imaging and high-speed computers that interpret the seismic data to lower its costs.

But while Shell has reduced its own employment in the United States by 32 percent—from 31,000 to 21,000 over the past four years—it also has created jobs in the long-depressed oil service, equipment and construction industries.

More than 900 companies in 30 states and 33 companies in 11 countries were involved in the Auger project, according to Shell. That translates into about 3,000 U.S. jobs directly related to the project.

Along with the downsizing, Shell has undergone a massive "cultural change" that has become critical to the profitability of its offshore operations, according to more than a dozen managers, specialists and oil platform employees of Shell Offshore who were interviewed for this article in Texas, Louisiana and the Gulf of Mexico.

They tell the story of how Shell Offshore got a lock on the Gulf of Mexico through a combination of geological data and intuition, the

buying up of leases, fast-track construction and production, and finally the company's ongoing cultural transformation.

Shell Offshore's management has been attempting to transform a highly bureaucratic, hierarchical organization into one that is more innovative, open and responsive to employees' ideas.

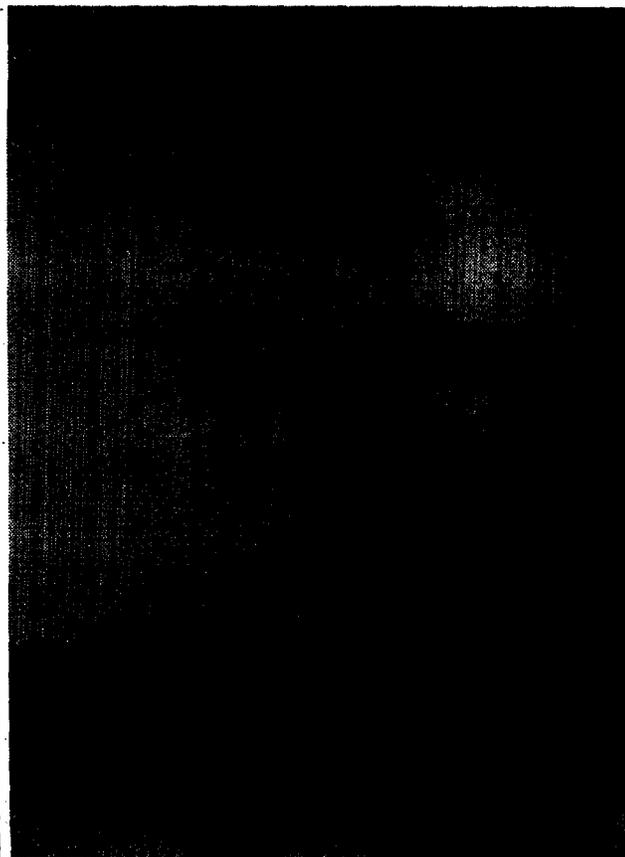
Recently, Shell has extended the concept of more openness to new risk-sharing "alliances" with key oil service, equipment and construction companies, and it applied this concept in the design and construction of Mars.

"The real challenge we had was changing our culture," said Dan Godfrey, 51, the Mars project manager based in New Orleans. "We wanted to get Mars's costs down by \$150 million and cut the time down by six months. So we had to do something differently than we did before."

As in many oil companies, however, Shell's operations are dominated by engineers, who like to control things. Getting the engineers to accept the idea of delegating more authority to those who do the hands-on work of drilling and production or those who do contract work for Shell has not been easy. But analysts say the approach is succeeding.

"Shell has become an incredibly innovative company," said Arthur W. Tower III, research manager at Howard, Weil, Labouisse, Friederichs Inc. in

See MARS, H7, Col. 1



BY DANIEL SOUTHERLAND—THE WASHINGTON POST
Technician Roy Farrow took team-building course before joining Auger crew.

Gulf of Mexico Oil, Gas Reserves May Exceed Those in Alaska's Prudhoe Bay

MARS, From H6

New Orleans. "It's a conservatively run company with a flair."

Early Exploration

A little more than a decade ago, Shell Oil Co.'s success in the deep water was far from certain. "In the early 1980s, the question was whether hydrocarbons even existed out there," said Pattarozzi in an interview in Houston.

But Shell gambled on its geologists—oilmen call them "rock hounds"—whose work is part science, part intuition. The geologists argued that the deep-water gulf, at water depths exceeding 1,500 feet, might hold some of the world's biggest undiscovered reserves.

Shell quietly began buying up deep-water leases in the mid-1980s even before it could be certain that large amounts of oil or gas were embedded in the rock deep below the seafloor.

Jim Funk, 46, a Shell geologist who became exploration manager for the company's offshore operations in 1986, recalls debates within the company over "bright spots"—areas among the seismic images that Shell gathered that might indicate the presence of oil or gas.

One of the biggest debates was over turbidites. "These are sedimentary rocks that were formed by deposits in bottom currents.

"The company was having a lot of trouble understanding turbidites and deep-water sands," Funk said. Shell named a task force of about 20 geologists and geophysicists and "we went to see all over the world where turbidite sections crop out—coastal California, Newfoundland, France, Spain, Italy, Norway, and we learned a lot," Funk said.

Shell was encouraged enough to launch a major seismic research program using two geophysical vessels that worked at a "frenetic pace," according to Funk.

The vessels trailed arrays of air guns causing acoustical pulses to be introduced into the water. These generated energy waves that reflected off structures beneath the sea floor, giving hints of where oil or gas could be found.

The data was not conclusive. Three-D seismic imaging had not yet been fully developed, and the geologists were still having to use their intuition. But Shell bought leases and began drilling exploratory wells. One of those wells, drilled in 1987, showed good prospects at the location now occupied by the Auger tension-leg platform.

In 1988, Shell Offshore installed the world's tallest fixed platform, Bullwinkle, at a depth of 1,350 feet. In early 1995, it brought its Tahoe and Popeye fields on stream at 1,500 and 2,100 feet.

But those were overshadowed by Auger, a \$1.2 billion project. At a depth of 2,860 feet, it was the largest tension-leg platform ever built and one of only six in the world. It marked Shell's first large-scale production from the deep-water frontier.

Auger's Auspicious Start

Auger's crew members refer to their oil platform as the "Starship Enterprise" of the oil industry, because of its state-of-the-art central control room and computer systems. And to some oilmen, the mating at sea of Auger's 10,500-ton deck with its 20,000-ton hull by the Louisiana-based firm of McDermott Inc. required such precision that it resembled a gigantic space docking. Auger's deck alone is the size of two football fields.

Auger, located 21½ miles southwest of New Orleans, floats on four large cylindrical columns held in place by a doz-

en flexible tubular steel tendons anchored to the sea floor. The tendons, pull down on the platform so that it can move laterally but will not bob up and down like a cork.

Auger's crew members were selected not only for their technical talent, but also for their behavioral skills. Roy Farrow, 33, an Auger technician, took a course in team-building concepts in California before joining the crew and, like others, was given a personality test to determine how he might best work with other crew members.

It was technicians such as Farrow, not managers, who shaped a decision to buy a \$250,000 gas compressor last year that enhanced Auger's capacity to process natural gas. That expenditure paid off in December when the U.S. demand for natural gas soared, driving

gas prices sharply higher.

"I like being out here because this is where the future is," Farrow said recently as he showed a visitor around Auger.

A Step Further

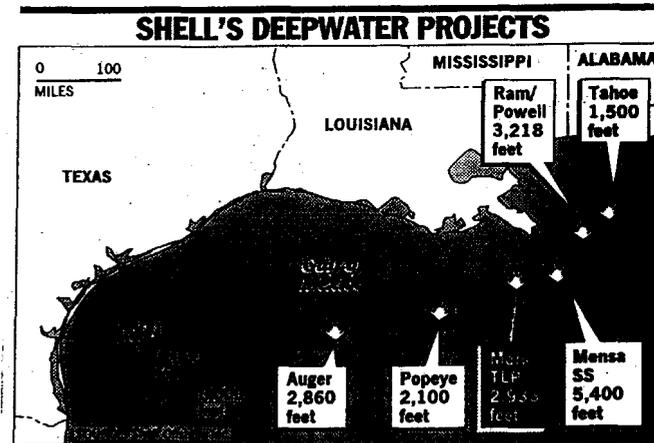
Despite its success with Auger, Shell decided that it had to cut costs and simplify the structure of Mars, which was scheduled to be its next major tension-leg platform. Shell and BP did this by overlapping the design and construction stages of the project—starting construction even before the design was completed—and by forming alliances with contractors in which risks and profits would be shared rather than predetermined through endless negotiation.

John Haney, 41, Shell's construction

superintendent for Mars in Ingleside, Tex., said that by forming teams and sharing profit and loss risks equally with key contractors, such as Aker Gulf Marine in Ingleside, Shell gave its contractors an incentive to perform well. This, he said, marked a major advance over the oil company's traditional adversarial relationship with contractors.

Shell's design-while-building capability helped the Mars fabrication team cut about nine months off construction time, according to Haney.

Mars also will contain a feature that is considered unusual in the rough-and-ready oil industry: It will have a "meditation room," or quiet room, where an oilman can escape the pressures of living at close quarters—and perhaps come up with new ideas that might never have occurred to management.



Shell lines up Exxon, 2 others for gulf project

From Wire Reports

HOUSTON — Shell Oil Co. has lined up Exxon Corp., Conoco and British Petroleum Corp. as partners in its \$1.45 billion plan to drill for oil in record depths of the Gulf of Mexico, the company said Tuesday.

The Ursa development, about 130 miles southeast of New Orleans, is expected to retrieve 150,000 barrels of oil and 400 million cubic feet of natural gas per day. The discovery is believed to contain the equivalent of 400 million barrels of oil, the second-largest find in the Gulf of Mexico in 25 years.

Ursa will be developed in 3,950 feet of water, setting a world water-depth record for a permanent drilling and production platform, Shell said. The depth will be equal to three of New York's World Trade Center buildings standing end to end.

The massive platform will house up to 110 workers. Construction of the 28,800-ton hull begins this month.

"The platform will be the largest structure in the Gulf of Mexico, and its individual wells are expected to produce at rates not thought possible just a few years ago," said Rich Pattarozzi, general manager of Shell Offshore Inc.-Deepwater Division.

Please see SHELL on Page 10D.

Shell lines up gulf partners

Continued from Page 1D.

Houston-based Shell Oil, which belongs to the Royal Dutch/Shell Group of companies, is Ursa's operator and holds a 45 percent interest.

British Petroleum's BP Exploration owns 23 percent. Exxon, of Irving, and DuPont Co.'s Houston-based Conoco unit each own 16 percent.

Production is expected to begin in 1999. Plans call for up to 14 wells off the platform, some producing up to 30,000 barrels of oil daily.

The highest individual well production rate currently in the gulf is about 13,000 barrels a day at Shell's Auger project.

Oil and gas from Ursa will be transported 47 miles through separate pipelines to an offshore gathering platform and then transported to shore. Pipeline construction is expected to begin next year.

Ursa will be developed using a tension leg platform. Such drilling and production platforms are tethered to the sea floor by long, flexible tendons that allow limited movement of the massive platforms.

Traditional offshore platforms are constructed atop fixed legs.

The platform will be significantly larger than other tension leg platforms in the gulf to accommodate higher production rates.

It will weigh about 63,300 tons, while Shell's Mars tension leg platform weighs 36,500 tons.

Each tendon attaching the platform to the sea bed will be 3,815 feet long and weigh about 1,000 tons.

In May in the same area, Shell began installing the Mars platform, which is in the deepest water yet for an oil platform — 2,940 feet.

That record is expected to be surpassed next year when Shell installs its Ram-Powell tension-leg platform in 3,218 feet in the Gulf of Mexico. That project involves Amoco and Exxon.

The Belleli Group of Italy, will build the base, or h Ursa's platform, and J. Ray Mott International Inc. of M City, La., will construct the modules.

Recent oil and gas discoveries in the gulf's deep water, which defines as depths of greater than 1,500 feet, have estimated potential reserves ranging from 8 billion to 15 billion barrels — larger than the Prudhoe Bay field in Alaska.

The success of Shell has led to a scramble among most major companies to buy up leases and spend huge amounts to explore what only a few years ago was believed to be an area whose production was on the decline.

When all of the four gulf deepwater platforms being developed by Shell and its partners are producing by mid-1999, about 380,000 additional barrels of oil a day will flow.

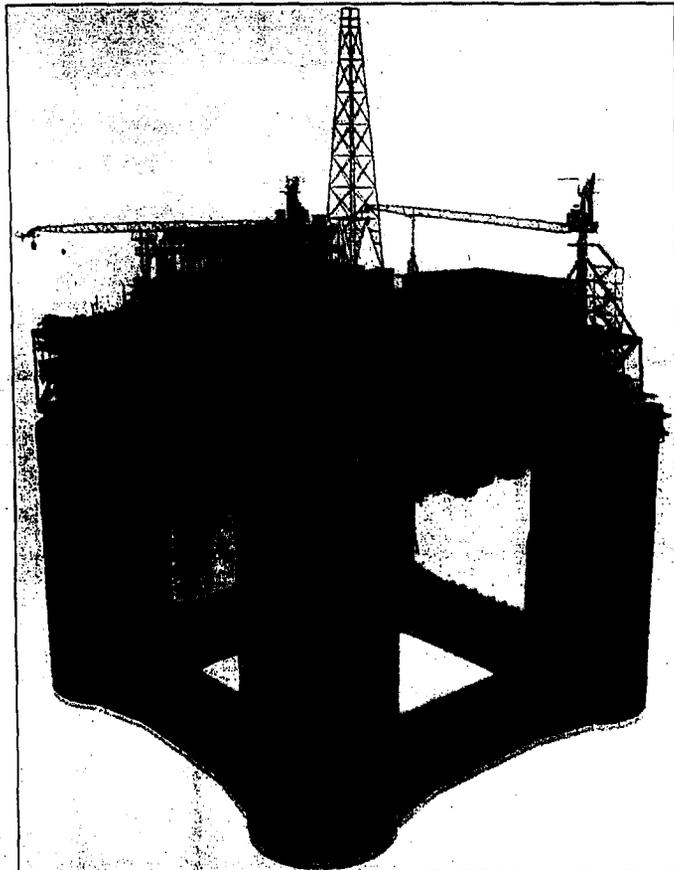
Although the amount is small, a fraction of what the United States consumes a day — about 17.6 million barrels — it is one of the bright spots in a domestic industry where production has been falling for years while imported oil has been increasing.

In May, according to figures compiled by the American Petroleum Institute, domestic oil production plunged to 6.3 million barrels a day, the lowest level for a month since 1954, as a result of a sharp drop in production at Prudhoe Bay.

At the same time, imports have soared, totaling 9.98 million barrels a day in May, second only to the record level set in February 1977.

URSA MAJOR

Shell's platform in the deepest water of the Gulf of Mexico expected to produce oil and gas in record amounts



Rendering depicts the Ursa platform that will be set up in the deep water of the Gulf of Mexico by Shell.

ALL ABOUT URSA

When installed in 1998, Shell Offshore's Ursa platform will be the Gulf's largest offshore drilling platform. Some details of the project, compared with Shell's huge Mars development in the Gulf:

- ▶ **Water depth:** 4,000 feet, compared with 2,940 feet for the Mars platform installed this spring.
- ▶ **Cost:** \$1.45 billion. Mars investment: \$1.2 billion.
- ▶ **Weight:** 63,000 tons. The Mars platform weighs 36,500 tons.
- ▶ **Total height of platform:** 4,285 feet. Mars is 3,250.
- ▶ **Reserves:** Estimated at 400 million barrels of oil or natural gas equivalent. Mars reserves estimated at 500 million barrels.
- ▶ **Production rates:** Ursa, 150,000 barrels of oil and 400 million cubic feet of natural gas a day. Mars, 100,000 barrels of oil and 110 million cubic feet of gas.
- ▶ **How long will it be the biggest platform?** Not long. Shell's Mars development will be in 5,000 feet of water.

By MARY JUDICE
 Energy editor

Continuing the wave of big drilling announcements for the Gulf of Mexico, Shell Oil Co. announced plans Tuesday for the biggest and most expensive platform to be placed in a record 4,000 feet of water.

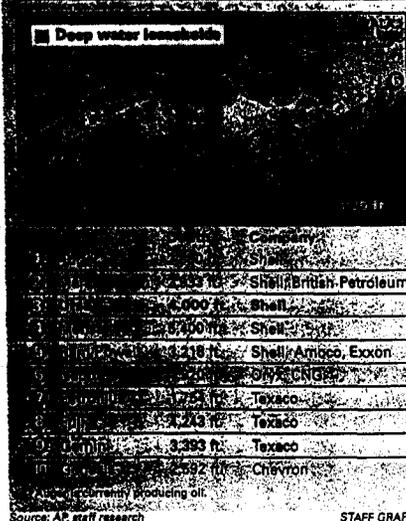
The Ursa platform will be installed in late 1998 at a site 130 miles southeast of New Orleans. The structure will be used to develop Shell's Ursa prospect in the deepest water yet for a platform.

Ursa is expected to be among the most prolific oil and gas producers ever and gives added evidence of industry confidence in the potential for big discoveries in the deepwater regions of the Gulf. The drilling revival in the Gulf has generated several thousand jobs both on rigs and in communities along the Gulf Coast.

The \$1.45 billion project will be Shell's fourth tension leg platform, a design that features a floating unit beth-

DEEP WATER DEVELOPMENTS

Deep water developments



ered to the Gulf floor by 16 tendons. A system of decks sits on top of the floating hull and is equipped with housing for 110, a power generator, and

STAFF GRAPHIC

See URSA, C-3

Ursa

From C-1

drilling and processing equipment.

Ursa is expected to produce the equivalent of 400 million barrels of oil from the sands below, a giant field by Gulf standards. The Mars field, where Shell installed a platform this spring, has an estimated 500 million barrels of reserves.

Shell is a leader in deep water Gulf of Mexico development. To date it has announced 12 discoveries in water 1,000 feet and deeper.

The project will be operated from New Orleans by Shell Offshore Inc. Its partners are BP Exploration, Conoco and Exxon.

J. Ray McDermott has received the contract to build the six-deck modules at its Morgan City Yard. Work is expected to begin this month. The hull, which will be composed of four steel columns, each 85 feet by 177 feet high, will be built by Belleli Group in Taranto, Italy.

The value of these contracts was not disclosed.

J. Ray McDermott and Belleli have worked together on Shell's three other tension leg projects: Auger, Mars and Ram Powell, all in the Gulf off Louisiana. Auger is installed and operating. Mars is still being readied for production. Ram Powell is under construction.

What distinguishes this platform is its projected production rates. At its peak, it is expected to produce 150,000 barrels of oil and 400 million cubic feet of gas per day through tubing 5½ inches in diameter.

Rich Pattarozzi, manager of Shell's deep water division, said the design is more efficient and the company has learned from operating the Auger platform, also offshore Louisiana.

The company used new technology on this project, which allowed wells to be drilled horizontally through oil and gas bearing sands. A number of spurs or sidetracks can be drilled from a single well bore.

Shell will drill 14 development wells. The discovery well was drilled in 1991. Shell has drilled two delineation wells to help explore the boundaries of the field. Shell has also drilled two sidetrack wells.

The company will begin building pipelines to bring the oil and gas ashore next year.

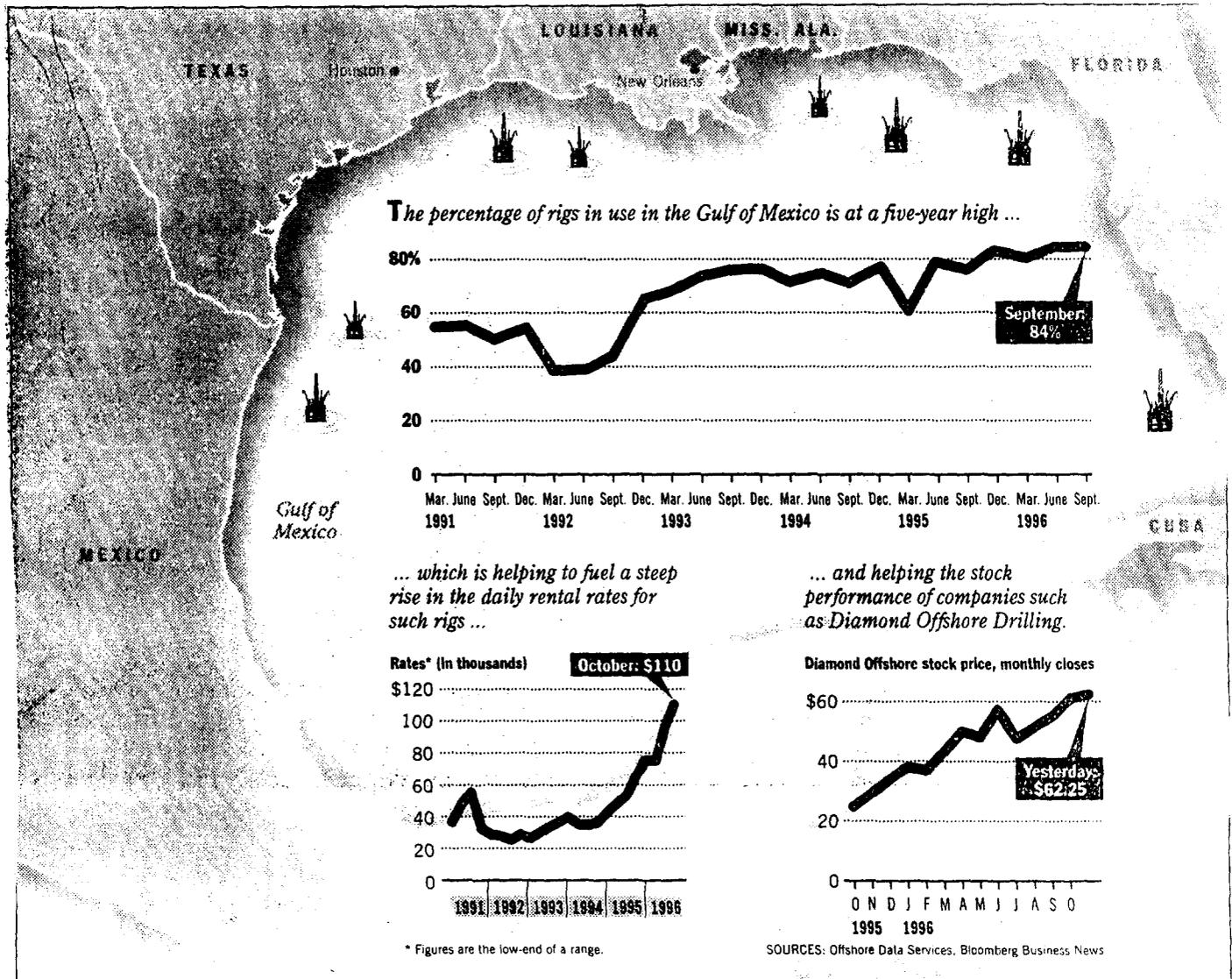
Production is expected to begin in mid-1999.

As with Mars, the drilling at Ursa isn't permanently situated. It will be located on skids and can move from one well slot to another. When drilling is completed, the rig can be moved to another location. That allows Shell to leave the platform stationary.

The platform weighs 63,300 tons, which is far more than Mars. Pattarozzi said the added weight comes from the equipment needed to produce oil and gas at record rates.

The design of the platform is the work of Shell and its partners. Detailed drawings were done by area engineering firms, Waldemar Nelson & Co. of New Orleans, W.H. Linder and Associates of Metairie and by Han-Padron Associates of Houston.

In New York Stock Exchange trading Tuesday, Royal Dutch, the parent company closed at \$154 a share, down ¼.



Loews Corp. Hits a Gusher

Firm's Investment in Drilling Rigs Pays Off Big in Newly Thriving Gulf of Mexico

By Martha M. Hamilton
 Washington Post Staff Writer

Timing is everything, but having hundreds of millions of dollars doesn't hurt, either.

When Loews Corp.—the insurance, tobacco and hotel company headed by Laurence A. Tisch and Preston Robert Tisch—bought into the drilling rig business, idle rigs were stacked in Sabine Pass on the Gulf of Mexico.

The Gulf itself had earned the sobriquet "the Dead Sea" in the oil industry, and the handful of oil rigs actually operating were earning day rates of \$24,000 to \$30,000.

Today drilling rigs are in demand, the Gulf of Mexico is booming, day rates go as high as \$140,000 and Diamond Offshore Drilling Inc., the company that Loews created out of an initial investment of \$400 million to \$500 million between 1989 and 1992, has a market capitalization of \$4.1 billion.

"You buy something that is depressed that

you know is not going to rust away or [you] can prevent rusting away and, if you do your analysis right and bet right on the cyclical nature of the business, it makes like Ruby and the Romantics—"Our Day Will Come," said James S. Tisch, president of Loews and chairman of Diamond Offshore.

Loews Corp., more often identified with some of its higher profile properties, including Lorillard Inc., CNA Financial Corp. and Bulova Corp., has recovered its initial invest-

See RIGS, D3, Col 1

Loews Corp. Hits Gusher With Rig Investment

RIGS, From D1

ment and still owns 51 percent of Diamond Offshore, the dominant player in the deep-water offshore sites where oil prospecting is hottest.

In 1989 Loews bought the Diamond M oil rig subsidiary of Kaneb Corp. for \$48.5 million. Then three years later it bought Odeco Corp., a subsidiary of Murphy Oil Corp., for \$358 million. Then, while the oil field services business was still depressed, it added more rigs.

Last October Diamond Offshore went public in an offering that raised \$300 million with the stock selling for \$24 a share. The stock trades now for about \$60 a share.

"They do that all the time," said Allan Kaplan, an analyst at Merrill Lynch & Co. who follows Loews. "They're not too different from Warren Buffet. They're doing the same thing. They're taking company money and making investments with it and selling the properties later. I guess the difference is Warren Buffet doesn't sell the things he buys."

When Loews got into the oil drilling rig business, it did so during the depression that resulted after expectations of \$100 a barrel oil crashed. During the early 1980s expectations of continuously rising oil prices lured investment into the industry, including investors who paid to build oil drilling rigs even without customers signed up for them.

"It was a period of euphoria that prompted people to go out and contract to build equipment for which they had no commitment," said Bob Stewart, head of the National Ocean Industries Association.

"Right about 1992 was probably the bottom in rig demand," said Gary Flaharty, director of market research for Baker Hughes Inc. in Houston, which tracks how many oil rigs are operating. "Since then, especially starting about 1994, the offshore rig market has gotten dramatically tighter."

Demand for offshore rigs in the Gulf of Mexico, the North Sea and off the coast of West Africa have created higher day rates, but rates have not yet risen high enough to

prompt new rig construction. The result is a strong market and long-term contracts for existing rigs, said Tom Marsh, drilling analyst for Offshore Data Services Inc. of Houston.

Diamond Offshore owns 46 offshore major mobile drilling rigs. It operates worldwide, although most of its operations are in the newly hot Gulf of Mexico. It has more than 50 percent of the market for semi-submersible drilling rigs there and nearly a quarter of them worldwide, said Laura Herzog, manager of investor relations for Diamond Offshore.

"This has turned into a long-term market, which is the key to the success of offshore drilling operations like Diamond Offshore," Marsh said.