



House magazine
of Mammoet
Transport B.V.

**MAMMOET IN
OFFSHORE**

**NYLON FACTORY FOR
SINGAPORE**

**THE M1200R: A
RISING SUCCESS**

**MAMMOET SHIPPING
GOES "GRACHT"**



Mammoet in offshore

Last year Norway has been the focal point for Mammoet's offshore-related heavy transport activities. On the isle of Stord at the Aker Werft, the Troll East gas platform is getting shape in an overwhelming structure of 22,500 tonnes of aluminium and steel. Mammoet Transport Norge was involved in the transportation, lifting and skidding works of living quarters and production drilling rigs. Furthermore, a record load-out at Håugesund Mekaniske Verksted features for the Heidrun oil-platform.



Smit Transformatoren: The power company

The newly obtained stock-market listing has proved quite successful for Smit Transformatoren in Nijmegen, The Netherlands. Shareholders were confident that the renowned independent manufacturer of large power transformers will show a steady growth as an established supplier in the international market. The transportation of these transformers is part of Smit's logistics and important to the company's reputation.



Mammoet Shipping and Spliethoff join forces

Mammoet Shipping in Hoofddorp and Spliethoff's Bevrachtingkantoor in Amsterdam will tune their commercial and operational activities from 1 January 1995 onwards. The companies intend to synchronise their break bulk and heavy lift ocean transportation so that they will be able to offer a more complete service in the international market for the sea transportation of construction material and project cargoes.



Nylon factory for Singapore

In a truly integrated Mammoet transport and shipping operation, a modular built Nylon plant was moved for Fluor Daniel from Batangas in the Philippines to Pulau Sakra, an artificial island 5 km South of Singapore. The plant was built in 18 modules which were moved in a close-knit operation between Mammoet Stoof for the land leg, Mammoet Shipping for the ocean-going part and Walter Wright Mammoet for barging, landtransport, lifting and installation.



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Funnel or Chunnel

The newly commissioned channel-crossing has ended the "splendid isolation" of an island. Despite the hiccups during the construction and all the negative publicity, the Chunnel is simply a new possibility to cross the Channel and is there to stay. Mammoet Ferry Transport's trailers took the test and Mammoet Mail interviewed the Freight Directors of Eurotunnel and P&O European Ferries for the pros and cons.



The M1200R: A rising succes

Mammoet's newly developed ultimate lifting device, the M1200 Ringer crane, surpasses all expectations. At Jebel Ali, an industrial estate near Dubai in the U.A.E., an inaugural lifting job took place by the erection and positioning of a 750 tonne deisobutaniser column, which had been shipped earlier from Jubail in Saudi Arabia. Two sister-crane are at this moment engaged in lifting projects in Thailand and Malaysia and in Australia.



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For the newbuilding of the head office of Credit Lyonnais in Rotterdam (The Netherlands) Mammoet Stool's 500 tonne telescope crane positioned parts of an overhead superstructure.



The troll is a well-known creature in Norwegian folk tales. The modern Troll, however, can be found on the Norwegian Continental Shelf in the North Sea. A/S Norske Shell discovered Troll in 1979 and has been the field's development operator. When gas starts flowing from Troll

in October 1996, the energy provided in just three production seconds will be enough to meet the annual lighting and heating requirements of an average Norwegian home. Earlier this year Mammoet Transport was involved in the transportation, lifting and skidding of the living quarters and the drilling modules on to the deck of the Troll gas platform, which platform, when completed, will be the tallest concrete structure ever made.

The tale of the modern Troll





With the concrete work on the base of the Troll East gas platform now finished, events are accelerating towards the mating of this support structure with the 22,500 tonne deck which it will carry. With a tow-out displacement of close to 1.1 million tonnes when ballast is included, Troll East will be the biggest concrete structure ever to have moved on the face of the earth — surpassed only by icebergs. Without ballast, the concrete platform still weighs 650,000t. Troll is the world's tallest concrete structure. With 430 metres (to the highest point on deck) it will stand one and a half times as tall as the Eiffeltower.

The drilling concept of the Troll platform, billed as 'the most advanced in the world', includes mechanised pipe-handling and remote controlled drilling operations. "There will be no personnel on the drilling floor or in the mast during normal drilling and casing operations. Large-scale accommodation will be needed only during the offshore installation and drilling period", says Ian R. Hill who is Head of Topsides Construction of A/S Norske Shell at the Akerwerft in Stord, Norway where the integrated deck for the Troll platform is under construction. The living quarters and the drilling modules for

the platform were transported and lifted by Mammoet Transport. Many technical challenges had to be overcome before gas can flow from Troll. The field lies under more than 300 metres of water and the platform will have to withstand the harsh weather conditions of the North Sea fields. Hill: "The platform will stand in a very exposed area. The sea is very severe at this spot. Waves can reach heights of up to 30 metres and sea currents are strong. Field installations therefore had to be designed and constructed to endure extreme environmental conditions throughout their lifetime."

The installation and final commissioning of the platform will commence in May 1995 under the best possible weather conditions. Hill: "However, before this, the mating of the topside with the Gravity Base Structure will be carried out in a protected deep-water fjord location." According to Hill the operation is nothing new. Still, he admits that it will be a highlight for him after more than three years on the project. "It will be very dramatic to see the concrete structure rise gradually to be joined with the complete topside."



Once the platform has been installed, the pipelaying contractor will have to work through next Summer on the trunk lines to the onshore processing plant at Kollsnes. The submarine pipes will have atypical connections at both ends. At the platform they will be pulled in through novel seal-tubes and at the coastal end the lines run through a tunnel beneath the excessively rugged seabed for the last 3.6km inshore. Tunnelling operations reached their climax in February and March when the 6m thick roofs of the shafts at the tunnel ends where blasted to break through the seabed 170 metres below sea level. With the end-sections of the tunnels sealed off, explosives were detonated and debris dropped into a slump. Then, contractor Rockwater could land a precast concrete plug with attached risers onto the receiving rings that were already in place in the shaft.

From the Troll platform 39 production wells and one observation well will be drilled within 500 metres around the platform. Each well is capable of producing 3.4 million cubic metres of gas per day. Under normal production circumstances, the daily rate will be limited to 2.8 million cubic metres. It is of strategic importance to distribute the Troll gas by separate pipeline systems to guarantee improved flexibility and stability in the deliveries. The capacity of the existing gas pipeline system from the Norwegian continental shelf to the European markets needs to be expanded considerably to handle production from Troll and from Sleipner, a neighbouring gas field. A 40" pipeline will run from the Sleipner platform to Zeebrugge, and one 30" pipeline will link Sleipner to the Statpipe/Norpipe system at riser platform 16/11-5 (Zeepipe Phase I). Two new pipelines will be laid from Oygarden to Sleipner and the Frigg/Heimdal-area (Zeepipe phase II) respectively. The gas from Troll can therefore be transported by separate pipeline systems: Norpipe to Emden, Zeepipe (via Sleipner) to Zeebrugge, or Europepipe to Emden.

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The tale of the r



High Tech SPMTs

For the builder of the Troll-platform, Aker Stord, Mammoet Transport arranged and carried out the transportation and positioning of a number of modules on the upper deck. With the Dutch company's Self-Propelled Modular Transporters all three accommodation and drilling modules were collected from various locations in Norway and delivered to Stord. Because of the SPMT's manoeuvrability and the limited space they require, they have often before been used for the transportation of modules on construction sites in the Norwegian offshore market.



THE HYDRA-JACK SYSTEM

The Hydra-Jack system contains one or more hydraulic lifting units mounted on top of a portal structure. The heart of the system, the Hydra-Jack, has a lifting capacity of 650 tonnes per element. With eight units available, the system can handle loads of up to 5,200 tonnes.

The hoisting-wire is built-up of separate high-tensile links which are screwed together at widened collar sections. Dependent on the specific conditions of the individual job, the lifting units can be installed in many different configurations. The average lifting and lowering speed is four metres per hour. The coupled lifting elements move through a hollow hydraulic jack. Two pairs of shims provide the necessary grip for moving and fixing the lifting elements during the operation.

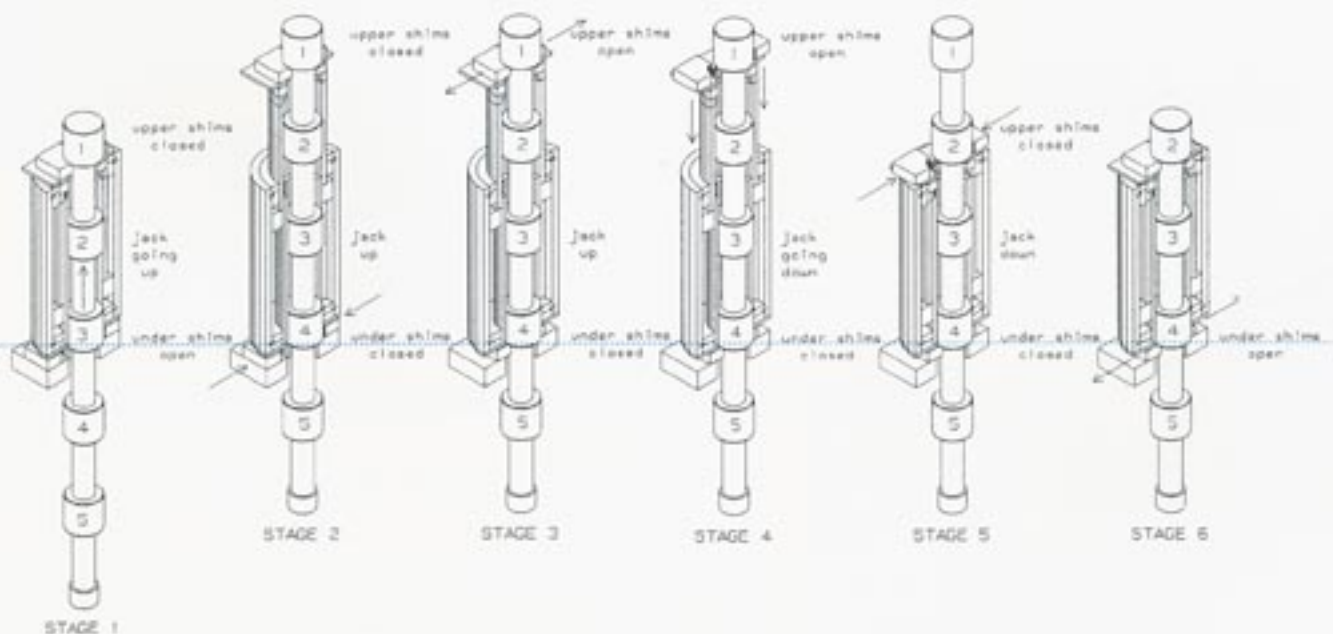
The upper-shims are located on top of the jack. When they are closed and the jack goes up, these shims take the full load and move up the length of the ram stroke, which is 90 centimetres.

The under-shims are at the bottom of the fixed part of the jack. They close when the jack is in its highest position. The jack is lowered a little until the full load rests on the closed under-shims. Then, the upper-shims open and the jack is lowered. The upper-shims close again and take over the load from the under-shims. One by one the lifting elements are conducted through the hollow jack. In a lowering operation the opposite sequence applies.

The safe working-load of a high-tensile link is 650 tonnes per element and the breakload is more than double. The collars form a ledge under which the shims lock, providing a fail-safe grip even if hydraulic circuits are depressurised. The whole Hydra-Jack is operated from one control panel and equipped with a hydraulic safety system.

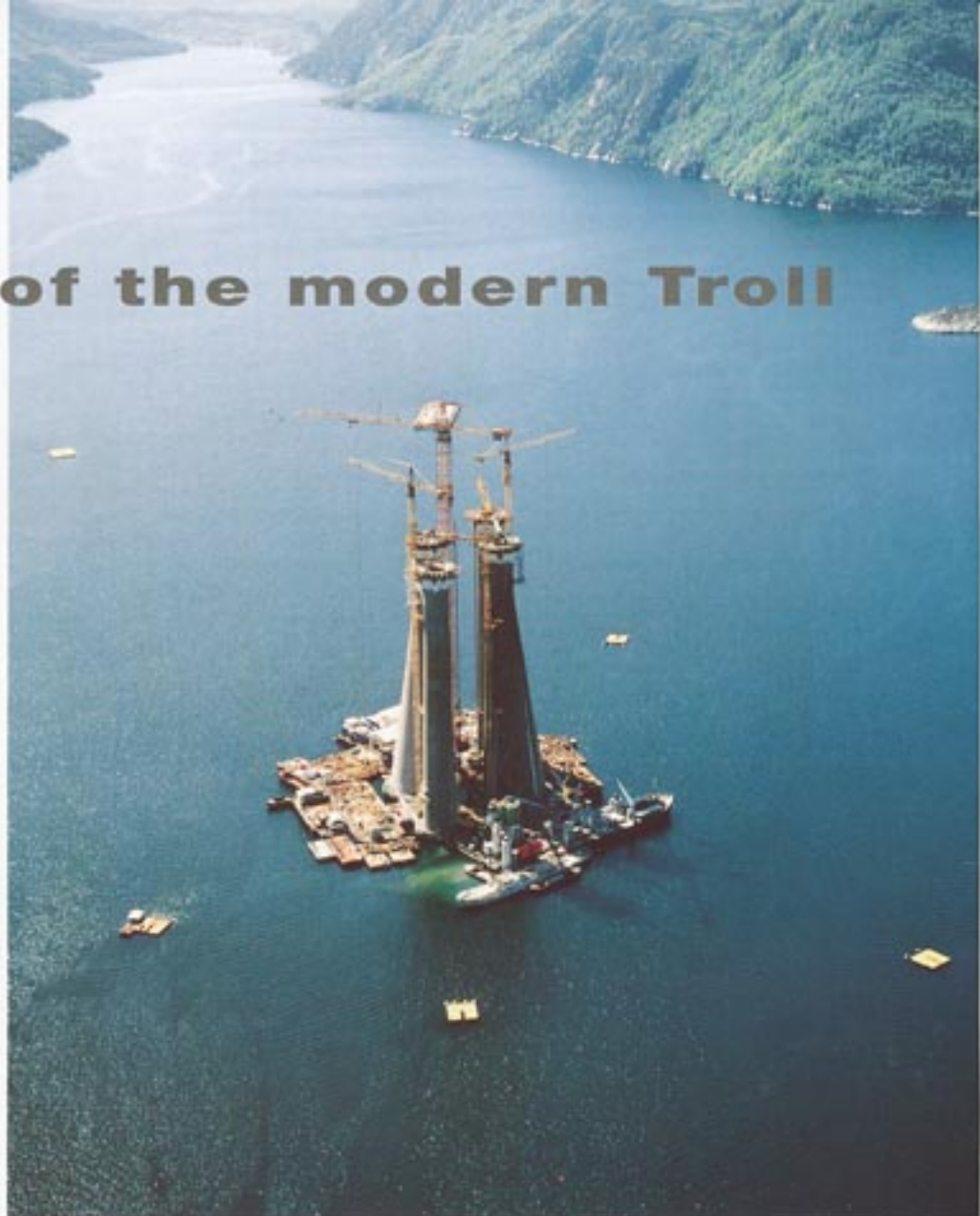


modern Troll



The tale of the modern Troll

The platform's substructure is made of concrete. It has four legs rising from a large cellular base, supporting an integrated steel deck. The platform's function is to produce gas from the field and send it through pipelines to shore. Most of the equipment required to treat the gas and the export compressors will be located onshore. This simplifies the platform equipment, reduces manning requirements and thus increases safety. The deck will weigh approximately 22,500 tonnes, as compared to 40,000 tonnes for a full processing deck. Aker Stord was awarded the contract for construction of the integrated platform deck in June 1992; the fabrication is to be completed by end December 1994.



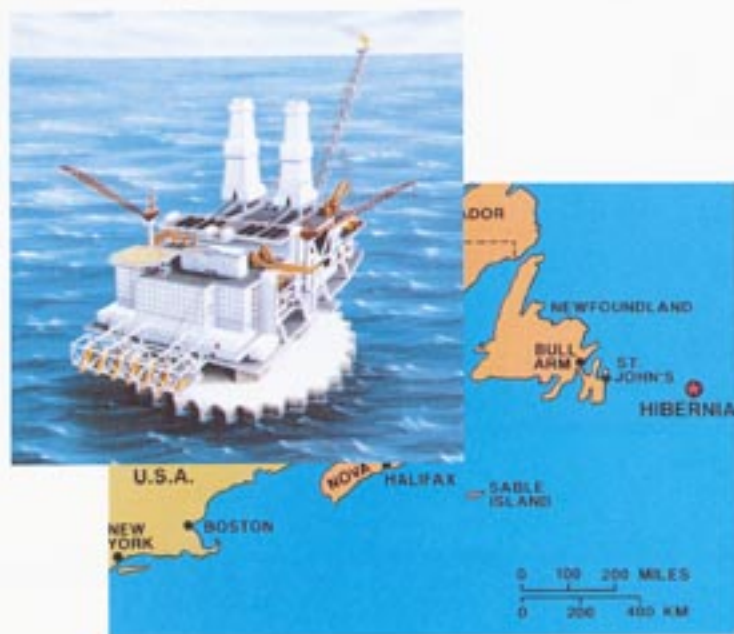
The Troll field is important to both Norway and Europe. Recoverable gas reserves of 1250 billion cubic metres make it the tenth-largest gas field in the world. Troll alone accounts for one third of the total gas resources discovered on the Norwegian continental shelf. The contracts include gas deliveries from Troll and Sleipner and have a maximum volume of approximately 650 billion cubic metres of gas. Receiving countries and buying companies are The Netherlands (Gasunie), Belgium (Distrigaz), Germany (Thyssengas/Ruhrigas/BEB), Austria (Ferngas), France (Gaz de France) and Spain (Enagas). The first gas deliveries under these contracts have started in 1993 from Sleipner and will be followed by deliveries from Troll in October 1996.

For the lifting operation of the modules for the topside of the Troll platform Mammoet used its hydraulic Hydra-Jack system. Placed on two beams the module was lifted 28 metres, after which it was skidded

sideways by the Mammoet push and pull system until it was on top of the production deck. Mammoet has been developing their own unique hydraulic systems to lift and position ultra heavy loads. "We use the Hydra-Jack mainly for heavy vessels upwards from 1,000 tonnes in places where there is little space," says Ton Raemakers. The system often turns out to be a good alternative for the large lattice-boom cranes. That was also the case with the modules for the Troll platform. Raemakers: "The weight of the modules was such that there were only two suitable mast cranes available in the market. Since planning and mobilising mast cranes is an extremely costly business, the eventual choice was the Hydra-Jack system. The aspect that makes the Stord project unique was the combination of transportation, lifting and skidding. With the combination of the High Tech SPMTs, the Hydra-Jack system as well as climbing jacks on four metre high cribbing, we were able to offer a competitive and technically excellent method."

Record load-out in Norway

An 11,000 tonne offshore module was loaded-out at Haugesund Mekaniske Verksted in Haugesund, Norway on 1496 wheels. The module with the code-name M30 had been built for operator Conoco within 18 months and was the heaviest load ever moved on wheels in Norway. Mammoet Transport Norge A/S started the load-out operation by moving the structure on SPMTs (High Tech trailers) from the construction hall to the quay. Thereafter, the process module was transferred onto an ocean-going barge in a ro-ro operation. Ballast pumps were used to keep the barge level to the quay during the various stages and the complete movement took two days. An additional utility module with a similar weight had been built in the U.K. and shipped to Stavanger. The final mating of the modules on to a floating concrete oil-production platform took place in August. The Heidrun platform is planned to start production on 1 August 1995.



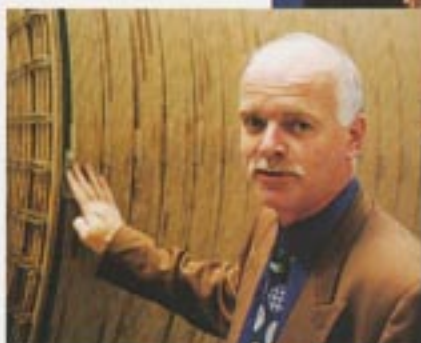
Hibernia oil project

In Spring 1995 Mammoet will start a major transport project in Newfoundland, Canada concerning the assembly of the topside modules for the Hibernia oil production platform. These modules and other topside-mounted structures are being constructed at various locations in Korea, Italy and Canada. They will be shipped to the Great Mosquito Cove Assembly pier in Bull Arm in Newfoundland, where Mammoet's high tech self-propelled modular transporters will take care of the load-in and positioning onto the platform. In a future issue of Mammoet Mail you will find more about this interesting project.

Mammoet on oilshow in Stavanger

At the end of August, Mammoet was present with a stand on the Offshore Northern Seas (ONS) conference and exhibition in Stavanger. ONS is organised every other August and has become an important marketplace and forum for the international offshore industry — a key to an expanding market for petroleum-related technology and services in the Northern hemisphere. From a modest start in 1974, with 7,500 square metres of exhibition space and 9,000 visitors, this show has grown in step with operations in the North Sea and beyond. The 1994 expo covered just under 20,000 square metres of net exhibition space and welcomed some 30,000 visitors. Mammoet has been a participant in ONS from the beginning.





Smit Transformator

Dutch company Smit Transformatoren has the order to manufacture transformers for a hydra-power station at Niagara Falls. Smit is one of the leading companies in the field of transformer fabrication. First part of a new series of portraits of clients.

On the work-floor of Smit Transformatoren in Nijmegen, The Netherlands, the atmosphere is quiet like a dream. In stead of the drum of heavy machinery, there is an almost serene peace in the large clean space. In various places in the factory people meticulously work on smaller and larger modules. Smit aims for the production of small distribution transformers and large power transformers as used for distribution and power stations. "A transformer is nothing more than a soft iron core with copper windings placed in a tub of oil," explains General Manager of Smit Geert van der Vos. Later on, in his office next to the factory hall, he clarifies the function of Smit's products. "A transformer is an indispensable part of the electricity network. A transformer converts electricity to a certain voltage level for transmission and distribution to the end-user. At the beginning of the power chain stands the generator transformer, at the end the transformer mini sub, which distributes electricity to the houses in the residential areas.

Smit has been specialised in the production of transformers for more than eighty years. In 1913 Willem Smit founded a transformer factory in Nijmegen in addition to his electrical light factory from 1882 in Slikkerveer. In 1969 Smit joined Hazemeyer, Heemaf en Coq and they became the Holec-group. Holec in its turn was taken up in the Begemann Groep in 1989. In the anniversary-year 1993 Smit was given the opportunity to stand on its own. Since early 1994 Smit Transformatoren has been an independent company in which management and staff own a twenty per cent participation. The company went to the Stock Exchange in October. Van der Vos: "Now that we are quoted in the Amsterdam Stock Exchange, we have easier access to the capital-market to finance our expansion plans."

One of the company's plans to grow is realised in the newly-founded branch in the U.S.A. To strengthen their market share in the United States, Smit started a company in the state of South-Carolina besides the main production centre in Nijmegen. In a market that had seen giants like General Electric and Westinghouse step back, Smit was offered a well-equipped service and maintenance workshop for large power transformers by Westinghouse, who wanted to withdraw from building large transformers. Meanwhile, Smit has rebuilt the American settlement to a production-centre.



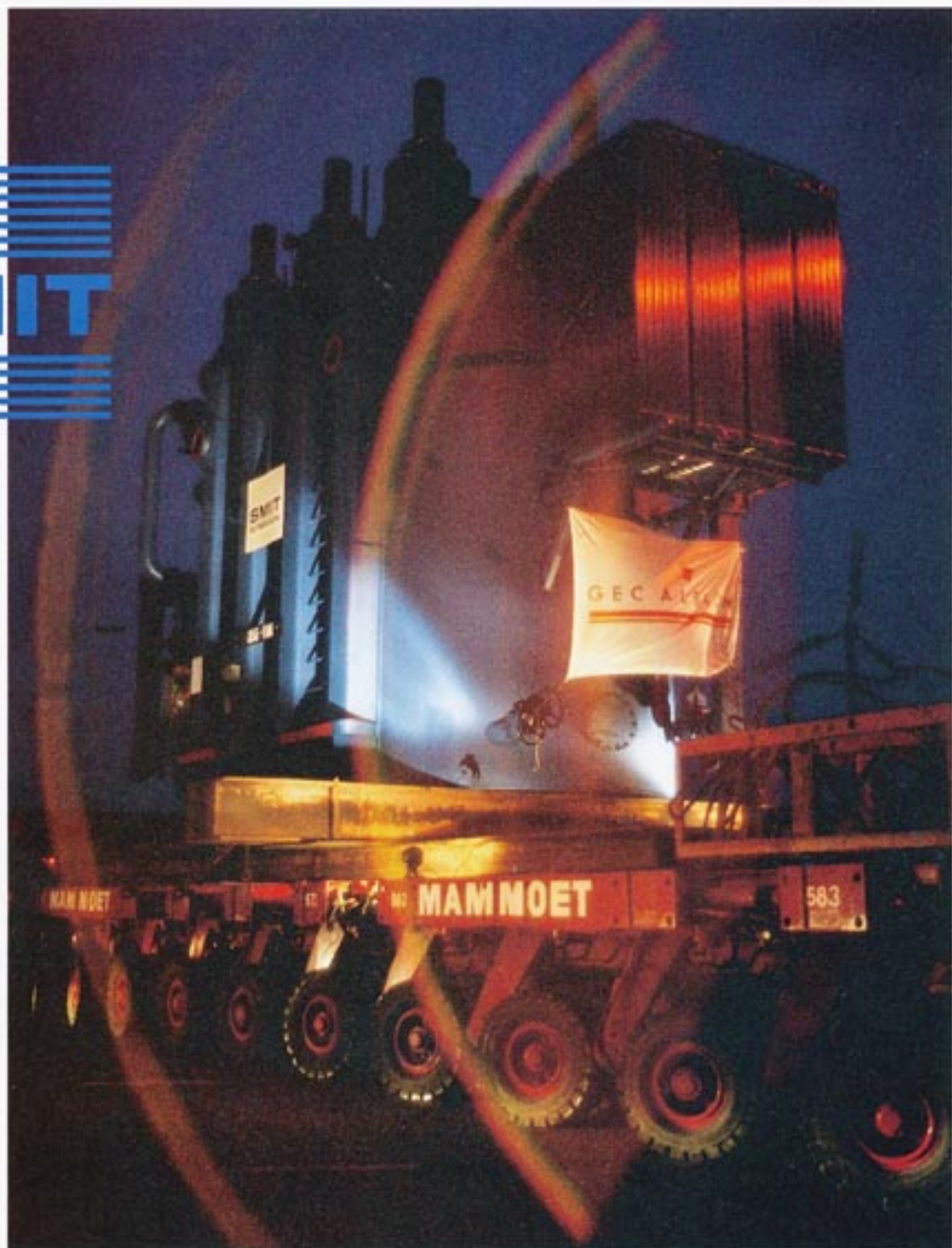
en: the Power Company

The U.S. are the largest market in the world. Until the turn of the century a yearly expansion of the present transformer fleet is expected. Towards the end of the nineties, a shortage of generation capacity is foreseen and large additions will be necessary. Van der Vos: "The present production capacity in the U.S.A. for large capacity transformers will by then be too small to meet all demands. Together with Smit, there are only four large players left. Therefore, we are able to obtain maximum benefit from the shortage of production capacity."

In the first six months of this year Smit Transformatoren with their 400 staff booked a turnover of f 72.1 million. Profits increased by eight per cent to f 6.9 million. A very impressive order the Nijmegen company received is the one for the delivery of transformers for the power station at Niagara Falls. This station is responsible for the power supply in a large part of the city of New York. The delivery of these transformers is part of a project that runs on in to the year 2007.



SMIT



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Smit Transformatoren: the

Van der Vos is confident about Smit's future: "I am convinced that from our present autonomous and independent position the company can be involved as a specialist. In the international market we have deliberately chosen for a position as a rather small tenderer, but one with a top-class product with which we can concentrate on the top segment in the transformer market." In The Netherlands the company is market leader with an historically grown market-share of about

eighty per cent. According to Van der Vos, it is characteristic for the next years, that the outlines are becoming visible of a replacement market which will notably grow. "That market results from the necessity to replace transformers of the post-World War II generation. The replacement market is expected to culminate in the early years of the next century." In Europe, Smit Transformatoren, as a specialist with made-to-measure products, aims at the top of the market.

As in The Netherlands, the replacement market in Europe shows a swift growth. Apart from the United States and the home market in The Netherlands, Smit also turns to the Far East. There the company does not avail over their own factory. "We want to build up a name and a reputation first through deliveries from Nijmegen. Thereafter we do not eliminate the possibility that we will build up something in the Far East."

Smit supply transformers to their customers until built up on foundation. The logistics of the valuable modules have been given in the hands of a third party. Karel J. Kleinbussink of Repair and Maintenance Service of Smit is responsible for the transportation of the transformers:

"Transportation is a very sensitive and important aspect. Building transformers is something we have in hand. Transportation we must leave to the specialists."

Kleinbussink emphasises that the transportation of transformers is of major importance for landing the orders. "The faster and more efficient the transport can be done, the better. A transformer is a capital good so it is important to have the move carried out without delay. But it is just as important to have it moved as safe as possible and without damages. Besides it is often the case that we may loose an order if the transport charges are too high. Quite often the designers are given restrictions in an early stage for instance on the size of a transformer, in order to influence the transportation costs favourably. As an example may serve that time when the costs of transportation for a transformer on Long Island near New York increased considerably because all wiring across the road had to be removed over a distance of seven miles."

Transformers under 80 tonnes are moved from the Smit factory in Nijmegen by road. Heavier items are taken from the factory to the quay and then rolled on to a barge or lifted in to a ship with a crane. Smit's policy is to spread the transportation of the transformers over a number of companies.



Power Company

One of these transportation companies is Mammoet Transport, who earlier this year moved three large transformers of 355 tonnes each to the electrical power station in the Eemshaven in the North of the Netherlands. "Over the last 30 years, we have built up a trusting relationship with Mammoet. Our experience is that Mammoet is available for us night and day. Just as our clients choose for security by using Smit, we choose for security as well".

Mammoet Shipping goes

“Gracht”

Spliethoff's Bevrachtingskantoor B.V. in Amsterdam will become a shareholder in Mammoet Shipping B.V. From 1 January 1995 onwards, Mammoet Transport will hold 49% and Spliethoff 51% of the shares in Mammoet Shipping B.V.



Mammoet Shipping will proceed business independently and under its own name, as before. The office will move to Spliethoff's building in Amsterdam so that a closer co-operation will be possible in commercial and operational activities. All this will considerably strengthen Mammoet Shipping's position in the heavy lift shipping market. Working side by side, the two companies will be able to offer a more extensive package of services in the international transport market for project cargoes and construction materials.

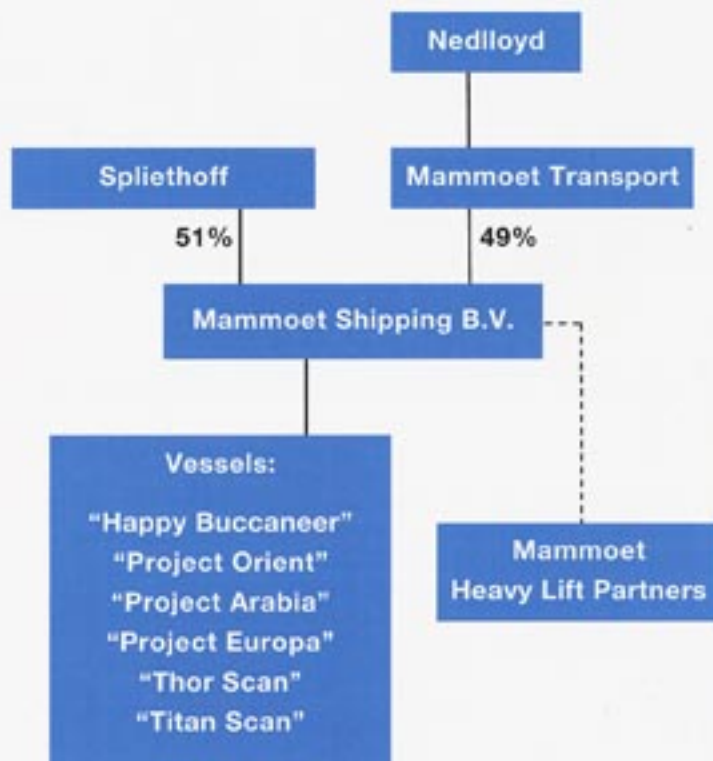
Both shareholders, Mammoet Transport and Spliethoff, intend to work on renewing the Mammoet Shipping fleet so that the continuity of the company is secured. The structure of Mammoet Heavy Lift Partners, the pool in which Mitsui O.S.K. Lines and Atlantska Plovidba are partners, will not be affected in any way and will continue as it is. The following organisation scheme depicts the new structure of Mammoet Shipping B.V.

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With the catch-phrase "Go Gracht" Spliethoff's Bevrachtingskantoor brings its "Gracht"-vessels out into the world; a modern fleet with 53 multi-purpose vessels, ranging in deadweights from 6,000 to 13,000 tons. The eight vessels of the so called new "E"-type are part of an extensive newbuilding programme. The last orders of this type of vessel will be delivered in 1995. Traditionally the Spliethoff vessels' names end with "Gracht". This has been their trademark ever since 1946 when their first vessel was named "Keizersgracht" after the beautiful Amsterdam canal where the company was based at that time. Since July 1993 Spliethoff's Bevrachtingskantoor has been housed in a brand-new office-building in the heart of the port of Amsterdam.

On 11 February 1995 the Mammoet Shipping office will move to the Spliethoff building:
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Container cranes relocated

MELBOURNE - Mammoet Shipping's m.s. "HAPPY BUCCANEER" performed some truly outstanding container crane relocations in and to the ports of Burnie, Melbourne and Fremantle. The first of the moves took place in the port of Burnie, where a container crane was carried from berth 6 to the opposite berth 7. Thereafter m.s. "HAPPY BUCCANEER" sailed to Geelong to pick up a brand-new crane which upon return was placed at the now vacated berth 6. Then the vessel sailed to Melbourne to relocate an existing crane within the port, and sailed with the old crane from that particular berth to Fremantle (Western Australia). All cranes were lifted with the "HAPPY BUCCANEER"'s own 360° rotating cranes, the Geelong crane being the biggest with a weight of 784 tonnes. The cranes that had to be moved to another

port were lifted on board, with the seaside boom, trolleys and A-frame shipped in the tweendeck. The cranes that were moved inside the ports, however, were carried around in a different manner. They were shipped in one piece, seaside boom and A-frame still in place, and in stead of slewing the cranes on board they were brought in only so far as to where the crane-structure rested against the vessel's hull. There the structures were secured so that the crane was literally hanging by the side of the ship. The whole contraption then sailed to the next berth where the crane was landed in the rails. This kind of operation can only be performed in good weather and on short stretches. The advantage was that the cranes were only a short time out of operation. Both relocations were performed within a day.





In an integrated transport operation Mammoet Transport moved a complete nylon plant for DuPont Singapore from the Philippines to Pulau Sakra, an artificial island South of Singapore. A total of 18

modules, varying in weight from 41 to 2114 tonnes had been built by Fluor Daniel with construction company AG&P in Batangas in the Philippines. Mammoet Stoop's high tech SPMTs took these modules to the quay where they were loaded on the heavy lift vessel "HAPPY BUCCANEER" of Mammoet Shipping.

The modules were put on board with the vessel's own equipment, with exception of the 2114 tonne main module which was loaded by ro/ro via the vessel's stern.

The sea voyage to Singapore took 4 days, whereafter the vessel was discharged on the anchorage. The smaller modules were transferred once more with the ship's cranes and positioned onto barges which lay alongside. The big module was rolled off the vessel with high tech SPMTs onto the barge "SEA LION". The extra step in the unloading procedures was necessary since the ro/ro quay on Pulau Sakra has no deep water berth. The loaded barges were towed to the island where they were discharged with SPMTs. Walter Wright Mammoet, the Mammoet daughter in Singapore, handled the last part of the journey. The modules up to 280 tonnes were lifted and placed on their foundations with an M4600R ringer crane, which could reach the full area of the plant with its enormous range.

The 2114 tonne module was brought in position over its foundation with SPMTs and thereafter lowered to surface level with eight 500 tonne climbing jacks. In order to determine in the centre of gravity the module had been weighed in Batangas with the Mammoet electronic weighing system.

Once again the Mammoet total transport concept (land, sea and lifting) proved its suitability for projects such as these. Mammoet companies in Europe, America, Canada, the Middle East and South-East Asia are all essential within this company policy. The so-called Zytel® Nylon plant is scheduled to be operational mid 1995.



Nylon plant to Singapore



"The man who had the vision to build the heavy lift vessel "HAPPY BUCCANEER" in the eighties must have had a foreseeing mind for the modular construction market in the nineties."
Remark from a client during the loading of the Nylon CP plant at Batangas.

Nylon plant to Singapore



The Zytel® nylon facility is the second phase of DuPont's plans to build an integrated nylon complex in Singapore to serve the Asia-Pacific region. The Zytel® investment comes on top of a \$5400 million Adi-pure adipic acid plant that DuPont is opening next door on Pulau Sakra in 1994. Adi-pure® is an intermediate for the manufacture of nylon resins and polyurethanes. Some of the output from this plant will serve as feedstock for Zytel® production.

Zytel® is DuPont's trademark for its nylon 6,6 resin which is part of DuPont's family of engineering polymers, designed for high-performance applications in the automotive and electronics industries. DuPont also owns a plant in Tuas, Singapore, which manufactures another engineering polymer, Delrin®, which is a polyacetal resin.

DuPont is a technology-based, global company, with more than 225 manufacturing and processing facilities around the world and 125,000 employees. With annual sales approaching \$5.65 billion, DuPont ranked eighth among industrial corporations in the United States and twenty-second worldwide. Principal businesses are chemicals, polymers, petroleum and diversified businesses.





Funnel or Chunnel ?



For years now ferries have been providing the essential link between Great Britain and the Continent. With the arrival of Le Shuttle there is now a service designed to revolutionize cross-Channel road transport, claims operator Eurotunnel.

On a Thursday evening around six o'clock two bright-red Mammoet Ferry Transport trucks pull up at the multi-million dollar network of roads and ramps at the shuttle terminal at Calais. After extensive customs inspection, the drivers position their lorries in the designated lane behind the barrier. Later on, they are joined by other Chunnellers to be. One of the English drivers is a regular. It will be his fourth crossing with Le Shuttle this week. He is satisfied with the services provided by Eurotunnel, which include reclining seats in the compartment where drivers spend their time during the crossing. The 35 minutes under the Channel are whiled away in comfort. After a smooth journey, during which a complimentary meal is served, the train comes to a halt on English soil, 53 kilometres from where it started. Within minutes the two Mammoet Ferry Transport trucks drive up the M20 motorway en route to their destinations in England.

Minimal handling-time is Eurotunnel's greatest marketing asset. "We sell speed and a high-frequency service. Le Shuttle is an extension of the motorway," says freight director Christian Zbylut of Eurotunnel in his office at the French terminal. "One of the great advantages of our service is that you never need to worry whether you will catch the next boat or have to wait for an hour and a half. The 'turn up and go' system ensures service departures with no need for reservations or waiting time." Despite the growing-pains, Zbylut is confident about the ultimate



success of Eurotunnel. "We are where we expected to be at this stage. We have launched an entirely new service and you cannot expect to get 40 or 50 per cent of the market share within a few months. A market share of 40 per cent, however, is projected to be realized by 1996", adds Zbylut. Does this mean that the ferry companies are in for bad weather? "Having added extra capacity to the existing ferry capacity will have consequences. There are simply too many ships. P&O and Stena should combine ships or do something in terms of differentiation," says Zbylut, who underlines that Eurotunnel would be the last to want a price-war with the ferry companies. "We have always said that our prices will remain above theirs. Our product is different. It is faster and offers a much higher frequency. Slightly higher rates are only natural. Ferry prices however, have dropped dramatically over recent months. The ferry companies are playing with fire, because they will hurt each other before they start hurting us."

Initially Le Shuttle Freight was operated as an invitation service for two months from the end of May. At the end of July it became a 'turn up and go' service; open to all cross-Channel hauliers, offering 34 departures per day, both ways. During the busy period from about 5 in the evening till midnight and from 6 till 9 in the morning, Le Shuttle was offering a departure every half hour. Since the end of October Le Shuttle Freight has been operating 24 hours a day, 7 days a week and from the

beginning of December a third departure every hour will be offered during the busy periods, providing close to 50 departures a day. "At the end of September, we carried some 350 trucks a day", says Zbylut. "This already accounts for 12 per cent of the current Dover-Calais ferry traffic – and we have achieved this figure in just this one month of September – since, as you are all well aware, August is virtually a dead month with everybody on holiday. In other words, we are well on target."

Still, there is a lot of scepticism against the profitability of the new concept. With a wave of his hand, Zbylut dismisses predictions that Eurotunnel is heading for bankruptcy. "When the contract for building the tunnel was signed in 1986, hardly anyone believed it would actually be built. Then, when it was really being built, critics claimed it would never be finished. In 1992, when the tunnel was completed, many said it would never open. It is only natural that the same people will say that it will never make any money, now that the tunnel is operational."

"Maybe we are fourth-time lucky," says Brian G. Cork, freight director P&O European Ferries with a characteristically British sense of humour in a reaction to Zbylut's statements. Over recent years, the ferry companies have invested tens of millions of dollars in product improvement. Over the last six months, P&O has increased its share in the cross-Channel market. Today, six P&O ferries on the Dover-Calais route provide a sailing each



Brian J. Cork,
Freight Director P&O Ferries



Christian Zbylut,
Freight Director Eurotunnel

Funnel or Chunnel ?



22 Tom van den Enden, Managing Director Mammoet Ferry Transport

way every 45 minutes. Cork: "Drivers check in until 20 minutes before sailing and just drive straight on board if there is space available." Cork acknowledges the opening of the Channel Tunnel will have an impact on the operations of the ferry companies. At the same time, he believes the effect will not be dramatic. About the tunnel he says: "It's there and we have to live with it. We believe they'll be successful with the through trains for passengers, but there the airlines will feel the pain, not us." Regarding the freight shuttle trains, he reasserts the strong position of the ferry companies. "We have had plenty of time to hone our product so that it is now more than ready to meet the challenge of the tunnel."

Meanwhile, the cross-Channel market for freight is growing and is expected to continue to do so. Cork: "There will be room in the marketplace for both the tunnel and the ferries. We may lose part of the freight but our market share will never really be in danger." Cork feels that his assertions are backed-up by the conduct of the trucking companies and drivers. Experience has proved that the tunnel's much advertised speed is not always a reason to use it. Many drivers prefer to spend statutory resting time aboard a ferry where they are free to move around rather than to undergo the constraint of a railway carriage. In addition, trailers cannot be left unaccompanied during the tunnel journey and there are stricter regulations governing the transport of hazardous substances.

"But," says Christian Zbylut, "if the ferries had to comply with the same safety regulations as Eurotunnel they would not be able to operate. A comparative study between the Tunnel and our direct competitors, the ferries on the Calais-Dover line, has demonstrated that Eurotunnel's policy is more flexible than that of the mixed car ferries. The Dover-Calais line has very strict regulations for hazardous goods because it only operates mixed car ferries. Hazardous goods not accepted by Eurotunnel will continue to travel by dedicated freight ferries."

For the time being, Mammoet Ferry Transport makes little use of the tunnel and even then only incidentally. "Of course, we honour the customer's desire if he wants us to use Le Shuttle. Our strength, however, lies in the unaccompanied transportation of trailers between the United Kingdom and the Continent. That is our main business. Today, Le Shuttle only offers a service for self-drivers," says the new Managing Director of Mammoet Ferry Transport, Tom van den Enden, about the company's standpoint on the Eurotunnel. "Furthermore, the tunnel lies a bit too much to the South for our traffic. Many of our main cargo-streams run between the middle of Germany and the middle of England and to use Le Shuttle we must make long detours. For express cargoes and for goods in the trades from Southern Germany or Northern France and Switzerland to the South of England, the tunnel offers better opportunities."



In 1988 Mammoet Transport was involved in the transport of heavy equipment for the building of the Eurotunnel. In total three tunneling machines were shipped by Mammoet Shipping to Calais, where Mammoet Transport France took care of the land transportation to the construction pit at Sangatte. The smallest boring machine for the 4,5 metre wide service tunnel was delivered by m.s. "PROJECT AMERICAS" in January 1988. The two other tunneling machines for the 6,5 metre main tunnels were shipped in the same year by m.s. "PROJECT ORIENT" and m.s. "PROJECT EUROPA". It appears that in more than one way Mammoet takes part in bringing the U.K. and the Continent closer together.

Van den Enden does not exclude the possibility that in future Mammoet Ferry Transport will use the tunnel more often. "Although I'm not immediately convinced that the main directions of the cargo traffics in our routes will change, we closely follow the developments, also in the field of tariffs. One of the major advantages the tunnel offers and about which I have not yet seen much publications is for instance the minor damage risk compared to the ferries. Besides, it is imaginable that in future it will be possible to let trailers

cross through the tunnel unaccompanied. In any case, we will keep an eye open for developments and are ready to tune in to new possibilities."



Mammoet in Focus

Installation spray dryer



NIJMEGEN - At ARN B.V., the waste disposal plant for the region Nijmegen, Mammoet Stoof performed a number of lifting and assembly jobs. Among others, the 500 tonne hydraulic crane was put to use to lift a spray dryer. The new building at the waste disposal company for the region has meanwhile been finished and after a trial period the new unit will be officially opened early 1995.

Accreditations ISO 9002

BREDA/SINGAPORE - The Crane department of Mammoet Stoof received two quality certificates at the same time, one from the "Foundation for the Certification of Crane Rental Companies" (S.C.K.) and one from T.U.V. Nederland QA, for according to the ISO 9002 standard covering rental of cranes, execution of lifting projects and maintenance within the own company. And in Singapore Walter Wright Mammoet (S) Pte Ltd



was accredited with ISO 9002 as well. The certificate was issued by SGS Yarsley International Certification Services Ltd, who in turn are accredited by the NACCB (National Accreditation of Certification Bodies, U.K.) and the RvC (Raad voor Certificatie, The Netherlands).

The certificate is applicable to Walter Wright Mammoet's office in Singapore only and covers all their activities. It is valid for three years, subject to satisfactory maintenance of the quality system, which will be reviewed by the certifying body twice a year. Nowadays, the certification is becoming more and more important as contractors use it as a first criterion for their subcontractors, especially in the petrochemical industry.

Mammoet road transport

MOL - A threesome heavy pieces, consisting of an almost 6.5 metre high furnace and two tanks, formed the last part of a transport project in which Mammoet Road Transport had moved a total of 49 heavy pieces for K.T.I. of Belgium from Mol in Belgium to destinations in the ports of Antwerp and Rotterdam-Europoort. Shortly before the actual transport of the last phase Mammoet was confronted with the sudden closure of the local railway crossing: the narrow streets of Mol were then the only other way, so that, to the great relief of the client, the transports could still be finished rather quickly.



Exchanging transformers

CORPUS CHRISTI - A 370,000 lbs weighing damaged transformer was exchanged by Davenport Mammoet in Corpus Christi, Texas (USA). For this operation a double 6 axle line High Tech SPMT combination, a 400 ton gantry system and a 200 ton skidding system were mobilized to remove the transformer. Upon arrival at the jobsite mats were layed out for a proper spreading of the weight. The transformer was jacked up, so that the skidding system could be placed underneath. Sliding sideways over a distance of 30' was the only possibility because of the overhead clearance. Then the transformer was lifted by the 400 ton lifting gantry system and placed onto the SPMTs, after which it was moved to the awaiting railcar. With the same gantry system the transformer was transloaded onto the nearby railcar, which was subsequently railed to Palmetto in Florida for repair. A replacement transformer came from Newport News in Virginia and upon arrival in Corpus Christi, Davenport Mammoet performed the same operation, but in reverse order. After repairs of the damaged transformer, Davenport Mammoet will remove the spare transformer and exchange it for the repaired unit.





Close encounters

URMOND - Not a scene from Steven Spielberg's "Close Encounters of the Third Kind" but a transport operation in the night in Urmond, Limburg. From Friday on Saturday 9 July, Mammoet Stooft moved two 44 metre long vessels of 172 tonnes each from Urmond to the factory site of Carbolim in the nearby village of Geleen. Earlier, Mammoet had transported these vessels, with a diameter of six metres, from the site of G&G in Willebroek in Belgium. They had been placed onto a barge by ro/ro and then were brought over the Juliana Canal to Urmond. From there they were driven on platform trailers to the Carbolim site. Once on site, two hydraulic telescope cranes lifted the vessels onto a skidding track so that they could be skidded over their foundation and jacked down. Carbolim makes carbonic acid for instance for the soft-drinks industry and cooling installations. The vessels will be used for storage of the carbonic acid.

Pink Mammoet



ROTTERDAM - On request of concert organiser Mojo a number of telescope cranes were recently used before and after a Pink Floyd concert in the reconstructed Feyenoord soccer stadium in Rotterdam. Mammoet Stooft in Europoort regularly build up or take down popmusic stages for stars such as Michael Jackson, Bruce Springsteen and David Bowie. In this trade they have meanwhile built up quite some experience.



Elephant in transit



ROTTERDAM - Some time ago, Mammoet Stooft placed the roof of a new pachiderm accommodation, at the zoological garden Blijdorp in Rotterdam (Mammoet Mail 24). Subsequently, Mammoet moved the 6000 kilo elephant bull Ramon to its new accommodation. A telescopic crane lifted the specially strengthened container onto a lowloader and Mammoet gave the 23 year old elephant a smooth ride to his female companions, who had walked across to their new accommodation earlier. Ramon did not cause any problems during the transport and was quite happy with the reunion.

Flying low

WOENSRECHT - Mammoet Road Transport clearly observes an increase in activities. This remarkable movement of a Fokker F-27 took place this Summer with 4-axle extendable trailers. The body and the deassembled wings were taken from Woensdrecht to the North Sea Ferries terminal in Europoort with a police escort. From there they were shipped to England. The next day, so somewhat slower than a regular airtrip would take, the Mammoet trucks delivered the aircraft at Air U.K. on Norwich Airport to the full satisfaction of client Fokker Aircraft Services.





SUPER CRANE-LIFT IN



The newly commissioned M1200R ringer cranes have found recognition in the construction-world through their tremendous capacities and clever design.

One of the new super-cranes showed its remarkable lifting capabilities while erecting and positioning a 750 tonne so-called deisobutaniser column at the construction site of an MTBE plant in the United Arab Emirates.

Mammoth Gulf Ltd of Dubai has been involved in this project from September 1993 when 49 pre-cast concrete pipe-rack bends were installed by a brand-new M250 crawler crane, which came straight from the factory in the U.S.A. The concrete pipe-rack bends were loaded at the precast yard with a Manitowoc M4100 SII and transported to the erection area on top of a specially designed frame, mounted on an eight-axle platform trailer. An additional Manitowoc M4000 was used to install 576 stringer beams to connect the piperack bends.

The transportation of all heavy and oversized cargo started in November 1993. A total of 26 columns was picked up at various manufacturers in the U.A.E. region, while (additionally) 8 columns were shipped by barge,



THE MIDDLE EAST



The heavy craning contract started in January 1994 and for the duration of 5 months Alatas Mammoet's new M1200R, with its M250 core, an M4100 SII crawler crane and two M4000 crawler cranes were used, as well as 14 hydraulic telescope cranes with lifting capacities from 20 to 70 tonnes. On May 20, however, the M1200R was put to the test and came to do what it was designed for.

A select group of technically interested onlookers saw the 750 tonne column being lifted from a horizontal to a vertical position within eighty minutes. It was the first lift of this magnitude and the crane becomes even more impressive when knowing that in this configuration with a total boomlength of almost 110 m and an outreach of 23 m it can still handle an 800 tonne load.

For the public it was an absolutely spectacular lift and it was most thrilling to see all the planning, calculations and effort come together in such a stunning fashion.

Meanwhile, Mammoet has finished all transport and lifting operations at the site and after the plant has been completed, the production of MTBE is scheduled to start in the first half of 1995.

which entailed ro/ro operations for loading and unloading. Five of these columns were collected in Saudi Arabia, including the before-mentioned 750 tonne deisobutaniser column. Sister-company Alatas Mammoet was in charge of the transport operations in Saudi Arabia, while they also provided the M1200R ringer crane for various lifts at the plant.



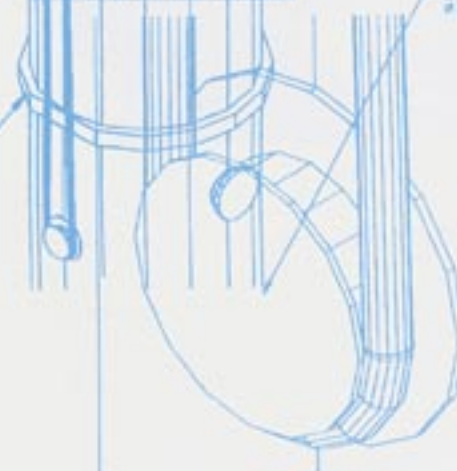
SUPER CRANE-LIFT IN THE

MODIFIED
STIFFNER #5
AS PER DWG
7242-200

DETAIL ON LIFTING TRUNION

LIFTING TRUNION
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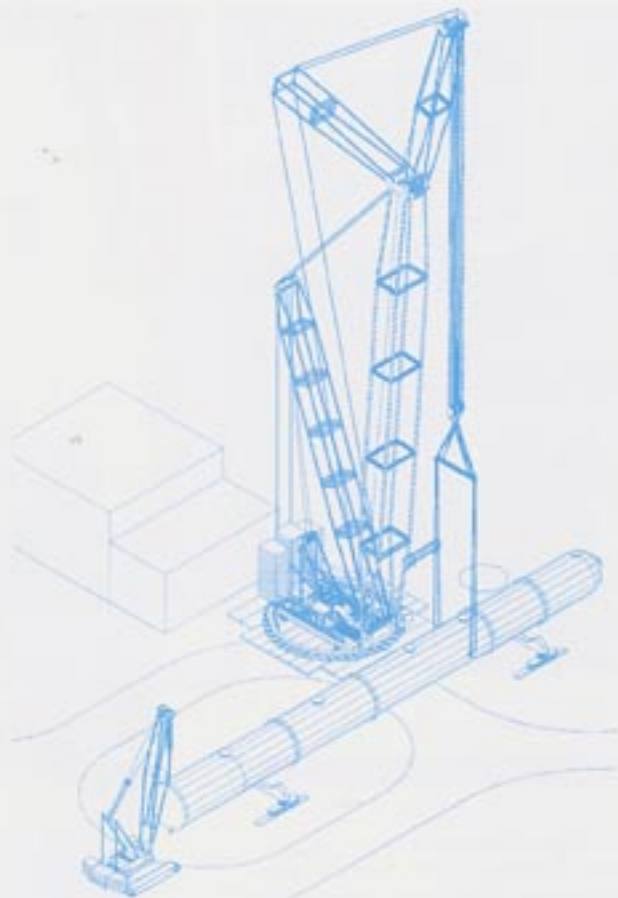
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STIFFNER #4
AS PER DWG
7242-200



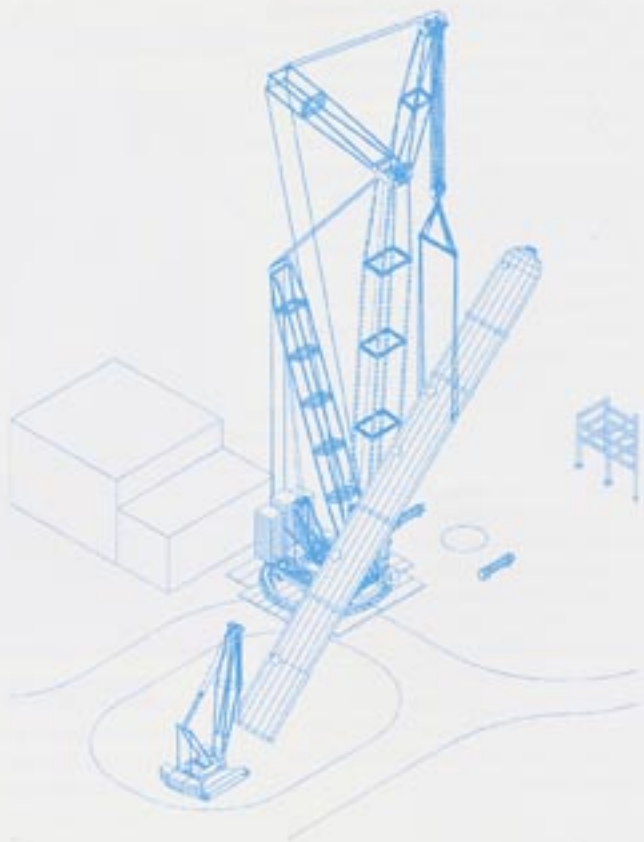
David Goodfellow (37) is Construction Superintendent at the Dugas MTBE construction site and has been involved in this project from the beginning. He explains that the abbreviation MTBE stands for methyl tertiary butyl ether and that this product is an important component for lead-free petrol in which it is instrumental for a higher octane level. Previously lead was used to arrive at this effect, but in the exhausts of cars this metal turned out to be very damaging to the environment. Apart from improving the octane level (cetane index) MTBE, with the available oxygen, has a positive influence on the incineration rate. As demands for MTBE are increasing, especially in Europe and the U.S.A., many new plants are being built for its production. Prior to this project in the Middle East, Goodfellow was involved in the construction of offshore modules in the U.K. and in that capacity he acquired working experience with Mammoet in several load-out operations on various construction yards. When Mammoet Mail asked him for the preference to use the M1200 Ringer crane in this specific situation, he gave the following reasons:

- *A higher confidence level in this machine compared with a dual-lift solution for the 750 tonne deisobutaniser column.
- *A minimum of interference with the planned foundations; only three different crane locations were necessary to service the entire construction area.
- *Quick shifting from one location to another resulted in an optimal utilization of the crane.

As an overall point of view Mr Goodfellow highlighted the professional skill of the Mammoet people shown during this project and the fact that Mammoet met with all the major "mile stones" in the time planning.



MIDDLE EAST



Mammoet in Focus



Full cargo load for Malaysia

ROTTERDAM - Mammoet Shipping's m.v. "ENVOYAGER" received a full cargo from various contractors while she was loading in Rotterdam in the last week of February. On deck, 2 reactor vessels, each divided in three pieces, were loaded for the Polyethylene project Kerteh in Malaysia. The units measured from 60 to 101 tonnes, while their heights varied between 5.8 and 9.33 metres. The two widest pieces had a diameter of 8.75 metres. The reactor units were moved under a door-to-door transport contract involving three members of the Mammoet group. Mammoet Stooft collected the 6 parts from the G&G factory in Willebroek to move them to the port of Rotterdam, where Mammoet Shipping's m.v. "ENVOYAGER" loaded the cargo with her own gear and set sail for Malaysia. Once arrived, the vessel unloaded the cargo on to a barge. Walter Wright Mammoet (Malaysia) subsequently performed a beachlanding with the barge to unload the pieces and enable transportation to the site. After assembling the pieces into two units, Walter Wright Mammoet also erected the reactors. In the previous days the vessel had already loaded various Siemens and ABB cargoes in her holds for the power stations Yangpu and Shuneh Fushun, both in China, and on deck a multicat of 18.7 x 9 mtrs weighing 100 tonnes and a stantug of 16.7 x 7 metres weighing 65 tonnes, combined with 33 floating pipes of 12 metres length with various angles.

Taiwan Power Co. I

TAIPEI - A 299 tonne generator stator was shipped by m.s. "PROJECT EUROPA" from Albany to Taiwan. The cargo was discharged with one of the 350 tonne capacity lifting derricks, after which it was transported to the Taiwan Power Co.



Taiwan Power Co. II

ROTTERDAM - In the port of Rotterdam the m.s. "PROJECT ORIENT" loaded the first of a series of transformers with destination Taiwan Power Co. in Taipei. Client Van Ommeren, of Amsterdam is in charge of the complete transport operation, which starts at the manufacturer Messrs Trafo Union in Germany. Van Ommeren Taiwan delivers the transformers to the site in Taipei.



Suralaya power project

HAMILTON - A 300 tonne steam drum was loaded on the m.v. "PROJECT AMERICAS" in Hamilton, Canada for shipment to Indonesia for the Suralaya power project. On the same ship Walter Wright Mammoet's brand new M1200 Ringer crane was shipped to its first assignment in Port Kembla, Australia.



Five distillation columns

DARTMOUTH - Five distillation columns with varying weights up to 77 tonnes were loaded in the port of Dartmouth in Canada on board m.v. "GRUZ" with the vessel's own lifting gear. The vessels measured lengths between 11 and 48 metres and were shipped to Dalian in China for the Panjin Natural Gas Project.



Stator delivered to Rotterdam



ROTTERDAM - The m.s. "PROJECT AMERICAS" delivered a 280 tonne stator to the port of Rotterdam. There it was transhipped on to an inland water lighter, which took it to France for repairs.

Branch Office in Korea

SEOUL - With final approval from KMPA (Korean Maritime and Port Administration) Mammoet Shipping has opened a Branch Office in the Republic of Korea. For many years now, Mammoet has been involved in project transportation to and from Korea and the increase of heavy transport and shipping activities justified this recent development. By moving to a new location, Mammoet will be able to provide an even better service, thus improving its direct involvement in the Korean market. Mr C.H. Nah (Charlie) will be in charge as branch manager, assisted by Mr M.K. Yeom (Mike) and Miss S.Y. Son (Susan). The new full-style reads as follows:

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MIDDLE EAST

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