

rigamarole

volume 19 number 2

A publication for the people,
customers, suppliers and friends of
Diamond Offshore Drilling



Summer 2005

2

Scaling the Peaks

12

Ultra-deep Endeavor

18

Emblems of Performance

20

Driving Forward by "Turning to the Right"



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2 **Scaling the Peaks**

A look at the underlying market dynamics of the past year's unprecedented surge in offshore drilling

12 **Ultra-deep Endeavor**

Arrival of the *Ocean Endeavor* at Keppel Fels shipyard in Singapore in May marked the beginning of a major two-year upgrade that will prepare the semisubmersible for service in the world's growing ultra-deepwater drilling markets

18 **Emblems of Performance**

New builds to meet key market niche servicing super-premium jack-up customers

20 **Driving Forward by "Turning to the Right"**

Murphy Oil has become a global force through the drillbit, guided by a leader who appreciates tradition but embraces change and focuses on big ideas

26 **A Larger-Than-Life Experience**

A glimpse into the everyday life of a 5th generation deepwater drilling rig

34 **Crewing Up**

How Diamond Offshore is staffing and training to meet the surging demand for rig hands

40 **The Nationalities of Diamond Offshore**

With worldwide operations, Diamond Offshore is rich in cultural diversity. Meet a few of the people who help the Company succeed

44 **Facets**

49 **Ruminations**

rigamarole is published for and about the people of Diamond Offshore. For more information, write to us or call:

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"Nationalities" Portraits

Add our ability to turn on a dime to Diamond Offshore's list of attributes. Little more than a year ago, a fourth generation rig was idle in the Gulf of Mexico, the *Ocean Concord* was headed for the shipyard with a good chance that the rig would be mothballed if we couldn't find work for it, and the *Ocean Nomad* had left the North Sea for lack of work. But in early July of last year, our customers began stepping up drilling programs around the world and Diamond Offshore soon found itself returning rigs to market to help meet the demand.

There is no doubt that oil prices above \$50 a barrel helped kick this off, but increasing oil and gas demand and decreasing reserves for our customers have been just as important in this offshore renaissance.

Diamond Offshore employees responded as they all ways have in the past, with a can-do attitude and innovative solutions to the routine problems of gearing up for high demand. I want to thank all Diamond hands for your efforts not only over the past year, but for your flexibility in slack periods as well.

Since last summer, we've brought out the *Concord*, returned the *Nomad* to the North Sea, reactivated the *Ocean Voyager* and *Ocean Champion*, and preparations are currently underway to bring the *Ocean Baroness* back to the Gulf of Mexico. The *Ocean New Era* will be brought into service soon, and of course, we are starting construction on two new jack-ups and have the *Ocean Endeavor* upgrade in process. Not a small work list for 12 months time.

We are currently on a pace to hire more that 600 new employees this year, compared to about 200 in 2004. Bringing in this many new employees is a great accomplishment and represents hard work throughout the fleet, in personnel and in training. But just as important, we've made over 800 promotions within our crews since the beginning of 2004.



Larry Dickerson
PRESIDENT AND CHIEF OPERATING OFFICER

Our ability to successfully meet this unprecedented demand for new employees in such a short period of time reflects positively on the work we accomplished in the down cycle. For example, not only did we keep all of our training programs intact, but we also instituted a new worldwide competency program. This new program examined and redefined our existing training efforts to help ensure that each individual working on our rigs has received a prescribed course of training for their position. It took us two years to develop and roll out the new program in the Gulf of Mexico. Today, key international offices in Brazil and Aberdeen are tied into our global training database, with Perth following right behind. Having this structured program of courses in place also has the benefit of allowing an individual to determine and acquire the courses needed for the next step up the promotion ladder.

In the past, large numbers of new hires have often meant more accidents and decreased safety performance. I'm proud to say that for 2004, we achieved our best safety record ever with total recordable incidents at a rate of 1.15 per 200,000 manhours worked. This was down from 1.47 in 2003 and 2.01 in 2002. Congratulations to all of you for this important achievement.

On the new capacity front, we are hard at work to keep pace with demand for equipment that will drill deeper pay with heavier pipe loads and in increasing water depths. The Victory-class *Ocean Endeavor* is now in Singapore undergoing an upgrade to 10,000 ft. water depth capability. When complete in the first quarter of 2007, the new octagon deck design will offer an impressive 50,000 sq. ft. of free space and have operating variable deck load in excess of 6,000 tons. We also are in the process of purchasing a sister Victory-class rig, that we will initially hold in reserve for a similar upgrade.

While the deepwater floater market remains our primary focus, we have announced plans to build two new super-premium jack-up rigs for delivery early in 2008. The *Ocean Shield* and *Ocean Scepter*, cantilevered 350 ft. rigs, will have 2 million lbs of hook-load capacity and the ability to drill to depths of up to 35,000 ft. beneath the ocean floor. When complete, only seven other jack-up rigs in the world will have similar capabilities. The *Shield* and *Scepter* carry the Diamond Offshore banner in the highest class of bottom-supported drilling units.

The past 12 months have been incredible in how much we've accomplished, but the year ahead will see just as much activity. We have committed much of our fleet to contracts that stretch well into 2006. We believe that the future looks bright in 2007 and into 2008 when we take delivery of the *Endeavor*, *Shield* and *Scepter*. Regardless of how things change, though, one thing is certain: Diamond Offshore hands will respond to get the job done.



Scaling the Peaks

by Downs Matthews

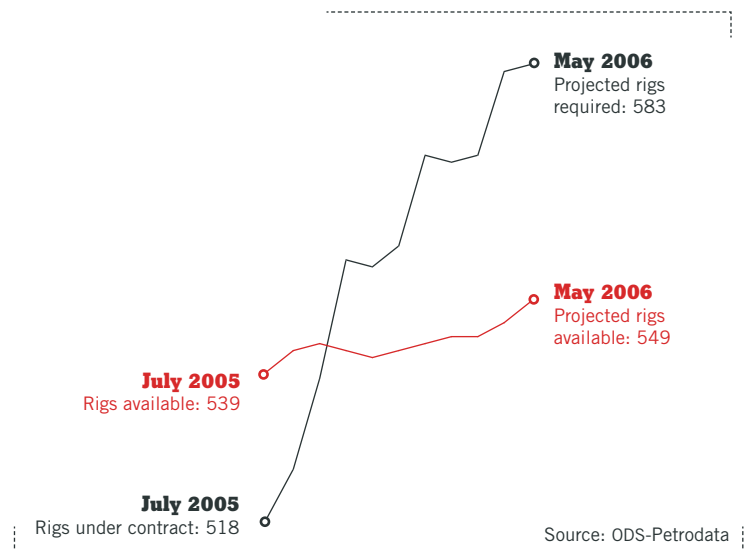
A look at the underlying market dynamics of the past year's unprecedented surge in offshore drilling

The message is relatively simple, yet stark: The entire energy framework is stretched to the limit. Capacity constraints range from oil production, to global drilling rigs, to refining, and human capital. And none of these constraints are subject to a quick fix.

Against this background is the escalating world demand for hydrocarbons. That growing demand, coupled with dwindling supplies, is often cited as the main cause of the sharp rise in oil and gas prices over the past 12 months. With this increase in commodity prices came an unprecedented increase in the utilization of offshore drilling rigs and a corresponding increase in dayrates worldwide for all classes of offshore drilling units—but with particular emphasis on the floater markets.

Currently, the effective utilization rate for all classes of offshore drilling units is virtually 100 percent, compared to just over 80 percent last July. And the ODS-Petrodata short-term forecast into next summer is for an increasing shortage of available rigs. As a result of the current and growing supply constraint, dayrates in many cases are exceeding previous peaks, having doubled, tripled, and in some cases, quadrupled rates of only a year ago. For example, second and 3rd generation semisubmersibles that were cold-stacked in the Gulf of Mexico last summer, today are fully committed at new peak dayrates of up to \$175,000. Fourth generation units earning \$70,000 per day last year are committed at new peak dayrates of up to \$240,000, and 5th generation rigs are setting new peaks in the \$300,000 range, compared with rates one half that amount a year earlier. How long this upturn in offshore drilling activity will continue is difficult to predict. After all, offshore drilling is a highly cyclical business. But with system-wide capacity constraints and the global demand for hydrocarbons steadily rising, the current increase in upstream capital spending by the oil companies is showing signs of sustainability.

Total market demand for offshore rigs could exceed supply



For Diamond Offshore, the dramatic turn-around in drilling activity that began in July 2004 created a noteworthy year, as demand for the Company's mid-water and deepwater semisubmersible rigs improved with unprecedented velocity. The increase in demand for offshore drilling rigs, which is continuing at this writing in June 2005, lifted dayrates around the world. But the demand surge has had the greatest impact in the U.S. Gulf of Mexico and the North Sea, two markets where the Company has a significant presence. Diamond Offshore's jack-up fleet has also experienced steady growth in utilization and dayrates, but with less velocity than the floater units.

The dramatic upturn in rig utilization began last summer after market forces prompted oil companies worldwide, seemingly in concert, to initiate new exploration and development programs. With marketed semisubmersible rigs in short supply, dayrates escalated as operators rushed to secure floater units into the first half of 2005 and beyond. At this writing, virtually 100 percent of Diamond Offshore's mid-water and deepwater floater rigs are committed in 2005 and approximately 75 percent of the Company's floater units are committed in 2006, though good market exposure remains for 2007.

If all of this is not enough, there is increasing speculation that the world may rapidly be approaching a seminal moment when global oil production will reach its peak. A peak in world oil production would subject the world to its first-ever sustained shortage in energy—a commodity essential to the functioning of the world's economy. A number of knowledgeable experts forecast that the peaking of conventional oil production could occur sometime within the next 10 years, after which the world would enter a new era where oil production is gradually declining and unable to meet worldwide demand. Given today's oil demand levels and usage patterns, such a forced disruption, along with attendant rising oil and gas prices, could have negative impacts on the economies of all oil-importing nations, and perhaps the exporting ones as well. (The phrase "Peak Oil" was first coined by Shell Oil Company geologist King Hubbert, who predicted in the 1940s that the United States would reach peak production in 1971, and as a result, would become a major importer. His timing turned out to be almost perfectly on the money; clearly he saw the big picture.)

Or perhaps these Malthusian-type predictions may simply be wrong, as they have been in the past. What appears certain, until viable alternative energy sources and conservation measures are developed and implemented, is that world oil demand, already at 84 million barrels a day, is increasing.

To meet increased demand, ever-larger volumes of oil will have to be produced. Not only must new reservoirs be continually discovered and brought into production to compensate for depletion of older reservoirs, additional discoveries will have to be made to increase the supply.

But the Peak Oil issue is not about running out of oil in the absolute sense, which will not happen for many years. Rather, it is about the rapidly appearing differential between the daily supply of oil and the world's growing demand for it.

According to energy major ExxonMobil, global oil depletion is running at four to six percent annually. This translates into the need for the world to annually discover approximately four million barrels a day of production just to stay even. As late as 1990, only the U.S. and Romania were depleting reserves faster than they were bringing them on stream. Now there are 18 major oil producing countries in this position, and the total number rises to over 50 if all the small producers are added.

On the demand side, energy consumption in the United States has increased about four percent each year over the past three years. Elsewhere, countries such as China and India report energy consumption levels rising at two to three times that rate. Will Davie, writing for *Simmons Oil Monthly*, states simply, "Global demand growth is outstripping the oil and gas industry's ability to supply oil and refined products." Davie's counterpart at Lehman Brothers, Senior Vice President Angie Sedita, agrees, and adds, "Tight global oil capacity resulting from strong oil demand and limited supplies has pushed up commodity prices, which should remain high for some time to come."

The answer, at least until alternatives can be developed, is to find more oil. And that is possible, but the question is, at what price? The world is definitely not running out of oil. Of the earth's estimated reserves of six trillion barrels of oil, at least three trillion remain undiscovered in the ground, geophysicists say. But the "easy" discoveries have been made, both onshore and offshore. And the oil industry is having to push to new frontiers in deeper pay horizons over five miles beneath the earth's surface and increasingly in waters between one and two miles deep in the world's oceans in the search for new reserves.

Part of the urgency to find new reserves comes because, until recently, oil exploration has not been the top priority for the major oil producers of the world that it once was. Over the past decade, industry analysts report, investor-owned oil companies liked the idea of rebuilding balance sheets and the economics of replenishing reserves by buying crude oil already



"TRIPPING"



"We foresaw the need for deepwater equipment a number of years ago and began transforming our fleet through an extensive modernization program to meet that future need," says Larry Dickerson, Diamond Offshore President and Chief Operating Officer. "Today we have achieved that goal and are focused on maintaining our fleet in the forefront of technologies that are driving our industry while making rigs more efficient."



RUNNING RISER

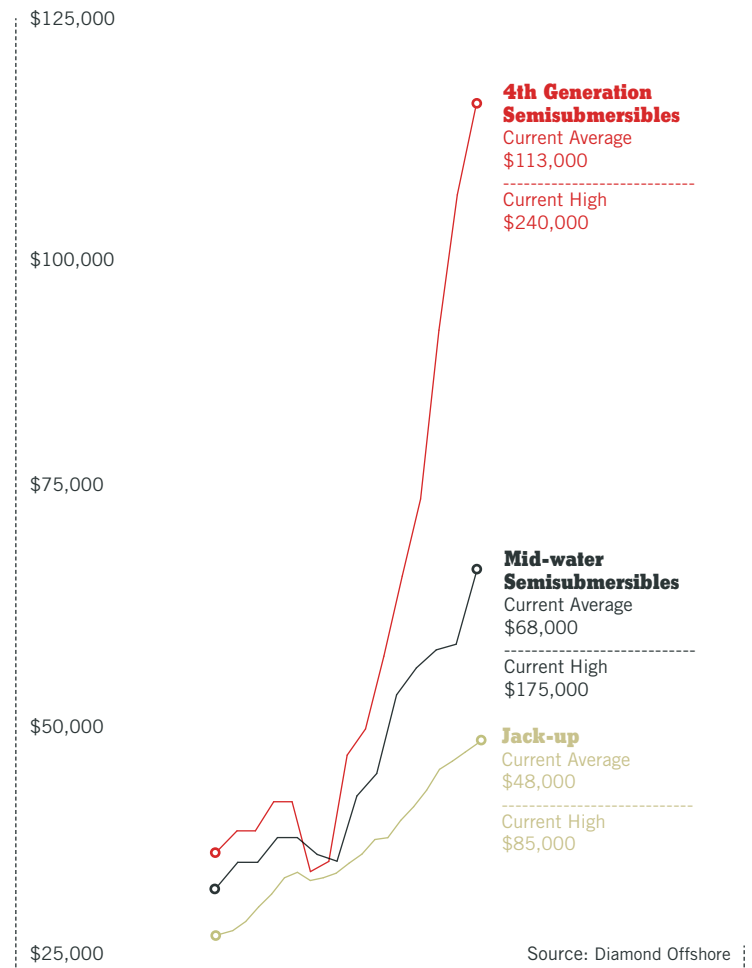
found and owned by smaller oil companies. But consolidation is really a zero-sum game, because new discoveries are not being made. Today, buyers scrambling for supplies worldwide have bid up crude oil prices to over \$50 a barrel, once again encouraging oil producers to start “turning to the right” to find undiscovered reserves.

And that new focus on exploration has created a robust demand for drilling units of all types—particularly for semisubmersible drilling rigs and drillships. John Gabriel, Diamond Offshore Senior Vice President, Contracts and Marketing, says that prospects for oil exploration offshore are hot throughout the world. “I would be hard pressed to find a spot that isn’t,” he says. “Some areas may be lagging behind others in terms of their rate of growth, but they are not being left out. Our commitments on the books take us well into 2006. I have a fair level of comfort about 2007, and I’m optimistic about 2008. The pattern is consistent throughout the industry as a whole,” Gabriel says. “Demand for our rigs has outstripped supply. And our large fleet of mid-water and deepwater equipment has put us near the forefront of the increasing demand for floater rigs—particularly in the Gulf of Mexico and the North Sea.”

“We foresaw the need for deepwater equipment a number of years ago and began transforming our fleet through an extensive modernization program to meet that future need,” says Larry Dickerson, Diamond Offshore President and Chief Operating Officer. “Today we have achieved that goal and are focused on maintaining our fleet in the forefront of technologies that are driving our industry while making rigs more efficient.”

Notes Diamond Offshore Executive Vice President David Williams, “We have gone from a meat-and-potatoes fleet to a caviar-and-lamb chops fleet that will let us deliver healthy returns for our shareholders during this period of high demand.” The Company has invested over \$2 billion to fully modernize its fleet of 29 semisubmersibles, 14 jack-ups and one drillship. Most recently, it has upgraded the Victory-class *Ocean Rover* and *Ocean Baroness* to full 5th generation capability for less than half the cost and in about half the time it would take to complete a comparable new-build semisubmersible. The Company is currently upgrading the Victory-class *Ocean Endeavor* to 5th generation capability for delivery in the first quarter of 2007 (see p. 12). When complete, the *Endeavor* will be capable of drilling in water depths of up to 10,000 ft. to meet the growing movement to deepwater plays. Diamond Offshore expects to complete purchase of a sister rig, the *Garden Banks*, early in the third quarter of 2005 and initially will hold the unit in reserve for potential upgrade to 5th generation capability.

To date, there has been very little activity in terms of new-build floater capacity because new-build economics have been prohibitive. At a cost of \$450-\$550 million each, a new-build semisubmersible needs to earn an average dayrate of close to \$300,000 over a 20 year lifecycle to achieve a return on investment in the 15 percent range. (That compares with a dayrate of approximately \$170,000 for a \$250 million upgrade to earn a similar return.) What that means for new-build investors is that they must believe that when the new-build is delivered three or four years after construction begins, that the market will still offer the type of peak dayrates the industry is seeing today and be able to sustain it going forward. At this writing, only three speculative new-build semisubmersibles have been announced, none by the major drilling contractors.



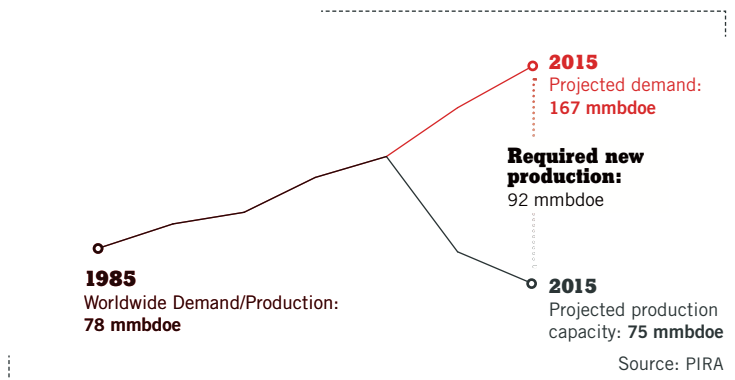
However, on the jack-up side, the story is different. Nina Rach, Drilling Editor of the *Oil and Gas Journal*, predicts that the global fleet of 386 jack-up rigs will both grow in number and gain in efficiency over the next five years. Though a new jack-up rig right from the shipyard costs around \$150 million, dayrates of \$80,000 and more have encouraged drilling contractors and speculators to order a total of 34 new-build jack-up rigs for delivery between 2005 and 2008 (including two Diamond

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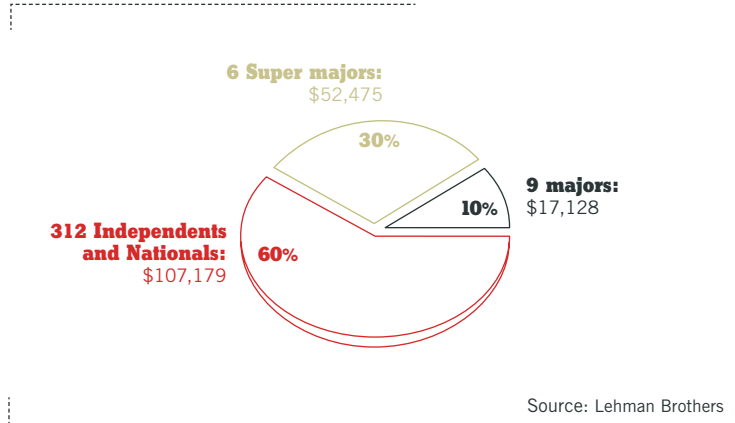
Offshore super premium jack-up units, see p. 18). Four of these units will be delivered this year, eight in 2006, 13 in 2007 and the balance in 2008. Taking into account a historically normal attrition rate of approximately five units per year and anticipated strong incremental demand for new jack-up rigs, the current robust global market is expected to be able to absorb the new capacity with little impact, if any, on dayrates.

Ultimately, the answer to the world’s ravenous appetite for energy will likely be a combination of increased hydrocarbon supply, alternative energy sources and conservation. In the near-term, new technology

**World Oil and Gas Demand:
A need to develop 92 mmbdoe by 2015**



Worldwide E&P Spending (in millions)



is helping the petroleum industry in its search for new reserves. For example, John Kennedy, Editor-in-Chief of the *Oil and Gas Journal*, credits 3-D seismic technologies for finding oil fields that would have been missed by older methods. Kennedy cites a new 4-D seismic technology that detects movements in fluids as they are produced. He points to new logging techniques, control systems, and down-hole sensors that lead to better control of oil well performance.

Altogether, Kennedy says, new technologies have combined to lower the costs of deepwater exploration from \$12 to \$15 a barrel in the late 1980s to \$4 to \$6 a barrel today. Such savings and efficiencies increase the success rate of offshore oil exploration by sixfold over methods in use 50 years ago. Projects are now possible that would have been inconceivable just 20 years ago, Kennedy says.

"We used to say that the technologically advanced offshore drilling rig of the future would be manned by one man and a dog," says Williams. "The man was there to feed the dog, and the dog was there to make sure the man didn't touch anything. We know now that this isn't the way the world works. The more complicated and automated rigs become, the greater the importance of having a staff of knowledgeable people who know how to make things work," Williams says. "What's happening out there is unprecedented," reiterates Dickerson. "And Diamond Offshore is well positioned to respond to the need." **R**

Downs Matthews is a native Texan, a resident of Houston, and a 1947 graduate of The University of Texas. With eighty years of age and experience, Matthews has published eleven books and countless feature articles.

The Asian Boom

Chinese and Indian Economies Becoming More Energy Dependent

The People's Republic of China, with 1.3 billion citizens, is the most populous of the world's countries. **With targeted annual GDP growth of almost 8 percent, the country's appetite for crude oil and its products is voracious and increasing (crude oil demand is estimated at 6.9 million barrels per day for 2005).** China's population is rapidly shifting from the farms to the cities, and everyone wants an automobile. In 2003, for example, Chinese car sales rose 73 percent. Sales were up over 50 percent in the first half of 2004, and by 2030 the country is expected to have more motor vehicles than the United States.

The Chinese live in the third largest country in the world, covering an area of 3.7 million square miles stretching 3,100 miles from east to west and 3,400 miles from north to south. An 8,700-mile coastline fronts on the Yellow Sea, East China Sea, Taiwan Strait, and South China Sea.

Home to ethnic groups that speak more than 400 languages and dialects, China divides into three major regions. The east contains virtually all of the country's low-lying areas, mostly lands below 1,500 feet in elevation. The southwestern region features the Tibetan Plateau, with an average elevation of 13,000 feet. The northwestern region is marked with broad desert basins ringed by mountain ranges.

Rich in natural resources, China has reserves of coal, iron, and oil and gas. Rivers give China the world's largest potential for hydroelectric power.

Traditionally an agricultural nation, China once led the world in producing such basic food crops as rice, potatoes, and tea. Then, a decade ago, China's politics went through a major shift. Authorities got rid of central planning agendas so that local leaders could carry out economic plans. Almost immediately, the country began to industrialize. Today, China exports textiles, electronic equipment, and much more to world markets.

With an economy expanding at double-digit rates, China has become the world's second largest oil consumer and is the world's largest consumer of metals, such as copper. Although China's economy still depends heavily on coal, oil is needed to run trucks, trains, cars, power plants and factories. Increasingly, China's presence in the world oil markets drives up world oil prices.

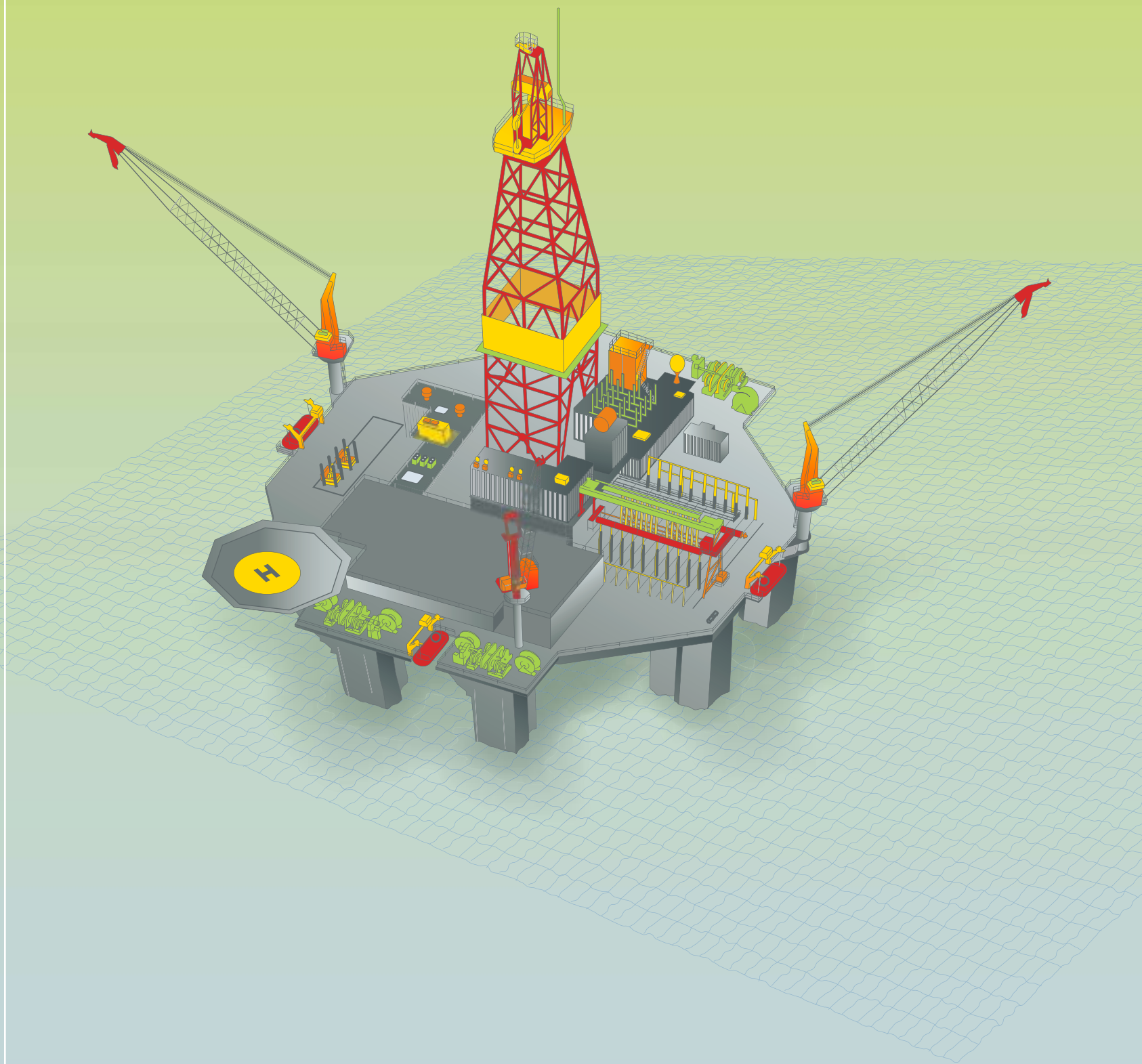
China's neighbor, the Republic of India, is the world's largest democracy with a growing population of 1.1 billion. After China, India is the largest consumer of energy resources in Asia. **Lacking extensive oil and gas reserves at present, India must compete with other nations for the 2.2 million barrels of oil the country uses each day to fuel a growth rate increasing at 7.3 percent per year.**

Indians live in an area of 1.2 million square miles that ranges from the remote mountainous north to the heavily settled coastal plains. To the west lies the Arabian Sea, to the south, the Indian Ocean, and to the east, the Bay of Bengal. Occupying just 2.4 percent of the world's land area, India supports more than 15 percent of the world's population. India wants a modern industrial economy and seeks to boost its role as a political, economic, and military power.



The “easy” discoveries have been made, both onshore and offshore. And the oil industry is having to push to new frontiers in deeper pay horizons over five miles beneath the earth’s surface and increasingly in waters between one and two miles deep in the world’s oceans in the search for new reserves.

PREPARING RISER





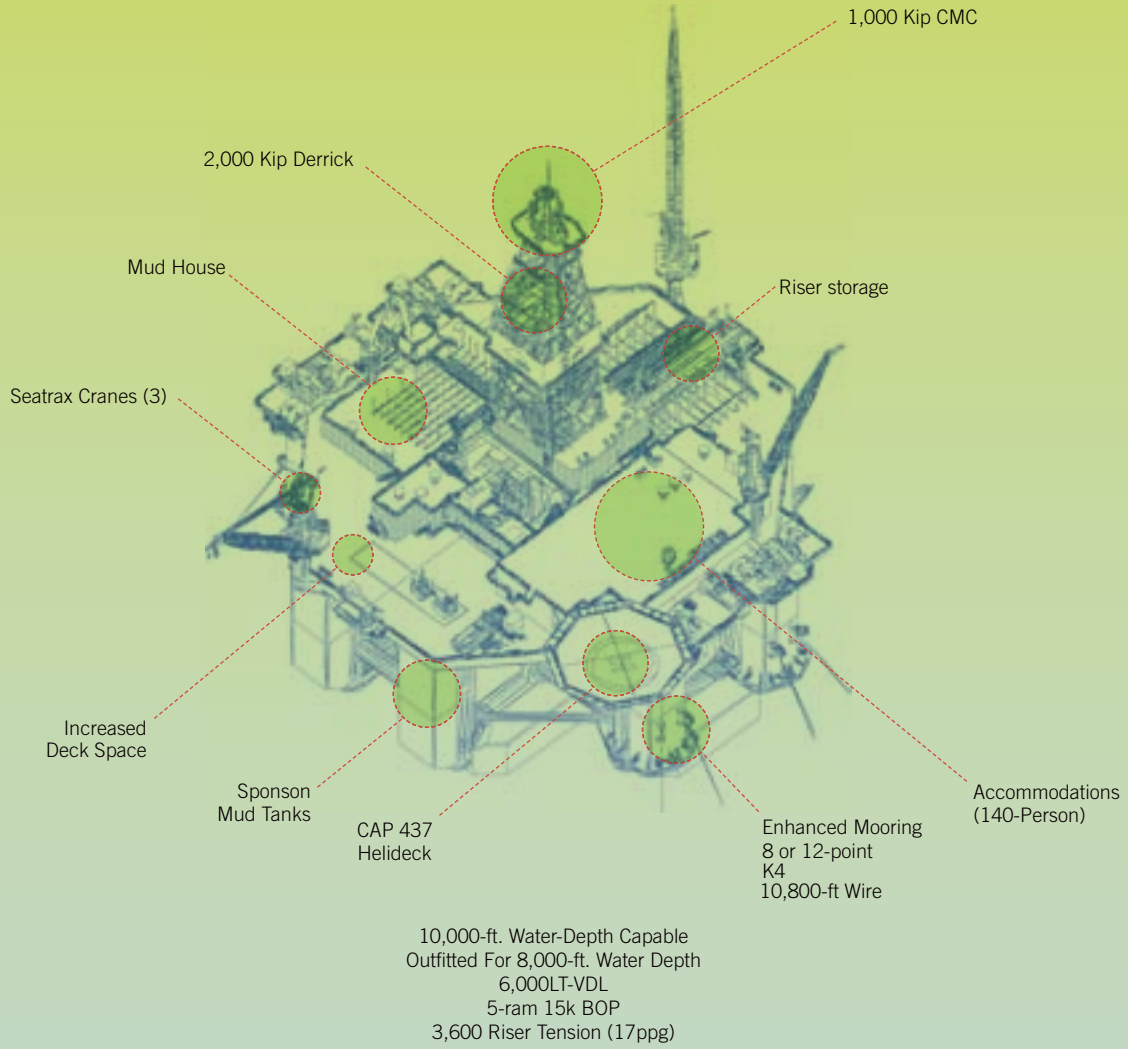
ULTRA-DEEP ENDEAVOR

ARRIVAL OF THE *OCEAN ENDEAVOR* AT KEPPEL FELS SHIPYARD IN SINGAPORE MAY 20, 2005, MARKED THE BEGINNING OF A TWO-YEAR UPGRADE THAT WILL PREPARE THE SEMISUBMERSIBLE FOR SERVICE IN THE WORLD'S GROWING ULTRA-DEEPWATER DRILLING MARKETS. WHEN THE \$255 MILLION ALL-IN-COST PROJECT IS COMPLETE, **THE RIG WILL BE ONE OF THE LARGEST AND MOST CAPABLE IN DIAMOND OFFSHORE'S FLEET** OF DEEPWATER SEMISUBMERSIBLES AND ONE OF THE MOST SOPHISTICATED DRILLING UNITS IN THE WORLD.

BY MICHAEL R. SLATON

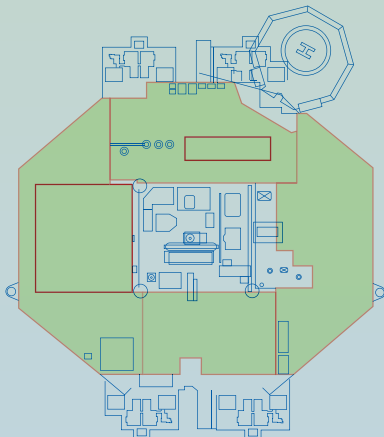
OCEAN ENDEAVOR

AN OVERVIEW OF THE UPGRADES

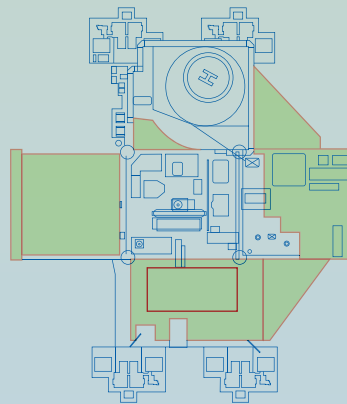


USABLE DECK SPACE

A COMPARISON OF THE ENDEAVOR AND ROVER



Ocean Endeavor 51,611 square feet



Ocean Rover 27,523 square feet

“KNOWING WHAT YOU’RE GETTING INTO AND WHERE YOU’RE GOING IS A BIG ADVANTAGE,” SAYS JOHN VECCHIO, DIAMOND OFFSHORE’S SENIOR VICE PRESIDENT OF TECHNICAL SERVICES. “TIME SPENT UP FRONT ELIMINATES MOUNTAINS OF TIME OFF THE BACK END. HAVING A MATURE DESIGN WITH REAL COSTS IS ESSENTIAL TO THE DECISION TO BUILD AND THE SUCCESS OF THE PROJECT.”

L previously upgraded semisubmersibles *Ocean Rover* and *Ocean Baroness*, the *Ocean Endeavor* is a Victory-class rig, a stout design distinguished by a cruciform configuration with four hulls and 12 columns, that lends itself well to 5th generation conversion. However, the *Endeavor* upgrade is even more ambitious than the *Rover* or *Baroness*.

Upgraded by Keppel Fels in 2002 and 2003 respectively, the *Baroness* and the *Rover* are outfitted for working in water depths as great as 7,000 ft., though up to 9,500-ft. water depths can be achieved utilizing augmented moorings and additional riser, buoyancy, casing and drillstring. With increasing market demand for 7,500 ft. and greater water depth capability, the *Endeavor*, initially outfitted for operations in 8,000 ft. of water, will be capable of operating in water depths of up to 10,000 ft. using augmented moorings. Additionally, the *Endeavor* mooring system will be easily upgradable to a 12-point mooring system.

The fully modernized *Endeavor* will expand Diamond Offshore’s 5th-generation semi fleet to four units, and the Company’s fleet of rigs capable of operating in 3,500 ft. of water or greater to 13, compared with three in 1995.

Estimated cost of the *Endeavor* upgrade is significantly below today’s new-build cost of up to \$500 million dollars. In addition, the relatively short construction schedule represents a large delivery advantage over new builds.

A similar upgrade approach may also be applied to the *Garden Banks*. An agreement to acquire the semisubmersible, also a Victory-class design, was announced in April while the *Endeavor* was being transported to Singapore. When the acquisition is completed, Diamond Offshore will own all nine of the world’s Victory-class hulls.

When the *Endeavor* was built in 1975 at Transfield Shipyard in Fremantle, Australia, the new semi was rated for 600-ft. water depth. Changing the rig into a modern-day, 10,000-ft. deepwater behemoth is a carefully orchestrated process honed by Diamond Offshore’s long experi-

ence with Victory-class upgrades. The rig is the sixth Victory-class modernization project in a Company history that also includes the *Ocean Quest*, *Ocean Victory* and *Ocean Star* rigs in the mid-1990s, and has its origins in Victory-class work that extends back to the 1970s.

“Knowing what you’re getting into and where you’re going is a big advantage,” says John Vecchio, Diamond Offshore’s Senior Vice President of Technical Services. “Time spent up front eliminates mountains of time off the back end,” he says. “Having a mature design with real costs is essential to the decision to build and the success of the project.” The approach earned strong credibility in earlier upgrades. The *Baroness* and *Rover* upgrades hit delivery schedules and target costs “almost exactly,” says Vecchio.

The upgrade process for the *Endeavor* began while the rig was cold stacked at Sabine Pass, Texas. The decision to proceed was announced in early January 2005. By March 28, when the semi was loaded aboard the *Blue Marlin* (see p. 17) for the dry tow to Asia, the project was moving on many fronts, all converging on the Singapore shipyard.

Coordination of multiple suppliers and vendors is a key skill in a complex scheduling process that involves dozens of primary vendors and hundreds of suppliers overall, says Karl Sellers, Vice President and second in command of Technical Services, who sums it up succinctly with the dictum, “Careful planning avoids critical path problems.”

By the time the rig set off for Singapore, most major equipment had been ordered and steel was being received at the yard. Arrival of the rig is one of many milestones that include contract signing, cutting first steel, dry-docking, main generator commissioning, drill-floor erection and outfitting, and successful completion of commissioning.

The actual upgrade begins with equipment removals and demolition. Vecchio compares it to remodeling a house when he says, “First you strip away as much as you can and still retain structural integrity.” Then the foundation work begins. The focus here is on adding bigger column and

ESTIMATED COST OF THE ENDEAVOR UPGRADE IS SIGNIFICANTLY BELOW TODAY'S NEW-BUILD COST OF UP TO \$500 MILLION DOLLARS. IN ADDITION, THE RELATIVELY SHORT CONSTRUCTION SCHEDULE REPRESENTS A LARGE DELIVERY ADVANTAGE OVER NEW BUILDS.

pontoon sponsons to the hull. These changes will add the buoyancy needed to support the heavier loads of equipment required for deep development operations and also provide capacity for high-volume mud storage. The planned 16,000 bbl fluids-handling capacity of the *Endeavor* overshadows even the considerable 13,800 bbl capacity of the *Baroness*.

Activity on the rig is paralleled at quay-side, where major “blocks” of the rig, such as living quarters, are built and lifted into position. These steps require careful integration of suppliers and the shipyard, says Sellers. For instance, equipment suppliers must coordinate with the electrical system SCR supplier so that power requirements are understood. These suppliers must further coordinate with the shipyard on the installation of equipment and running of electrical cables.

The scope of the *Endeavor* upgrade is big even when compared to the considerable changes made on the *Rover* and *Baroness*. In addition to greater depth capacity, the *Endeavor* upgrade will add more capability across a broad range of specifications responding to customer needs in deepwater development. These changes will enhance drilling and completion capabilities as well as the rig's operational window and ability to work for extended periods with reduced support requirements.

Increased materials storage and handling capabilities central to the upgrade of all three rigs are driven by the larger, heavier tubulars used in deepwater completions. “Greater storage on the rig,” explains Vecchio, “shortens the logistical supply train and makes the operation less boat-dependent. We can stage from the rig rather than the beach.” For example, *Endeavor* will have a 6,000-long-ton operating variable deck load (VDL). This allows for a full complement of tubulars, fluids and stores onboard—a logistical advantage in extended operations. In contrast, the *Baroness* and *Rover* have a 5,500-long-ton operating VDL.

Additionally, free deck space, also important to materials handling and storage, has been greatly expanded. Along with the larger sponsons, the added deck space is one of the more visible aspects of the change the rig will undergo. The *Endeavor* will offer an impressive 50,000 sq. ft. of free deck space—more than double the 23,000 sq. ft. available on the *Baroness*.

Deepwater development operations are supported by a full complement of customer and service company personnel. The *Endeavor* upgrade expands accommodations from the 122-person permanent quarters on the *Rover* and *Baroness* to quarters for 140 personnel and significantly increased office space.

Like the *Rover* and *Baroness*, the *Endeavor* will also feature enhanced developmental capabilities including a large moon pool (25 ft. x 90 ft.), a high-capacity tree handling system, and additional mud and completion fluid storage capacity.

In addition, the rig will employ the same Tripsaver™ technology that is at work on the *Rover* and *Baroness*, which provides for significant drilling efficiencies. The offline capabilities afforded by the technology provide operators with the flexibility to carry out multiple tasks without interrupting primary drilling activity, including setting aside the BOP to save a trip in subsea tree installations, and suspension of casing in the moon pool while running anchors.

Other non-Tripsaver™ offline capabilities include:

- Making-up and laying-down drillpipe during drilling operations
- 1,500 kips of setback while transiting, allowing drillpipe make-up and setback while underway
- Picking up drillpipe while drilling
- Preparing tools while drilling
- Making up shoe, float collar and centralizers to casing joints

Larger pipe and greater hydraulics used in development operations also increase fluid and pump requirements. Along with greater mud storage volume provided by the larger structural columns, the Victory-class upgrades add greater hydraulics with increased pump capability. The *Baroness* is equipped with three 2,200 hp mud pumps and a dedicated 1,700 hp pump for the riser. The riser boost pump ensures well requirements are met while still being able to return heavy cuttings and mud to the surface. The *Endeavor* will have an even greater capability with four 2,200 hp pumps.

Other distinguishing features include a 5 ram, 15,000 psi BOP, 9,450 ft. of riser storage and 21,900 cu. ft. of bulk storage capacity.

The modernization of the *Endeavor* follows a long history of upgrading Victory-class rigs to meet customer's evolving needs for deepwater applications. With demand for deepwater equipment increasing, the *Garden Banks* appears poised to follow. **R**

Michael R. Slaton is a senior writer and marketing consultant specializing in the upstream oil and gas industry.

HEAVY LIFTING

**"You're gonna need a bigger boat."
Chief Martin Brody—*Jaws***

THE TOOL OF CHOICE IN EXPEDITIOUSLY MOVING A SEMISUBMERSIBLE AROUND THE WORLD IS AN OPEN-DECKED HEAVY TRANSPORT VESSEL THAT LIFTS THE RIG COMPLETELY OUT OF THE WATER.

The vessel de-ballasts to lower the deck nearly 46 ft. below the surface, then lifts the rig to gain about 10 ft. of freeboard during transport. These "dry tows" achieve an 11-12 knot average speed that takes about 60 days to travel halfway around the globe.

The Dockwise vessel, *Blue Marlin*, transported the *Endeavor* to Singapore. Recently converted from 57,000 tons to 76,061-ton capacity, the *Blue Marlin* is the largest heavy transport carrier in the world. Markets for the vessel include larger semisubmersibles, as well as offshore construction projects such as TLPs and spars. The "jumboization" (a Dockwise term) of the *Blue Marlin* was prompted by BP's 60,000-ton Thunderhorse PDQ (Production, Drilling and Quarters).

Dockwise U.S.A. President Robb Eriksson says the prime challenge in transporting semisubmersibles is "engineering the cradles and sea fastenings required to safely support the pontoons and distribute the static and dynamic loads through the rig and ship." With prior experience transporting the *Baroness* and the *Rover*, he says, "The cradling and bracing of Victory-class rigs is a well-known system to us."



Top photograph, (courtesy Dockwise Shipping B.V.) the *Ocean Endeavor* is loaded aboard the submerged *Blue Marlin* vessel for transport to Singapore. **Center**, (Photo by Jace Ray), loading activity completed, the *Endeavor* is ready for transport upon the fully ballasted *Blue Marlin*. **Bottom**, the *Endeavor* pulls into its docking berth in Singapore.

Emblems of Performance

New-builds to target key market niche servicing super-premium jack-up customers

BY MICHAEL R. SLATON

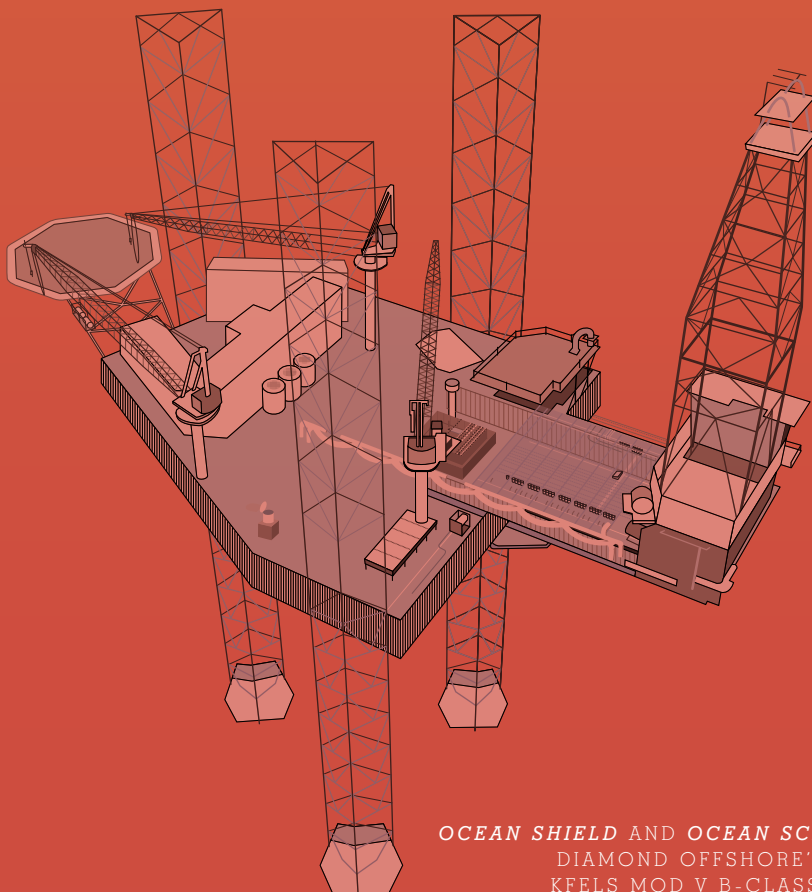
In early May 2005, Diamond Offshore announced that it will build two (and perhaps three) high-performance, super-premium 350-ft. jack-up rigs with 2 million lbs of hook-load capacity and the ability to drill to depths of up to 35,000 ft. beneath the ocean floor. The decision to build the new jack-ups is part of a continuing effort to modernize the Company's current 14-rig jack-up fleet.

Construction of the jack-ups will address a key market niche servicing super-premium jack-up customers, says Diamond Offshore President and Chief Operating Officer, Larry Dickerson. "We are excited to add high-end rigs to our existing fleet. Operators know our rigs and crews and what we can do; but this expands our capacity and our deep-well capabilities beyond the *Ocean Titan* and *Ocean Tower*."

Contracts with subsidiaries of Keppel FELS Limited specify construction of two high-performance premium jack-up rigs. The *Ocean Shield*, to be constructed in Singapore, and the *Ocean Scepter*, to be built in Brownsville, Texas, are expected to have an aggregate cost of approximately \$300 million, including spares, commissioning, site supervision and other costs. Delivery of both units is anticipated in the first quarter of 2008.

Markets for deep-drilling, 350-ft. water-depth jack-ups are found in the Asia Pacific region, the Middle East, the Mediterranean, the North Sea and West Africa. But one of the hottest markets for the new rigs is the Outer Continental Shelf in the Gulf of Mexico.

Half a century of drilling in the Gulf's mature OCS basins has seen a steady deepening of prospects. Increasingly focused on the deep-shelf at depths below 15,000 ft., and particularly below 25,000 ft. in the "ultra-deep" zones, these wells are typically high-pressure, high-temperature gas producers drilled in water depths of less than 350 feet.



OCEAN SHIELD AND OCEAN SCEPTER
DIAMOND OFFSHORE'S NEW
KFELS MOD V B-CLASS RIGS


While deepwater floater markets remain the Company's primary focus,
the decision to build the new jack-ups
is part of a continuing effort to modernize
Diamond Offshore's 14-rig jack-up fleet.

The United States Minerals Management Service, commenting on two robust federal lease sales in March 2005, noted that while interest in deep-water drilling continues, the large number of tracts receiving bids in shallow water "...reflects definite industry interest in deep gas in shallow waters..." MMS estimates that up to 55 trillion cubic feet of undiscovered natural gas resources may exist in the deep shelf.

With increased interest in shallow-water deep-shelf wells has come growing demand for rigs suited for the application. Most jack-up rigs in the Gulf are equipped with hoisting equipment, prime-mover horsepower and fluid-pumping capacity better suited to shallow shelf drilling. And while upgrades can provide enhanced cantilever packages and higher fluid capacity, the ability of these rigs to drill extremely deep HP/HT wells is limited.

To augment the Company's ability to participate in the growing deep gas play in the Gulf and other deep drilling activities worldwide, Diamond Offshore's new jack-up units will have a drilling package found on only seven other super-premium jack-up rigs in the world.

Both rigs will be KFELS MOD V B-Class (Super) design and have a cantilever reach of 70 ft. with significantly greater load capacity than other rig designs with similar rated depths. As a result, they are able to handle the heavier drillstring and casing loads more efficiently. Depth capability is further bolstered by three 2,200-hp mud pumps that provide the hydraulic pressure and volume required to safely and efficiently drill the large diameter, deep holes. Space for an additional fourth pump is available, along with the power (9,000 kW total) to run it.

The specifications clearly place the new rigs in the super-premium jack-up market and distinguish them as specialized, shallow-water, deep-drilling machines. 

Naming the new-builds

Diamond Offshore reports that the Company's two new jack-ups to be built in Singapore and Brownsville will bear the names: *Ocean Shield* and *Ocean Scepter*. "Because these units will be the standard bearers of our jack-up fleet, we wanted names that will project a strong image and will serve as emblems of the Company" says Larry Dickerson, Diamond Offshore President and Chief Operating Officer. "Building upon that goal, we chose words that were synonyms for emblem or symbol. There are many great names on this list. In addition to *Shield* and *Scepter*, other potential rig identities included: *Standard*, *Medallion*, *Crest*, *Hallmark*, *Signet*, *Emblem* and *Insignia*."

David Williams, Executive Vice President, extolled the features of the rigs: "These units will assist our customers in their search for deep gas and other cutting-edge horizons. Because these rigs will be operated under our GEMS management systems, and by our top flight crews, our customers can expect an even higher standard of performance than those competing units owned and operated by financial speculators."

"I've had a few questions on why we didn't construct a 375-ft. unit," said John Vecchio, Senior Vice President, Technical Services. "We'd love to have the extra water depth, but you really have a choice of either leg length or more hook load. If you try to build both into one unit you run the risk of problems with stability in transit. Our marketing group believed that the increased water depth wasn't worth reducing the hook load to 1,500,000 lbs."

Vecchio also noted that the *Ocean Shield* and *Ocean Scepter* will be the Company's first AC powered rigs. AC as opposed to DC systems provide for a decrease in maintenance and better control. "AC is the wave of the future, but we've delayed introducing different systems into our fleet until the track record of these units has been more fully tested."

"The primary focus of the Company, Dickerson added, has been enhancing our deepwater rigs, while at the same time significantly modernizing our jack-up fleet. Based on the strength of the market, we believe the construction of these premium jack-up units will augment our ability to offer a full range of services to our customers."

"And by the way," Dickerson concluded, "with *Scepter* and *Shield* being somewhat similar names, how do we remember which is which? The *Shield* has an "i" in it, as does Singapore. The *Scepter* has a "c," which is one letter off from the "b" in Brownsville."

Editor's Note: At this writing, a total of 34 new-build jack-ups are on order worldwide, including the two Diamond Offshore units. Four of these units are scheduled for delivery in 2005, nine in 2006, 13 in 2007 and the remaining eight in 2008 (representing less than a 10 percent increase in the total marketed jack-up supply over the timeframe). Historically, approximately five rigs leave service each year from attrition caused by storms or accidents, or retirement. With demand for premium jack-up rigs increasing globally, industry analysts are currently anticipating that the market can absorb the new-build jack-up capacity without market disruption.





Driving Forward

BY "TURNING TO THE RIGHT"

Wildcatters are rare today. But Murphy Oil has become a global force through the drillbit, guided by a leader who appreciates tradition but embraces change and focuses on big ideas.

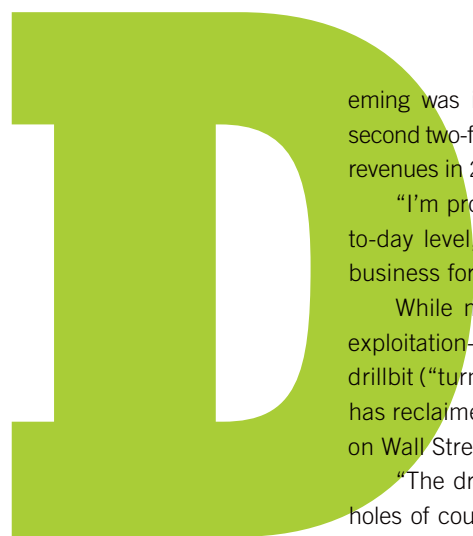
Claiborne Deming, the President and CEO of Murphy Oil Company, was born into the business.

His maternal grandfather, C.H. Murphy, founded the company in 1907. His uncle C.H. Murphy Jr. took the enterprise public, internationalizing the oil and gas component. Their portraits hang in the company's boardroom in the idyllic town of El Dorado, Arkansas, where generations of Murphys have resided and worked.

But tradition isn't what drives Deming, who has a wildcatter's heart and an entrepreneur's energy. In more than 25 years at Murphy—the only place he's ever worked—he's seen the industry go from boom to bust to boom again. He's always been easy-going and intelligent, but he's built a savvy management style over time that mixes pragmatism, confidence and humility.

BY MOLLY GLENTZER

“The great thing about business is that it changes all the time. And you have to reserve the right to change your mind. If you dogmatically adhere to the same view, man, you’re going to get lapped.”



Deming was in high gear recently, days after announcing the company's second two-for-one stock split in less than three years. Murphy posted record revenues in 2004; and record oil production too, averaging 93,634 bpd.

“I’m proud to be part of the Murphy family,” he said. “But on a day-to-day level, it is not important. What we need to do is just drive this business forward and make it bigger and more profitable.”

While many comparably-sized E&P companies are acquisition- or exploitation-based, Murphy has carved its own niche, largely through the drillbit (“turning to the right” in oil parlance). On Deming’s watch, Murphy has reclaimed its legacy of being a global explorer that’s highly regarded on Wall Street.

“The drillbit works for us,” Deming said. “We’ll drill our share of dry holes of course. But if you have good people working with you—and we have fabulous people—you’ll also make significant discoveries.”

Deming earned his undergraduate and law degrees at Tulane University, joining the company in 1979 when his uncle was still CEO. “I always had an interest in the oil and gas business. And then, business was so strong, it seemed to be a natural thing to do,” Deming said.

From his first assignment on Murphy’s legal team, he worked his way through the land department, becoming manager, then spent several years with the company’s downstream side. He served two and a half years as Chief Operating Officer before becoming CEO in October 1994.

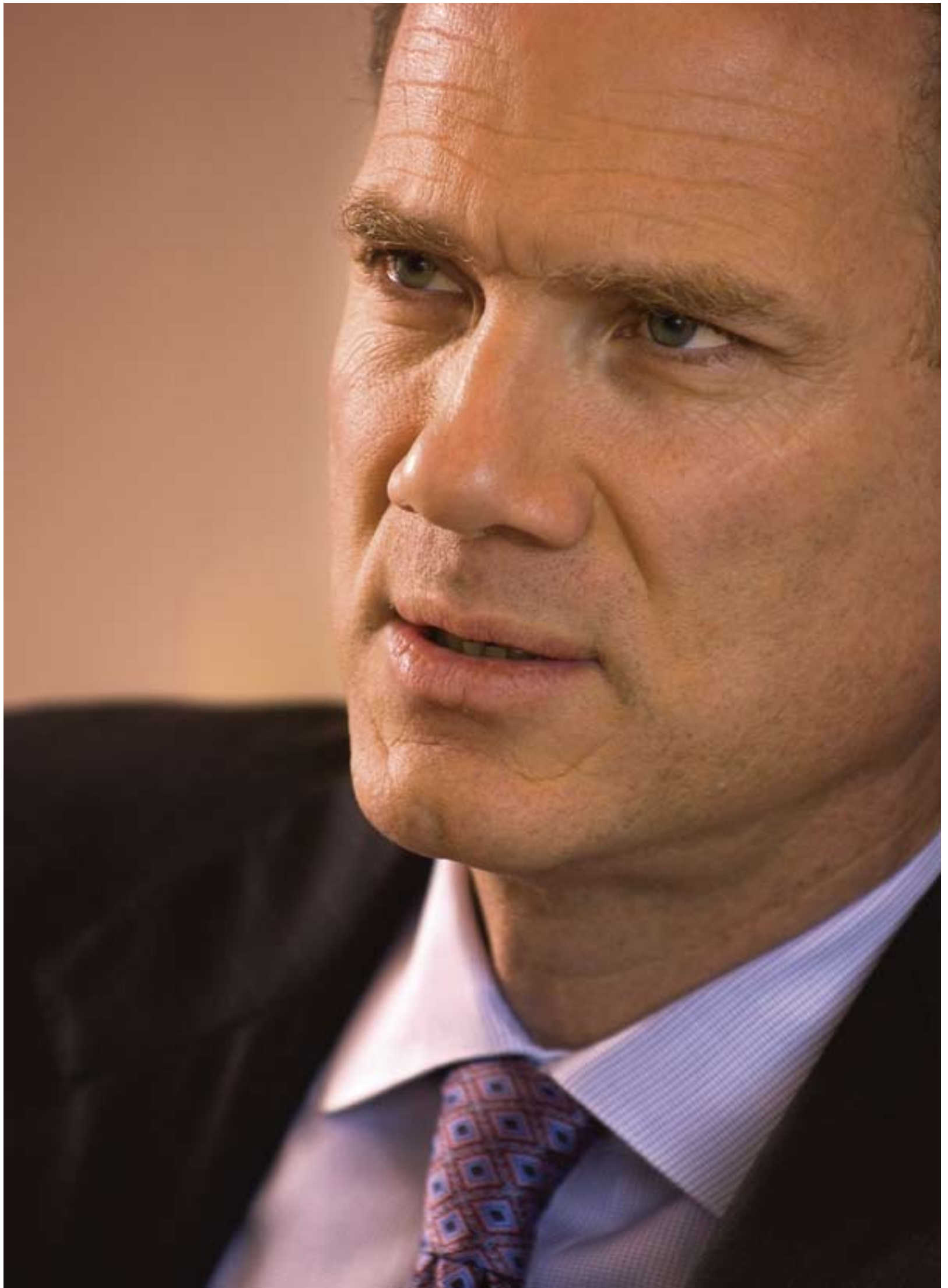
On the National Geographic atlas that consumes one of Murphy’s boardroom walls, company flags are pinned at strategic points, including the Gulf of Mexico, Canada, Great Britain, Malaysia and the Republic of Congo. Murphy has nearly 6,000 employees worldwide, and Deming gives them much of the credit for the company’s success. (Deming is the only member of the Murphy family among them.)

“I’m a delegator. My job is to find really smart, ethical, shrewd business-people and oil finders on our upstream side. And on our downstream side, ethical, commercially-minded, smart, technically-savvy refinery and marketing folks,” he said. “Then to allocate enough capital so they can make good decisions and make sure they execute properly and are making progress.”

Forbes Magazine named Deming to its list of Best Bosses in 2001, citing his good shareholder returns and reasonable paycheck. In 2002, Murphy was named one of *Fortune Magazine’s* fastest growing companies.

“We’ve been very fortunate in the sense that we’ve had significant discoveries in the Gulf of Mexico, offshore Malaysia and offshore the Republic of Congo,” Deming said.

The company’s largest find to date came in 2002 at Kikeh Field’s Block K. Drilled with Diamond Offshore’s 5th generation rig *Ocean Baroness*, this was the first deepwater discovery offshore Malaysia. Murphy has since





made other discoveries in the area and continues to explore, with the *Ocean Rover* under contract until 2008. Deming said the find will yield the biggest addition to reserves from a single field in the company's history. He expects the reservoir to generate about 80,000 barrels per day, more than quintupling Murphy's production in the area.

"Not many companies today have the luxury of planning what they'll look like in 2012, but we do," Deming said. "So we're actively trying to plan our portfolio, drilling wells to continue our growth into the second decade of this century."

He's concerned, however, about the scarcity of deepwater equipment. "That's where companies like Murphy are going to have to go for the types of reserves we need to move our companies," he said.

Murphy owned one of the industry's largest contract drilling fleets until 1992, when Deming's predecessor, Jack McNutt, sold Ocean Drilling & Exploration Company's (ODECO) drilling business to the Loews Corporation, Diamond Offshore's parent company. ODECO had an illustrious history as an industry pioneer: The *Mr. Charlie* (now a training rig for Diamond Offshore) was the world's first mobile offshore rig; and ODECO's first well in 1954 was a big discovery for Shell.

"We exited the offshore contract drilling business so we could concentrate our energies on the oil and gas exploration and production business," Deming said. "It was a good decision for everybody. Reinvesting the funds in big oil fields at that time (an idea championed by Jack McNutt) allowed us to grow to a different level. We're four to five

In this environment, given Murphy's business model, growing the company is a challenge. "Because basins are mature, we're going to drill more dry holes in the future than we have in the past. How do we effect change there? How mature is the business? If you're not growing your business, you're shrinking it. There's no steady state here," Deming said.

High oil prices were a boon in 2004, but Deming worries how they will impact the company over time. "I love high oil prices on one hand because they allow you to make money more easily. But on the other hand, your universe of available investments is significantly diminished because of the excess capital chasing opportunities," he said.

Murphy's history of disciplined, contrarian, long-term investment is nearly as old as the company itself. Deming's grandfather, a financier involved in El Dorado's early oil boom, also invested heavily in land during the Depression when prices were low. That provided the foundation for a major timber business that Murphy spun off several years ago. While Murphy's upstream business accounts for 75-80 percent of revenues, the company has also transformed downstream operations. Since 2000, the company has placed 800 of its Murphy USA service stations in Wal-Mart Supercenter parking lots.

"We think we're the fastest-growing retail chain in the country," Deming said. With only kiosks and canopies, the stations' low overhead and high volume enable Murphy to out-price competitors. The idea for the Wal-Mart joint venture came to Deming in about 1996. "Business was horrible. Oil prices were low. We were drilling dry holes, not doing

"Not many companies today have the luxury of planning what they'll look like in 2012, but we do. So we're actively trying to plan our portfolio, drilling wells to continue our growth into the second decade of this century....**But we're concerned about the scarcity of deep-water equipment.** That's where companies like Murphy are going to have to go for the types of reserves we need to move our companies."

times the size we were when we sold the rigs, and obviously Diamond has done well."

In addition to the *Baroness* and the *Rover* offshore Malaysia, Murphy is employing the *Ocean Epoch* in Malaysia and has contracted to utilize the *Ocean Victory* in the Gulf of Mexico for a one-year term beginning this fall.

At various other times, Murphy has also employed the *Lexington*, the *Star*, the *Viking*, the *Concord* and *Tower* in the Gulf of Mexico. "Right now, our exposure in the deepwater Gulf is limited. Rigs are tough to get, and you have to be modestly cautious about committing to them, because they're expensive.

"Today—and I know, because we've just drilled one—GOM deep-water wildcats can cost you \$100 million. And that's a direct expense to the company. So you need to be pretty sure you want to do it."

Deming says the deepwater rig shortage is just one component of the supply-demand scenario that has manifested itself in the last year.

"China and India are hurtling toward second and first world status, rapidly industrializing, with more than two billion people between them. On the supply side, traditional basins are in significant decline." Deming said when he first broke into the business, the industry average was a one or two percent decline rate. "Today, fields are declining at four or five percent because we're replacing behemoths with smaller fields."

well at all. I thought, 'Buddy, you're gonna get your tail fired here.'" On the way home from Great Britain, where he'd seen hypermarkets on the motorways, it dawned on him that Murphy and Wal-Mart were likely partners to create a similar model in the U.S.

Deming always has a big idea brewing. "But most of them are horrible!" he said, laughing loudly. "People say, 'Claiborne, why don't you sleep on that one?'"

As optimistic as he is about Murphy's future, Deming wonders how high oil and gas prices will affect demand, over time. "And I worry about the argument on global warming: How's that going to impact our industry? How real is the threat, and what are the agendas at play?"

This is why Deming pays yearly visits to experts at the Massachusetts Institute of Technology, where Murphy is an underwriter of the Global Change research effort.

"The great thing about business is that it changes all the time. And you have to reserve the right to change your mind. If you dogmatically adhere to the same view, man, you're going to get lapped. You have to have an open mind and say, 'What's new? What's changed today? What can we do better?'"

Molly Glentzer is the lifestyle editor of the *Houston Chronicle*.

The *Ocean Confidence*

A Larger-Than-Life Experience

BY WILLIAM DYLAN POWELL





It was the biggest conversion in Diamond Offshore's history. The *Ocean Confidence* floated into Sabine Pass as a semisubmersible "offshore hotel," but floated out with almost 6,000 extra tons of the latest drilling technology that would position the rig as the flagship of Diamond Offshore's extensive fleet modernization program.

Five years after the metamorphosis, the *Confidence* still leads the fleet in deepwater and dynamic positioning capabilities. And the 5th generation rig—which recently received a contract from BP for a two-year extension of deepwater service in the Gulf of Mexico—provides the perfect glimpse into the life of a progressive deepwater drilling rig and the people who make it work.

Welcome to the Big Time

Looming seven stories tall, and with almost as much of the structure below the waterline as above—the *Confidence* is really like a floating city. The rig can house 146 people at once. And because of the size and level of technology on board, somebody can have 10 or 12 years' worth of oilfield experience and still not quite be prepared for what this rig has to offer.

Confidence's hull spans slightly more than a football field. The rig's main deck offers slightly less square footage than the White House: 39,892 square ft. compared to 55,000 at Pennsylvania Avenue. And the unit can drill to 30,000 ft., or over five and one-half miles beneath the ocean floor. Other Diamond Offshore rigs can drill to that depth, but *Confidence's* water-depth rating of 7,500 ft. means it can tackle most of today's deepwater plays in the Gulf. "We're only a mile from the closest land right now," jokes Captain Marshall Perez, "but the mile is straight down."

Hunting Hydrocarbons on the High Seas

The *Confidence* sails under its own power, driven by eight diesel-powered 48-metric ton thrusters, each with propeller blades bigger than your front door. But the thrusters do more than just move the rig. They help the *Confidence* stay in place when drilling. "Most rigs just have mooring anchors to keep you in place, but I've got that," says Perez, pointing at a bridge resembling the set of *Star Trek*. The *Confidence* stays over the drill site by employing a Dynamic Positioning System (DPS). Using satellite positioning information and a series of underwater beacons, the DPS senses minute rig movements—triggering the thrusters that keep the rig precisely positioned over the well within a three-foot radius.

"With up to a mile or more of riser and drillstring between us and the wellhead on the ocean floor, station-keeping is critical," notes *Confidence* Dynamic Positioning Officer Hugh Gallagher. "We have what's called a Triple Redundant Dynamic Positioning System," he notes. "If one gyrocompass goes out, the other two 'vote' to keep us on course." The ship also uses a PMS5000 Power Management System for distributing power to the vessel's engines, generators and electrical systems appropriately—as well as a Dual Redundant RS925 Acoustic Positioning System to provide positioning information.





The Ocean Confidence

On deck inside a shipping container sized command center, Oceaneering's Troy Burroughs sits in the dark in front of a series of underwater cameras. Steering what looks like the joystick of an F-16 jet fighter, Burroughs uses a remote-controlled submarine the size of a Volkswagen to carry out myriad tasks on an ocean floor far beneath the reach of human divers. The mini-sub has a 10,000-ft. seawater depth rating and a hull of T6 aluminum.

Burroughs runs the mini-sub, or Remotely Operated Vehicle (ROV), with the help of two team members, an electrical engineer and a mechanical engineer. These guys have to get the ROV—an Oceaneering Hydra® Magnum—to do all of the hands-on work below the waterline. Known as an “underwater workhorse,” Magnum series ROV's do everything from performing government-mandated riser inspections to monitoring the Blowout Preventer (BOP) every few days.

Lighting up the depths with 1,250 watts of bulb, the mini-sub is like a Swiss Army Knife with arms—outfitted with subsea intervention tools of every imaginable variety: torque tools, cutting and grinding equipment and just about any other type of tooling that manipulates the rig's underwater operating infrastructure. It moves around with 100 horsepower, capable of generating thrust in every direction and carrying a 350-pound payload. During periods of intense demand for subsea work, two teams can work the sub enabling 24-hour underwater work coverage.

Part Beehive, Part Brigade

“Our work here is bracketed by two safety meetings: one at 6:15 a.m. for the day shift and one at 6:15 p.m. for the night shift,” notes *Confidence* Operations Manager Greg Broussard. During the meeting, all hands on duty sound off about what their tour of duty entails. Two BP executives, one per shift, represent client interests at the meetings and support the Health, Safety and Environmental programs. With a few exceptions, everyone spends their tour fully occupied by their assigned tasks. Some control the rig's position, while others equip the rig, do the actual drilling, keep people safe, perform some kind of operation or maintenance, or make sure everyone gets fed.

All offshore operations demand intense communication. But *Confidence's* size, technology and schedule make every day a complex management exercise. “It's amazing; the action never stops,” says Captain Perez. And it doesn't. Like Las Vegas, it's hard to tell if it's day or night unless you look outside. At all hours, men and women move equipment, conduct Job Safety Analyses, talk on the phone and fill out paperwork. The rig-wide intercom fires a never-ending succession of names and extensions as people communicate their project needs and anticipate how they'll affect other operations.



Drilling: Robot meets Roustabout

Drilling utilizes power—more than any other ship function. The ship dedicates three Caterpillar 3616 diesels exclusively for drilling—a cumulative 19,300 horsepower (equivalent to 40 new Ferraris). Drilling also utilizes fluids, commonly called mud, which lubricate the bit and flush out cuttings. The *Confidence* has four 2,200 horsepower mud pumps, giving better mud circulation than standard rigs to enhance performance. And the rig uses a six ram Blow-Out Preventer (three Shaffer SLX doubles), so the operation can deal with a number of contingency situations and still stay on track.

Almost 40 people help with the actual drilling, but just a handful are involved at any given time. Thomas Malendres has the official job title of Toolpusher, though he works from a high-tech cockpit directing the drill floor's people, technology and up to 2,000,000 lbs of pipe. "One of the things that makes the *Confidence* different from a drilling perspective is the Pipe Racking System (PRS)," says Malendres. Manufactured by VARCO, the PRS looks like a 100-ft. tall robot: racking back pipe and casing, making-up and breaking-out tubular connections and performing simultaneous drill floor operations. "Everything happens quickly and easily, with as little human intervention as possible," says Malendres, adding: "It's as good as drilling technology gets for now."

All this automation serves as another kind of tool, too—one for decision-making. He continues, "All of this equipment is constantly sending information to people back on shore. If something looks potentially

problematic, we can make a good decision quickly and avoid downtime." This crunch to avoid downtime takes a lot of maintenance. "This is as much a maintenance rig as a drilling rig," notes another worker. "When something's not in use, we're replacing it before it even thinks about breaking." All around the rig, from the cranes to the coffee machines, something gets picked apart to make sure equipment doesn't break when needed.

"That's the key to keeping the customer happy," says Captain Perez, "Keep the drillbit to the rock."

Living a Double Life

The job may get done, but what kind of life does the crew have working 12-hour tours in the middle of the Gulf? "It's pretty great, actually," says Safety Coordinator Jakey Lewing. "This is the Cadillac of offshore rigs." Many read after their shift; the rig has as many paperbacks as hardhats (mystery seems the genre of choice). Downstairs offers pool, ping pong, foosball, pinball and a large screen TV. The fitness room rivals any Marriott.

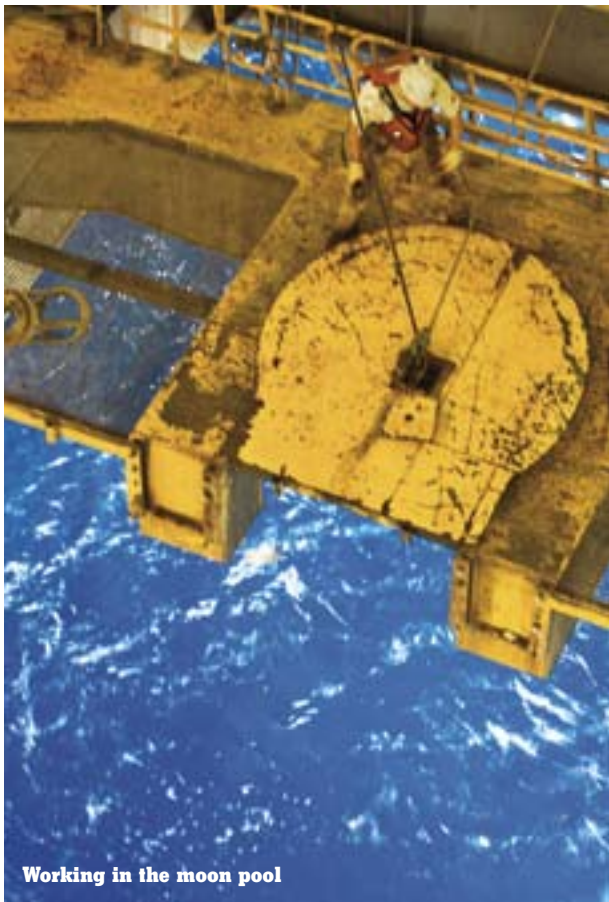
Nobody goes hungry, either. A little of Louisiana's culinary culture comes out with the crew—hot sauce sits on every table—and Tuesdays mean steak. The cheeseburgers beat most fast food places and veggies abound (try the smothered okra). Healthy eating choices always exist, too, from carrot stick snacks on the bridge to a full salad bar in the galley three times a day.



***Confidence's* hull spans slightly more than a football field. The rig's main deck offers slightly less square footage than the White House. And the unit can drill to 30,000 ft., or over five and one-half miles beneath the ocean floor.**



Driving the ROV

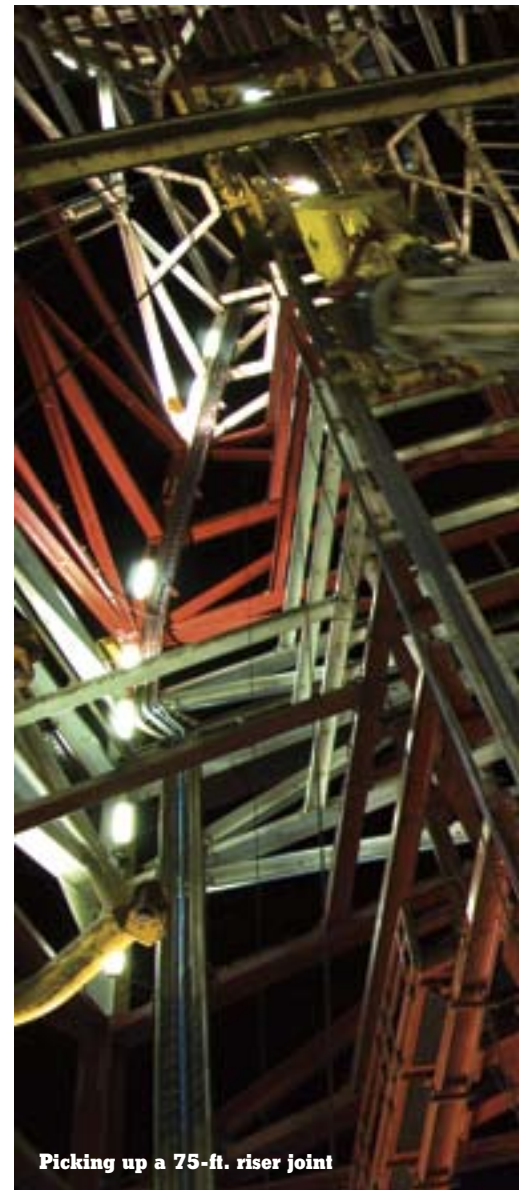


Working in the moon pool



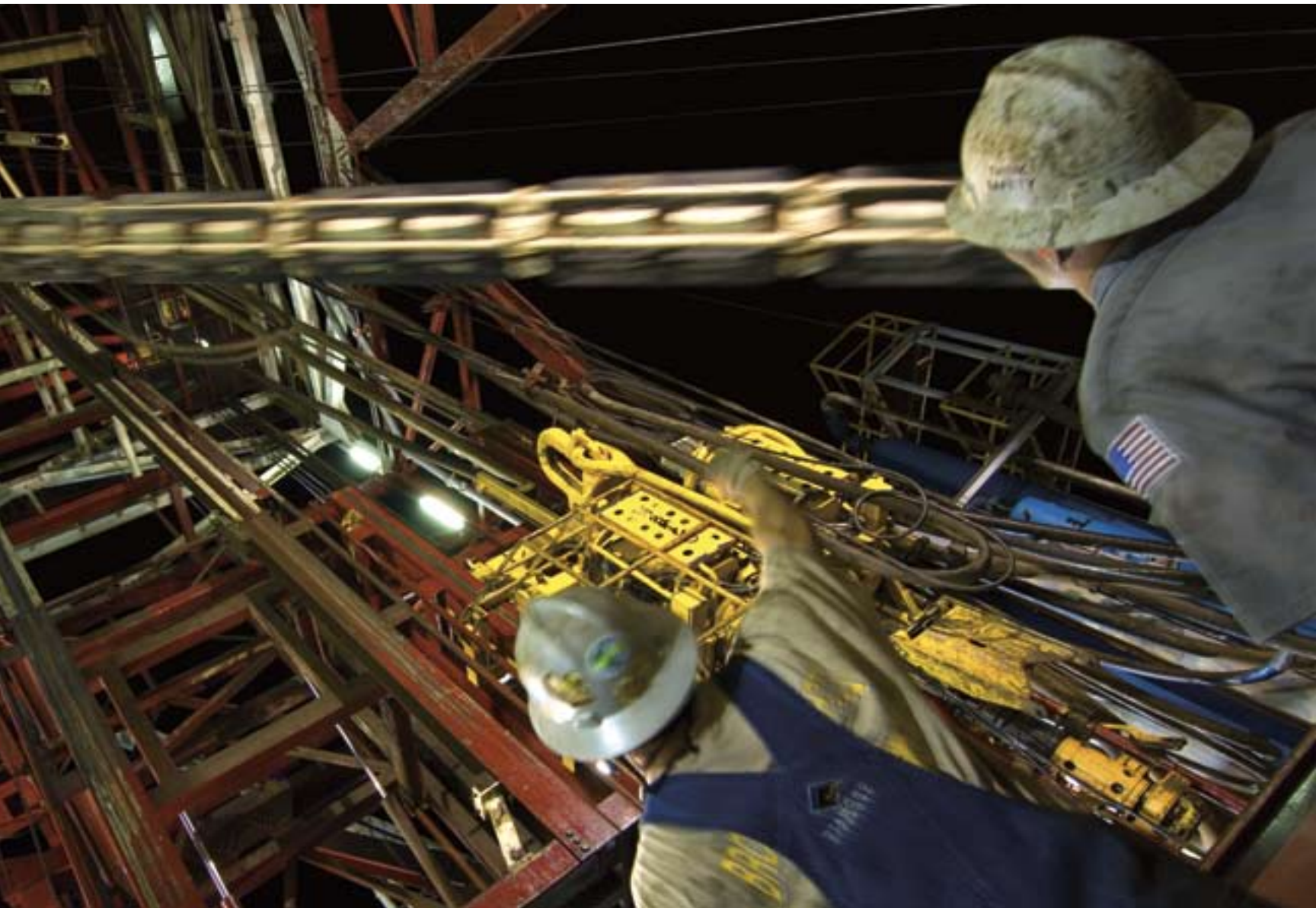
Running riser

With almost a mile and a half of riser and drillstring between the rig and the wellhead on the ocean floor, station-keeping is critical. The *Confidence* utilizes a dynamic positioning system that employs satellite positioning information and a series of underwater beacons to sense minute rig movements—triggering thrusters that keep the rig precisely positioned over the well within a three-foot radius.



Picking up a 75-ft. riser joint





But aside from all these man-made conveniences, many find working in the azure Gulf waters the best part. Ballast Control Officer Milton Rice keeps a photo album filled with sunsets on his desk. "I feel more creative and grounded because I work out here," says Rice, flipping a page boasting a waterspout with a rainbow in the background.

He continues, "Whales swim up sometimes, and manta rays; hammerhead sharks have surfaced so close they looked like they were posing for a picture." Rice, a Houstonian who recently raced and raised money for the 22nd Annual BP MS 150 Bike Tour, says working out here just takes a little flexibility. "I live half of my life out here, so I buy everything in twos. I see a stereo or something else I like, I'll pick up two of them: one for the house and one for the rig. I feel totally at home here. It's great."

The rig's sleeping quarters remain silent all the time, since two shifts ensure that somebody's always asleep. Industrial-strength air conditioning makes the rooms feel like a Denver Autumn. Workers have laundry service, satellite television and plenty of hot water. Closing your eyes at bedtime in cool calm, you'd never imagine that just a few feet away pipe loads, lights burn above blueprints and somebody rips something apart in hopes of making it better. **r**

William Dylan Powell is a Houston-based freelance writer.

Ocean Confidence: By the Numbers

Total Horsepower	51,300
Engines	Eight Wartsila F316B Three Caterpillar 3616
Dynamic Positioning	Nautronix ASK 5003 Triple Redundant System
Pipe Handling System	Varco AR-3200 Iron Roughneck Varco CR-3000F Casing Roughneck Varco PR5-41 Pipe Racking System
Mud Pumps	Four Continental Emsco FC-2,200hp
Top Drive	Varco TDS-6S, 750-ton with PH-85H pipe handler
BOP	Shaffer dual 18-3/4" 10K Annular Three SLX (double) 18-3/4" 15K RAM
Solids Control	Six Swaco ACS Cascade, Two Swaco linear
Drilling Depth	30,000 feet
Water Depth	7,500 feet
Quarters	146 + hospital





Crewing Up

BY DENISE ZWICKER

**After a nearly
two-and-one-half year lull,
offshore drilling has accelerated
at a breakneck pace**

since July 2004, with marketed offshore rig utilization increasing from approximately 80 percent to virtually 100 percent in just one year.

The rate of increase in drilling activity and dayrates has been the most dramatic in the history of offshore drilling.

And the wake of that activity surge is creating the good kind of headaches for those who hire and train employees.

“Someone with a high-school education who has drive and analytical ability can ascend, in 15 years or so, to rig superintendent, earning more than \$100,000 a year,” says Lynn Charles, Vice President of Human Resources.

Since August 2004, Diamond Offshore has hired more than 400 new employees, compared with 150 during the same period a year ago. “In this business, we don’t have ‘cycles,’” laughs Bill McCown, Director of Personnel Services. “We have canyons and mountains. We’ll go for months or even years with very few new hires except through normal attrition and then, boom!—we’re crewing up four rigs in short order.”

“The greatest need is at the bottom of the ladder: roustabouts, who do most of the moving, handling and setting up of equipment, cleaning, and daily support tasks for drilling operations,” says McCown. “But the job is unusual enough that not everyone is interested. And we won’t hire just anyone.”

The greatest appeal—and the biggest drawback—of the roustabout’s job is the schedule. Like all Gulf of Mexico offshore employees, roustabouts work for 14 consecutive 12-hour days, then take 14 days off—a two-week vacation. In a year’s time, they earn a year’s pay, but they work for just six months.

“Someone with a high-school education who has drive and analytical ability can ascend, in 15 years or so, to rig superintendent, earning more than \$100,000 a year,” says Lynn Charles, vice president of human resources. “In the small southern towns where most of our employees live, they’ll be among the very top wage earners—but they’ll work only six months of the year.”

Still, the job can be daunting, especially to many of today’s young people, who tend to be strangers to hard physical labor. “Some of these young people have never even had to mow their own grass; they’re not prepared to do

the kind of labor we require. Some of them have never been away from home before—and they can’t deal with two weeks away,” says Charles. “We have to find the ones who can do both.”

As recently as 1997, the washout rate for new roustabouts was 79 percent within the first six months. To reduce that rate—and improve safety performance—Diamond Offshore launched its Roustabout Training School in June 1997. The week-long school, conducted on the *Mr. Charlie* rig docked at Morgan City, Louisiana, gives new roustabouts a taste of life offshore. They live on the rig for seven days, taking classroom courses and practicing the skills they’ll be using offshore. Within 18 months of introduction, the training school reduced the roustabout-washout rate by 50 percent—and improved safety performance to the same impressive degree. Now, the school is meeting the test of the rejuvenated market.

“We projected that we’d put 400 roustabouts through the school this year, but it’s already clear that there will be 600 or more, compared to 200 last year,” says Brian D. Maness, assistant manager for training and development. “Virtually every idle rig in our fleet has now gone back to work, and we have to come up with the crews to meet the demand.”

In May, the school’s trainers increased the trainees’ hands-on, experiential training to better prepare roustabouts for the work they’ll encounter offshore—and reduce the washout rate still more. “We’re trying to give them a taste of what it really will be like to work on the rig,” says lead instructor Marty Bordelon. “We don’t have statistics yet, but this elevated approach is applauded by the roustabouts themselves,” adds Bordelon.

“The hands-on aspect is really helpful,” says new roustabout William Parks. “It helps you to pick up a new skill if you see someone do it and you do it yourself.”

“I felt well prepared for the exit tests, because the hands-on training helps so much,” says new roustabout Hunter “Cooter” Bock.

At the end of the week on the *Mr. Charlie*, the new roustabouts are required to pass three tests in order to continue their employment with Diamond Offshore: a written test over all the material that’s been covered (safety, hazards, crew changes, riding the personnel basket), a rigging test required by the Minerals Management Service (MMS), and a hands-on test (handling drillpipe, baskets, and boxes). “If you can’t pass them all, you can’t graduate,” says Maness.

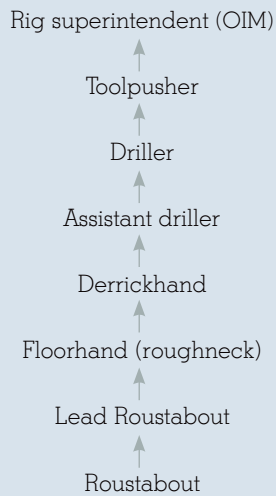
“We make sure they know that from the beginning.”

At the front end of the process, Diamond Offshore’s Human Resources Department has adopted new screening techniques that likewise reduce the washout rate by eliminating about 40 percent of offshore applicants from the prospect pool. Once the roustabouts make that cut, then comes the hands-on training and exams at Roustabout School. And, finally, they must pass muster at their assigned rigs, where they learn the ropes and experience the reality of life offshore.

Further up the ladder, Diamond Offshore generally has plenty of trained people ready to step into positions such as ballast-control operator, barge supervisor and dynamic-position operator. But, the recent upsurge in drilling has

Top photograph, a mock ballast-control room—one of only two in the world—mounted hydraulically, simulates the action of wind and waves on an offshore rig. Center and bottom, roustabout trainees on the Mr. Charlie.

**From Roustabout to OIM
A Typical Job Progression Chart**



led the Company to increase its stability and ballast-control training, which takes place at the Houston headquarters.

Here, a mock ballast-control room—one of only two in the world—mounted hydraulically, simulates the action of wind and waves on an offshore rig. Drillers, tool pushers, ballast-control operators, barge supervisors, captains (OIMs) and rig superintendents work with simulators, textbooks, and calculators to predict the effects of weather and weight redistribution on the rigs. Nearby a model rig floats in a tank of water, available for demonstrations of what happens, for example, when the crew moves pipe from one part of the rig to another.

Just down the hall, derrick hands, assistant drillers, tool pushers, and rig superintendents are taking fundamental and supervisor-level courses on well control—that is, the all important job of keeping the pressures and fluids involved in drilling a well under control at all times. Electronic simulators enable them to practice what they've learned in an environment where they can't do any real damage. Diamond Offshore instructors also travel around the world with the well-control simulators, taking training wherever it is needed.

"We train our people even if they come to us with experience," says Tom Payne, senior nautical science trainer. "And it is rigorous training and the ballast-control simulator is very realistic. We've induced high blood pressure and sweaty palms. But we want them to learn how to handle bad situations here—instead of on the rig. By the time they get to the rig, they know what to do." ■

Denise Zwicker has been a freelance writer since 1977, covering virtually every aspect of the energy industry.





After lunch, they work in groups of two to move drillpipe. “You have to use teamwork; you have to communicate with each other,” lead instructor Marty Bordelon tells the trainees. “I want you to watch each team. Each team should be better than the last because you’re learning from watching each other.”

Learning the ropes from *Mr. Charlie*

By Denise Zwicker

Their day begins at 5:45 a.m. with a wake-up call, followed by a hearty breakfast of omelets, bacon, scrambled eggs, biscuits, fresh fruit, coffee and orange juice. By 7 a.m., they’re on the job,

swabbing the deck and chipping paint on the *Mr. Charlie* rig anchored at Morgan City, Louisiana, where Diamond Offshore trains new roustabouts for a week before putting them to work offshore.

“Right now, we’re teaching basic house-keeping—washing the rig and prepping it for painting,” says Trainer/Safety Representative Wendel Clements. “It’s a little elementary, but some of them don’t know how to do this stuff. We go from A to Z with them.”

Each activity begins with a job-safety analysis (JSA), conducted—with help—by the trainees, that details the sequence of events, identifying potential hazards and appropriate risk reduction. “One guy washes, while another follows him, rinsing to reduce the slip hazard,” says Clements. “Then the mop crew dries things up so we don’t have a wet deck.”

And so goes the day. The class of 21 sometimes divides into two or three groups, one cleaning the work area while another uses needle chippers to remove rust from equipment. “We used to have less hands-on training at the roustabout school, due to limited time versus the amount of curriculum to cover, so this is an added bonus,” says lead instructor Marty Bordelon. He stops talking to call out to two roustabouts, who are sweeping up the rust fragments they’ve chipped away. “Don’t throw that away! Those paint chips have to be kept separate for environmental safety.”

“This gives us more of an idea of what we’ll do when we get on the rig. We’re not just hearing about it, we’re actually doing it,” says new roustabout Curtis Newsome.

The next step on this particular Thursday in late May is to ride the personnel basket—first with an instructor and a second time without him, “to build their confidence,” says Bordelon.

After watching a video on marine debris, it is time for a 30-minute lunch of fried shrimp, fried fish, and French fries (as well as salads and an optional entrée of red beans and rice—remember, this is Cajun country). There’s plenty of joking and teasing, now that they’ve known each other for four days, and have some time to talk.

“I love this!” says new roustabout William McLeod, 20. “I love the people; I love the work. I love the way Diamond Offshore does things—how organized they are.”

“I want to be in the action,” adds new roustabout Hunter Bock, 20. “I love being outside and working with tools. It’s all very interesting—and even better than I expected.”

“The job pays well—especially for a college student with no experience,” says new roustabout William Parks, 19. “I think it will help me in my studies—and also help me develop a better work ethic.”

After lunch, they work in groups of two to move drillpipe. “You have to use teamwork; you have to communicate with each other,” Bordelon tells the trainees. “I want you to watch each team. Each team should be better than the last because you’re learning from watching each other. I don’t want to see you make the same mistakes that the teams before you made.” Generally speaking, they don’t.

The day continues, with the sun reflecting off the decks and metal equipment in a good approximation of what they can expect offshore. The hardest part is still ahead: learning to be away from home for 14 days at a stretch.

“Some of these guys have never been away from home before,” Bordelon says, looking at the new roustabouts at work. “Here, they can still see land and stores and houses. Offshore, they’ll just see water for 360 degrees. We tell them it’s not for everybody.”



Left photograph, a roustabout trainee in water survival gear designed to provide bouyancy and protection from hypothermia. **Above,** class aboard the *Mr. Charlie*.

The Nationalities of Diamond Offshore

CELEBRATING STRENGTH IN DIVERSITY / PROFILES BY DENISE ZWICKER



VIETNAM



QUAN LU

ADVANCED STAFF ACCOUNTANT

Today, the Vietnamese community is a strong economic force in Houston. But, not so many years ago, Quan Lu and her family were among tens of thousands of “boat people” arriving on these shores with little or nothing beyond courage and determination.

“I was 13 when my parents paid our way out in 1979 and joined 1,000 people on a 34-foot, two-level boat. We sat back to back, with no food or water, for five days. When Malaysia wouldn’t accept us, the Malaysian Navy pulled us out of their waters, and we drifted another night into Indonesian waters and finally ended up on an inhabited island. We used strips from a coconut tree to make beds and a little tent that we covered with a canvas top. We stayed there three months—until the International Red Cross transported us by ship to the Galang Refugee Camp in Indonesia. It was a year before we reached the United States.”

Two of Lu’s older sisters had arrived in Houston a year earlier, and they and other relatives sponsored Lu’s family of four. “We came with nothing. A church provided us with clothing, and each of us was given \$250.” Lu’s father, who had owned a bakery in Vietnam, got work as a dishwasher in a restaurant and later moved up to chef. Meanwhile, Lu attended 8th grade in Houston.

“I didn’t speak English, so I’d just go to class and sit there, not understanding much of anything except math and P.E. Fortunately, I never had a problem with math,” laughs Lu, who eventually learned English and earned her bachelor’s degree in accounting, as well as her C.P.A. Today, she works as an advanced staff accountant at Diamond Offshore, handling foreign reports for—of all places—Asia.

Lu says that American business culture is different in some respects from Vietnamese. “I was raised just to do my job and not speak up too often,” she says. “In America, if you want something, you have to speak up. That’s hard for me to do.”



ENGLAND

CARL WALLBANK



SUBSEA ENGINEER—*OCEAN GUARDIAN*

Carl Wallbank developed his taste for adventure early in life, when at age eight, he began building a sailboat with his father in the garden of their home in Cheshire, England.

“We worked on it for 10 years, until I was 18. Then we disappeared for a couple of years. At first, we talked about sailing around the world, but that didn’t work out, so we spent our time in the Mediterranean. It helped me appreciate what’s available in the world. And it made me mechanically minded,” he says.

Wallbank’s next job was installing satellite dishes in the late 80s and early 90s, but he had a yen to work offshore. So, in 1994, he hired on at Diamond Offshore, working as a motorman on the *Ocean Guardian* in the U.K. sector of the North Sea. Today, he’s a subsea engineer on the same rig, which is adventure enough for some people, but not for Carl.

“When I was 20, I tried hang gliding, and I’ve been doing that for 14 years now. Five years ago, I started representing Great Britain in hang gliding competition.” Since then, he’s participated in European championships in Spain and Slovakia, and traveled to Brazil with the 2003 world-championship competition. “Apart from my family, it takes up my whole life,” he says.

Well, almost. In 1998, Wallbank built his own ultralight plane, which he flies for fun, and to raise money for charities that benefit children. He’s developed a special interest in such charities since his young son, nearly two, was diagnosed with a rare growth disorder.

He’s maintaining connections with the senior generation as well, having persuaded his father to join him in ultralight flying. And Carl is thinking about talking with his dad about resuming their sailing hobby soon. Maybe around the world this time—in increments, of course, when he’s not on the rig.

TUSHAR DESAI

INDIA

STRUCTURAL ENGINEER



Although his home country is 10,000 miles away, Tushar Desai feels quite at home in Houston. “There are 50,000 to 60,000 people of Indian descent living in the Houston metro area, and we celebrate big festivals together.” In fact, so many of his fellow students from his university days in Baroda, India, live in the United States today that they’re having their 20th reunion in the Pocono Mountains of Pennsylvania this year.

Desai was born in Mumbai, India, and received his Bachelor of Science in engineering from M.S. University in Baroda before coming to New Jersey on a student visa in 1989. He received his Master of Science in mechanical engineering from the New Jersey Institute of Technology and worked in New York City for eight months before learning about better opportunities in Houston, where he moved in 1991. After working for a derrick manufacturer and a manufacturer of drilling rig components, he joined Diamond Offshore in 1996 as a junior engineer. Today, he is a senior engineer who designs structural components for new and upgraded rigs and occasionally visits rigs for troubleshooting.

Although his brother and sister still live in India, his parents moved in with his family three years ago. “That’s one of the differences I see between India and the United States,” Desai says. “In India, we emphasize family and togetherness. Having your parents live with you isn’t unusual in India; kids are expected to take care of their parents.”

Desai has worked hard to maintain his and his wife’s Indian heritage in Houston. “Both of our boys can speak our mother tongue, and we all go to temple together on Sundays,” he says. “We celebrate American holidays—and Indian holidays, too.

“Culturally, I’ve picked up good things from both India and the United States,” he continues. “For example, my son and I are very active in Boy Scouts, where we have learned about good citizenship, leadership, and patriotism. My kids don’t have an accent like I do, and that’s good. I believe that my early schooling was very good in India, but I think the high schools and colleges are better here. In India, there is more emphasis on academics. Here, the emphasis is more on all-around development.

“Here, the opportunities are better. I came to the United States with my engineering education and only \$20 in my pocket. In 16 years, I’ve been able to purchase all the material goods that I need. One of the keys to financial success in India is being thrifty. The only thing I have bought on credit so far is our house in Katy. That’s cultural, too.”

Ocean Confidence

SUCCESSFULLY AND SAFELY HANDLING A “KICK”

I want to extend my appreciation for the great job the “Diamondback” team did in successfully and safely dealing with the well control incident over the past several days. **Successfully circulating out a kick with an extremely small margin between mud weight and frac gradient is no small feat and deserves recognition. The team did an excellent job of pulling in external resources, developing a sound plan, and most importantly, safely executing a difficult operation on the rig.** Detecting the kick quickly, counting barrels accurately, maintaining pressures per schedule, and conducting a full range of non-routine activities with no HSE incidents are examples of excellent execution and leadership on the rig. I was impressed with team communication and the judgment used during the event, especially in interpreting the wellbore conditions and pressure responses during the kill job.

In addition to getting the kick out, being able to then pull out of the hole (given the high risk of swabbing) to be able to run the expandable liner is also an outstanding accomplishment.

We drill the toughest wells in BP. I appreciate that you all are up to the challenge.

Mike Zanghi
Wells Manager
BP

Ocean Drake

GOING THE EXTRA MILE

To: James Turner – OIM, *Ocean Drake*

Thanks! I want to say again...you and your crew were one of the best I have worked with in my short four years of doing OCS inspections. Thanks for your hard work and support in getting the inspection done under less than ideal conditions. I hope to work with you again in the future.

CWO Bob Rioux
U.S. Coast Guard

Ocean Summit

COMMUNICATION, MAINTENANCE, PLANNING AND SAFETY

We drilled and completed a series of five wells with Incident Free Operations (IFO). **This has been one of the finest rigs that I have worked on. Communication is one of their finest points. They are always sharing information with everyone on board. They plan for the job at hand and start looking at the upcoming job task.** This helps everyone involved so they know how to plan out their day. They have a great maintenance program and plan for service techs to come out to help prevent equipment failure or downtime. This all starts with the superintendent, the rig’s OIMs and tool pushers and it moves down to the drillers, crane operators, derrick men, floor hands roustabouts, welders, mechanics, electricians, motor men, safety men, storekeepers, deck coordinators, mud engineers, cementers, dispatchers and galley crew. Thanks to the production staff of the M.P. 299 Field for staying in contract and working with everyone involved in this operation. They bring up topics on how to improve an operation or an idea on how to pump completion fluid through their sump discharge after the test results pass just to not take a chance of having a sheen. It’s going to be a disappointment to have to release the *Ocean Summit*. They have good safety and pre-tour safety meetings. The OIM’s and tool pushers work and talk with the drill reps on a daily basis to talk about job operations, planning, safety and improvements that need to be made.

To the crews of the *Ocean Summit*, keep up what you do and always keep looking for ways to improve. Thanks to each and every one of you for the job done in the Main Pass 229 Field. Keep working on and using your STOP Program. You are the ones that make it all happen, we just help keep you on track.

Darrell Hammons
Drill Rep.
Chevron

Ocean Quest

COMMITMENT TO EXCELLENCE

On behalf of Noble Energy, I want to thank all personnel assigned to the *Ocean Quest* for an exemplary job during drilling operations on the Ewing Bank 949 #2 and #2 sidetrack wells. **Our “hats are off” to everyone involved for their commitment to excellence in safety, hard work, rig maintenance, equipment optimization and coordination with Noble. Each of these elements represented a tremendous team effort.**

These were very challenging wells, requiring maximum performance by both personnel and equipment in order for such exceptional results to be realized. Without the superb attitude and team effort, we could not have achieved the record setting results on this drilling operation.

The leadership exhibited by the rig’s supervisors—Mr. Alvin McCall, Operations Manager, Mr. Tony Cooper, Rig Superintendent, and Mr. Dave Gregory, Rig Superintendent—was also exceptional. Their positive, can-do attitude was evident across all disciplines regardless of the operation being performed.

Thank you *Ocean Quest*...for a job well done.

Mike Simmons
Engineering Advisor, Drilling
Offshore Division
Noble Energy

Ocean Princess

OUTSTANDING PERFORMANCE

Congratulations to the Tweedsmuir/*Ocean Princess* team on achieving another first quartile drilling performance!

The TSI well (21/1a-TSI) was drilled in 37.7 dryhole days or 24.7 dryhole days/10,000 feet. This reflects a significant improvement compared to previous Tweedsmuir wells. For example, the offset 21/1a-18 and 21/1a-19 wells, were drilled in 41.4 and 39.3 DD/10K, respectively. The latest Tweedsmuir well (2004) 21/1a-21, which encountered a number of difficulties, was drilled in 49.8 DD/10K. This is the second first-quartile performance in a row for the *Ocean Princess* Team.

There are several good examples in the TSI well where the team has effectively learned from past experiences, including, among others:

- Cretaceous drilling study which resulted in obtaining larger drillpipe and the use of ultrafine barite, thereby improving hydraulics and ROP
- Autotrak extreme technology (and improved reliability) dramatically improving ROPs
- Anticipation of the high-pressure sand lens resulting in better risk management and planning and subsequent handling of the high pressure when it was encountered
- Improved handling tool changeover times reducing the risk of stuck casing
- Use of new technology T-CAT/leadhand to improve safety and efficiency while running casing

I encourage the team to keep the same focus on performance for the remainder of this well and to capture any fresh lessons learned for the next well.

Best regards,

Lyle McLeod

Wells Group
Talisman Energy (UK) Ltd

May I add my congratulations, too! The delivery of this kind of performance feeds directly to our ability to attract more investment from the corporation into the North Sea business. Well done and let's see it over again and again and again!

Paul Blakeley

Vice President
Talisman Energy (UK) Ltd

Ocean Nugget

TOP NOTCH PEOPLE, SAFE WORK ENVIRONMENT

I wanted to take this opportunity to compliment your guys on the *Nugget*. I am currently working for The Houston Exploration Company as a consultant and have had the good fortune to be placed here. As consultants, we work a variety of rigs and personnel. That being said, I felt compelled to pass on to you that you've got some top notch people out here. **Since I've been here, the tool-pushers, drillers, and rig crews have gone out of their way to offer helpful advice as well as maintain a safe work environment.** It's all about attitude. I don't really know what you guys do different from some of the other companies, but I do know that it works. The rig is extremely well kept and the rig crews seem to take pride in that fact. I'm one of those people that pretty much calls it like I see it, and these guys have got a good thing going on. Whatever ya'll are doing, keep it up, it's definitely working.

Mike Turner

Drilling Foreman
Houston Exploration Company

Ocean Victory

GREAT WORK ON HSE CASE

It was great to work with such an excellent team on the *Ocean Victory* HSE case. With the limited time that Diamond Offshore was given to produce an HSE case, the team's commitment to complete this on time and deliver an excellent HSE case acceptance presentation to Shell's management was outstanding.

Please pass along my sincere "Thank You" to the team that consisted of Glen Merrifield, Jim Schroeder, Sammy Clifton, and Gay Gifford for the excellent job they did to make the HSE case work get completed in record time. It was a pleasure working with each one and I look forward to working with Diamond Offshore in the future.

Steve McCasland

Training, BD & Case Coordinator, EP Americas
Shell Exploration & Production Co.

Ocean King

SAFETY AND COURTESY

Just a short note to let you know how impressed I am with your *Ocean King* drilling rig.

Recently, I was assigned to take care of the production platform at Houston Exploration Mustang Island 858. I had quite a bit of interaction with the drilling personnel and was favorably impressed with the courtesy extended to me and by the way your people conduct their business.

Below deck, the motor, mud and storage areas are extremely clean. Around the engines one can literally eat off of the floor. It is by far the cleanest I've seen.

I like the attention to safety, particularly with respect to the men with whom I had the most contact: Jodi Thigpen, David Presley and Cody Thorp. **However, the entire crew is to be commended. I'm impressed.**

Thank you for your time and consideration.

Paul Branch

Houston Exploration

Diamond Offshore

MMS LAKE JACKSON DISTRICT SAFETY AWARD

The Minerals Management Service has awarded Diamond Offshore the 2004 Lake Jackson District Safety Award for Excellence. **The SAFE program recognizes and commends those operating companies that expend extra effort and conduct their operations in a safe manner, adhering to all regulatory requirements, employing trained and motivated personnel and taking extra steps to enhance the safety of operations.**

In naming the 2004 winners, MMS Regional Director Chris Oynes, Gulf of Mexico OCS Region, said: "The winners of the District SAFE Awards have set very high standards for safety by their technical accomplishments and commitment to protection of their workers while conducting offshore oil and natural gas operations on the federal OCS. Sound safety procedures and practices are as important as maintaining environmental integrity. These industry leaders are setting standards for others to match. Their overall performance demonstrates that we can produce offshore energy resources in a safe manner."

Ocean Drake

LEADERSHIP, TEAMWORK AND TRAINING

Editor's Note: While operating for Chevron last winter on Viosca Knoll Block 204 in the Gulf of Mexico, the Ocean Drake experienced a surge in pressure ("kick") in the formation it was drilling. The rig crew, working in cooperation with Chevron, moved quickly to control the well and avoid harm to personnel, the rig or the environment.

The *Ocean Drake*, operating on our Impala exploration prospect.....was involved in a very serious well control incident. I wish to recognize the entire crew of the *Ocean Drake* for their leadership and professionalism during this event.

The incident was handled by the team in a very professional and systematic manner. Non-essential crew members were evacuated from the rig, the H₂S (hydrogen sulfide) contingency plan was implemented and the well was killed without problems. **The magnitude and severity of this incident (3.0ppg and 1/2 percent H₂S) was underappreciated by many in our office due to the expedient manner in which the team killed the well and recommenced drilling.**

Please pass on my personal thanks and the thanks for Chevron to the entire crew for their hard work on this project and for their dedication to Incident Free Operations (IFO).

Gary E. Roebke

WEO Operations Manager
Chevron

As we all know, this was a very serious kick with potentially very serious consequences. It is a tremendous feeling to perform IFO through the situations we faced last Friday through Sunday. For no one to be injured while working in a harsh environment and under very stressful situations is surely a gift to us all. **There is no doubt a lot of this had to do with the exemplary leadership, decision-making, teamwork, training, and "patient sense of urgency" exemplified by all members of the team.** Their performance was truly quite extraordinary. Considering the fact that three bit jets were plugged with motor rubber, and two were blown out, furthermore highlights the adjustments made during the kill operations. I know I expressed my gratitude earlier, but I don't mind giving another "pat on the back" for all involved. Thank You!

Byron Sketchler

Chevron

Ocean Winner

NO LOST TIME

Petrobras has presented the *Ocean Winner* a Certificate Award for no lost time accidents in 2004.

Ocean Tower	FOCUS ON SAFETY AND COMPLIANCE
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Ocean Bounty, Ocean Epoch, Ocean Patriot
APPEA SAFETY AWARD

Mr. Lyndol Dew:

Attached you will find the Chevron GOM Drilling Level 3 E&S Compliance Review, which was performed on the *Ocean Tower* on May 5, 2005, at the Vioska Knoll 251 #3 field location.... The purpose of the review is to provide a proactive opportunity for increased personnel safety, and enhanced environmental protection and compliance. Also, this collaborative team effort between the operator and drilling contractor provides a compliance learning tool, which measures compliance with government regulations, and with Chevron's and DODI's policies and procedures. These reviews also raise safety and environmental awareness levels, and reinforce the positive aspects of individual and team efforts. A strong focus is also given to investigating behavioral and planning issues directly associated with our efforts to achieve Incident Free Operations (IFO).

You will see that the Review Team found the overall condition of the rig, the programs and the processes to be in good order. Additionally, the attitude and aptitude of the crews was very good. Although there have been recommendations made, no significant opportunities for improvement were identified that need to be mentioned in this context, and the overall review findings were very favorable.

I want to congratulate you and the *Ocean Tower* on a good review. I also want to mention that the *Tower's* IFO efforts to date have not gone unrecognized. With the exception of the one employee recordable incident, your crews and our subcontractors have worked *IFO* for 152 days under many adverse conditions and sensitive environmental conditions. The crews have stayed focused since the incident and are continuously improving their environmental and safety performance awareness. Please keep up the good work. I am confident that the *Ocean Warwick* and the *Ocean Drake* are following these same processes and have the culture to work IFO for us in 2005.

Thank you for your past and future cooperation in working to improve safety and compliance and for all your efforts to send everyone home safely, keep the environment clean, and comply with all regulations.

Gary E. Roebke
WEO Operations Manager
Chevron

For the third year in a row, Diamond Offshore has won the APPEA (Australian Petroleum Production & Exploration Association)—IADC—Australian Chapter “Category C”—Offshore Drilling Contractor Safety Award. The 2004 award was present to Diamond Offshore General Company at the annual APPEA Conference, which was held in Perth in mid-June 2005.

The award is “In recognition of a superior safety record in the petroleum exploration and production industry and for a significant contribution to promoting a safe and healthy work environment.”

The award further recognizes the excellent achievements of all the crews including shore-based support and all third parties involved for the three rigs that DOGC operated in Australian waters during 2004—the *Ocean Bounty, Ocean Epoch* and *Ocean Patriot*.

Since the inception of these awards in 1987, Diamond Offshore has won this important recognition a total of six times for the years 1990, 1991, 1995, 2002, 2003 and 2004.

“Diamond Offshore is committed to creating an environment that fosters teamwork, communication, growth, respect and service. Every employee is charged with the clear mandate to set, and meet, ever-higher standards of excellence”.

Ocean Tower	SHOULDERING THE LOAD
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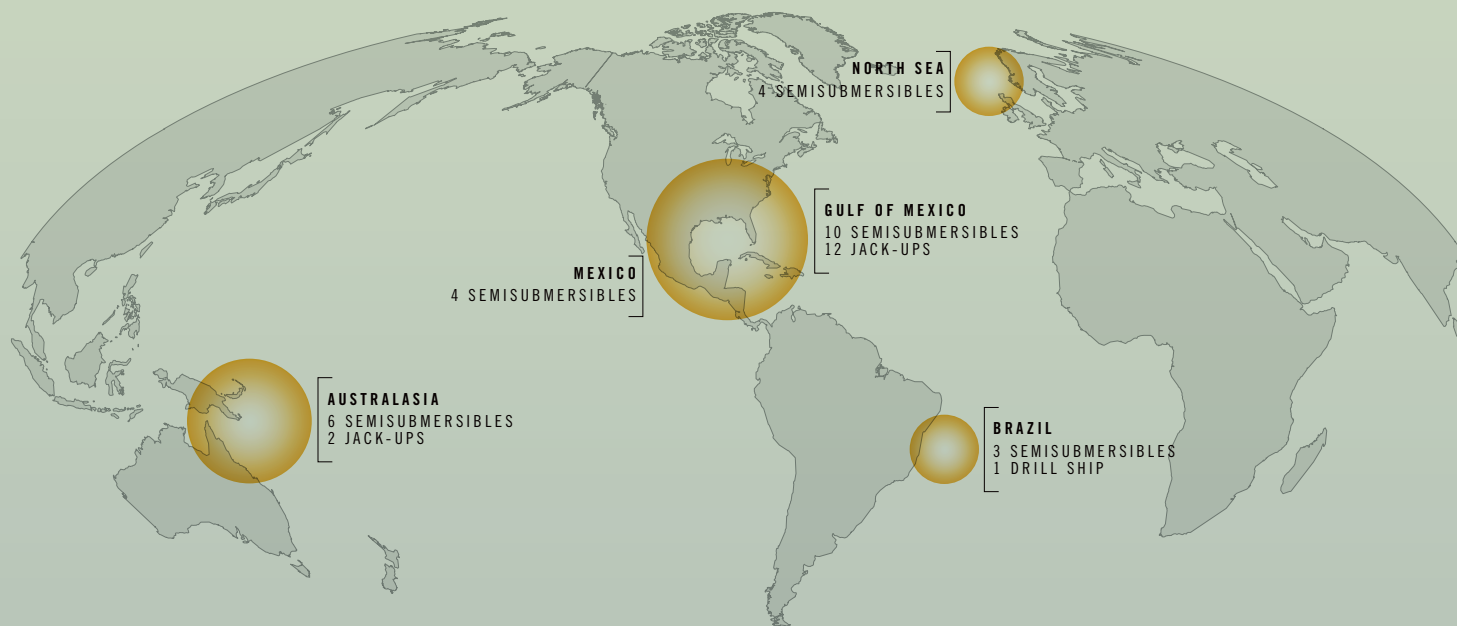
Subject: Ultra-Deep HPHT Intermediate Casing

Shown is the weight indicator reading of our ultra-deep high-pressure, high-temperature (HPHT) well. This is the “Cadillac,” a Gulf of Mexico deep-shelf exploration well at Viosca Knoll 251.....The casing string was set in 14,410 ft. of 12 1/4 in. open hole at 17,810 ft. We are currently circulating and preparing to cement this long string.

Thanks is given to the Chevron/Diamond Offshore Drilling team for making this (weight) on this very important casing string.

Johnny R. Hall
Drilling Representative
Chevron





Rigs and locations

DIAMOND OFFSHORE'S RIGS BY TYPE AND LOCATION

SEMISUBMERSIBLES

OCEAN CONFIDENCE	7,500	DP; 15K; 4M	GOM-US
OCEAN BARONESS	7,000+	VC; 15K; 4M	GOM-US
OCEAN AMERICA	5,500	SP; 15K; 3M	GOM-US
OCEAN STAR	5,500	VC; 15K; 3M	GOM-US
OCEAN VALIANT	5,500	SP; 15K; 3M	GOM-US
OCEAN VICTORY	5,500	VC; 15K; 3M	GOM-US
OCEAN QUEST	3,500	VC; 15K; 3M	GOM-US
OCEAN VOYAGER	3,200	VC	GOM-US
OCEAN CONCORD	2,200	3M	GOM-US
OCEAN LEXINGTON	2,200	3M	GOM-US
OCEAN SARATOGA	2,200	3M	GOM-US
OCEAN WORKER	3,500	3M	MEXICO
OCEAN YORKTOWN	2,850	3M	MEXICO
OCEAN WHITTINGTON	1,500	3M	MEXICO
OCEAN AMBASSADOR	1,100	3M	MEXICO
OCEAN GUARDIAN	1,500	3M	NORTH SEA-UK
OCEAN PRINCESS	1,500	15K; 3M	NORTH SEA-UK
OCEAN VANGUARD	1,500	15K; 3M	NORTH SEA-NORWAY
OCEAN NOMAD	1,200	3M	NORTH SEA-UK
OCEAN ROVER	7,000+	VC; 15K; 4M	MALAYSIA
OCEAN EPOCH	1,640	3M	MALAYSIA
OCEAN GENERAL	1,640	3M	MALAYSIA
OCEAN BOUNTY	1,500	VC; 3M	AUSTRALIA
OCEAN PATRIOT	1,500	15K; 3M	AUSTRALIA
OCEAN ALLIANCE	5,000	DP; 15K; 3M	BRAZIL
OCEAN WINNER	4,000	3M	BRAZIL
OCEAN YATZY	3,300	DP	BRAZIL

INTERNATIONAL DRILLSHIPS

OCEAN CLIPPER	7,500	DP; 15K; 3M	BRAZIL
JACK-UPS			
OCEAN TITAN	350	IC; 15K; 3M	GOM-US
OCEAN TOWER	350	IC; 3M	GOM-US
OCEAN KING	300	IC; 3M	GOM-US
OCEAN NUGGET	300	IC	GOM-US
OCEAN SPARTAN	300	IC	GOM-US
OCEAN SPUR	300	IC	GOM-US
OCEAN SUMMIT	300	IC	GOM-US
OCEAN WARWICK	300	IC	GOM-US
OCEAN COLUMBIA	250	IC	GOM-US
OCEAN CHAMPION	250	MS	GOM-US
OCEAN CRUSADER	200	MC	GOM-US
OCEAN DRAKE	200	MC	GOM-US
OCEAN HERITAGE	300	IC	QATAR
OCEAN SOVEREIGN	300	IC	INDONESIA

UPGRADING

OCEAN ENDEAVOR	8,000+	VC; 15K; 4M	SINGAPORE
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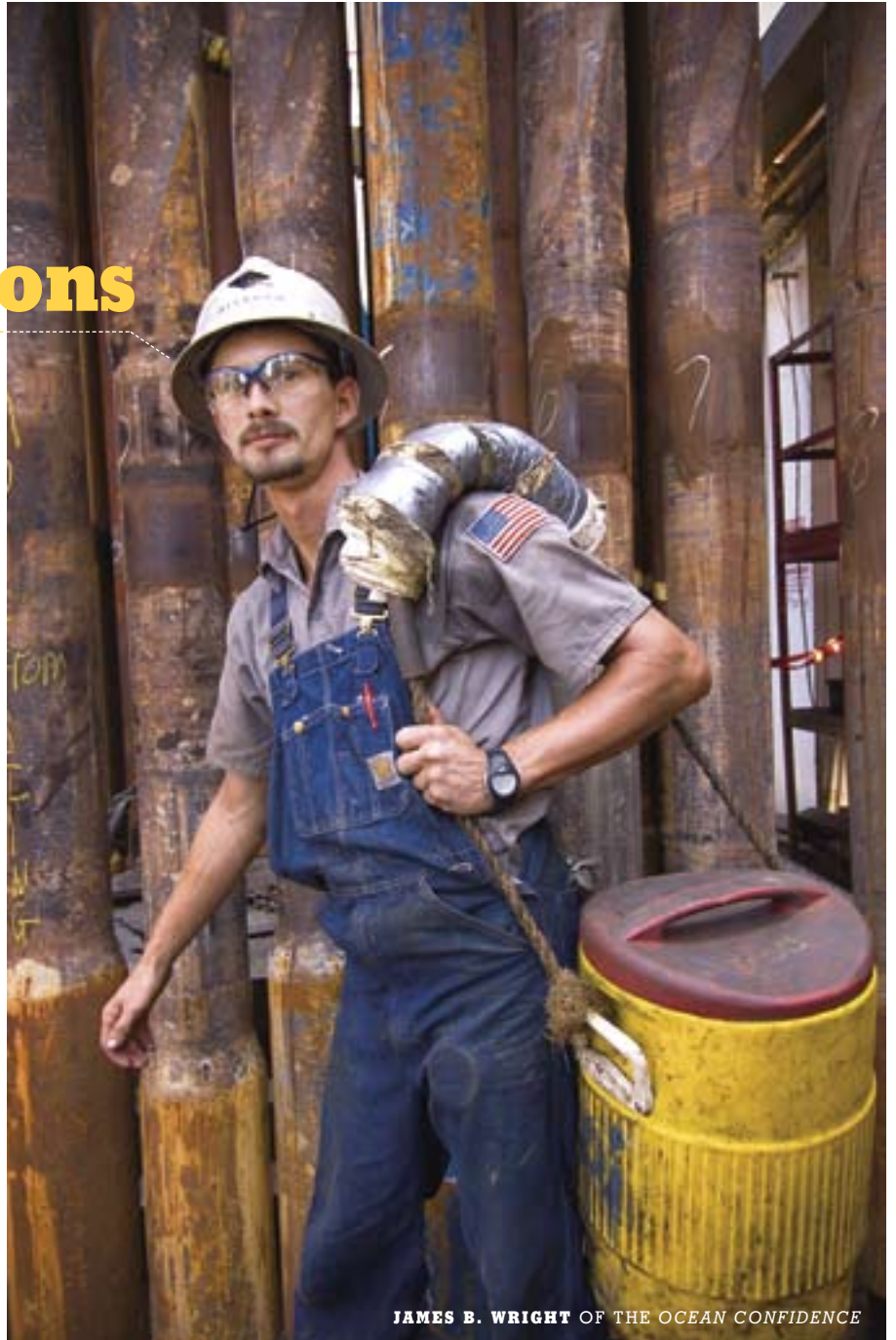
REACTIVATING

OCEAN NEW ERA	1,500		GOM-US
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KEY

DP=DYNAMICALLY POSITIONED/SELF-PROPELLED
 IC=INDEPENDENT-LEG CANTILEVERED RIG
 MC=MAT-SUPPORTED CANTILEVERED RIG
 MS=MAT-SUPPORTED SLOT RIG
 VC=VICTORY-CLASS
 SP=SELF-PROPELLED
 3M=THREE MUD PUMPS
 4M=FOUR MUD PUMPS
 15K=15,000 PSI WELL CONTROL SYSTEM

Ruminations



JAMES B. WRIGHT OF THE OCEAN CONFIDENCE

Work, work, work. It gives you pride. It gives you headaches. It gives you a role in the universe. And one thing's for sure: it gives you a chance to think. So, what is this guy thinking about?

BY WILLIAM DYLAN POWELL

Maybe he's pondering the irony of lugging around Gatorade to keep everyone hydrated while standing in the middle of 1.5 million square kilometers of surface water. Or that the reason Gatorade hydrates you better than plain water is because of the electrolytes or salts—and that there's enough salt in the Gulf of Mexico basin alone to salt over 11 trillion orders of McDonald's fries.

Or maybe he's thinking about that first time man tried to take this kind of work into Gulf waters. Those shaky trestles Humble hammered into place in 1938. Only a mile offshore, but a hard one. No Gatorade. Dry holes. Zero profit. The whole mess wiped out by storm. He may be thinking how if they could join him for a cup of coffee onboard the *Ocean Confidence*, they'd see they were onto something after all.

Maybe he's thinking of how, on his two-hour chopper ride out here, he'd read about the latest technical and investment risks in the *Wall Street Journal*, and how his work didn't even come up except in earnings reports.

Or could it be he's wondering when the guys with the cameras and notepads are going to have a little respect for those early pioneers and start working up a real sweat for once?



rigamarole



DIAMOND
OFFSHORE