

MAMMOET

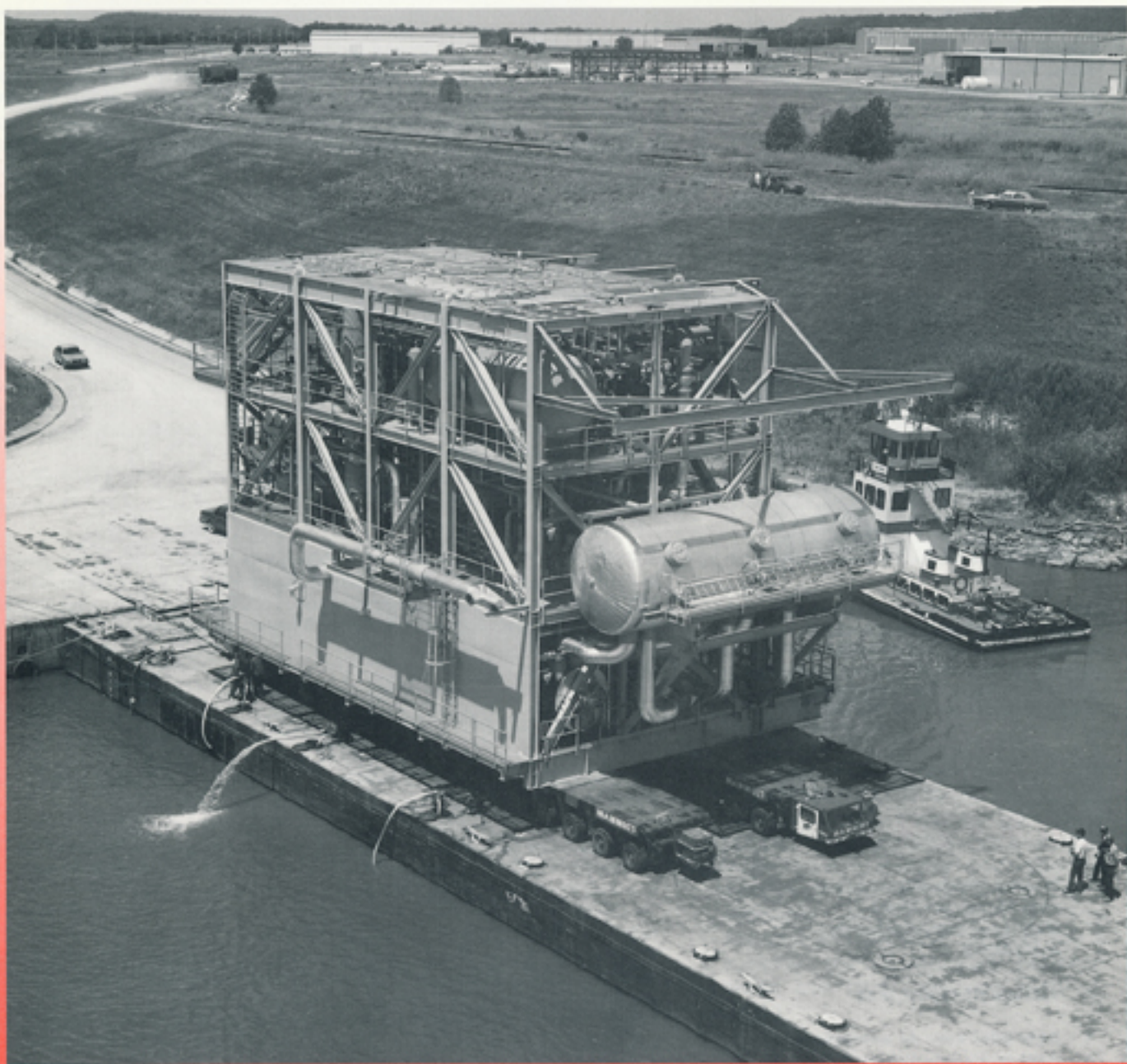
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House magazine of
Mammoet Transport B.V.

MAMMOET

MAMMOET

19



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the next century



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Mammoet Western



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in Indonesia

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COVER



This spectacular photograph was taken during the load-out of an offshore module in Tulsa, U.S.A. Davenport Mammoet Heavy Transport Inc. carried the structure from the construction site onto the barge.

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VAN DE REDAKTEUR

Mammoet Mail 19 is de laatste Mammoet Mail, die u in zijn huidige vorm zult ontvangen.

De redactie heeft in het verleden bewust gekozen voor een sobere zwart/wit druk, maar het is een vaststaand feit, dat sommige afbeeldingen in kleur veel beter uit komen. Ook voelden wij de noodzaak het ontwerp van het blad op veel punten aan te passen.

Om u een idee te geven van wat u te wachten staat, wordt Mammoet Mail 20 tegelijkertijd in de nieuwe vorm uitgegeven. Wij geven hierin een overzicht van 20 jaar Mammoet Transport. Hoewel het niet de pretentie heeft van een gedenkboek, geeft het een aardig overzicht van de ontwikkeling in het zware transport.

Terug naar Mammoet Mail 19. Wederom een klanteninterview, ditmaal met een van de grootste chemieconcerns, DSM in Limburg. Dit soort interviews zult u in de komende uitgaves van Mammoet Mail als vast onderwerp tegenkomen.

Een aantal nieuwsfeiten is voor u belangrijk:

Mammoet Shipping heeft zijn kantoor verplaatst van Amsterdam naar Hoofddorp, een plaats even ten zuiden van Amsterdam en dicht bij de luchthaven Schiphol. Het nieuwe adres en de juiste telefoon, fax en telexnummers vindt u op de adrespagina van Mammoet Mail.

Voor de klanten van Mammoet Stooft in Breda zal het mogelijk worden ook een 500 tons hydraulische kraan in te huren.

De kraan wordt begin volgend jaar operationeel en zal de uitgebreide range hydraulische kranen nog completer maken.

Tot slot heeft in het Midden Oosten Alatas Big Lift (ABL) zijn naam gewijzigd in Alatas Mammoet Co. (AMC). Met vestigingen in Jeddah, Yanbu en Jubail zijn zij de zwaar transport professionals in Saoedi Arabië. In een volgende Mammoet Mail zult u meer over hun activiteiten aantreffen.

Veel leesplezier.

FROM THE EDITOR

Mammoet Mail 19 is the last Mammoet Mail that will reach you in its present format.

In the past, the editor had chosen for a specific black and white print, but it is obvious that some pictures do much better in colour. The need was also felt to adapt the design of the magazine on quite a few points.

To give you an idea of what we have in store Mammoet Mail 20 is issued simultaneously in the new format. In this issue we give you an overview of 20 years Mammoet Transport. Although it does not pretend to be a commemoration book it gives a nice overview of the development of heavy transport. Back to Mammoet Mail 19.

You will find another client interview, this time with a major chemical company, DSM in Limburg. This kind of interview will be a regular subject in the forthcoming issues.

These news items may be important to you:

Mammoet Shipping moved their office from Amsterdam to Hoofddorp, a place south of Amsterdam and close to Schiphol airport. You will find the new address and the correct telephone, fax and telexnumbers in page 20.

Finally, in the Middle East Alatas Big Lift (ABL) changed their name into Alatas Mammoet Co. (AMC). With subsidiaries in Jeddah, Yanbu and Jubail they are the heavy transport professionals in Saudi Arabia. In a forthcoming issue of Mammoet Mail you will read more about their activities.

We wish you much pleasure reading.

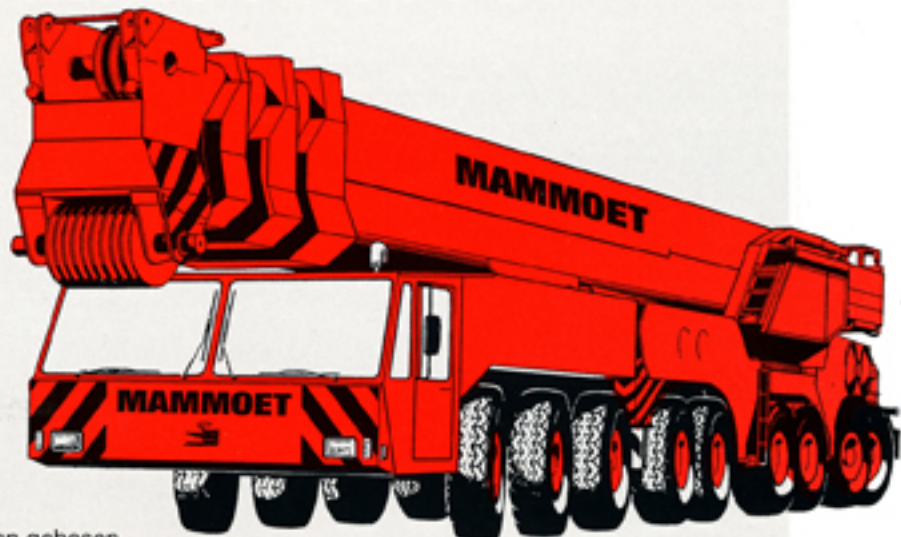
Nieuwe hydraulische kraan voor Mammoet Stoof

Mammoet Stoof in Breda heeft een 500 tons hydraulische kraan besteld. De levering hiervan zal in begin 1992 plaatsvinden.

De bestelde kraan, een Demag AC 1600, vormt een welkome aanvulling op het hydraulische kranenpark en speelt in op de tendens om ook zwaardere gewichten te kunnen hijsen met alle voordelen van een hydraulische uitvoering. Pluspunten zijn een snelle inzetbaarheid, een korte opbouwtijd en een groot hijsvermogen.

De hoofdmast heeft een uitschuifbereik van 50 meter en in combinatie met de beweegbare jib van 90 meter kan een totale hijshoogte van 135 meter worden bereikt. De spreid is maximaal 78 meter, waarbij nog een gewicht van 11 ton kan worden gehesen.

De veelzijdigheid van het kranenpark van Mammoet Stoof wordt hiermee wederom vergroot; een compleet assortiment hydraulische kranen met hijsvermogens van 30 tot 500 ton staat voor u klaar.



Mammoet participates in exhibitions



Mammoet showed their comprehensive transport and shipping facilities at two major exhibitions in Rotterdam and Houston.

The Freight Show was held in The Netherlands from 22 to 26 April of this year. Rotterdam, being the 'gateway to Europe', is an excellent place for this freight forwarder exhibition which attracted many visitors, also from Eastern Europe. Mammoet Transport, Mammoet Ferry Transport and Mammoet Shipping had a combined stand where many interested clients and future prospects were received.

The Offshore Technology Conference was held in Houston, Texas from 6 to 9 May last.

Mammoet's stand showed the special heavy lift services, which the company can offer to the offshore industry, such as load-outs, site movements, special transport, skidding and jacking operations. Included in the presentation were the activities of Davenport Mammoet in Houston and Mammoet Western in Los Angeles.

Altogether 1,263 companies were exhibiting at Houston's Astrodome and with a total number of 34,242 registered visitors the 1991 OTC has been a success to both organization and participants.



WEEKEND WORK

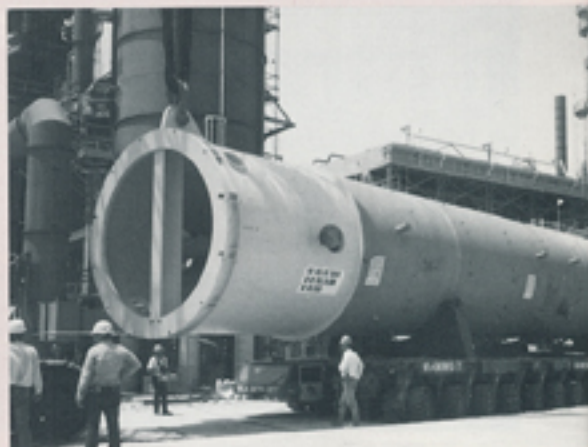
Mammoet UK recently moved a complete bridge of 700 tonnes as part of a road improvement scheme in London. A section of old elevated highway had to be demolished and replaced with a single span section to make way for a new underpass.

So as to minimize the disruption to traffic flow, the highway authority stipulated that the entire demolition, replacement and re-asphalting should take place in a single weekend. A further complication was that the new bridge had to be pre-assembled some distance away due to the presence of high voltage overhead cables.

Mammoet's Self Propelled Transporter system came to the rescue, moving the new bridge section first sideways alongside the gap left by the demolition contractor and then forwards into position between the existing bridge piers.

The gap between the old bridge and the new, was only 30 mm and the entire movement took less than two hours, with the new bridge being positioned to 5 mm in all planes.

The speed of Mammoet's operation allowed the other trades for demolition and asphaltting to complete their section of work in the maximum time and the bridge was back in service on Monday at 6.00 am to receive the London rush hour traffic.



KETELINSTALLATIE NAAR ENGELAND.

Een door Standard Fasel-Lentjes B.V. gebouwde ketelinstallatie met een gewicht van 380 ton werd recentelijk vervoerd van de bouwplaats in Dordrecht naar de Shell Haven Raffinaderij in Engeland.

De ketel is onderdeel van een warmtekracht installatie, die de restwarmte gebruikt om stoom te produceren. De stoom kan direct worden gebruikt als proceswarmte, dan wel worden omgezet in elektrische energie, waarbij een hoger rendement wordt verkregen en een lagere uitstoot van schadelijke gassen.

De ketel wordt geleverd als een kant en klare 'plug-in unit', inclusief branders, bordessen, instrumentatie en het grote voordeel hiervan is dat de installatie na aankomst op de site onmiddellijk in bedrijf kan worden gesteld.

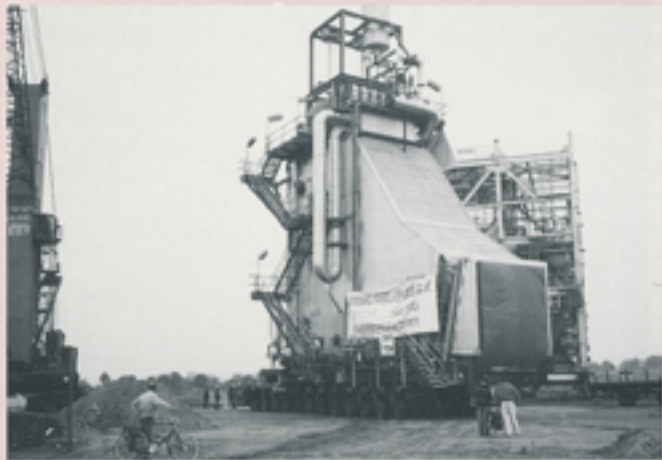


BOILER INSTALLATION TO ENGLAND.

Recently a boiler installation built by Standard Fasel-Lentjes B.V., with a weight of 380 tonnes was transported from the building site in Dordrecht to the Shell Haven Refinery in England.

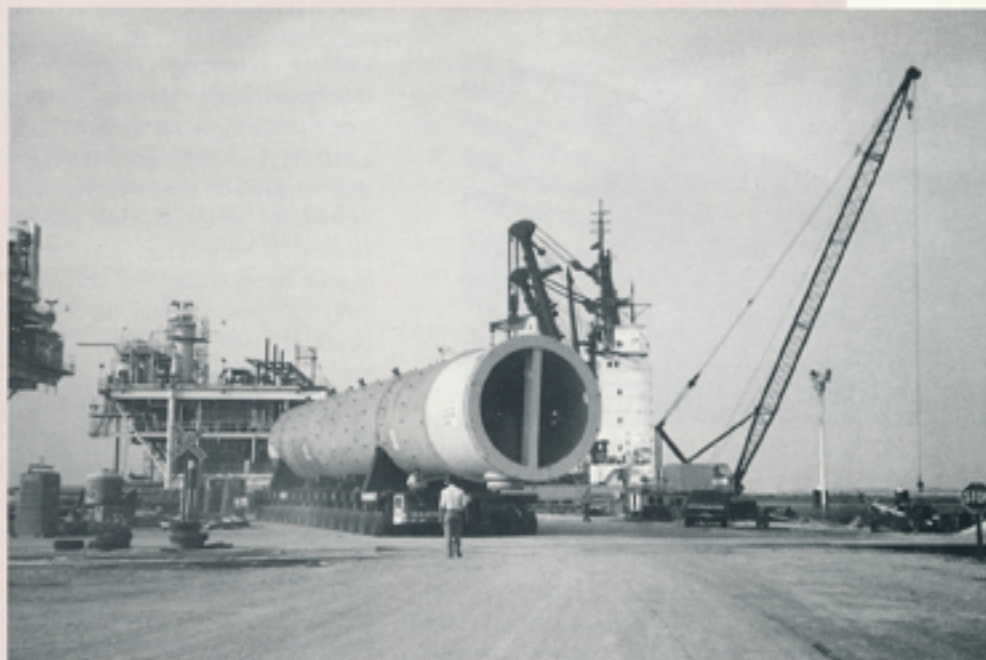
The boiler is part of a heat power installation that uses the rest heat, to produce steam. The steam can immediately be used as process heat but can also be turned into electrical energy, whereby a higher revenue can be obtained and a lower count of poisonous gasses.

The boiler is being delivered as a ready 'plug-in unit', including boilers, ladders, instruments and auxiliary equipment which give the big advantage that the installation can be put to work immediately after arrival on the site.



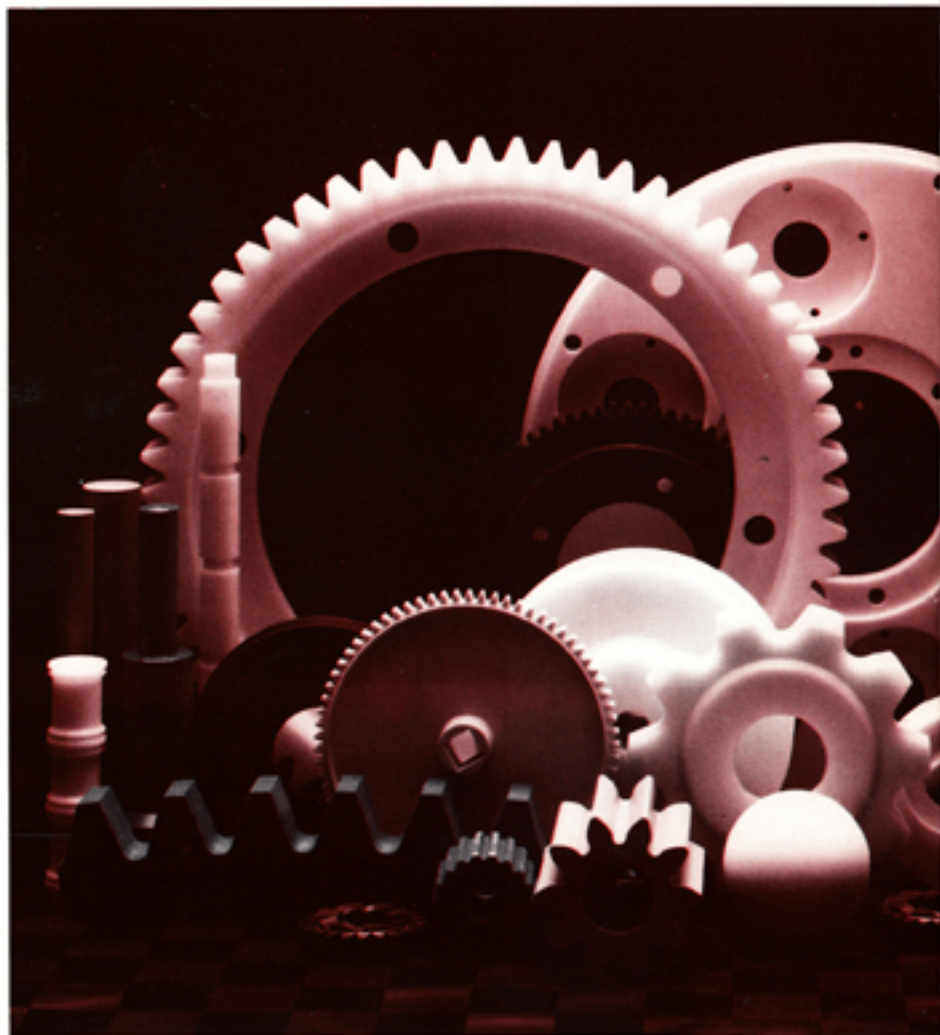
In a combined shipping transport movement two reactor vessels were unloaded from the m.s. "Starman Asia" directly onto Davenport Mammoet's self-propelled modular transporters.

The 500 tonne, 40 meter long vessels were transported to the Valero chemical plant in Corpus Christi for Fluor in Houston.



DSM BLIKT OVER DE EEUWGRENS

Het chemieconcern DSM is sterk in beweging. De onderneming gaat zich concentreren op een beperkt aantal kernactiviteiten om gezond en op eigen benen de volgende eeuw in te gaan. Mammoet in Sittard blikt over de schouders van het bedrijf mee.



Van de oorsprong van het bedrijf, de mijnbouw, zijn op de uitgestrekte bedrijfscomplexen van DSM in Limburg nauwelijks sporen terug te vinden. Enkel een aantal namen van lokaties op de terreinen zoals Maurits I en Maurits II herinneren aan de tijd dat duizenden mijnwerkers tientallen jaren lang de kolen naar de oppervlakte brachten. Het einde van het kolentijdperk kwam aan het eind van de zestiger jaren, toen het aardgas snel terrein won en plannen werden ontvouwd om over te gaan tot het gebruik van kernenergie. In 1973 sloot DSM de laatste mijn.

HISTORISCHE KEUZE

Toen de mijnbouw terugliep besloot DSM verder te investeren in de chemische industrie. De onderneming was reeds in 1930 begonnen met gaswin-

ning uit kolen en voorzag het zuidelijke gedeelte van Nederland van stadsgas. Op het moment dat de gasproductie de afzet overtrof ging men eveneens over tot de productie van ammoniak voor de kunstmestindustrie.

Om te zorgen voor vervangende werkgelegenheid in de regio die volledig afhankelijk was van de mijnbouw, volgde later dus de historische keuze om het chemisch fabriekcomplex in Geleen uit te bouwen.

"Het was op dat moment niet de meest logische plaats om chemische fabrieken te bouwen", vertelt perschef Arthur Spierts ing. van DSM Corporate Public Relations in het hoofdkantoor in Heerlen. "Een chemische fabriek bouwde je aan open water. Wij zaten echter diep in het binnenland en





De concernondernemingen waarin DSM belangen heeft, zijn voor het grootste gedeelte gevestigd in West-Europa. Verder heeft het bedrijf vestigingen in de Verenigde Staten en het Verre Oosten.

De overtreffende trap van DSM in Geleen (de grootste productie lokatie) lijkt eindeloos. De totale oppervlakte van het complex in Geleen heeft de grootte van de stad Amsterdam. In de komende vijf à zes jaar wil DSM Limburg honderd miljoen gulden investeren in een ingrijpende aanpassing van de infrastructuur op de bedrijfsterreinen in Geleen. Het plan voorziet onder meer in de ontwikkeling van een intern net van hoofdwegen, met een acht-vormige lus als rondweg, die alle ingangen met elkaar verbindt.

De felle concurrentie dwingt DSM ertoe, ondanks een voortdurende groei van de omzet, de eigen organisatie onder de loop te nemen. Uit de strategische nota 'Studie DSM 2000' heeft de leiding van het bedrijf de koers voor het komende decennium uitgestippeld. Spierts: "In de studie hebben we ons afgevraagd of DSM in 2000 kan overleven temidden van de concurrenten. De uitkomst is, dat dit mogelijk is en dat DSM zelfs een goede boterham kan verdienen, mits het zich beperkt tot de activiteiten waar het goed en sterk in is. DSM moet niet meer in het hele brede spectrum door willen gaan. Het doel is om een toppositie te houden of te krijgen in een bepaald aantal marktsegmenten."

ENGINEERING

DSM is dus sterk in beweging. Die ontwikkelingen zijn in alle geledingen van het bedrijf merkbaar. DSM Limburg Engineering verleent zijn diensten aan de divisies en business-eenheden van het concern. Engineering doet onder andere studie naar nieuwe activiteiten van productie-eenheden van DSM en voert de engineering uit van nieuwe fabrieken en installaties. In het kader van de nieuwe strategie, vertelt ingenieur Joop Bakker, Managing Director van DSM Engineering, is ook binnen zijn organisatie een andere werkwijze ontstaan. Het uitbesteden van activiteiten van Engineering, een organisatie van 450 mensen die op het eerste gezicht niet tot de kernactiviteiten behoort, is daarbij ook aan de orde. "Wij gaan detail engineering, die we nu nog kennen aan productie en onderhoud, tezamen met de kleine projecten naar buiten brengen. Wij leveren voor het concern een toegevoegde waarde. Dat is de sterkte van



een in-house bureau. Als het gaat om het ontwerpen van eenvoudige fabrieken, niet direct in de buurt, dan hebben wij geen toegevoegde waarde. Dan zijn er alleen maar toegevoegde kosten."

Bakker verduidelijkt dat zijn organisatie de onderaannemers tegenwoordig wel in een eerder stadium bij de projecten betreft. "Vroeger gingen wij na de conceptual en basic engineering naar de contractant die vervolgens onze plannen ten uitvoer bracht. Nu zijn we steeds nadrukkelijker bezig bij de grotere projecten ook de basic engineering uit te besteden. We blijven uiteraard verantwoordelijk voor de bouw. We controleren of de werkwijze goed is, of de mensen goed zijn en of de goede kwaliteit geleverd wordt. En als die facetten goed zijn, dan komt er ook een goede tekening uit. Veel aandacht krijgt ook de veiligheid. Wij willen immers dat er ook bij de bouw van de fabrieken geen ongelukken gebeuren."

In het kantoor van Bakker in Geleen onderschrijft Willem van der Lee de visie van de DSM-manager. Van der Lee is vestigingsleider van Mammoet Stoof Sittard dat sinds maart 1988 in Limburg is gevestigd en veel projecten op het DSM-complex uitvoert. "Het samenwerken of meedenken in een zo vroeg mogelijk stadium van het project is een bedrijfsfilosofie die ook Mammoet sterk uitdraagt. "Wij proberen onze ideeën aan de klant duidelijk te maken voordat het project op de tekentafel is afgerond. Door te werken met bepaalde technieken om bijvoorbeeld silo's overreind te zetten, wordt vaak een behoorlijke kostenbesparing bereikt." Bakker besluit: "Bij het ontwerp van een nieuwe fabriek of de uitbreiding van een installatie is het belangrijk dat we zo vroeg mogelijk weten of bepaalde vaten bijvoorbeeld wel geplaatst kunnen worden. Mammoet adviseert ons dan bij die moeilijke projecten. Dan herken je een stuk vakmanschap en dat is enorm veel waard."

bovendien dicht bij de bebouwde kom. Nu liggen de kaarten echter heel anders. Wat eens een belemmering leek, is nu een bijzonder gunstige lokatie midden in de Europese markt, omringd door een behoorlijke infrastructuur.

KERNACTIVITEITEN

Wie DSM tegenwoordig bezoekt, beseft dat de metamorfose van het bedrijf is geslaagd. Het concern behoort na bedrijven als BASF, DOW, Bayer, Du Pont de Nemours, ICI en Hoechst tot de grootste chemische ondernemingen van de wereld. Spierts: "Het bedrijf is van zwart wit geworden. Het huidige aantal medewerkers dat de kolentijd heeft meegemaakt is relatief klein." De jaaromzet van DSM bedroeg in 1990 ruim tien miljard gulden en er werken wereldwijd ongeveer 25.000 mensen.

DSM LOOKS INTO THE NEXT CENTURY

The chemical concern DSM is very much in motion. The company will be concentrating on fewer major activities to enter the next century healthy and under own steam. Mammoet in Sittard keeps an eye on the developments.



On the vast complex of DSM in Limburg little can be recaptured of the origin of the company, mining. Only a few names of locations on the grounds, such as 'Maurits I' and 'Maurits II' remind one of the time that thousands of miners brought the coal up to the surface for tens of years. The end of the coal era came towards the end of the sixties, when natural gas gained ground and plans were made to start using nuclear energy. In 1973 DSM closed down the last mine.

HISTORICAL CHOICE

When mining dropped back DSM decided to invest further in the chemical industry. The company had already started in 1930 with the extraction of gas from coal and provided the southern part of The Netherlands with 'city gas'. Once the gas production exceeded the demand, the company also turned to the production of ammonia for the fertilizer industry. Later on the historical choice was

made to expand the chemical complex in Geleen to be able to provide other jobs for the region that had been completely dependent of mining.

"At that time it was not the most logical place to build chemical plants" says Press Chief Arthur Spierts of DSM Corporate Public Relations in the head office in Heerlen. "One would build a chemical plant at the waterfront. We were deep in the mainland and more-

over close to the villages. But now the situation looks quite different. What looked like a barrier is now a very favourable location in the centre of the European market, surrounded by an extensive infrastructure.

MAJOR ACTIVITIES

Whoever visits DSM today, will realize that the metamorphoses of the company has become a success. After companies as BASF, DOW, Bayer, Du Pont de Nemours, ICI and Hoechst DSM belongs to the largest chemical enterprises of the world. Mr Spierts: "The company turned from black to white. The present number employees in our company that really experienced the 'times of coal' is relatively small." DSM's 1990 turnover amounted to over ten billion guilders and all over the world some 25,000 people work with the company. The majority of the companies in which DSM has interests are settled in Western Europe.

Furthermore the company has subsidiaries in the United States and the Far East.

The grand scale of DSM in Geleen (the largest production site) seems endless. The total area of the factories in Geleen has the size of the city of Amsterdam. In the forthcoming five to six year DSM Limburg wants to invest one hundred million guilders in a major adaptation of the infrastructure on the company grounds in Geleen. The scheme sees to the development of an internal system of main roads with a 8-shaped ringway to connect all entrances. The strong competition forces DSM, despite a continuous growth of turnover, to scrutinize the own organisation. From the strategic report "Study DSM 2000" the management of the company delineated the route for the coming decennium. Mr Spierts: "In the study we asked ourselves if DSM could survive in 2000 amongst the competition. It turns out that this is possible and that DSM can even earn a good living if it limits itself to the good and strong activities. DSM must not want to go through the whole spectrum. The target is to gain or maintain a top position in a certain number of markets.

ENGINEERING

So, DSM is moving around quite strongly. These developments can be noticed in all sections of the company. DSM Limburg Engineering serves the divisions and business units of the concern. Among others Engineering

studies new activities of production units of DSM and executes the engineering for new factories and installations. Mr Joop Bakker, Managing Director of DSM Engineering explains that within the scope of the new strategy inside his organisation a new way of working has grown. Subcontracting activities of Engineering, a 450 men organisation that on first glance is not part of the major activities, has been an issue. "We will subcontract detailed engineering that we now work on in production and maintenance, as well as the small projects. We bring added value to the company. That is the strength of an in-house bureau. If we talk about designing simple factories, not really at close range, we do not have that added value, the only thing added then are costs".

Bakker explicates that his organisation does involve the sub-contractors of projects in a much earlier stage. "Previously, only after the conceptual and basic engineering would we contact the contractor who would consequently execute our plans. Nowadays we tend to more and more subcontract also the basic engineering of the larger projects. Of course we remain responsible for building. We check if the way of working is correct, if the workers are good and if the right quality is being supplied. And if those factors are up to standard, the drawing will also be good. Safety of course also receives lots of attention. We don't want accidents to happen when building the factories, do we."

In the office of Mr Bakker in Geleen, Mr Willem van der Lee underlines the DSM-manager's point of view. Mr Van der Lee is branch manager of Mammoet

Stoof Sittard which was founded in Limburg in 1988 and carries out quite a number of projects on DSM territory. "Working together on a project or thinking along in as early a stage as possible is a company philosophy that Mammoet propagates too. "We try to clarify our ideas to the customer before the project has been finalized on the drawing board. By working with certain techniques, for instance to erect silo's, a fair saving in costs can be obtained." Mr Bakker concludes: "When designing a new factory for the expansion of an installation it is for instance important that we know as early as possible if certain vessels can be placed at all. Mammoet advises us for these difficult projects. One recognises workmanship and that is worth a lot."



GREEN GIANT ON THE

An interesting transport movement took place in July of this year, executed by Davenport Mammoet Heavy Transport Inc.

A 150 feet long and 450,000 lbs weighing debutanizer was built in Houston and had to find its way to Shell's Norco manufacturing complex in New Orleans. The loading of the distillation tower was facilitated by the self-propelled modular transporters' (SPMT) ability to adjust the trailers' deck from 48" to 60". Therefore no crane was required.

Under police surveillance the column was brought to the barge and rolled via the ramp onto the deck. After that a long boat took care of the river transport over the Mississippi river to New Orleans.

The roll-off operation in New Orleans was particularly interesting because there was no roll on/roll off quay at the river bank. Davenport Mammoet had to build an access to the nearby public road to the Norco refinery. It had taken quite some preparation before the bullet shaped column was transported to the site, avoiding numerous low hanging telephone and electricity cables and traffic signals.

A provisional entrance had been made at the refinery and because of the SPMT's 360° rotating axles, the 90° turn could be taken quite easily.



THE MOVE





COMPLETE PLANT MOVE IN CALIFORNIA

"The complete plant move describes this project best" says Joe McCarthy of the Frize Corporation of Southern California. Mammoet Western as a subcontractor provided a variety of transport services including moving all machinery, product, raw stock and even dismantling the office buildings of California AMforge Company.

Mammoet Western's responsibilities included disassembly, lifting, transportation and installation of equipment ranging from 500 to 600,000 lbs lifts. The total cargo was assessed at 5,000 tons. Although the move from Orange County, California to Los Angeles County, California was only 40 miles, maintaining production was of vital importance.

The top priority machines were two Erie 2,500 ton forging presses, one 5,000 ton Erie Forging Press and all the supporting equipment. The two 2,500 ton presses which weighed 280,000 lbs had to be laid down, transported and erected. The allowable down time per press line was five calendar days. This schedule was met by utilizing Mammoet Western's 400 ton hydraulic gantry and 13-axle truck and trailer. The 5,000 ton press line had an allowable down time of ten days and required the use of a 10-axle railroad car for the main press which was also lifted by the 400 ton gantry.

The total move was completed in 60 days.



OUTSTANDING PERFORMANCE AWARD FOR MAMMOET WESTERN INC.

"In recognition of outstanding performance by Mammoet Western during installation of ROHR Industries' 3,500 ton Hydraulic Forming Press. Mammoet Western has demonstrated outstanding qualities of service, commitment, ownership, teamwork and ethical behaviour consistent with ROHR's principles for excellence."

These are the words inscribed in the plaque presented to Mammoet Western after completion of the Williams and White Press installation at Rohr Industries, Chula Vista, California, U.S.A. manufacturing plant.

Rohr designs, manufactures and supports jet aircraft engine nacelles, thrust reversers and pylons. Nacelles are the complex structures that surround jet engines and thrust reversers are devices that help slow the aircraft when landing. Pylons (also called struts) attach the propulsion system to the aircraft's wings or fuselage.

Nacelle systems are a vital structural part of the aircraft and must withstand extreme temperatures and mechanical stresses. They provide protection against lightning strikes and fire and prevent inlet icing. They must also be light-weight, be aerodynamic and reduce noise.

During the engine build-up, Rohr installs a variety of components, fuel, electrical, pneumatic and hydraulic systems, as well as its own products, to provide its customers a ready-to-use propulsion system.

Rohr operate manufacturing facilities throughout the United States. They built up a substantial presence in Europe in the last 18 years and maintain a very elite list of clientele such as Boeing, Airbus Industries, McDonnell Douglas, Grumman, Lockheed, International Aero Engines and Rolls Royce just to name a few.

Rohr's new 3,500 ton forming press is the largest of its type yet been built by Williams and White.

Mammoet Western's scope of work consisted of four major operations. Beginning with the unloading of the interstate transporters, lowering the base sections into a 15 feet deep pit, assembling hydraulic and structural components and finally raising the crown 30 feet above floor level.

This task was carried out smoothly and efficiently by Mammoet Western's crew and their 400 tonne hydraulic gantry. Careful planning by Mammoet's Dennis O'Hara and Rohr's Doug Smith provided minimal disruption to Rohr's heavy production schedule.



CONTAINER CARRIER ON THE MOVE

Walter Wright Mammoet (HK) Ltd shipped the first of six container carriers from Tsing Yi Island in Hong Kong to a new container terminal in the People's Republic of China.

The carrier, measuring 25 x 12 x 18 metres and weighing 120 tonnes, was shipping on the derrick barge 'Hilite'.

The barge measures 45 x 16.5 x 5 metres and has a cargo hold of 27 x 12.5 x 4.5 metres. Because of the 2.5 metres tide difference only half an hour was available for both the loading and the unloading operation, which were carried out via the ro/ro ramp.

The actual hatch covers of the barge were used as a ramp. They were placed in position with the barge's 110 tonne crane.



TANDEM LIFT IN MALAYSIA

An agreement was reached with Mitsubishi Heavy Industries in Japan for Walter Wright Mammoet Singapore to provide equipment and carry out erection of heavy vessels for the construction of an MTBE/Propylene Plant in Kuantan Malaysia during 1991.

As some of the lifts to be performed were extremely critical, a substantial amount of engineering work had already been undertaken by Walter Wright Mammoet's engineers who finally arrived at a solution acceptable to the client, main contractor and own operations personnel to carry out these lifts. This involved the use of two Manitowoc 4600 series 4 with series 3 ringers to make the tandem lifts and a Manitowoc 4100 series 2 crawler crane to tail the vessels.

The first lift was the tallest vessel of 86 m and a weight of 370 tonnes, the second being the heaviest at 450 tonnes but shorter in height. Being the first tandem lift of this magnitude carried out in Malaysia it attracted a great deal of interest from the media and other organisations in the same line of business. Ten lifts will be performed in total during which time several relocations of the cranes will be involved.

MAMMOET U.S.A. TEAMWORK

After extensive planning and negotiations Mammoet Western was awarded a multi-faceted sub-contract by Brinderson Corporation of Irvine, California, U.S.A. Brinderson is a national construction contractor who specializes in waste water treatment plant construction.

Brinderson was awarded a 20 million dollar contract by the County Sanitation Districts of Orange County, California of which Mammoet was presented with solving several transport problems.

The first problem was the early delivery of five 16-cylinder Cooper Bessemer reciprocating engines with a shipping weight of 250,000 pounds each. The five engines were all delivered via railroad to a rail siding approximately ten miles from the treatment plant, one engine every two weeks.

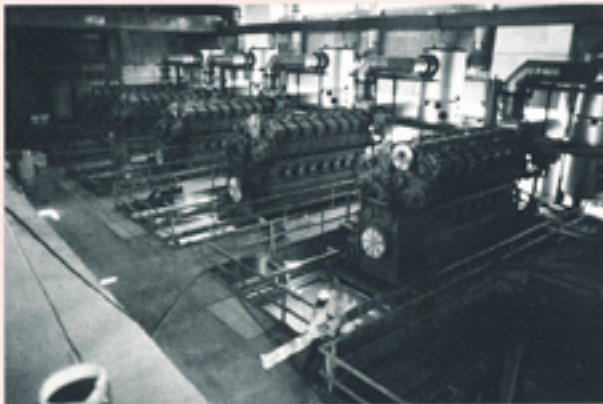
Mammoet Western utilizing their 400 ton hydraulic gantry and 13-axle truck and trailer transferred the engines from the rail car and transported these to a storage area at the treatment plant. Mammoet then unloaded the engines and stored the engines up for SPMT self-loading. Storing the engines in an area not readily accessible for installation was necessary due to extensive excavation required for foundations.



The second problem was to move the engines to a cost effective lifting location. This move was carried out by six line SPMT's. Mammoet moved all five engines in two days.

The third problem was lifting and setting onto the engine pedestal which is basically an island in the middle of the 20' deep basement. Conventional craneage was too expensive because of the basement wall. Instead Mammoet Western's 400 tonne gantry was employed again. Within 10 days all engines were lifted, grouted and mounted on their "islands" using Mammoet Western's combined millwright and gantry crew.

The balance of the project to be carried out by Mammoet Western's millwrights included the installation of flywheels, generators, turbochargers, etc.



BEACH LANDING 4 PRESSURE VESSELS.

Walter Wright Mammoet (S) Ltd performed a spectacular beach landing in Kerteh, Malaysia of 4 high-pressure vessels destined for a sludgatcher facility.

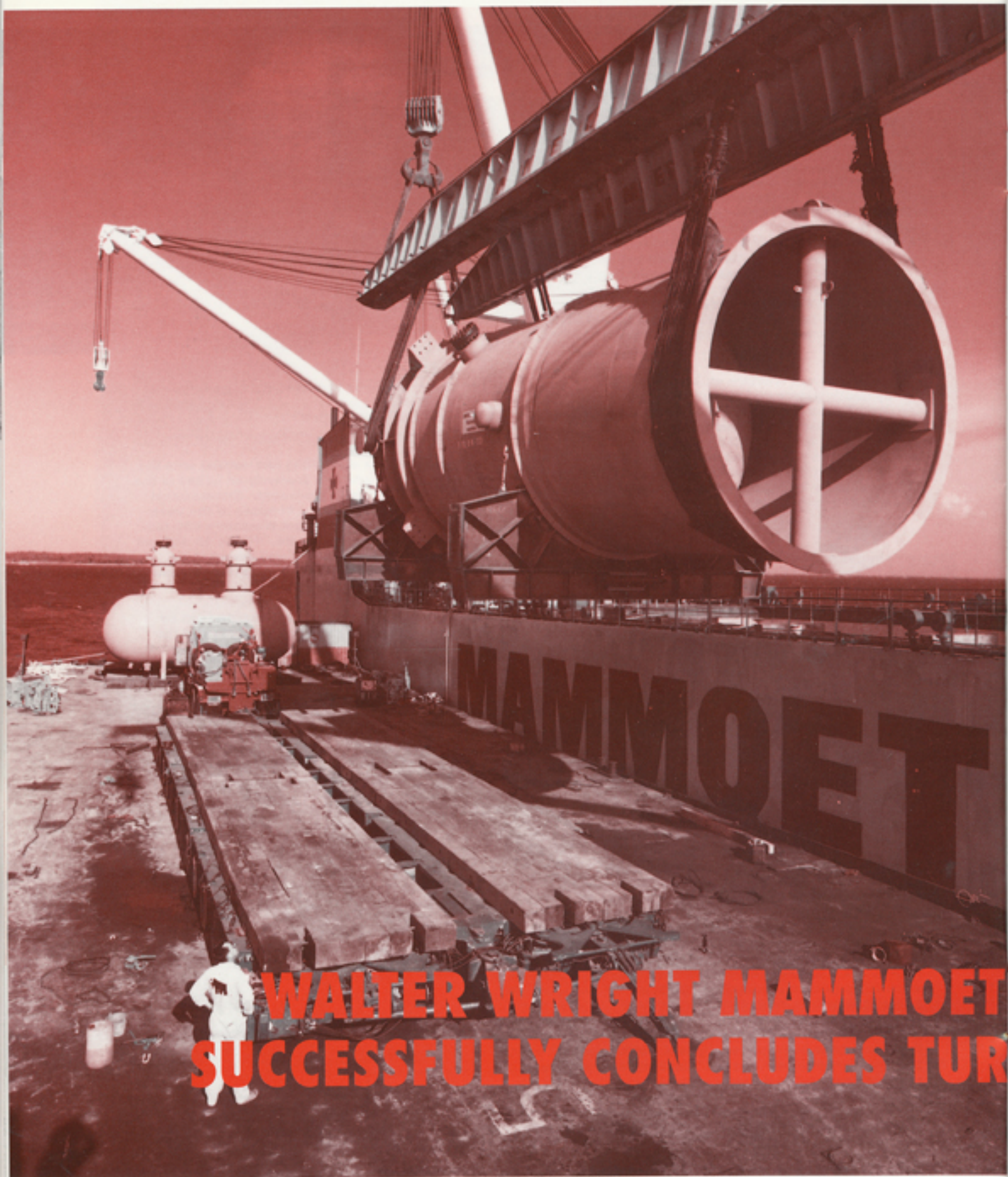
The vessels, 2 units condensate separators each weighing 62 tonnes and 2 units gas scrubbers each weighing 126 tonnes, were shipped from Jurong Port Singapore on the 180' x 50' barge "Sealord Mariner".

After lashing and securing at the WWM yard in Singapore the barge was towed to Malaysia by two shallow draught tugs, the 'Standard Mariner' and the 'Starlight Mariner', over a distance of approx. 235 nautical miles.

For the beach landing WWM had backfilled and compacted enough sand as a beach head to level up the beach ground to the barge's deck.

To reach the main road a provisional road of about 1 km had also to be backfilled and compacted.





**WALTER WRIGHT MAMMOET
SUCCESSFULLY CONCLUDES TUR**

Some time ago PT Yasa Ganesha decided to build an Ethylene Oxide and Ethylene Glycol plant in Merak on the north-western tip of Java (Indonesia). A major part of the plant was a 500 tonne reactor which was built in Italy, shipped, offloaded on to a barge, transported and finally erected on the site.

Korea Engineering, the engineering consultants charged with the operation, decided for a turnkey project to avoid any possible breakdowns in the arrangements. Using various organizations would increase that risk. The facilities of the Mammoet Group of companies fitted the bill very well.

Using Mammoet Shipping's vessel m.v. 'Project Europa' the large reactor and auxiliaries were shipped to Merak. A Walter Wright Mammoet barge with hydraulic platform trailers received the reactor and the additional steam drums.

Finding a suitable anchoring location and jetty facilities proved complicated. The proposed area has a bad record for rough seas and swells. Therefore changes were proposed taking into consideration the local authorities' requirement for the shipping lanes not to be obstructed.

This problem was eventually settled and the landing slot was constructed and dredged. Walter Wright Mammoet successfully completed landing the cargo from the 'Project Europa' onto the barge, moving it into the jetty, offloading the trailer and transporting it to its final destination.

In the meantime Walter Wright Mammoet had also barged a crane from Singapore, the Manitowoc M4600 with ringer attachment. It had been landed and rigged on site to facilitate the lifting and erecting of the reactor. The lift's weight of 500 tonnes including the rigging devices made it a prestigious one being the heaviest crane lift in South East Asia. This was aggravated by a very restricted site area in which to operate.

Several smaller pieces were erected, amounting to a total lifted weight of 850 tons. The work was carried out successfully and without incident, which brought the Mammoet Group wide acclaim. Congratulations were extended for the professional way the Mammoet Group received, shipped, transported and erected the heavy equipment.



SINGAPORE TURNKEY PROJECT

WORLD'S LARGEST SHIP-UNLOADER

Last month, Mammoet Shipping's m.s. "Happy Buccaneer" called at the EMO berth in Rotterdam to discharge the major part of what is to be the world's largest ship-unloader.

The bridge girder, measuring approx. 89 x 22 x 13 metres, had been loaded in Volos, Greece, where it had been built by Metal Constructions of Greece S.A., under subcontract of M.A.N. of Germany. The m.s. "Happy Buccaneer" placed the 911 tonne girder on board with her own two 550 tonne rotating cranes.

In Rotterdam the structure had to be landed perpendicular to the quay, for which the ship's gear were assisted by a floating crane. Trailers of the Mammoet land organisation took over while positioning the piece on shore.

Mammoet Shipping's m.s. "Project Europa" had delivered the legs for the unloader a few weeks earlier, while the 300 tonne seaside boom will be delivered around next January. Once the unloader is assembled E.M.O. will be able to handle 85 tonnes of coal/ore in one lift.



A special shipment of trawlers from Korea to Libia

MORE UNLOADERS

Two so-called K.D. simpoter unloaders were shipped by Mammoet Shipping's "Happy Buccaneer" to Taiwan.

The unloading of the 781 tonne unloaders (9,385 cbm) took place last June in the port of Taichung. The simpoters were assembled on the quayside by the ship's own cranes.

The shipping agent were Messrs Taiwan Swire Limited in Taipeh, Taiwan.



SMIT TRANSFORMERS TO DENMARK

For Smit Transformatoren B.V. of Nijmegen 3 transformers were shipped through the port of Rotterdam to Denmark.

Mammoet took care of the combined land/water operation. Together with the transformers special platform trailers were loaded on board the heavy lift vessel 'Starman Asia' for further transportation in Denmark.



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