

House magazine of
Mammoet Transport B.V.



4 Self-propelled
and flexibel



12 Coal unloader for
power station



16 Red dog's
running!

Editing and production:
Public Relations Department
Mammoet Transport BV, Breda

Editors:
Aad van Leeuwen
Cor Radings

Correspondents:
Ron Elliott
Immie van Kalken
Graeme Youngson

Lay-out: Aart Schuddeboom

Editorial address:
Public Relations Department
Mammoet Transport BV
Veilingkade 15,
P.O. Box 2267, 4800 CG Breda,
The Netherlands
Tel: 076 - 794400 Telex: 54291



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FROM THE EDITOR

Mammoet Mail 16 once again contains a variety of articles about interesting activities and developments.

To start with the latest developments: Mammoet Transport founded a new operational office in Calgary, Canada. Mammoet Canada Ltd will focus on land-connected transportation and lifting activities and the number of transport projects in the near future is promising.

Furthermore a colourful story about the "Red Dog" mine in Alaska, that has been operational since the end of last year. The ore-installation of this mine was transported and positioned in a modular form in a combined Shipping/Transport operation.

A separate article has been dedicated to the self-propelled modular platform trailers, which have proven their versatility under the most extreme circumstances. By stationing the trailers in various Mammoet locations the client can be served better and quicker.

Various job-reports from the Mammoet offices complete this issue, while the frontpage has been reserved for a record load-out on the banks of the River Tyne.

Enjoy your reading.

VAN DE REDAKTEUR

De inhoud van Mammoet Mail 16 bestaat weer uit een gevarieerd aantal artikelen over interessante activiteiten en ontwikkelingen.

Om met de laatste ontwikkelingen te beginnen: Mammoet Transport heeft een nieuwe operationele vestiging opgericht in Calgary, Canada. Mammoet Canada Ltd verricht landgerichte transport- en hijsactiviteiten en het aantal transportprojecten in de nabije toekomst is veelbelovend.

Verder een sfeerverhaal over de "Red Dog" mijn in Alaska die sinds eind vorig jaar operationeel is. De ertsverwerkingsinstallatie van deze mijn werd in een gecombineerde shipping/transport-operatie in modulevorm door Mammoet vervoerd en geplaatst.

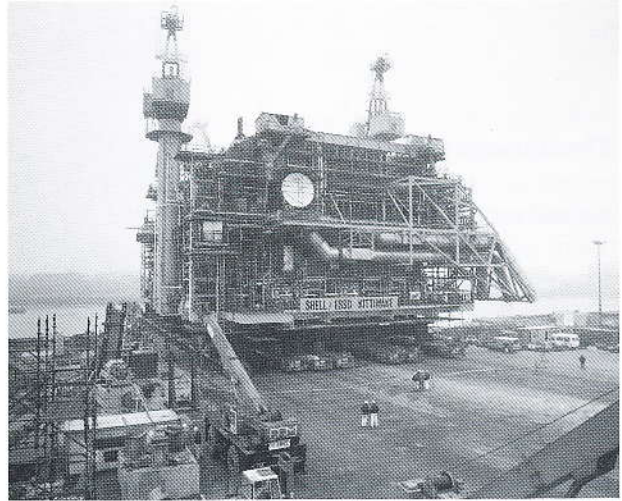
Er is een apart artikel gewijd aan de zelf-aangedreven platformwagens, die hun nut hebben bewezen onder de meest extreme omstandigheden. Door stationering van deze wagens op verschillende Mammoet lokaties, kan de opdrachtgever beter en sneller worden bediend.

Verschillende job-reports uit de Mammoet-vestigingen completeren dit nummer, terwijl de voorplaat is gereserveerd voor een record load-out aan de oever van de Tyne.

Veel leesplezier.

RECORD LOAD-OUT AT PRESS OFFSHORE'S

At the North Sea shore, Newcastle, in the North of England, a production deck for an oil rig weighing 8010 tonnes was moved from the quay onto a ocean-going barge. The integrated deck "Kittiwake", a joint project of Esso and Shell, will be used for work in the North-Sea. It is the heaviest module ever to have been moved on wheels. On the banks of the River Tyne it took 1700 wheels and two-and-a-half hours to move the giant structure onto the pontoon. The load-out was carried out under supervision of Mammoet U.K. in Middlesbrough and will be mentioned in the Guinness Book of Records.



TAIWAN SWIRE:

Marketing and sales agent Mammoet Shipping.

Recently Mammoet Shipping extended their international shipping network by appointing Taiwan Swire Ltd as their marketing and sales agent in Taiwan.

These new activities are an addition to the already existing port agency arrangement, which cooperation started some 10 years ago. Taiwan Swire Ltd have their head office in Taipei and branch offices in Kaosiung, Keelung and Taichung.

The full style reads as follows:

TAIWAN SWIRE LIMITED
 7th fl. Huan Nan Bank Building,
 18 Chang An East Road Sec. 1
 TAIPEI, Taiwan R.O.C.
 tel: (02) 5636011, 5228577
 tlx: 21622 / 22396 swire
 fax: (02) 5620731, 5613444
 contact: Mr Camden Chuang

NEW MAMMOET MAINSTAY IN CANADA

Mammoet Transport of The Netherlands have founded a new subsidiary at Calgary, Canada. Mammoet Canada Ltd is part of the chain of world-wide Mammoet operating companies, and will be taking care of transport by land and special lifting activities.

The address of Mammoet Canada Ltd is as follows:

530, 736 - 6th Avenue S.W.
 Calgary, Alberta T2P 3T7
 Canada
 tel. 403-2375367
 fax. 403-2659612

AWARDS

Dow Benelux N.V. awarded Mammoet Stoof with the Contractor Safety Award 1989 for the company's safety record and their effort in maintaining a high safety standard in the daily work.

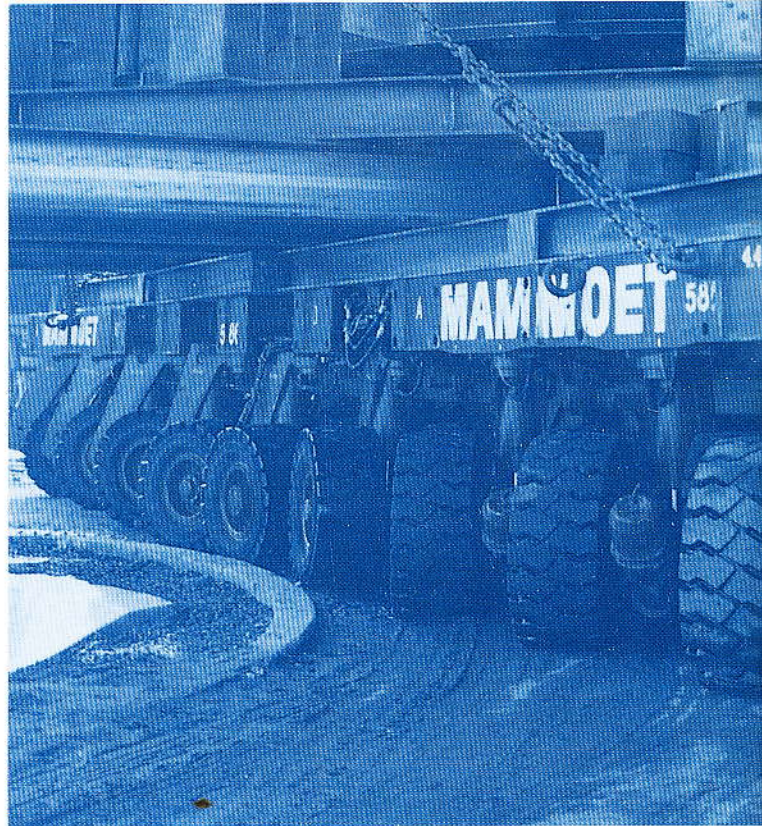
Mr J. Karreman, Branch Manager of Mammoet Stoof Terneuzen and Mr E. Vreugde, Safety Manager, received the Award on behalf of Mammoet.

Mammoet Transport Belgium received a Merit of Safety from North Sea Petrochemicals V.O.F. in Antwerp for their contribution in reaching a total of 100,000 manhours without lost time accidents at the Antwerp Petrochemicals Complex Project.



The concept of Mammoet's self-propelled modular transporters (SPMTs) has proven itself under the most extreme circumstances and has been recognized as the most versatile heavy transport system available at the moment.

The most important feature is the 360 degree steering capability, which allows the transporters to operate in the most confined area, which is often the case at existing plants.



Part of Mammoet's policy is to be located close to the client's working area, which results in short lines of communication and fast mob and demob. Especially in the United States of America, where Mammoet has subsidiaries on the West and East Coast, the stationed SPMTs are quite in demand and the transporters seem to create their own market throughout the USA.

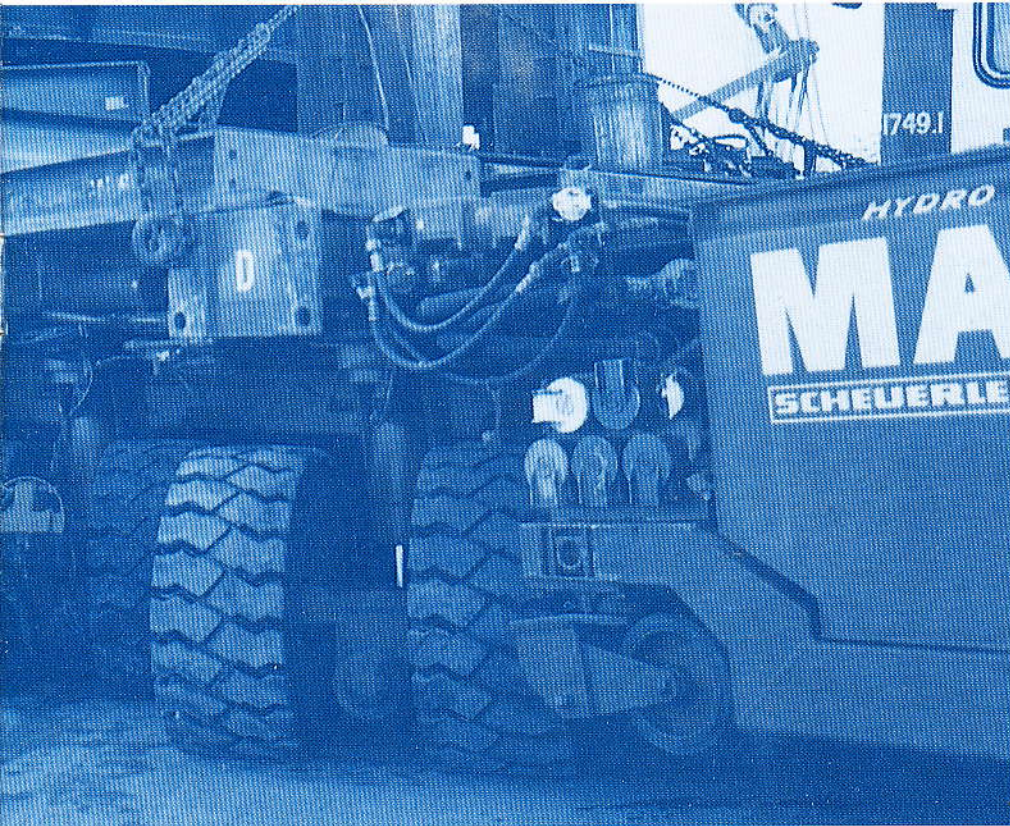
SELF-PROPELLED A



Mr Albert Slikker, Chief Executive Officer of Davenport Mammoet at Rosharon, Texas recalls two recent moves in which the SPMTs played the leading roles:

"Our first assignment was the factory-to-foundation transportation of 18 convector boxes from Freeport, Texas to West Lake, Louisiana. By making a combination of transport over land and shipment by barge, the most convenient route could be obtained. The 100 tonne boxes were transferred onto two barges by a 350 tonnes hydraulic crane and after arrival of the barge at West Lake unloading was performed in the same way. There the SPMTs, 2x 10 axle lines, took care of the last leg of the journey, a 3 mile trip to the site.

As the construction area was rather confined, the SPMTs ability to move side-ways made the final positioning possible". Mr Slikker points at the elaborate transport script and adds: "as a matter of fact, our client Mr. Joe Simpson of M.W. Kellogg Company of



Houston was so pleased with the performance, that we received the order for the transportation of 5 heavy reactor vessels for the same project".

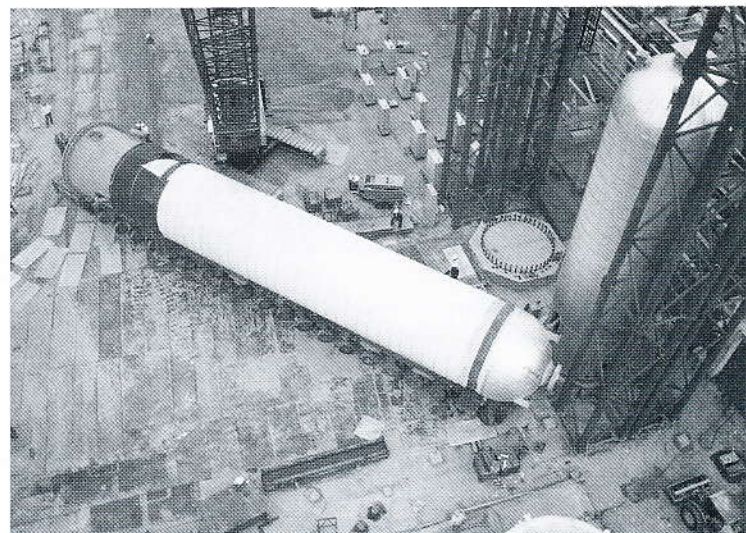
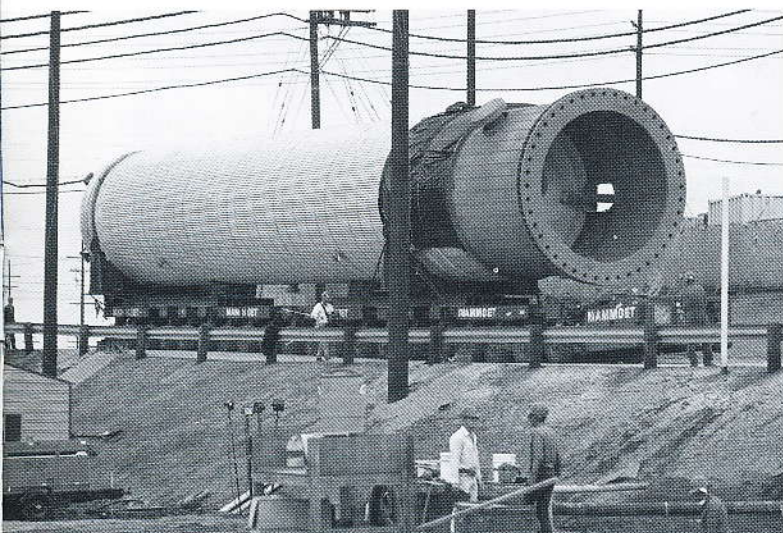
The second project was a similar factory to foundation transport of an 180 tonnes reactor vessel from Corpus Christi to La Porte in Texas. Mr Slikker: "In this case the SPMT combination was equip-

ped with turntables on either end and still several turns were so sharp that conventional platform trailers could hardly have reached this destination". Badger's traffic manager Mr Jules Concannon said that he was impressed by the performance of both the SPMTs and the Mammoet crew.

On the USA West Coast the SPMTs are performing as well. For the extension of the Texaco refinery in Los Angeles two refractory towers were shipped from Italy to the port of Los Angeles. Mammoet Shipping's heavy lift vessel "Project Europa" took care of the ocean transport of this Mammoet combined transport and performed unloading by her own gear.

"An advantage when you realize that the heaviest column was weighing 550 tonnes with a length of 96 feet", according to Mr Roger Cova, president of Mammoet Western Inc. "But there, in the port of Los Angeles, our transport story only started. The following leg in the journey was transport by rail over some 7 miles to the Texaco refinery where the SPMTs took over for final transportation to the construction site". The transporters' manoeuvrability was clearly demonstrated when the spectators watched it negotiating a steep incline and a sharp turn in the

ND FLEXIBLE

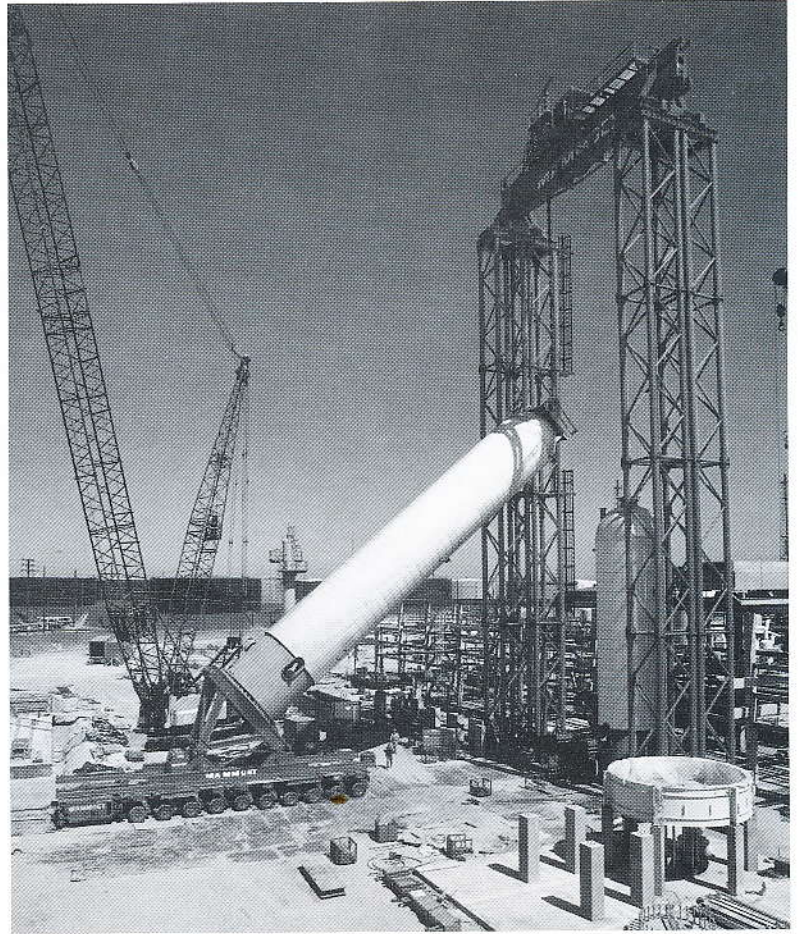




access road to the confined building location. "Usually the extension areas at existing refineries are rather limited, so that transportation of heavy loads on such sites will represent a problem in most of the cases", says Mr Cova, "and with regard to erecting the columns you'll experience the same dilemma".

From an engineering's point of view the free standing Hydrajack system has the best papers in those situations and the client appreciates the extra safety factor, which is built-in in the system's design." During the erection of the columns the SPMTs were used as a tailing device, after they had been modified with skidding beams and a tailing frame.

After reviewing the entire operation, which had been recorded on video, Mr E.H. Jordan, construction manager of Texaco Refining and Marketing Inc. remarked: "This is the stuff MGM makes films about". No wonder, so close to Hollywood one might expect to hear such a remark. For Mammoet it is just another factory-to-foundation transport mission, which is an every day event in any part of the world.



MAMMOET STOOF TERNEUZEN GROEIT UIT Z'N JAS

Vanaf 1971 onderhoudt Mammoet Stoof al contacten met de industrie in Zeeuws-Vlaanderen. De vestiging in Terneuzen maakt momenteel een krachtige ontwikkeling door. Een profielschets van een bedrijf in de lift.

"We hebben bij wijze van spreken samen met DOW de koeien hier uit de wei gejaagd". Jan Karreman, de bedrijfsleider van Mammoet Stoof Terneuzen, memoreert de ontstaansgeschiedenis van de vestiging aan het begin van de jaren zeventig. "Vanaf de opbouw hebben we hier vanuit Breda incidenteel werk voor DOW gedaan. Later is besloten om op het terrein een mobiele keetwagen neer te zetten. Naarmate DOW uitbreidde, is dat tot een vast kantoor uitgegroeid.

Contract

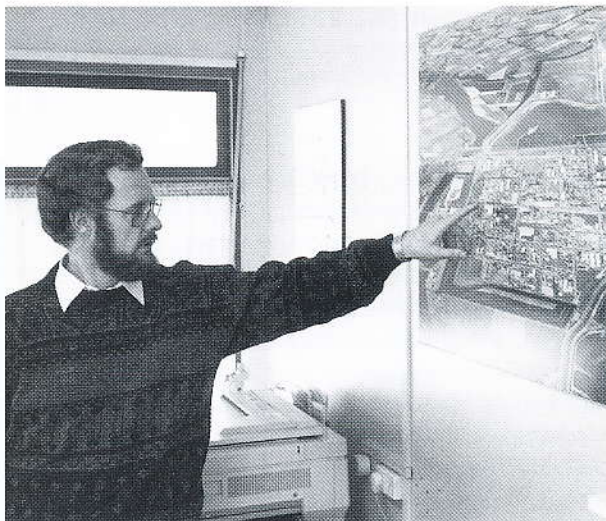
De activiteiten voor DOW Benelux N.V. vormen voor Mammoet Terneuzen zonder twijfel de voornaamste bron van inkomsten. In oktober is het contract met de chemiegigant opnieuw met twee jaar verlengd. Mammoet heeft met de van oorsprong Amerikaanse fabrikant een unitrate-contract, waarbij DOW voor het verschillende materieel dat wordt ingehuurd een vaste prijs betaalt. Op het terrein van DOW beschikt Mammoet over een vast aantal mobiele kranen. Daarnaast is aan het bestaande kranenpark nog los materieel toegevoegd, waaronder een trekker en twee trailers om in te spelen op de dagelijkse behoeften van DOW.

Veiligheid

"De relatie tussen DOW en ons is zeer goed en is dat altijd geweest. Zij zijn heel belangrijk voor de werkgelegenheid in de regio en hebben het onderhoudswerk en het kraanwerk altijd uitbesteed. Het is uiteindelijk toch specialistisch werk. Een belangrijk punt is dat de veiligheid bij DOW ontzettend hoog in het vaandel wordt gedragen. De kracht van ons bedrijf is om dus ook op het gebied van kwaliteit, service en veiligheid bovenaan te staan. Dat moet op de lange termijn z'n vruchten afwerpen."

Onderhoud

De activiteiten van Mammoet zijn de laatste jaren sterk gegroeid. "Er is tegenwoordig een constant aanbod van onderhoud. Dat heeft niet zo zeer te maken met het verouderen van de fabriek maar meer met de groei van DOW



en het daaruit voortvloeiende onderhoud. We maken hier veel uren. Gelukkig is de groep gegroeid en zijn onze mensen flexibel en veelzijdig in hun werk. In wezen zijn we heel zelfstandig. Vanaf het maken van de offerte, via de werkbegeleiding tot en met de facturatie. Maar het is goed om de steun van Breda te hebben. Bijvoorbeeld op het gebied van engineering kan vanuit het hoofdkantoor bijgesprongen worden. De laatste twee, drie jaar is er in elk geval zeer veel groei. De omzet in 1989 is ten opzichte van 1987 verdrievoudigd. We zijn qua kantoor en terrein uit onze jas gegroeid. We hebben een voorstel ingediend bij DOW om meer ruimte en een betere lokatie te krijgen.

MAMMOET STOOF TERNEUZEN GROWS BIGGER

From 1971 onwards, Mammoet Stoof have been keeping in touch with the industry in Zeeuws-Vlaanderen. The branch in Terneuzen is developing strongly at the moment. An outline of a company on the up and up.

"As a manner of speaking, together with DOW we chased the cows out of the meadows here." Jan Karreman, the branch manager of Mammoet Stoof Terneuzen, recalls the foundation history of the branch in the early seventies. "We did incidental work for DOW from Breda during the start.

Later on it was decided to have a mobile shed put on the site. When DOW expanded, this shed grew into a permanent office.

Contract

No doubt the activities for DOW-Benelux N.V. form the major source of income for Mammoet Terneuzen. In October the contract with the chemical-giant was extended for two more years. Mammoet have a unitrate-contract with the originally American manufacturer, according to which DOW pays a fixed price for the various material they hire. At DOW's Mammoet Terneuzen can avail of a fixed number of mobile cranes. Furthermore, the present fleet has been expanded by other material, among which a truck and two trailers in order to be able to accord to the daily needs of DOW.

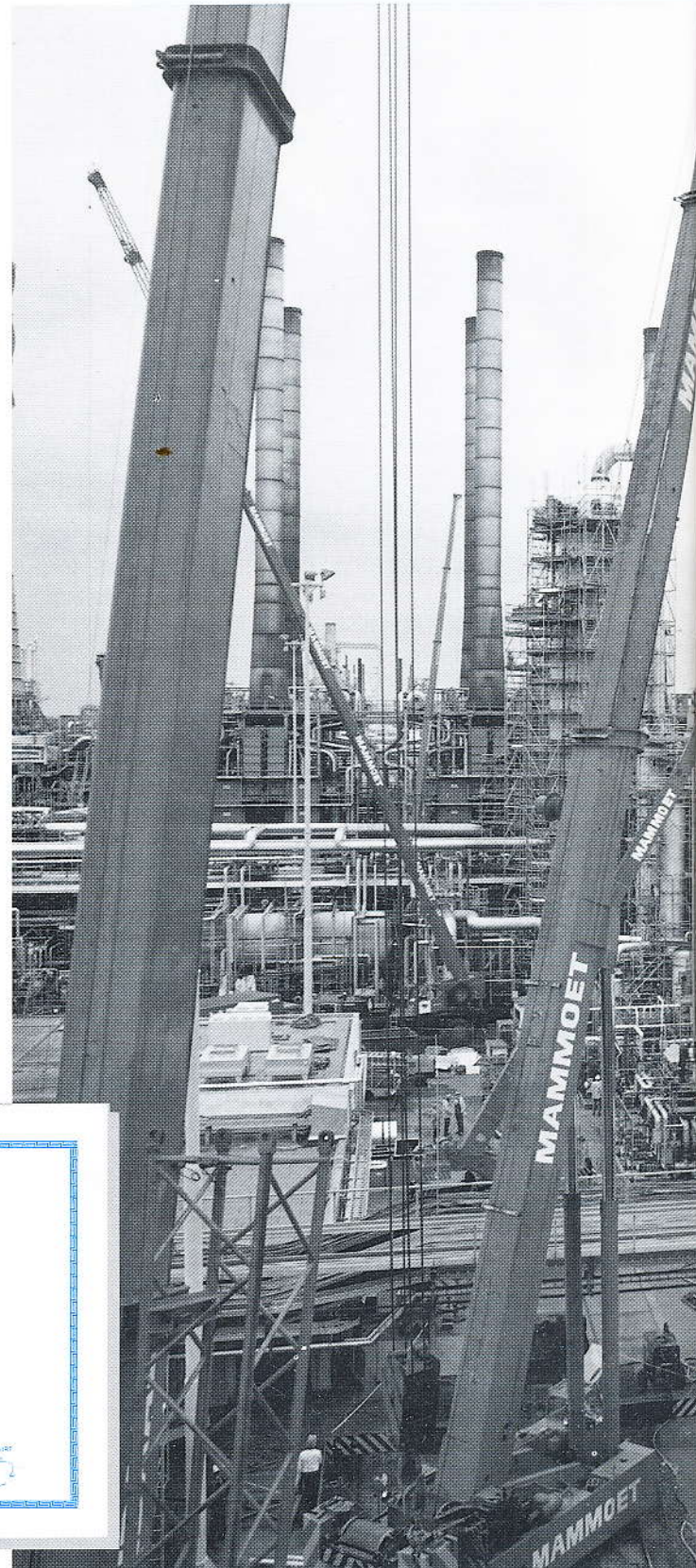
Safety

"The relationship between DOW and ourselves is very good and has always been like that. They are very important for employment in the area and they always contract out maintenance and cranes work. After all these are specialized jobs. An important point is that DOW deems safety immensely important. Our strength is to be number one in the field of quality, service and safety. That must pay off in the long run.

Maintenance

Mammoet's activities have grown very much over the last few years. "Nowadays, there is constant supply of maintenance. That is not so much the aging of the factory, but more DOW's growth and the maintenance deriving from that. We are very busy here. Fortunately our group has grown and our people are flexible and can do a variety of work. Basically we are very independent. From making the quotation, through work assistance until invoicing. But it is good to have the support of Breda. The head office may assist for instance in the field of engineering. In any case we have been growing enormously in the last two or three years. The turnover of 1987 has tripled for 1989. As far as the office and the terrain goes, we have outgrown them. We have submitted a request with DOW to get more space and a better location.

MAMMOET MAMMOTH



**SAFETY AWARD
RECEIVED
FROM DOW -
BENELUX N.V.**

KARWEI BIJ DOW

JOB AT DOW'S



KARWEI BIJ DOW

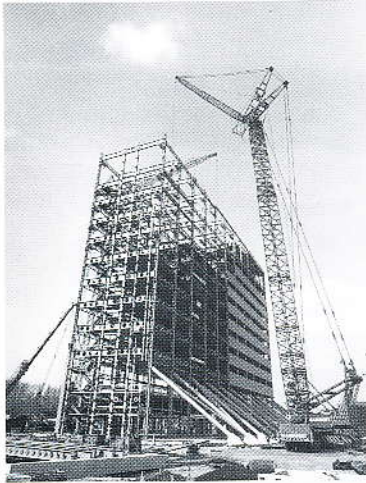
Tijdens een grote onderhoudsbeurt van een installatie van DOW Benelux N.V. verzorgde Mammoet een aanzienlijke hoeveelheid kraanwerk. "Een fabrieksstop van deze omvang wordt eenmaal in de vier jaar uitgevoerd, waarbij de installatie in korte tijd volledig onder handen wordt genomen", aldus Jan Karreman, vestigingsleider van Mammoet Terneuzen. "1500 mensen van verschillende aannemers waren dagelijks bezig met onderhoud, vernieuwingen en aanpassingen om het karwei tot een goed einde te brengen. Onze kranen vormden in deze planning een belangrijk onderdeel en tijdens de piek van de stop zag het dan ook rood van de kraanmasten. Op een bepaald moment werden 27 kranen met capaciteiten van 30 tot 400 ton op verschillende locaties ingezet".

Mammoet werd reeds in een vroeg stadium bij de voorbereiding betrokken en het inzetten van een speciale Mammoet coördinator bleek een vlotte communicatie te bevorderen tussen DOW en Mammoet en de andere aannemers, die het werk in ploegendiensten uitvoerden. Jan Karreman besluit met: "Dankzij de volledige inzet van al deze mensen kon deze enorme klus in 25 dagen worden geklaard".

JOB AT DOW'S

During a large overhaul of an installation of DOW Benelux N.V. Mammoet took care of a considerable quantity of crane work. "An overhaul of this size takes place every four years and shuts down the complete installation for a short time", according to Jan Karreman, branch manager of Mammoet Terneuzen. "1500 people of various contractors were daily working on maintenance, renewals and adjustments to bring the job to a satisfactory conclusion. Our cranes formed an important item in the planning and at the height it was red for cranemasts. At one time 27 cranes had been mobilized, in capacities ranging from 30 to 400 tonnes in various locations."

In an early stage Mammoet was involved in the preparations and putting a special Mammoet coordinator on the job proved to establish smooth communication between DOW and Mammoet and the other contractors who carried out the job in shifts. Jan Karreman concludes: "Owing to the complete dedication of all these people, this enormous assignment could be finished within 25 days."



EUROPEAN NISSAN OFFICE BEING BUILT

The shape of a remarkable building rises up next to the motorway from Amsterdam to The Hague, close to Schiphol airport.

They are the new European headquarters of car giant Nissan, who has been supplying the European market from their distribution centre in Amsterdam for years.

Remarkable for Dutch standards is that the structure has not been built with a concrete frame, but has been erected as a steel construction. Thus a considerable amount of time was gained during the building period and the in-house arrangements will be more flexible.

People who daily drove passed the site could observe the speedy progression, in which the cranes of Mammoet played a major part.

According to Mr P. Nederveen, branch manager of Mammoet, the Mammoet cranes are extremely suitable for this kind of construction assignment, since the cranes have a wide span because of the movable jib and are extremely compliant. The Nissan building is expected to be put to use before the end of this year.



EUROPEES NISSAN KANTOOR IN AANBOUW

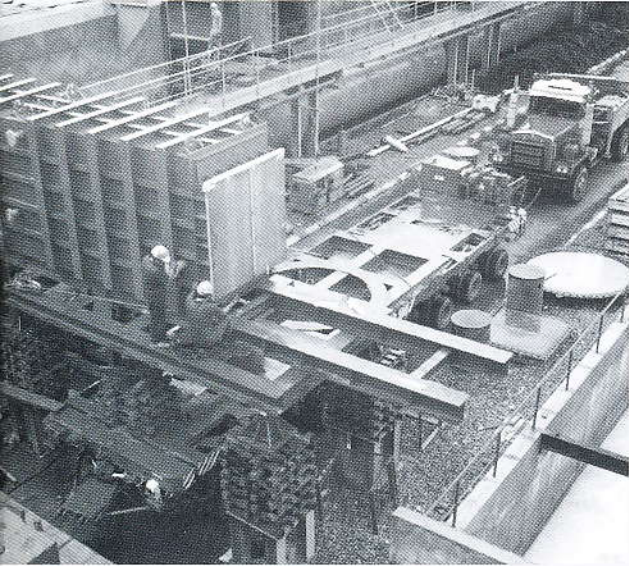
De contouren van een opmerkelijk bouwwerk verrijzen aan de autoweg van Amsterdam naar Den Haag ter hoogte van de luchthaven Schiphol. Het is het nieuwe Europese hoofdkantoor van automobielgigant Nissan, die al jaren, via zijn distributiecentrum in Amsterdam, de Europese markt bevoorraadt.

Opmerkelijk voor Nederlandse begrippen is dat het gebouw niet met een betoncasco wordt uitgevoerd, maar volledig als staalconstructie wordt opgetrokken. Op deze manier wordt een aanmerkelijke tijdsbesparing in de bouwtijd verkregen en kan het gebouw flexibeler worden ingedeeld. Automobilisten die dagelijks het werk passeerden, zagen dan ook de snelle voortgang, waarin de kranen van Mammoet een belangrijk aandeel hadden.

Volgens de heer P. Nederveen, vestigingsleider van Mammoet, zijn de Mammoet kranen uitermate geschikt voor dergelijk constructiewerk, omdat de kranen door de beweegbare hulpmast een groot werkbereik hebben en snel verplaatsbaar zijn. Naar verwachting kan het Nissan gebouw voor het einde van dit jaar in gebruik worden genomen.

COIL-CARRYING TRAILERS VOOR MAMMOET FERRY TRANSPORT

Als eerste Nederlandse ferry trailer operator beschikt Mammoet Ferry Transport over zogenaamde coil carrying-trailers voor het vervoer van rollen staal tussen Engeland en het Continent. De speciale rollengoot is vervaardigd voor grote staalrollen. De coil carrying-trailer is speciaal gebouwd voor Mammoet Ferry Transport en is geschikt voor meerdere soorten lading. De luiken kunnen worden ingeklapt, waardoor de oplegger ook voor het transport van andere goederen kan worden ingezet. Mammoet heeft momenteel ruim twintig trailers van dit type in gebruik. →



NEWS FROM THE MIDDLE EAST

In the Sultanate of Oman, Mammoth Gulf had to replace four tube bundles at the Ghubrah desalination plant for client Hitachi Zosen.

As the job had to be executed in a confined area in the existing plant, the use of cranes was ruled out. Mammoet's transport engineers worked out the correct solution for replacing the old units by using a turn table and a launching frame with teflon skidding tracks. An extensive jacking operation was required to bridge the difference in height between the trailer and the final foundation.

For Mammoth Gulf the exchange of worn units at desalination plants has become a major market and they offer the client the best transport solution in combination with sharp time planning.



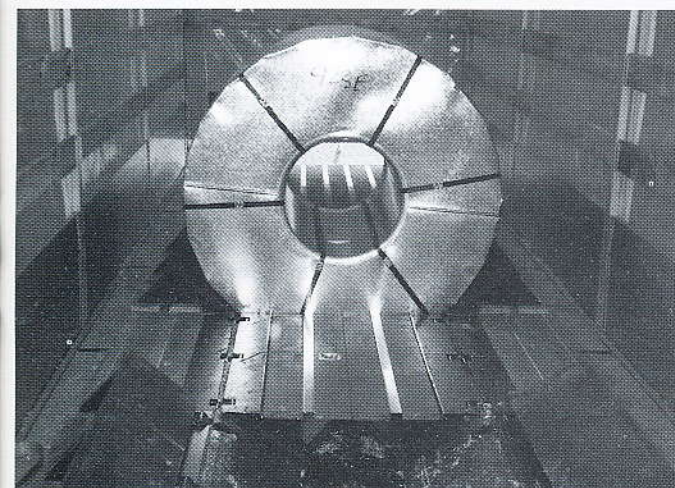
MAMMOET WESTERN ON THE MOVE

Mammoet Western is pictured here being in the process of moving a 120,000 lbs boiler from Tehachapi to Davis (both in California), a distance of 420 miles. The boiler is 35'6" long, 12' wide and 15'9" high and conform the Highway regulations a 9-axle, 16 wheel tandem configuration was used.



COIL-CARRYING TRAILERS FOR MAMMOET FERRY TRANSPORT

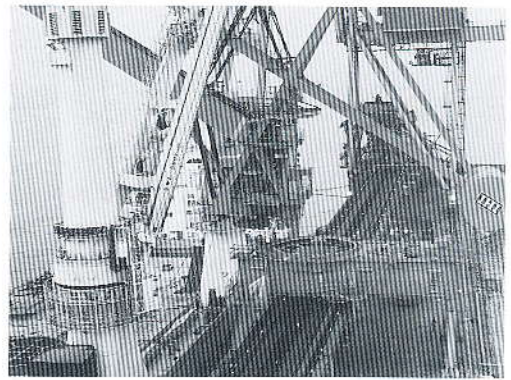
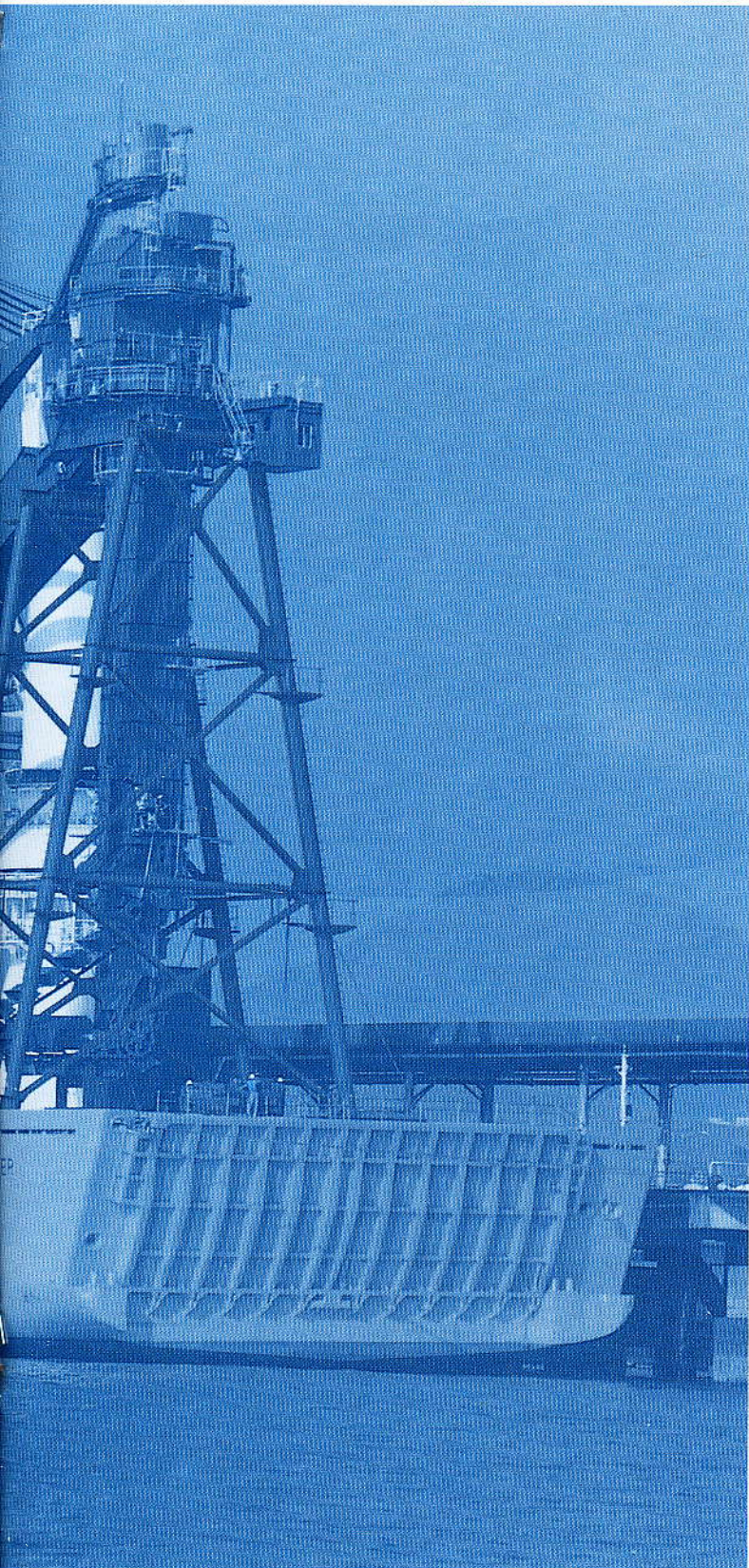
The first Dutch ferry trailer operator to obtain so called coil-carrying trailers is Mammoet Ferry Transport. The trailers are used for transportation of steel coils between Great Britain and the Continent. The special coil well is made for large steel coils. The trailers were especially built for Mammoet Ferry Transport and they are multi-functional. The gates can be folded in, so that the trailer can also be used for the transport of other goods. Mammoet already uses over twenty trailers of this type.



COAL UNLOADER FOR PO



OWER STATION



For the upgrading of the Hong Kong Electric Power Station, Mammoet Shipping carried a so-called bucket-elevator crane and additional project cargo from Japan to Lamma Island, Hong Kong.

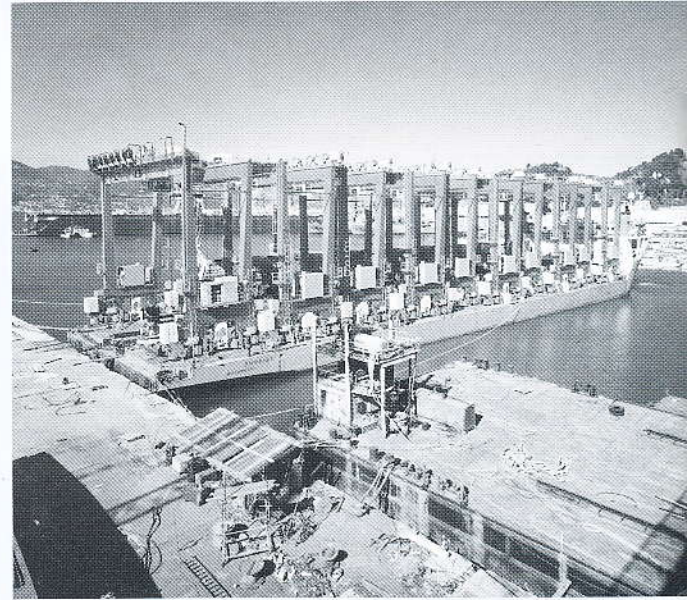
The unloader was shipped in two main pieces: a portal frame of 280 tonnes and a slewing frame weighing some 750 tonnes as deck cargo on Mammoet's "Happy Buccaneer".

With the help of the vessel's 360 degree rotating cranes the coal unloader was assembled within two days, whereafter the project cargo was unloaded from the holds onto a barge. Assistance during the assembly of the unloader was given by Walter Wright Mammoet's Hong Kong branch and they also carried out the onward transport and the positioning activities at the power station.



M.S. "SUNRISE" TO THE FAR EAST

Mammoet Shipping's "Sunrise" recently collected ten transtainers, each weighing 130 tonnes, in the Italian ports of Savona and La Spezia. They were loaded by means of a ro/ro operation and after lashing and securing they were ready for shipment to Hong Kong.



"PROJECT EUROPA" AT HIROSHIMA

Three transfer cranes were recently shipped by m.s. "Project Europa" from Hiroshima in Japan to Bangkok, Thailand.



AUSTRALIAN CRANE MOVE

Another crane shipment, in which m.s. "Happy Buccaneer" played the leading role was the relocation of a partly dismantled container crane at Sydney Harbour.

The 600 tonnes container crane was partly dismantled by ship's gear at Glebe Island for National Terminals and Electruck Pte Ltd of Sydney. Thereafter, the almost 50 metres high construction was moved to Port Botany, whereby it passed the Sydney Harbour Bridge with a clearance of only 3 metres at low tide. At Glebe Island, the vessel's gear put the crane together again.



POWER LIFTING IN SULINA

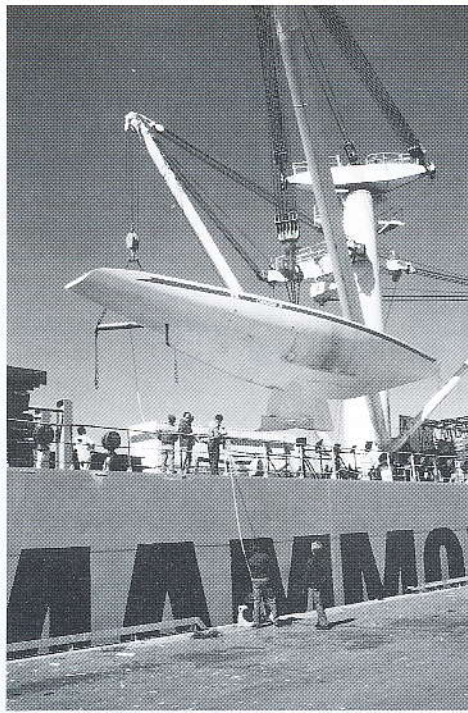
Mammoet Shipping's "Starman Asia" loaded a 545 tonnes reactor vessel in Sulina, Romania. The vessel was then shipped to Houston where it was unloaded, again with the ship's own two 400 tonnes cranes.



SHIPMATES

The shipment of a couple of 12 metre racing yachts by m.s. "Project Orient" gave a good cover picture for Canada's national yachting magazine "Sailing".

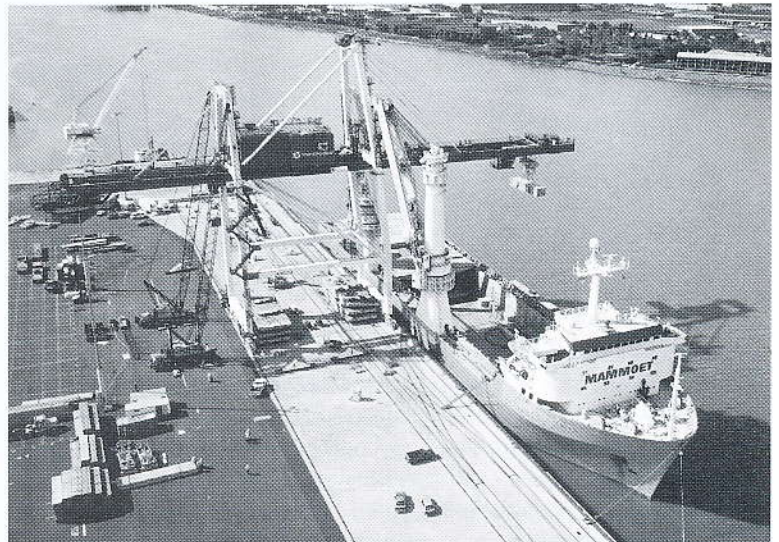
The yachts "Canada 2" and "True North" were shipped as deckcargo from Hamilton to the Dutch Island of St. Maarten, where they will start a new life as day-charter racers. →



UNLOADER TO PORTLAND

A last-minute contribution regards a post-Panamax unloader, which was shipped from Korea to Portland, U.S.A..

Because of its sheer size, the crane had to be shipped in three major parts. The 100 metre long upper-structure weighs 765 tonne and is pictured here being installed by the m.s. "Happy Buccaneer"'s 360° rotating cranes. ↓



RED DOG'S RUNNING!

Only a few months after Mammoet had positioned the last module at Cominco's Red Dog mine site in Alaska, the construction activities were completed and now Red Dog is producing concentrates. The following excerpt is from Cominco's magazine "Orbit".



It is six o'clock on a bitter, cold winter morning and the dining room at the Red Dog mine is filled with the steady hum of conversation and the tinkling of cutlery on dinnerware as a few dozen people sit down to a buffet-style breakfast before they head off to work. Many of these diners have spent winters here before, working for contractors building and assembling the various facilities needed for the mining and milling operations. But this winter is different; now their employer is Cominco Alaska and the construction is complete. Red Dog is producing concentrates.

Although mining has been going on at Red Dog since August of last year, the start of milling operations did not begin until November. (The official opening of Red Dog is scheduled for August 1990.)

"Red Dog is Cominco's most important mining operation", says Bob Hallbauer, Cominco's President and Chief Executive Officer. "It is a sizable orebody and its high zinc content will make it one of the largest, lowest-cost zinc producers in the world. It will supply our own operations at Trail, as well as Cominco's customers in the Far East and Europe".

Interest in Red Dog from the mining and financial communities has been building since the go-ahead was given in late 1986 to develop this world-class zinc-lead orebody. Much has been made of the deposit's proximity to the surface; it has been likened to a giant egg lying just below the surface. Reserves total 77 million tonnes, grading 17.1 per cent zinc, 5.0 per cent lead and 82 grams of silver per tonne - potentially enough for a mine life in excess of 50 years. When it reaches full production in 1992, the mining rate will be 5,440 tonnes per day. Total annual production will be 508,000 tonnes of zinc concentrate, 109,000 tonnes of lead concentrate and 45,000 tonnes of bulk concentrate.

The engineering and logistical feats accomplished in bringing Red Dog into production in just three years are extraordinary, due in part to its isolation. Located in the bare, rolling foothills of the Brooks Mountain Range, 200 kilometres north of the Arctic Circle in northwestern Alaska, Red Dog is accessible only by aircraft for much of the year. Fresh supplies, such as fruit, vegetables, fish and meat, are flown in weekly on DC-6s

and Hercules aircraft from Anchorage, 1,000 kilometres to the south. Its only other physical link with the outside world is the tide-water port site on the Chukchi Sea, 87 kilometres to the west. Most other supplies for Red Dog are brought in by barge during the summer shipping season.

Climatic conditions in this part of the world are also extreme. During the summer months it is seasonably warm, but fog often rolls in from the west socking in the operation.



During the winter months it can be a harsh land. The sun barely rises above the horizon and the temperature can plunge to minus 50 degrees Celsius; with the wind chill factor, it can drop to as low as minus 70 degrees Celsius. Design of the milling operations incorporated innovative technology to minimize power requirements and to overcome the complex metallurgy of the ore. Among these innovations are modular construction, tower mills, column

cells and pressure filters. Process facilities include the modular crushing plant, which is located at the open pit's exit, the coarse ore stockpile and eight pre-fabricated modules forming the mill complex. Like the accommodation complex, the mill was built offshore - in the Philippines - and shipped to the site for final assembly.

Adjacent to the milling operations is a small concentrate storage building that can hold up to three weeks of concentra-

ensure that the road remains stable during the summer months, the base consists of 1.9 million cubic metres of fill material and 1.75 million square metres of woven geotextile fabric. It is sturdy enough to accommodate the huge trucks rumbling over it at speeds of up to 75 kph from mill to port, each carrying 65 tonnes of concentrate.

The port is dominated by the massive concentrate storage building, with the Alaska State Flag emblazoned on its roof. At 434



te should bad weather or caribou migrations interrupt normal haulage to the port storage site.

The link from mine to port was one of the greatest challenges facing project engineers. Carved out of the tundra, much of the road covers the flat-lying coastal plain and crosses environmentally sensitive areas and waterways. There are 646 drainage crossings, with nine bridges and four major culverts crossing 13 major streams. To protect the underlying tundra and to

metres in length and 11 storeys high, it is the largest single building in Alaska. Its 816,000-tonne capacity will allow Red Dog to store the concentrates through the winter until the 90- to 100-day shipping season in the Arctic summer when the seas are ice-free. Starting in 1990, barges will carry the concentrate through shallow waters to ocean-going ships anchored about 6 kilometres offshore. The concentrates will be shipped to Trail Operations and to customers in Europe and the Far East.

In a joint venture with Smit Tak Towage & Salvage (S) Pte Ltd, Walter Wright Mammoet extended their transport and lifting services by operating three barges in combination with an American Hoist 11320 crane.

The barges, two with the dimensions of 180' x 50' x 10' and one of 230' x 60' x 14' as pictured, provide an additional service in the Singapore area for the transshipment of project cargo and heavy lifts. The new joint venture has been given the name Smit Mammoet (S) Pte Ltd.

In Indonesia WWM exchanged a 350 tonnes Urea reactor, that had been shipped by Mammoet Shipping's "Happy Buccaneer" from Japan to Palembang, where it was transferred by ship's own gear onto a barge and moved to the ro/ro jetty. There it was unloaded and further transported to the site. As a matter of fact, this was a repeat of the operation carried out in 1988, when the existing reactor was lowered horizontally to facilitate the cutting out of a defective section. Thereafter the shortened version of the reactor was re-installed as a temporary solution.

During the installation of the new reactor vessel, extreme care had to be exercised as the operation was executed in a very restricted area. The project was carried out to the complete satisfaction of final customer P.T. Pusri in Palembang.

For another project in Indonesia two Manitowoc cranes and platform trailers were mobilized for the transportation and installation of 12 kiln sections. These sections, the longest measuring 23.8 m and weighing 103 tonnes, were shipped to Malili port by Mammoet Shipping's "Starman Asia". The connecting journey from Malili port to Soroaka site covered a distance of 55 km, 18 of which were asphalt road and the remaining part being compacted clay with fine gravel.

The longitudinal gradient of the road was approx. 12% with an ascending gradient of 70% in total. Together with the steep gradient, the sharp bends in the road left no room for error in the steering of the trailers. The transportation of the Manitowoc cranes went along the same route, for which the cranes were stripped at point and reassembled on site.

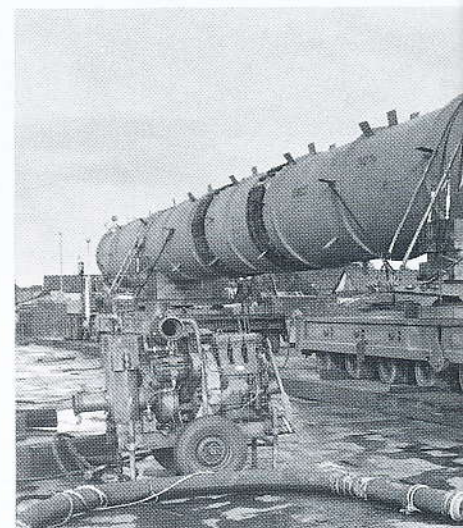
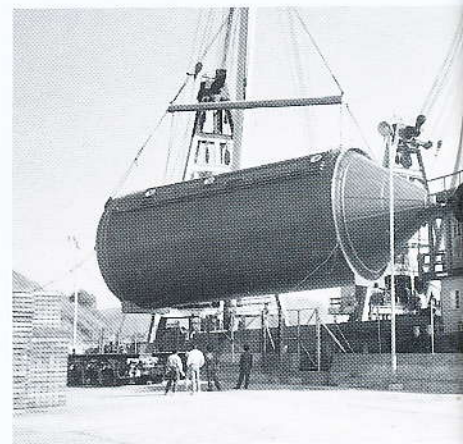
Taken into consideration that the sections were erected adjacent a live plant and that some sections had to be installed by tandem lifting operations, it was an impressive performance, whereby the project was completed approx. 2 months, ahead of schedule.

At the same time Walter Wright Mammoet in Hong Kong was contracted for another interesting project: the transportation and erection of three beer tanks for a Hong Kong brewery. With a diameter of 7.2 metres, a height of 21.65 metres and a weight of 32 tonnes each, they were positioned with a Manitowoc 4600 crawler crane with a boom length of 54.9 metres.

Because of the clearance between the crane boom and the roof construction, the crane was placed on top of an appr. one metre high platform. The tanks were placed within two days, which included alignment and levelling. A similar project was carried out in the same brewery when five tanks were installed in four nights.

A last remaining fact has to be mentioned, being that the office of Walter Wright Mammoet Hong Kong now is located at:

Guangdong Textile Centre Room 402, 4/F, 22-26 Minden Avenue
KOWLOON, G.P.O. Box 9398, Hong Kong
tel: 7221622, tlx: 42614 wwmhk hx, fax: 3661155





NEWS FROM WALTER WRIGHT MAMMOET





MAMMOET TRANSPORT THUIS IN BELGISCHE MARKT

Bijna 30 jaar geleden richtte het Nederlandse bedrijf Stooft Transport in Antwerpen een dependance op onder de naam Stooft Belgium, om zodoende ook zonder belemmeringen in België te kunnen werken. Inmiddels is het filiaal uitgegroeid tot een zelfstandige vestiging die nog niet aan het eind van zijn mogelijkheden is.

"We opereren in heel België. Er is variatie in lokatie en in activiteiten." In het kantoor van Mammoet Transport België N.V. in het Albertdok, een van de oudere gedeelten van de Antwerpse haven, licht Jacques Tempelaars de activiteiten van de onderneming toe. De heer Tempelaars, een Hollander in het Belgische, is sinds 1982 bedrijfsleider van Mammoet Transport België "Tot onze werkzaamheden behoren wegtransport, fabrieksverhuizingen, het verhuur van mobiele kranen tot 750 ton en projecten zoals het verzetten van containerkranen."

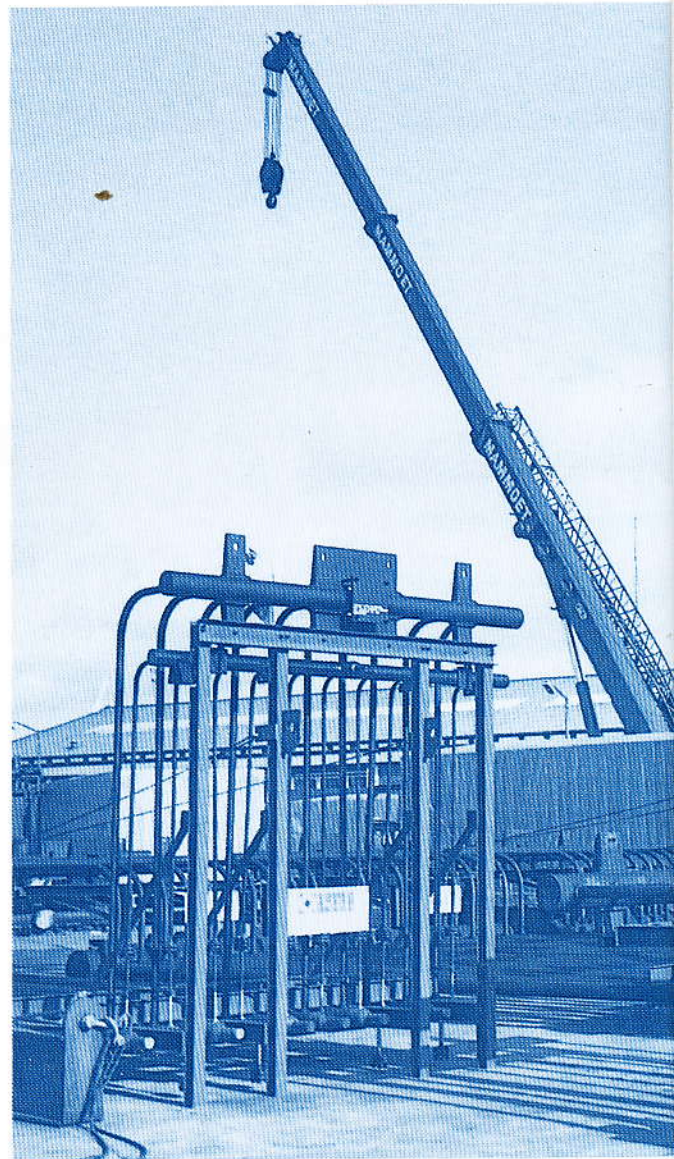
Fabrieksverhuizingen

Het aandachtsgebied van Mammoet België lag lange tijd voornamelijk in Vlaanderen, maar de laatste jaren is ook Wallonië veel duidelijker in beeld gekomen. Eén van de opvallendste activiteiten die in de regio Luik door Mammoet zijn ontplooid, zijn de fabrieksverhuizingen. Zo vervoerde men een complete staalfabriek van 49.000 ton voornamelijk over de weg van Luik naar Antwerpen voor verschepping naar China. Jacques Tempelaars: "Je gelooft het in eerste instantie niet als je zo'n aanvraag krijgt. Je ziet een verlaten fabriek en iemand vertelt je 'we gaan hem demonteren, kunt u de fabriek dan naar Antwerpen vervoeren?' Je gaat er dan eens doorheen lopen, de mogelijkheden voor transport bekijken en een prijsopgave doen. Vervolgens hoor je een paar maanden niets en toen bleek dat de fabriek aan China was verkocht. Driehonderd Chinezen zijn naar Luik gekomen om de fabriek te demonteren. Het vervoer naar de haven van Antwerpen was gepland op 20 maanden, maar we hebben dat in 9 maanden gedaan. In China is de fabriek weer opgebouwd, getest en momenteel in bedrijf".

Mammoet heeft inmiddels meerdere van dit soort verhuizingen uitgevoerd, waarbij de eindbestemming in bijna alle gevallen in het Verre Oosten lag. Waar mogelijk wordt voor het zeetransport

met Mammoet Shipping samengewerkt. "Nu zijn we samen met Mammoet Shipping bezig met een aanvraag uit Frankrijk voor een soortgelijke fabriek als in Luik".

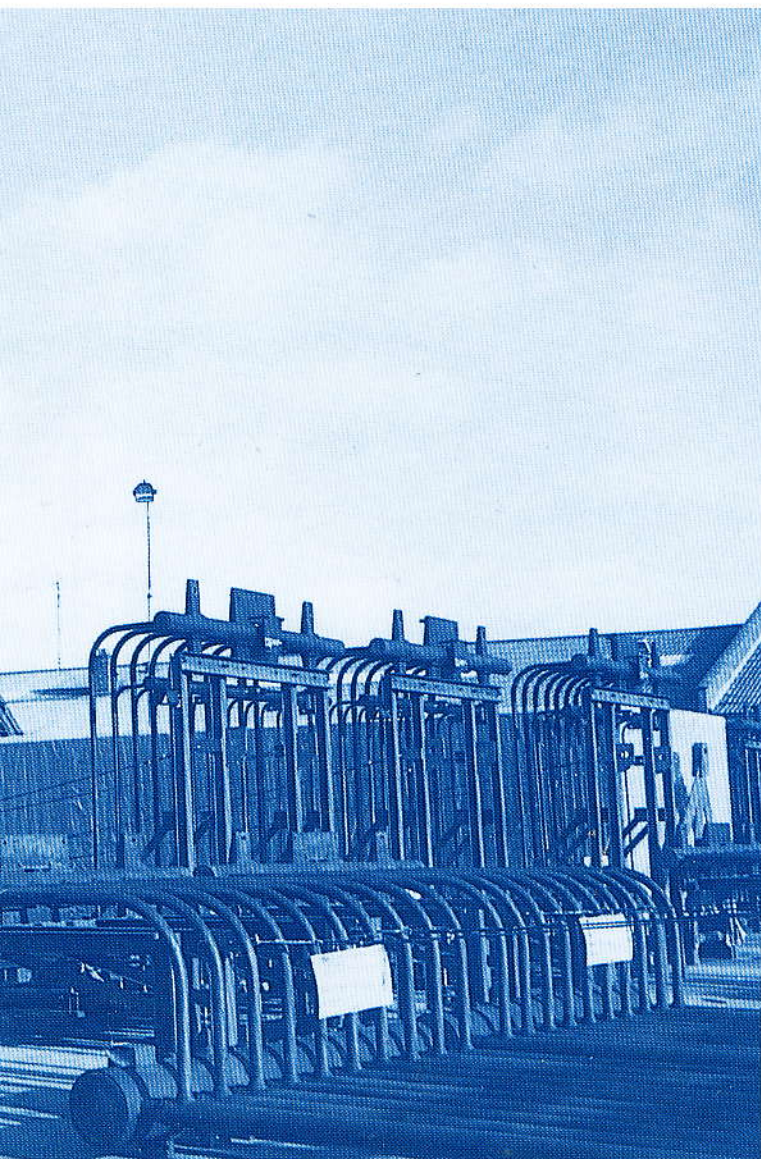
De activiteiten op het gebied van zwaar transport over de weg en complete fabrieksverhuizingen worden aangevuld met kraanverhuur en projecten. Mammoet plaatste onder andere voor het nieuwe negende havendok in Antwerpen de containerkranen en heeft momenteel contacten voor het vervoer van nieuwe containerkranen naar Zee-



brugge. Met een klantenbestand dat varieert van ingenieursbureaus tot petrochemische industrie zijn de mogelijkheden voor Mammoet zo te zien nog niet uitgeput.

MAMMOET TRANSPORT AT HOME IN THE BELGIAN MARKET

Almost 30 years ago the Dutch company Stoof Transport founded a subsidiary in Antwerp by the name of Stoof Belgium, in order to be able to work in Belgium without any barriers. In the meantime the subsidiary has grown to a self-reliant company that has not yet reached the limit of its possibilities.



"We operate throughout Belgium. There is variation in sites and activities". In the office of Mammoet Transport België NV in the Albertdok, one of the older parts of the Antwerp harbour, Jacques Tempelaars defines the activities of the organisation. Mr Tempelaars, a Dutchman in Belgium, has been the manager of Mammoet Transport België since 1982. "Within our scope of work you will find road transportation, factory movements, rental of mobile cranes upto 750 tonnes and projects such as moving container cranes".

Factory transportations

For a long time Mammoet Belgium's area of attention has been Flanders, but in the last few years also the Walloon provinces have come into view. One of the most prominent activities in the Luik region developed by Mammoet are the factory transportations. For instance a complete steel mill of 49,000 tonnes was transported mainly by road from Liege to Antwerp for shipment to China. Jacques Tempelaars: "In first instance you don't believe your ears if you get such a request. You look at an abandoned factory and somebody tells you, 'we will take it apart, can you bring the factory to Antwerp?' You walk through the place, look

into the possibilities of transportation and you make an offer. Then, for some months all is quiet and suddenly it appears that the factory has been sold to China. Three-hundred chinese came to Liege to take the factory down. Transport to the port of Antwerp had been planned to take twenty months, but we did it in nine. In China the factory was rebuild, tested and now it is in operation."

Since then, Mammoet has carried out several other removals like this and more often than not with destination Far East. If possible, we cooperate with Mammoet Shipping for the sea transportation. "At the moment we are working with Mammoet Shipping on a request from France for a similar factory as the one in Liege".

The activities in the field of heavy transport by road and complete factory removals are complemented with crane rental and projects. For instance, Mammoet placed the container cranes for the new ninth harbourdock in Antwerp and at present they are working on the transportation of new container cranes to Zeebrugge. With a list of clients that runs from engineering companies to the petrochemical industry, the opportunities of Mammoet seem not yet exhausted.

SHIP'S LENGTHENING BY SPMTS



In early February, Mammoet Transport (UK) Ltd helped Tees Dockyard to carry out the first part of a refitting exercise in lengthening the m.v. "Spheroid", owned and operated by Belfast Freight Services.

The ship was dry-docked and a new 15 metre extension piece was prepared alongside, ready to be lifted into position. Mammoet Transport positioned 48 lines of self-propelled modular transporter under the bow section of the ship and the vessel was then cut in half. Thereafter, Mammoet moved the 1200 tonne bow section forward, along the dry-dock, whilst the new insert was lifted into position and aligned. The bow was returned to match with the new insert. Using the transporters the bow had to be positioned within a few millimetres to satisfy the client's engineer, who was using laser beams to ensure perfect alignment.

By using the sophisticated transporters, this alignment was achieved "ready for welding" with an operational crew of only one supervisor and two technicians. Management at the dockyard were extremely satisfied with this move, the second one we did for them, and they now feature our equipment prominently on the cover of their company profile. Time and cost savings over the normal method of wet mating are substantial according to the dockyard management and we wish them success in winning new orders.



MOBIL OIL REFINERY CORYTON FUELS TURNAROUND SHUTDOWN 1989

During October 1989, Mammoet Transport (UK) Ltd were requested by Mobil Oil Company, during their refinery shutdown, to assist in the removal of two heaters joined together and to replace them with a single heater, onto the existing concrete supports and anchor bolts. Mammoet Transport positioned an 8-line and a 10-line self-propelled modular transporter under the existing heaters, along with 600 mm deep steel grillage and placed two 10 line SPMTs under the new heater. One of the SPMTs acted as an outrigger trailer. It was loaded with 150t of steel ballast and braced back to the side of the heater.

Mammoet Transport then moved the existing heaters off the supports and manoeuvred them through a confined area, where clearances around fixed objects were as little as 25mm, to park the heaters temporarily in the main road after crossing a pipe trench.

Meanwhile, the new heater was being transported from the other side of the refinery, past the parked old heaters, being aligned and lowered into position above the anchor bolts, using the sophisticated and highly manoeuvrable transporters. The old heaters were then transported to a break-up area of the refinery and lowered off onto supports prior to demolition work being carried out.

As a result, the shutdown work finished several days ahead of schedule and Mobil Oil Company were extremely satisfied with this operation.

(A D V E R T E N T I E)

SPECIAAL TRANSPORT MAGAZINE

The magazine cover features the title 's.t.m. speciaal transport magazine' in a stylized font. Below the title is a large photograph of a crane lifting a massive cylindrical object. To the right, a long line of transporters is shown. The cover includes the following text: 'mei 1990 jaargang 10, nr. 2 prijs f 8,50', 'Internationaal vaktijdschrift voor bijzonder wegtransport, speciale voertuigen en kraanwerkzaamheden - Officiële mededelingen van de FNK: Pagina 42 e.v.', and a small logo for FNK.

Het Speciaal Transport Magazine is een internationaal vaktijdschrift voor bijzonder wegtransport, speciale voertuigen en kraanwerkzaamheden. STM bevat tevens de officiële informatie van de Federatie van Nederlandse Kraanverhuurbedrijven (FNK). Vraag een proefnummer aan bij:
Speciaal Transport Magazine
Postbus 6146
7401 JC DEVENTER
tel. 05700-25555

MAMMOET TRANSPORT

EUROPE

Mammoet Transport B.V.

Veilingkade 15
4815 HC Breda (Holland)
P.O. Box 2267
4800 CG Breda (Holland)
Tel. 076-794400, Telex 54291
Fax: 076-715634

Mammoet Shipping B.V.

Westerdoksdiijk 40
1013 AE Amsterdam (Holland)
P.O. Box 1960
1000 BZ Amsterdam (Holland)
Tel. 020-5573300, Telex 13681
Fax: 020-236679

Mammoet Stoof B.V.

Veilingkade 15
4815 HC Breda (Holland)
P.O. Box 3469
4800 DL Breda (Holland)
Tel. 076-794444, Telex 54291
Fax: 076-712164

Mammoet Stoof B.V.

P.O.Box 1114
4530 GC Terneuzen (Holland)
Tel. 01150-12488,
Fax: 01150-30724

Mammoet Stoof B.V.

Moezelweg 230
3198 LS Europoort RT (Holland)
Tel. 01819-63033, Telex 29732
Fax: 01819-62017

Mammoet Stoof B.V.

Industriestraat 12
6135 KH Sittard (Holland)
Tel. 04490-25100
Fax: 04490-26040

Mammoet Ferry Transport B.V.

Moezelweg 230
3198 LS Europoort RT (Holland)
Tel. 01819-62244, Telex 29732
Fax: 01819-62017

Mammoet Ferry Transport N.V.

Baron de Maereleaan 32
8380 Zeebrugge (Belgium)
Tel. 050-546003, Telex 82317
Fax: 050-546179

Mammoet Ferry Transport Ltd.

North Side Alexandra Dock
Hull HU9 1TA (UK)
Tel. 0482-224834, Telex 597018
Fax: 0482-24301

Mammoet Ferry Transport Ltd.

New Tech. Square
Deeside Industrial Park
Deeside, Clwyd, Wales CH5 2NT (UK)
Tel. 0244-830700, Telex 61197
Fax: 0244-830148

Mammoet Ferry Transport Ltd.

IMM Building
1 Parker Avenue
Felixtowe (UK)
Tel. 0394-673202, Telex 988781
Fax: 0394-673207

Mammoet Transport (Begië) N.V.

Albertdok, Ouland 25
2030 Antwerp (Belgium)
Tel. 03-5416610/11/12, Telex 32989
Fax: 03-5416664

Mammoet Transport Norge A/S

Markevei 2a
5012 Bergen (Norway)
Tel. 05-322380, Telex 42534
Fax: 05-231676

Mammouth Transport France S.à. r.l.

3, Rue du Maréchal De Lattre De Tassigny
78150-Le Chesnay (France)
Tel. 01-39633737, Telex 689935
Fax: 01-39558149

Mammoet Transport (U.K.) Ltd.

Middlesbrough Wharf Trading Estate
Depot Road
Middlesbrough, Cleveland TS2 1 LA (UK)
Tel. 0642-221393, Telex 58393
Fax: 0642-243240

Mammoet Shipping N.V.

14-20 St. Mary Axe
London EC3A 8BU (UK)
Tel. 071-6234319, Telex 89344
Fax: 071-6234331

Mammoet Mediterranean

c/o Spallarossa S.r.l.
Salita A. Giusti 9/12
16124 Genoa (Italy)
Tel. 010-297938, Telex 286397
Fax: 010-290090

USA

Mammoet Transport U.S.A. Inc.

400 North Belt Drive East
Suite 315
Houston, TX 77060-3534 (U.S.A.)
Tel. 0713-9312175, Telex 6868684
Fax: 0713-4489309

Mammoet Western Inc.

1419 Potrero Avenue
South El Monte, CA 91733-3014 (U.S.A.)
Tel. 0818-4425542, Fax: 0818-4420841

Davenport Mammoet

Route 4, Box 48
Rosharon, TX 77583 (U.S.A.)
Tel. 0713-4312573
Fax: 0713-4310984

CANADA

Mammoet Canada Ltd.

530, 736 - 6th Avenue S.W.
Calgary, Alberta T2P 3T7 (Canada)
Tel. 0403-2375367, Fax: 0403-2659612

SOUTH AMERICA

Mamut de Colombia S.A.

Carrera 7 no. 32-33 of 2401
Apartado Aereo 10029
Bogota, D.E. (Colombia)
Tel. 2324425, Telex 45734
Fax: 2859736

Mamut de Colombia S.A.

Apartado Aereo 3110
Barranquilla (Colombia)
Tel. 422647, Telex 31177
Fax: 423568

MIDDLE EAST

Alatas Big Lift Co. Ltd.

P.O. Box 4
Jeddah 21411 (Saudi Arabia)
Tel. 02-6449644, Telex 601009
Fax: 02-6445974

Alatas Big Lift Co. Ltd.

P.O. Box 737
Al Jubail 31951 (Saudi Arabia)
Tel. 03-3418133, Telex 832068
Fax: 03-3415728

Mammoth Gulf

P.O. Box 2297, Dubai (U.A.E.)
Commercial Department/Yard
Tel. 04-341252, Telex 46976
Fax: 04-341366

Navigation Mammoth Gulf

P.O. Box 153, Doha (Qatar)
Tel. 434912, Telex 4206
Fax: 320921

Pecon Transport Division

P.O. Box 3262, Abu Dhabi (U.A.E.)
Tel. 02-331140, Telex 22278

ASIA

Walter Wright Mammoet (S) Pte. Ltd.

19 Tuas Crescent, Jurong Singapore 2263
Tel. 8611638, Telex 24626
Fax: 8612718

Walter Wright Mammoet (HK) Pte. Ltd.

Guangdong Textile Centre Room 402, 4/F,
22-26 Minden Avenue
Kowloon, G.P.O. Box 9398, Hong Kong
Tel: 7221622, Tlx: 42614, Fax: 3661155

Mammoet Transport Tokyo

Daitoh Building, 6th floor
3-7-1, Kasumigaseki
Chiyoda-ku, Tokyo (Japan)
C.P.O. Box 2135
Tokyo Central (Japan)
Tel. 03-5808011, Telex 2222660
(from Europe 25525)
Fax: 03-5951679