

The History of Helix Energy Solutions Group





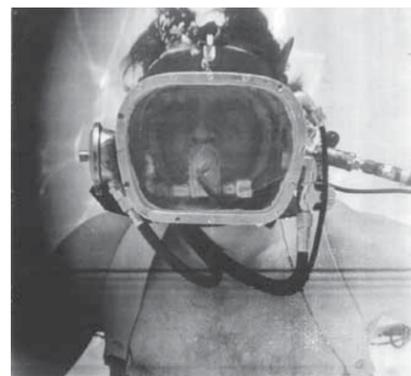
Introduction

Helix Energy Solutions Group has evolved over five decades from a ragtag bunch of abalone divers to become one of the world's premier marine service contractors and operators of offshore oil and gas properties.

What these divers may have lacked in education and business knowledge, they made up for in their fierce desire to stay in charge of their own destiny. Having each captained their own boat, surviving the wilds of the sea and the indescribable competitiveness of the abalone fishery, these men prevailed due to their incredibly strong work ethic coupled with their resourceful ingenuity and need to be “top boat” – a philosophy that thrives within the company to this day.

The offshore industry has demonstrated that those groups whose visionary leaders have experienced the rugged “offshore life” and have the guts to convert their visions into reality know how to weather industry storms and accomplish amazing things – while the rest disappear beneath the waves.

These attributes along with the combination of technical innovation and unwavering perseverance that launched the company back in the 1960s remains the key to the organization's success to this day.



The subsea industry to 1960

The birth of the offshore oil industry began at the end of the 1800s when California oilmen began following their onshore oil discoveries to the edge of the sea. Quickly realizing that the oil wells closest to the ocean were the most lucrative, it wasn't long until the first offshore oil well was drilled off a wharf that extended 900 feet into the Pacific off the coast of Santa Barbara County, California.

At the start of the 20th century oil was clearly the country's most valuable resource and only became more important with the invention of the internal combustion engine. As drilling continued off California's coast, technological advances made finding and recovering oil faster and more efficient.

By the 1950s oil companies working off the waters of Santa Barbara still drilled

from shallow wooden wharfs, but by the latter part of the decade wells were being drilled from man-made islands, barges and eventually much sturdier jack-up rigs were used.

As the companies moved further off California's coast, they faced a major hurdle. Unlike in the Gulf of Mexico, California's shallow waters quickly give way to depths beyond 250 feet, exceeding the capabilities of jack-up rigs of the era.

Before the oil industry came along, commercial divers made a living through a handful of civil engineering and salvage projects while underwater fishermen in California competed with one another in their hunt for abalone, being paid strictly by the size of their loads. And long before the lightweight “Rat Hat” and modern wetsuits came along,

these divers mastered the art of helmet or “hard-hat” diving, able to perform hard work underwater day in and day out, which served them well when the more lucrative offshore oil industry began its explosion.

To take drilling from extended piers out into the deeper waters where oil and gas deposits were waiting to be developed, floating drillships came into play. It would take eight anchors to secure these floating drillships over the drill site. Then divers would install permanent and stationary subsea casing and wellhead equipment.

The most dangerous moment for the divers was when they had to land a 10-ton blowout preventer, or stabbing in a drill pipe, onto the subsea wellhead as rough seas heaved and bobbed the drillship above.



Clyde Olcott's painting “Stabbing In” shows how divers were used to guide heavy drill pipe into the wellhead hole. Nowadays drilling technology has improved to the point where divers are no longer used to stab in.



A polished abalone shell. Abalone is a large edible sea snail considered a delicacy around the world and is mostly found in cold waters including the California coast. Abalone harvesting was the primary source of income for many West Coast divers before the offshore industry existed. Today diving for abalone in California is restricted to breath-holding techniques and shore-picking.

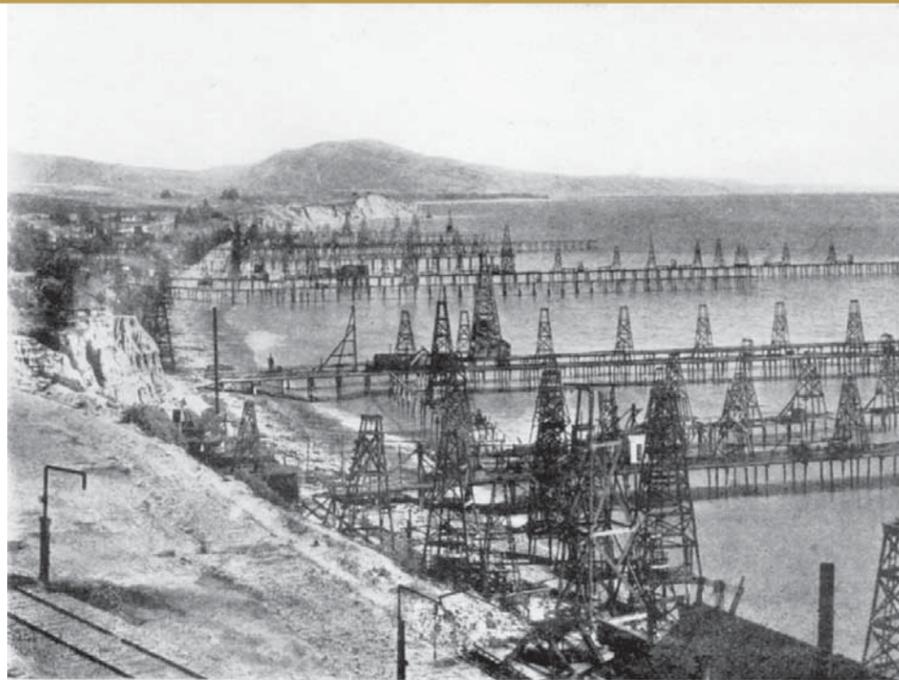
High seas and side currents would cause the heavy equipment hanging down from the drillship to surge up and down and side to side. A wrong drop would result in irreparable damage. The diver had to be able to size all this up, guide the ship into the most optimum location and then time the dropping of the heaving machinery with near perfect precision so that it went right into the wellhead hole. If the diver failed to make the drop at the right moment he stood a chance of suffering severe injury or even death from the multi-ton equipment falling right on top of him.

In the late 1950s a group of these divers in Santa Barbara formed Associated Divers and for several years held a virtual monopoly on oil well projects between 200 and 250 feet below the surface, the limit at which regular air diving is safe.

Associated Divers was an exclusive organization that wasn't looking to expand its elite roster of divers, who were earning more than \$100,000 a year at a time when the average annual household income was less than \$10,000.

Dive time on air was limited to 22 minutes and even though these men could withstand the narcosis better than any other divers, not much work could be performed and at best it was dangerous. Yet for the industry, this was all they had and it was useful at least for the drilling phase.

Helium diving had first been developed by the U.S. Navy, primarily for submarine rescue where the amount of time, men and equipment required to make a single dive, let alone the costs involved, made no difference. So while the U.S. Navy was successful in proving the concept of replacing nitrogen with helium for very deep dives, unfortunately oxy-helium was impractical and never utilized for commercial purposes. This incredible concept was to sit dormant for many years, that is, until the oil industry collided with the deep waters of the Santa Barbara Channel.



Summerland, California (Santa Barbara County) oil fields circa 1906. The first offshore wells were drilled from wood plank wharves but California's steep continental shelf forced companies to find new ways of obtaining oil and gas from offshore fields using drill barges and divers to do the dirty work.



A "red" abalone still in its shell. Other commercial species were called "pinks," "greens" or "blacks."

Early '60s: The West Coast Helium Era

For young abalone divers like Lad Handelman, born poor in the Bronx, the promise of a six-figure payday was too much to resist. He jumped at the chance to partner with helium helmet inventor Dan Wilson when he asked Handelman and then Whitey Stefens to become his partners in starting General Offshore Divers Inc. Handelman was soon joined by his brother Gene Handelman, Bob Ratcliffe and Kevin Lengyel. This original General Offshore group pioneered oxy-helium's place in the commercial world and in doing so opened the door for further and deeper offshore development.

Converting the U.S. Navy's helium concept into a safe, economically practical and diver-friendly method of deep diving was a formidable undertaking.

To start with, Wilson, a former U.S. Marine, soldered a scuba breathing regulator into a hard hat abalone helmet at a local radiator shop. This not only conserved expensive helium gas, but also allowed the expelled carbon dioxide to be exhausted directly out of the helmet, thus eliminating the need for the cumbersome and potentially dangerous Navy-type soda-lime canister.



Lad Handelman on the ladder while searching for abalone in California during the early 1960s.

Instead of requiring a dive crew of 15, they found ways to work safely with a crew of only five. Instead of requiring over 2,000-feet of deck space, General Offshore's approach required less than 600 square feet. They knew that Navy decompression tables would be inadequate for commercial use so they experimented on themselves until they had gas mixtures which allowed them a full 60-minute bottom working time and tolerable decompressions. All that was needed was an opportunity.

It was in December of 1962 that their first big break came. Four of the majors had found oil in the Santa Barbara Channel just beyond the 240-foot depth range, too deep for air dives. They had found it but they couldn't produce it. Shell Oil's first idea for installing production systems was to use their proprietary 2,000-lb. flying Mobot, propellers and all. The Mobot, a remotely operated vehicle (ROV) ahead of its time, proved to be a mechanical monster, crashing into and damaging Shell's subsea hardware. In desperation, Shell subsidized a scientist who tried secret gas mixtures to go down to 1,000-feet. The result was fatalities and the industry was stuck.



Photo taken as Lad Handelman and Dan Wilson were ferried out to one of the first ever floating drillships, the *CUSS I* (background), where they performed the first ever commercial helium dive and changed the offshore oil industry forever.
© Copyright 1965 Bev Morgan

Phillips Petroleum decided to give this newfangled helium idea a try. Wilson and Handelman were sped out to the floating drillship, *CUSS I*, drilling in 240-feet of water. Associated Divers, still under contract, had left their diving equipment onboard,

fully expecting that this crazy helium idea would blow up in everyone's face. Associated's president, Bob Rude, as he left on a crew boat, told Handelman that he'd be back in the morning to retrieve their dead bodies from the seafloor.



Bob Ratcliffe (left) and Lad Handelman (right) communicating with Kevin Lengyel as he attempts to guide a 300-foot long riser into a casing head on the bottom of the offshore oil fields near Santa Barbara, California in 1967.
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Photo taken by Jon Lindberg and featured in *National Geographic* shows Lad Handelman working at 240 feet underwater.



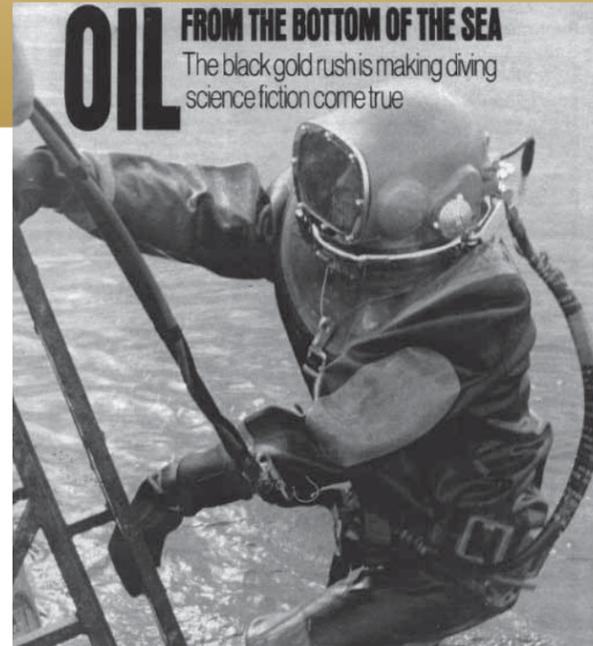
Helium diving pioneer Whitey Stefens (left) and Lad Handelman's partner in General Offshore Divers posing with Bob Ratcliffe (right) the inventor of Cal Dive's Rat Hat diving helmet.

Around midnight Dan made the first ever commercial dive on helium. He was down 42 minutes but was unable to unlatch the 30-inch riser from the wellhead so the *CUSS I* could move to a new location. Handelman's turn came next. Although scared half to death, at least he knew that Dan had not been killed. The helium gas and decompression tables had worked. Knowing this, Handelman dropped down and within 20 minutes unbolted the riser so it could be released and the *CUSS I* moved on to a new location. The helium era had begun. Associated Divers, who had rejected helium diving, was to close its doors not long after.

General Offshore's divers could work for an hour with clear heads and comfort and were able to demonstrate that comparable projects that required about forty 22-minute air dives could now be completed in about ten 60-minute helium dives. Production systems in deep water were installed without a hitch, and the industry would never look back.

General Offshore introduced more than just oxy-helium diving. For the first time, customers' demands were made to give way to new safety standards and pre-job planning. More contracts were coming in and things couldn't look better.

But the skies over the Santa Barbara Channel did not stay sunny. In 1964, storm clouds appeared in the form of a diver's worst fear – oxygen poisoning and convulsions on the bottom. Handelman and Wilson were both hit with oxygen poisoning during deep water working dives within two weeks of each other, and it looked like the party was over.



All helium diving was called off and although both men survived, General Offshore's future as an entity would not, even though it was later discovered that the cause of these accidents was not diver oxygen intolerance but instead that the company who supplied the helium gas had created the wrong mixture in the first place. Nevertheless, Wilson could never dive again. So not long after, when America's chemical giant, Union Carbide, came knocking, the partners accepted the buy-out offer and General Offshore was absorbed into the conglomerate.

Union Carbide named its new subsidiary *Ocean Systems* and orders now came directly from Union Carbide's headquarters in New York City with Wilson in charge of the operation.

Cal Dive's equipment designer, Bob Ratcliff, stands holding a red Rat Hat diving helmet. Constructed from fiberglass, the lightweight helmet included a breathing regulator mouthpiece and quickly became standard Cal Dive equipment.



On deck Cal Dive crew, led by Lad Handelman (bottom left), go over subsea work plans.

Cal Dive is born

For an independent group of ex-abalone divers, this new arrangement didn't sit well. So Handelman, his brother Gene Handelman, Ratcliffe and Lengyel resigned. After returning to abalone diving for a short stint, the four men each put up \$3,000 (just enough to have one set of surface hard hat helium equipment if a job came up) and formed California Divers, later shortened to just Cal Dive. Handelman, who was a good diver but knew nothing about business, was made President and Chief Salesman but it would be a long and hungry 18 months before Handelman would secure the new company's first paying job. It was during this stretch that Ratcliffe invented the Rat Hat, which later became one of the company's greatest assets.

With no insurance, few resources and with Union Carbide, Westinghouse and others as competitors, the four-man Cal Dive could only get jobs that no one else wanted. The partners could still make good money though by leveraging their helium know-how and equipment to supervise diving operations for other more established diving companies who had the deep work but not helium diving capabilities.



A closer view of Cal Dive's custom-designed Rat Hat.

But Cal Dive needed to get its own jobs. Having not much else to offer, Handelman would convince a client to try a Cal Dive innovative and low-cost solution which would solve their problem at a fraction of the cost of what the larger competitors were offering. Clients were impressed and a few gave them a chance to prove it. To become known but having no money for advertising, even the tiniest jobs would be put in story form and sent to any publications that needed extra copy. Soon the name Cal Dive became known and bid requests began coming in.

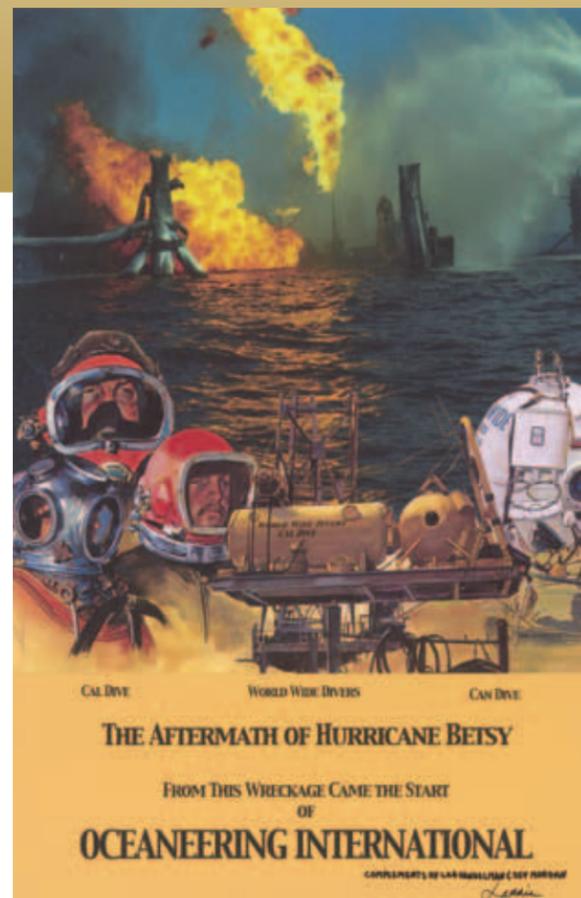
The next turn of events led to the winning of the industry's most coveted award at that time – a three-year deepwater contract for Shell Oil Company offshore Vancouver Island, Canada. It started when Handelman was contacted by Phil Nuytten from Vancouver who had his own small diving company, Industrial Divers. Phil explained that what Shell wanted was a deep diving capability to be on standby, ready to go on short notice if needed. Phil suggested that if Cal Dive, who had the helium diving, would back up Phil's local Vancouver diving group, they might have a chance. So they formed a joint venture, named it Can Dive and went after the Shell contract. *Ocean Systems*, Comex, Westinghouse and others never knew what hit them. Against all odds, Can Dive walked away with the contract.

With newfound credibility, Cal Dive was able to land contracts in Alaska, Australia and Singapore, being carried along by customers who found they could trust Cal Dive based on prior experience with the young group. At the same time, Cal Dive developed a diving bell and a barge and put on an at-sea demonstration that shocked the offshore industry. Using a technique known as bounce diving, a successful 30-minute dive was performed at 600 feet down, which at the time was a world record.

By the late 1960s, America's largest conglomerates had discovered that adding any form of oceanography to their portfolio would bode well for their stock prices. They seemed to be in a race to acquire most of the independent diving companies as fast as they could. In 1969, even little Cal Dive was approached by no fewer than three of these conglomerates including an industry leader, Santa Fe International, a highly respected offshore contractor.



Cal Dive purchased a World War II amphibious vehicle known as a DUKW for \$600 to help blast and remove the remnants of the original Summerland oil wells for the California State Lands Commission.



Commemorative poster issued following the formation of Oceaneering International and highlights the company's role in repairing damaged Gulf of Mexico production platforms following Hurricane Betsy which hit Louisiana in 1965.



Co-founders of Can Dive and Oceaneering board members Phil Nuytten (right) and Handelman (left).

Making an Industry Giant: The Formation of Oceaneering

Aside from needing larger resources to compete, internal unrest within the company was ample reason to say yes to the Santa Fe offer before the 45-day acceptance period expired.

At that moment, destiny in the form of young Harvard research assistant Matthew Simmons stepped in. Simmons asked Handelman if there wasn't a better way to move forward without selling out and giving up the company's hard fought independence. Simmons offered to raise the money for Handelman, who challenged him to prove he could before Santa Fe's offer expired. Simmons came through with the financing and the Santa Fe offer was left on the table. As a result of the new funding, Cal Dive and Can Dive combined their operations and named the company Oceaneering, a name Handelman came up with himself to better illustrate the type of work the company specialized in.

Through this pivotal deal, Simmons established a long and lasting relationship with Cal Dive and Handelman. It was this same moment that was credited by Simmons as the beginning of Simmons & Company International and its evolution into becoming one of today's largest and most prominent international investment banking firms to the energy industry.

The same year Oceaneering was formed a severe underwater blowout and subsequent oil spill off California's coast led to the banning of all new development in that state. In response, Oceaneering founded the world's first oil spill control company, SPILTROL.

Incredibly significant for the young Oceaneering was when Handelman convinced Mike Hughes and Johnny Johnson, the owners of World Wide Divers of Morgan City, to trade their stock in World Wide for shares of Oceaneering. The deal closed on New Year's Eve 1969, and Hughes assumed the role of Chairman with Handelman as President. Oceaneering, through World Wide Divers, was now an important player in the Gulf of Mexico.



An *Offshore Magazine* cover story from the 1970s highlighting the work of Oceaneering.

Oceaneering's headquarters remained on Stearns Wharf in Santa Barbara until early 1971, when one of the diving industry's most dramatic turn of events occurred. The world's largest diving contractor at the time, Divcon, was in the final hours of being sold to the next largest, and most technically advanced, subsea contractor, Comex. The two companies combining to become one could've easily squeezed out Oceaneering, so the company put forth its own offer to buy Divcon. International Utilities, Divcon's owner, scuttled its plans to sell the company to Comex and instead turned its assets over to Oceaneering.

While a sure victory for Oceaneering, the deal was also a huge gamble, for Divcon's losses were nearly three times the size of Oceaneering's total revenues. Turning the giant losses of Divcon around before Oceaneering was dragged under was the hardest undertaking of Handelman's career.

When Oceaneering righted the listing ship, it had centralized the headquarters in Houston and had operations in 24 worldwide locations, all while miraculously tripling its profits.

Oceaneering captured 70 percent of the world's drilling market, introduced new technologies such as one-atmosphere diving and the first work-class ROV. In 1972 Oceaneering also became the first offshore service company to go public on the stock exchange. Very soon profits were skyrocketing and stockholders were smiling.



One of Oceaneering's custom-designed diving bells featured in a 1970s magazine ad.



In 1975 Oceaneering International acquired the exclusive use of the atmospheric diving suit known as the JIM suit, which allowed divers to work for hours at extreme depths of 1000 feet.



Oceaneering diving bell splashing down.

Diving bells like the one pictured are commonly used to support offshore drilling operations. Frequently, when oil companies contract for the use of deep-water rigs, they also hire diving services and systems which allow divers to work on the seabed for extended periods of time. Oceaneering's diving crews are normally stationed aboard the rig during the entire operation. Our ability to perform precise and water-tight operations allows for rig operators great economic savings by minimizing rig downtime and the need to install extra equipment. This particular bell can be deployed to depths of 200 feet for maintenance of a variety of rig diving tasks.



New Cal Dive founders (from left to right): Don Terry, Don Sites, Rick Foreman and Lad Handelman. Sites and John Swinden (not pictured) had been part of the original Cal Dive in the 1960s and each eventually became Vice Presidents of Oceaneering. Foreman provided the financial know-how to the new Cal Dive while Sites took on the role of President and Handelman would serve as CEO.

The Resurrection of Cal Dive

But when oil prices collapsed and profits shrunk in the late 1970s, Oceaneering's controlling investors, the original venture capital groups, decided it was time to sell the company, cash in their stock and move on. The move to sell was predictably met with fierce resistance from Handelman, who ended up blocking the sale but not without personal consequences. In 1980, Handelman and a group of Oceaneering executives, Don Sites, John Swinden and Rick Foreman, left Oceaneering, taking the all-but-forgotten Cal Dive name with them. Don Terry, one of the Gulf's foremost diving entrepreneurs, joined in, putting his Louisiana-based International Offshore Divers into the pot. The new Cal Dive hit the ground running, was an immediate success and enjoyed three expansive and very profitable years. However

more money was needed if the company was to take it to the next level.

In 1983, Simmons & Co. entered the fray again and helped broker a deal whereby Cal Dive was acquired by Diversified Energy International (DEI), a Minnesota-based gas distribution company that by the early 1980s began making significant investments in the oil industry. With DEI's resources to back them, Cal Dive moved ahead with expansion plans, and its first step was to reconstruct two special purpose saturation diving vessels, the *Cal Diver I* and *Cal Diver II*, which were launched into service in 1984.

To take the lead in the Gulf's purpose-built saturation vessel market, the *Cal Diver I & II* had to be virtually gutted in order to take advantage of North Sea-type advancements. The conversions included

an onboard gas-reclaiming system and a moon pool cut in the center of the vessel which not only increased usable deck space but also made it possible to launch and recover the diving bell in all sorts of conditions. Other vessels without center-hole moon pools could not compete with Cal Dive when it came to working in rough seas. This advantage, along with a reputation as having the toughest dive teams in the Gulf, allowed Cal Dive to carve out a solid market niche in Gulf water depths beyond 300 feet.

Between 1980 and 1984, there was an explosion of Gulf Coast activity and by 1985 there were 42 full-service diving contractors in the Gulf. Cal Dive was going strong. Then a severe downturn in the oil and gas industry would again cast dark clouds over the entire offshore industry, including Cal Dive. To

survive this period, Cal Dive reduced staff and pulled back its foreign operations. Thus, while scores of other diving firms were closing shop for good, by focusing on its core deep diving capabilities in the Gulf of Mexico, Cal Dive weathered this industry storm.

A fateful accident would bring additional challenges to Cal Dive. In 1985, Handelman broke his neck in a skiing accident, leaving him paralyzed from the chest down. Despite his serious injuries, Handelman, traveling with a wheelchair, remained with the group as a consultant until 1990. By the time Handelman stepped down, companies that once represented 40 percent of the subsea market were out of business and only six independent diving companies, including Cal Dive, were left.



Former Cal Dive CEO Jerry Reuhl (left) and CFO Jim Nelson (right) seen during the closing process when they signed the documents to acquire Cal Dive on July 30, 1990.

New Leaders Take Cal Dive into the Future

Following Handelman's accident, DEI turned management responsibilities over to Jim Nelson who guided the company through the 1986 downturn when oil was trading at a meager \$12 a barrel. At the same time Nelson brought Cal Dive veteran Jerry Reuhl back from the company's Singapore office, which was to be shuttered, and in 1987 Reuhl became President of Cal Dive, reporting to Nelson at the parent company, DEI.

Reuhl began his career with International Offshore Divers as a shallow water diver in the Gulf and rose through the ranks to become head of the Singapore office for Cal Dive after displaying a strong business sense. Reuhl quickly earned a reputation as a trustworthy manager by both customers and other divers in the company.

In late 1989, DEI was in negotiations to be sold to another company, so the Cal Dive management team led by Reuhl, Owen Kratz and Nelson were offered the opportunity to buy Cal Dive for \$11 million and head it back out as an independent – yet again.

Merrill Lynch Interfunding loaned the company \$10 million and wound up holding a 45 percent stake in the company. The three managers each contributed \$100,000 along with \$1 million in company equity and \$300,000 in employee contributions to finance the rest of the acquisition.

At the time of the purchase in 1990, Cal Dive employees were offered the opportunity to purchase shares at \$2.50 each. Seventeen participated and all became millionaires as a result.

With Nelson on board, the company had what the other dive companies did not – a senior financial officer with significant Wall Street experience. Over the next decade or so Nelson would oversee more than 20 significant financial transactions that helped the company grow.



In the early 1990s Cal Dive's operations focused mainly on well intervention work and abandonment of defunct offshore structures and subsea installations. Around this time, when the industry referred to the Gulf as the "Dead Sea," Cal Dive management took note of how many wells with remaining reserves they were capping and realized this represented yet another business opportunity for the company.

Cal Dive first began acquiring "sunset" properties that had little to offer their original operators in terms of oil and gas reserves. Buying these properties was packaged as a service since Cal Dive would take over the abandonment liabilities which the property owner would otherwise have to bid out and then supervise the government mandated multi-stage process of abandoning subsea wells safely.

Taking this idea one step further, the Energy Resource Technology (ERT) subsidiary was established in 1992 by hiring several employees from oil company ARCO to manage its oil and gas operations. By December ERT had acquired its first property from Amoco Production Company's High Island 175 block, a shallow oil field about 25 miles off the Texas coast. Facing an estimated \$1.2 million abandonment liability, Amoco paid Cal Dive \$600,000 to take over their field – which ended up producing for another 14 months, bringing in over \$3.2 million in revenue for Cal Dive.

With the acquisition of its first offshore oil field, Cal Dive began its two-pronged business model as an oil service provider and an oil and gas producer. This new strategy allowed Cal Dive to offer its fleet of service vessels to the industry during good times, and during slow periods the vessels worked on the company's own fields.

In 1993 Cal Dive management bought out Merrill Lynch's shares of the company and the management team and employees became the sole owners of the company.

The Dynamic Position Era

In the early 1990s not much thought inside the industry was being given to the possibilities of deepwater exploration. Seeing that the most promising shallow water fields were already in production, Shell Oil was the first operator to move beyond the continental shelf.

In 1994 Cal Dive entered into discussions with the management team from Sub Sea International, a subsidiary of Halliburton, to sell the company for \$35 million. Once again Simmons intervened and told the independent-minded managers of Cal Dive that they wouldn't last a month within the rigid confines of a corporation like Halliburton. Simmons explained that all they really needed was money and so he proposed a plan that would sell 50 percent of the company to a private equity company, First Reserve Corporation, which could provide the funding for the dynamically positioned (DP) vessels Cal Dive needed to create a new deepwater capability. The deal went through as Simmons outlined and at the time it was a relatively large transaction for First Reserve now one of the largest and most significant private equity investors in the energy industry.

So with financing from First Reserve, Cal Dive bought and renovated its first DP vessel, *Witch Queen*, which vastly improved Cal Dive's capabilities to operate during winter months when seas are typically rougher. The vessel also allowed the company to reach deeper wells than ever before.

Cal Dive also chartered, and eventually bought, the DP-equipped *Balmoral Sea* support vessel and with these newly acquired vessels the company proved that DP-equipped vessels, which use side thrusters and positioning systems to remain stationary at sea, provided a significant advantage to using anchors. And perhaps equally important, it could be done economically.



The *Witch Queen* was Cal Dive's first dynamically positioned vessel and allowed the company to compete for jobs in rougher waters. Dynamic positioning uses positioning systems and thrusters to maintain a position in open sea which greatly improves the efficiency of subsea work and is now considered to be a standard technology on most oil field service vessels.



Originally constructed in 1977, the *Uncle John* was acquired and upgraded by Cal Dive International in 1996, becoming the company's first semisubmersible drilling rig.



CEO of Cal Dive (now Helix ESG)
Owen Kratz.

Cal Dive also purchased the company's first semisubmersible vessel, *Uncle John*, in 1996. Originally built in 1977, *Uncle John* was the world's first purpose designed and built semisubmersible dive support vessel. During the 1980s the vessel earned industry respect after completing numerous successful saturation diving, subsea maintenance and pipeline projects in the North Sea.

Before coming to the Gulf, *Uncle John* operated at a depth range of 450 to 1,000 feet, but upgrades made during the 1990s would extend its well intervention operational depth to 3,000 feet, subsea construction depth to 5,000 feet and ocean-bottom coring depth to 7,500 feet. *Uncle John* was the first multi-service semisubmersible to be based in the Gulf and served as the cornerstone of Cal Dive's reputation as a leading provider of the most technologically advanced assets in the region.

Also in 1996, Cal Dive acquired offshore company Aquatica Inc. which was the company's first corporate acquisition and included four shallow water dive support vessels.

During the peak of the company's growth in 1997, Owen Kratz succeeded Reuhl as CEO. Kratz began his career with Cal Dive in 1984 as a saturation diver in the North Sea and served as the COO and Executive Vice President of the company for several years prior to ascending to CEO. Before joining the company, he owned his own marine construction company in the Bay of Campeche and was a superintendent with Santa Fe and other diving companies.

Kratz was recognized by Cal Dive management early on for his intelligence, strategic vision and his unending work ethic. With Kratz directing virtually every project, Cal Dive performed over 300 turnkey projects between 1900 and 1997 and lost money on only one.

At this time one of the largest worldwide subsea contractors, Coflexip Stenna Offshore, purchased a 24 percent ownership position in Cal Dive and the credibility which they provided to the company enabled it to go public in July of 1997.

After the stock was listed on the NASDAQ exchange in New York, Cal Dive was able to raise \$39.4 million to help pay down debt and had more cash to buy interests in offshore blocks in the Gulf.

By 1998 revenues soared to \$151.9 million and net income to \$24.1 million, but another recession was on the horizon and the entire oil and gas industry would be affected. Cal Dive was able to book record revenues in spite of a sharp increase in competition due to the economic conditions of the time. Despite facing a 30 percent profit decline, the decision was made to move forward with an aggressive investment scheme that would use \$450 million on the enhancement and acquirement of deepwater assets and another \$300 million on oil and gas properties.

The end of the 1990s was a distressing period for the oil field, but Cal Dive's position proved to be the exception as the plan to offer both contracting services and develop its own oil and gas fields was paying off.

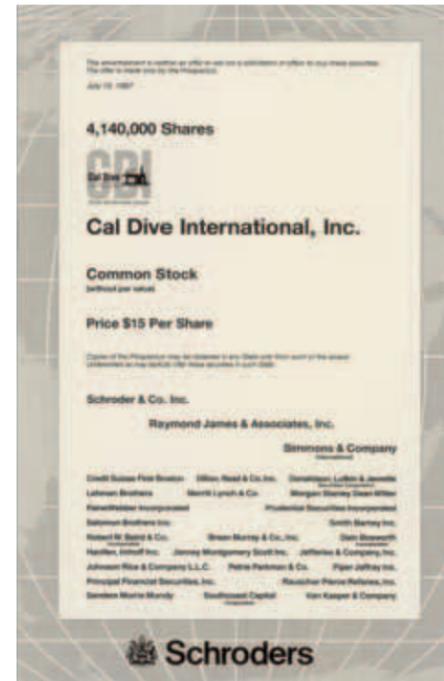
By 2000, demand for offshore work was still slumping but oil prices were on the upswing and Cal Dive was able to earn more than \$181 million in revenue and a net income of \$23.3 million.

In contrast, Cal Dive's competitors drove rates down lower and lower as they all attempted to keep their vessels working during the slowdown. In the end, every contracting company in the Gulf posted a loss in 2000 – except for Cal Dive.

The company's unique dual business model also helped ride out a tumultuous 2001. High oil prices prevailed for the early part of the year and demand for contracting work in the Gulf was so high that every rig was fully booked.

The second half of the year would bring with it tumbling oil prices and leave more than a third of Gulf rigs out of work. Then the unforgettable attacks on the World Trade Center in New York and the Pentagon in Washington, D.C., pushed an already weak U.S. economy into the freezer for the next couple of years.

Nevertheless, Cal Dive prevailed and set a new revenue record of more than \$200 million in 2001, increased its net income and added three additional utility vessels to its fleet with the purchase of Professional Divers of New Orleans for \$11.5 million.



The first issuance of Cal Dive International stock.



The Q4000 in the Gulf of Mexico.



The launching of one of the Q4000's pontoons in the Brownsville, Texas shipyard.



A Canyon Offshore ROV being pulled from the sea. ROVs play an ever increasing role in offshore oil field development by going to depths where divers can't.

By the next year the company was celebrating the launching of the world's first deepsea intervention and construction vessel, the Q4000. The Q4000's capabilities would eclipse the company's previous flagship, *Uncle John*, and become the first vessel to complete construction work in water as deep as 10,000 feet.

Projects once limited by the maximum depth divers could reach were now made possible with the use of ROVs. With only three of the underwater robots, two on the *Uncle John* and one on the Q4000, the acquisition of ROV service company Canyon Offshore moved Cal Dive into the future of deepwater services. The two companies had come together after a long history of partnership; Cal Dive was Canyon's first customer in 1997.

Later in 2002 Cal Dive grew the company even more with the purchase of North Sea-based Subsea Well Operations for \$68.6 million. The Subsea Well Operations business unit added two sophisticated trenching ROVs to Cal Dive's ranks along with the *Seawell*, a 368-foot dive support vessel. The *Seawell* is credited by the offshore industry as pioneering well intervention services which are used for a number of different reasons, but primarily to increase oil and gas production from aging or low-performing subsea wells.

Further bolstering Cal Dive's oil and gas property was a transaction with Kerr-McGee regarding the offshore Gunnison field. For several years Cal Dive approached several large independent oil and gas companies with the proposition to take on an interest in the production of the field in exchange for completing the subsea work necessary to bring the field online.

Kerr-McGee agreed to this deal and Cal Dive was given a 20 percent working interest in the drilling of a wild cat well that was initially given a low chance for success. When financial partners opted not to fund the \$20 million dry hole risk,

Kratz himself provided the necessary funding. Instead of being a bust, the field was deemed a major find when production began in 2003 and the management team decided to distribute 40 percent of the net proceeds to key Cal Dive employees who were recognized for their past performance with the company.

In early 2004 Cal Dive made a groundbreaking decision to own 50 percent of the Marco Polo, a tension-leg platform, and construct the offshore production facility with Enterprise Products Partners, an oil and gas transportation and storage company in the Gulf. When it was installed the Marco Polo became the world's deepest tension-leg platform.

Hurricane Ivan entered the Gulf as a category four hurricane in September 2004 and its wake of destruction left Cal Dive more than a year's worth of repair, inspection and salvage work to complete on damaged and destroyed oil platforms. Less than a year later in 2005 two much more powerful storms, Hurricanes Katrina and Rita, hit the Gulf Coast less than a month apart and ravaged offshore oil fields, leaving even more work for Cal Dive's subsea construction teams to complete.

While busy getting the Gulf back to normal, Cal Dive also managed to double its oil and gas reserves with the purchase of 19 mature Gulf shelf properties from Murphy Oil for \$200 million and another four fields earlier in the year.

In 2005 Cal Dive increased the size of its Gulf deepwater and pipelay business by acquiring \$210 million in assets, including 15 vessels and two portable saturation diving systems, from Torch Offshore and Acergy USA. The company also used \$32.7 million to buy Scottish-based reservoir and well technology service company Helix Energy.

Multi-service vessel *Seawell*



The Gunnison Truss Spar oil platform is located in the Gulf of Mexico. In exchange for a working interest in the production of the offshore field, Cal Dive International constructed much of the subsea infrastructure for the project in 2004.



Helix ESG's *Intrepid* installing subsea equipment at the Marco Polo tension-leg platform in the Gulf of Mexico.

Helix board members and CEO Owen Kratz (center) ring the bell at Wall St. as the newly renamed Helix Energy Solutions Group is placed on the New York Stock Exchange.

While considered a relatively modest acquisition, Helix RDS's enduring legacy to the company is its name. In 2006 the decision was made to change the corporate name to Helix ESG to better reflect the company's double-stranded business model of offshore service contracting and offshore energy production. The company also moved its stock listing from NASDAQ to the New York Stock Exchange under its new ticker symbol HLX.



Helix Spool Base Terminal at Ingleside, Texas, completed in 2009. Located 15 miles east of Corpus Christi, Texas, the expansive 120-acre spoolbase and fabrication facility serves Helix ESG's pipelay and deepwater vessels such as the *Express* and *Intrepid*.

2006 and Beyond: The Forming of Helix Energy Solutions Group

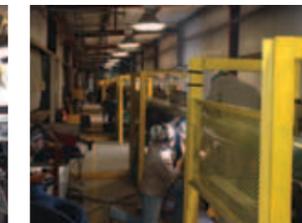
In 2006 the decision to change the corporate name to Helix Energy Solutions Group was made to better reflect the company's double-stranded business model of offshore service contracting and offshore energy production. The company also moved its stock listing from NASDAQ to the New York Stock Exchange under the ticker symbol HLX.

The name Cal Dive would live on as Helix ESG's Gulf contracting subsidiary, but by the end of the year the company would sell off a stake in Cal Dive and would continue to sell off the majority of its shares over the next few years.

Helix ESG also began several capital spending projects in 2006 to greatly expand its contracting service capabilities, including modifying the *Q4000* to include drilling capabilities, the conversion of the *Caesar* into a deepwater pipelay vessel, converting a train ferry into the dynamically positioned floating production unit *Helix Producer I*, and construction of a multi-service dive support and well intervention vessel, *Well Enhancer*.



Port Arthur spoolbase after Hurricane Ike passed. Despite the utter destruction of the facility, no interruptions in pipelay work occurred and a search for a new spoolbase, capable of handling larger vessels, was already underway before the storm hit.



Helix ESG's original spoolbase in Port Arthur, Texas, before Hurricane Ike struck on September 13, 2008.

The *Helix Producer I* was to be used at the Typhoon field where the year before a tension-leg platform by the same name and owned by Chevron and others was upended as Hurricane Rita passed over it, sending debris raining down to the seafloor below. Following the storm the platform was found almost 60 miles from where it was originally moored.

Helix ESG realized it had a solution to get the Typhoon field producing again and approached the operators, Chevron and its partners BHP Billiton and Noble Energy, to purchase the property in 2006.

Helix ESG renamed the field Phoenix and set about plans to return it to production. The seabed debris field was removed, and flowlines from the platform were carefully recovered to ensure that any oil that might have remained in the lines was not spilled.

In 2008 Helix ESG reaffirmed that it had the finest well intervention fleet in the world when it launched the truly state-of-the-art light well intervention vessel, *Well Enhancer*, in the North Sea. Based on lessons learned from the *Seawell*, the *Well Enhancer* represented the next generation of all-weather well intervention mono-hull vessels and serves the North Sea region where well intervention is in high demand because of the mature state of the region's offshore oil fields.

Meanwhile, construction of *Helix Producer I* Floating Production Unit, which would restore production to the field, was ongoing. The *Helix Producer I* is a ship-shaped vessel designed to serve the role of a traditional fixed platform. Her hull design and quick-disconnect system allow the vessel to move out of the path of a future storm, rather than endure its effects on site. This highly mobile layout also made *Helix Producer I* economical to deploy on mature fields with limited remaining productive life.

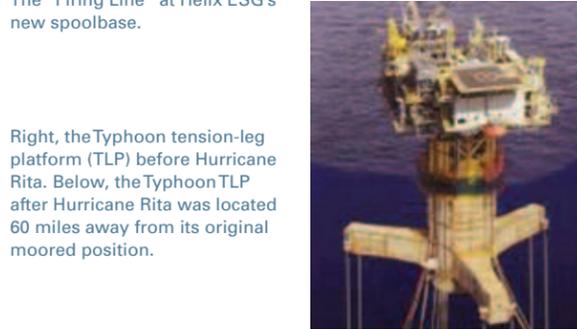
Halfway through 2006 the company bolstered its production business by buying up Dallas-based Remington Oil and Gas for \$1.4 billion. The deal doubled Helix ESG's oil and gas production capabilities and gained the company extensive 3-D seismic data covering 4,000 blocks of gas and oil fields in the Gulf. That winter, Martin Ferron succeeded Kratz as company CEO after 10 years of service to the company including his roles as President and Chief Operating Officer. In 2006 Helix ESG's revenues surpassed a billion dollars for the first time in the company's history.



Flexible steel pipeline at the Ingleside spoolbase.



The "Firing Line" at Helix ESG's new spoolbase.



Right, the Typhoon tension-leg platform (TLP) before Hurricane Rita. Below, the Typhoon TLP after Hurricane Rita was located 60 miles away from its original moored position.



The *Helix Producer I* is the first floating production unit to be used in the Gulf of Mexico and played a critical role in containing escaping oil from the subsea blowout that occurred off the Louisiana coast on April 20, 2010.



The well intervention and saturation diving vessel *Well Enhancer*.



Helix ESG also partnered with Enterprise Field Services in 2007 to help develop the groundbreaking Independence Hub project. The project was initiated to allow five independent companies, including Helix ESG with a 20 percent share of the floating facility, to produce multiple gas fields over an 1,800 square mile area in the Gulf. Without such cooperation between the various partner companies most of the deepwater gas fields would otherwise be unprofitable.

Helix ESG's vessel *Express* laid much of the pipeline network for the Independence Hub which is the world's deepest production platform at 8,000 feet and is also the world's largest offshore gas processing facility, capable of handling up to a billion cubic feet of gas a day.



Reel lay vessel *Express*

In early 2008 Ferron resigned from Helix ESG after serving as CEO and director of the board for a year and a half. Kratz, who was still serving as the company's chairman of the board, would return to the helm of the organization.

At the end of 2008 Helix ESG announced that it would be transforming its business model to focus on its core deepwater contracting services and offshore production facilities. This meant that Cal Dive would be phased out of the company, and by 2009 Helix ESG had reduced its holdings of Cal Dive stock to under one percent. Helix ESG also began the process to sell its oil and gas business with the goal of reorganizing the company to be more focused on the growing deepwater market, all while maintaining a conservative balance sheet.

In December 2009 Helix ESG welcomed its new deepwater pipelay vessel, *Caesar*, into its Gulf fleet. *Caesar* is capable of laying large diameter pipelines in shallow water and smaller diameter pipeline in deepwater. The vessel's cutting-edge onboard pipeline manufacturing facility virtually eliminates the need for onshore assembly infrastructure, making it a cost-effective option for projects in remote areas.

In the summer of 2010 Helix ESG took on perhaps its most important assignment ever as it sent its Gulf fleet to help put an end to the worst oil spill in U.S. history.



Adding a second pipe reel to the *Express*.



Standing above nearly 8,000 feet of water, the Independence Hub is the deepest production facility in the world.



A U.S. Coast Guard photo shows multiple vessels attempting to extinguish the intense fire on board Transocean's *Deepwater Horizon* rig before it sank to the bottom of the Gulf of Mexico. The raging fire was the result of a violent subsea well blowout on the sea floor. It took an unprecedented industry effort, including major contributions from Helix ESG, to stop the uncontrolled flow of oil into the sea.

Deepwater Horizon Disaster

Helix ESG Responds Like No One Else

On April 20, 2010, an underwater well blowout at British Petroleum's Macondo oil field in the Gulf caused an explosion on board the semisubmersible drilling rig *Deepwater Horizon*, claiming the lives of eleven workers and causing the largest oil spill in U.S. history.

Helix ESG's *Q4000* semisubmersible intervention vessel was quickly called in to assist in the response operation. Located fewer than 30 miles from the Macondo site at the time of the blowout, the *Q4000* needed only to sail in the direction of the towering fireball to know where to go.

The *Q4000* and her crew played critical roles in the industry's response to the spill, spending the next 135 days directly above the damaged blowout preventer (BOP) as several different attempts of capping and containing the well were made. Containment domes were placed over the blowout preventer, and heavy drilling mud was pumped into the BOP in an attempt to stop the flow of oil and gas from the well.

Helix ESG's *Express* and *Helix Producer I* vessels also participated in spill response and containment operations as two drillships owned by drilling contractor Transocean, also the owner of the ill-fated *Deepwater Horizon*, worked around the clock to complete two relief wells that would be used to intersect the well bore and plug it permanently with cement.

On July 15, nearly three months after the blowout occurred, the *Q4000* assisted in removing the damaged riser and drill pipe from the BOP and installed a capping system, diverting the flow of oil



Helix ESG's pipelay vessel *Caesar*.

and gas to the surface so that the *Q4000* and Transocean's drillship, *Discoverer Enterprise*, could safely capture the escaping hydrocarbons.

Following the capture operation, the *Q4000* played a key role in a successful "static kill" procedure where 32,000 barrels of specially engineered mud and cement were pumped from the *Q4000* directly into

the well at high pressure and sealed the leak for the first time.

After one of the relief wells was completed and used to permanently plug the well below the seafloor, the *Q4000* raised the BOP to her deck and readied it for transport to a U.S. government facility for

forensic inspection.

At the outset of the Macondo spill response, Kratz immediately recognized the industry's need for a pre-engineered spill solution. So Kratz and Helix ESG engineers began work on the Helix Fast Response System (HFRS), which built upon the tools and techniques Helix ESG developed for the Macondo response and



The *Q4000* is seen burning off excess gas and oil during spill containment operations at the spill response site with numerous other support vessels, including Helix ESG's *Express* and *Intrepid*.

applied them to a program that could respond to a future spill within days, not weeks.

The *Q4000* and *Helix Producer I* were modified and subsea components were procured to create a spill response plan to capture up to 55,000 barrels of oil per day in

water depths to 8,000 feet. Kratz signed more than 20 independent Gulf exploration and production companies as partners of the Helix Well Containment Group, and the HFRS was officially launched as a response to the U.S. Department of Interior's requirement that a spill containment plan be in place before drilling could resume.

In January 2011, Anadarko, Marathon and others included

the HFRS in their permit applications, certifying that Helix ESG would be ready to respond with a proven system in the event of a future spill. By March the first three permits allowing oil companies to begin drilling in the Gulf had been issued using the HFRS as a containment plan.

The need to provide such a system was underscored by the prohibitive high cost of the alternative billion dollar program developed by the major international oil companies in the weeks

following the blowout. Representing nearly 70 percent of the Gulf's exploration and production capacity, independent oil companies needed an affordable solution. While the resulting drilling moratorium significantly affected the bottom line for virtually every company in the Gulf dependent on oil and gas for work, Helix ESG was one of the few actively working to

bring business back to normal. And while business did suffer, Helix ESG was still the world leader in well intervention and had one of the finest ROV units in the industry. The 2000s delivered both the best of times and the worst of times for the oil industry but because of Helix ESG's ever evolving business model and forward-looking leadership, the company remains



The Q4000's 600-metric ton-rated derrick is seen hoisting the blowout (the two-story yellow object preventer) that failed to activate. The 300-ton BOP was placed on the Q4000's deck on September 4, 2010, and was transported to a federal facility in Louisiana to be examined.



Looking much like a BOP, the Intervention Riser System (IRS) (left) is a tool used in Helix ESG's well intervention work and is a crucial element to the Helix Fast Response System. The well cap (right) can be fitted onto a damaged BOP below the surface, and if the pressure of flowing oil or gas isn't too great, the well cap can contain the well. Able to function well over a mile below the surface, the IRS will be attached to the well cap in the event an uncontrolled well's pressure is too great to be stopped. Then oil or gas can safely be delivered to surface vessels for storage and offloading.



positioned as one of the world's leading specialists in deepwater oil production solutions. No other marine contractor has had such a series of unwavering leaders like Handelman, Reuhl and Kratz who all earned reputations as being top oil field divers and later as premier businessmen in the energy industry. These leaders all shared unique qualities that allowed them to boldly step out from others and set new and higher industry standards. The credibility and success of Helix ESG has also been hard earned by the employees who work all over the world, onshore and offshore, to meet the world's ever growing energy demands. Looking forward into the next 50 years, Helix ESG is poised to continue making the kinds of decisions that pave the way for the rest of the industry.



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