

**MAMMOET**

WINTER 1993 NUMBER 22

House magazine  
of Mammoet  
Transport B.V.



**MAMMOET  
IN EUROPE**

**MAMMOET  
SHIPPING  
EXPANDS  
FLEET**



*From the editor*

*From the Mammoet Transport head office the view of the centre of Amsterdam is very inspiring for writing this introduction to Mammoet Mail 22.*

*In times gone by, vessels of the East India Company had their base in this city. From here they sailed to all parts of the world and were underway for months, if not years, sometimes not to come back at all. This was, however, no objection to go on and many of the Dutch trade contacts date from that era.*

*Amsterdam is also the birthplace of Mammoet Transport and is since 1971, with a short interruption, also the town where the head office of the Mammoet organisation is seated. Over the years, this organisation has grown to one of the leading heavy lift transport companies with offices in the U.S.A., South-East Asia, the Middle-East, Far-East and Europe.*

*The company owes it's success to the total transport concept in which sea and land transportation, including lifting and placing on foundation can be carried out with Mammoet's own material. For our clients this is the guarantee for a reliable and safe execution of the most complicated heavy lift projects, wherever it may come from or go to.*

*To return to the contents of this magazine; as 1993 must be the hour of the European truth, we interviewed a number of people on this subject; the focal point is the European Mammoet organisation and the changes that the absence of borders will bring.*

*Furthermore, Mammoet made important investments in the area of transport and lifting and Mammoet Shipping extended her fleet with two vessels.*

*In the series client interviews we again endeavour to give a view on Mammoet from somebody outside the organisation.*

*Finally, we like to ask your opinion on Mammoet Mail's new look and whether you have any suggestions that could enhance the quality of the magazine.*

*You may direct your reactions by letter or fax to the editor.*

*Enjoy your reading.*



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**Mammoet in Europe**

In the main article various opinions are given with regard to the development of the European market in 1993. The demand for heavy transport is still growing, but as the specialism intensifies, only the professionals will stay in business.

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**Major refinery project in Indonesia**

Mammoet Shipping is moving 55,000 cbm heavy lift and project cargo from Korea, Japan and The Netherlands for the construction of a 2 billion dollar refinery in Balongan on Java. Mr N.J. Kesek of P.T. Handfast gives his opinion on the cooperation between Mammoet Shipping and his company.



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**Updated Fleet Particulars**

A complete heavy lift and project fleet is the backbone of Mammoet's heavy lift activities. An overview is published on pages 12 and 13.

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**"Spruce Goose" without wings**

Mammoet Western is in the flying business again. For a relocation the famous Howard Hughes jumbo plane, the "Spruce Goose" had to be carved up. Mammoet Western's crew completed the task without a mark on its wings.



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**Shut down chemical plant**

For a maintenance job at a chemical plant, Mammoet Stooft supplied the men and power for the lifting operations. Shell manager Jan Hemings gives his view on the technical and logistic matters for this project.

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**Specialized lifting in Buggenum**

For the installation of a number of heavy components at a power station in Buggenum, The Netherlands, the leading role was played by Mammoet's Hydra-Jack lifting system. This system is perfect for lifting operations in confined areas.





## MAMMOET IN EUROPE

*To Mammoet the world is their oyster, with an emphasis on potential growth markets in South East Asia, the United States, Canada, the Middle East, the Far-East and Europe. Especially on the latter continent the company closely follows the developments. A report on the Mammoet-organisation in Europe.*



Heavy lift shipping operator Mammoet Shipping's head office is seated in Hoofddorp, The Netherlands. In Europe, the company has settlements in England, Germany, France, Italy, Spain and Switzerland. Mammoet Shipping director Arie Peterse calls the European market very intensive to work on: "contrary to the United States and Japan one seldom sees an engineering contractor in Europe take on a turnkey project that generates a large cargo flow. The engineering contractors in Europe are, especially for the petrochemical industry, primarily engaged in European projects. However from Europe many supplies are produced for projects in the whole world. Therefore, we deal with many people."

Peterse refers, among others, to the worldwide sourcing done for instance by Japanese companies. "Japan buys heavy cargo components in various European countries. That can be Poland or The Netherlands, but also Italy or Rumania. We receive enquiries for the transportation of heavy pieces from places that are quite unknown. Europe is supplier for the rest of the world and therefore this market is extremely fragmented."

In this fragmented market, Mammoet Shipping works with shippers as well as forwarders. Peterse: "especially Germany is a market well-controlled by forwarders. The builders usually provide information about projects but in most cases they enter the market through the forwarders."

After the political change in the erstwhile GDR and in eastern Europe Mammoet Shipping's potential market has increased. Peterse emphasizes that he does not expect any results in the near future: "we think it is still too early to open an office there or appoint an agent. However, we closely follow the developments."

Mammoet Stooft operates her activities from Breda, in the south of The Netherlands. Dictated by mobilisation and demobilisation costs the crane activities are restricted to the Benelux (Belgium, Netherlands and Luxembourg). Mammoet Stooft director Hans van den Bovenkamp: "the operation of cranes from Breda will always be geographically orientated. Yet, we think we will be able to provide a reasonable growth in a specific niche market."

We want to characterise ourselves as a company that delivers more than just a crane hook. We think not only of safety and services, but also of pre-engineering. In the petrochemical industry more and more contractors work towards a partnership with crane companies."

For the crane activities as well as the projects, Van den Bovenkamp is not convinced that the vanishing borders of the European Community make access to new opportunities much simpler. "On paper it must become easier to work in other European countries. A free exchange of services and people will be possible. But despite the lack of restrictions, one shall have to deal with local preferences. We notice that every day. A Belgian will always ask for a Belgian, a Frenchman for a Frenchman. Why this is such a strong issue? Because we are a service company based on human resources. I think that if we want to grow, we will have to intensify our existing contacts and offer our know-how."

With the Self Propelled Modular Transporters, another major activity of Mammoet Stooft, the geographical reach and the local preferences play a less important part according to Van den Bovenkamp. "The SPMTs operate everywhere in Europe. The activities are not restricted by distances. By nature these are always the larger projects."

The SPMT's major enterprise is the load-out market, moving (usually onto barges) large modules for the offshore industry. "Through the disappearing border formalities in the E.C., working with the SPMTs will become somewhat easier. We have to keep in mind, however, that it may become a tendency to build fewer and less large modules for the offshore industry. We aim, also in Europe, increasingly for land projects i.e. moving modular built plants. Also the spot market plays a role."

With respect to the developments in eastern Europe Van den Bovenkamp whole-heartedly agrees with Mammoet Shipping director Arie Peterse: "Eastern Europe lags behind enormously. At the moment we try to find out whether any form of cooperation is possible with local companies, although I expect nothing to materialize in the next two years. However, it will happen one day and then there will certainly be possibilities."



Arie Peterse



Hans van den Bovenkamp



## MAMMOET IN EUROPE



### *Mammoet in France*

The office of Mammoth Transport France is housed less than 30 minutes from the centre of Paris. The choice for establishing an office in the French capital is obvious: culturally, politically and economically the heart of France lies in the metropolis. "The majority of our customers is settled in the Paris region", says Gilles Thomas, director of Mammoth Transport France. "Most companies have their head office here. Outside Paris are mainly the sites. Because of this location, it is possible to reach our clients quickly."

Mammoth Transport France sells both shipping and land activities. Thomas: "We operate in all the different disciplines: the oil industry, the power industry, the petrochemical industry. In the market we work with forwarders as well as manufacturers and engineering companies."



At present Thomas observes that the French market is holding back. The descent of the dollar, a major influence on shipping activities, and the discussions over the ratification of the Maastricht Treaty and the GATT negotiations have negatively influenced export. "Last year was extremely busy. Now the activities in the market are decreasing. There are few investments, everybody is waiting. The big companies are sitting on their money."

Under these circumstances Mammoth Transport France makes extra efforts to equal the results of 1992. What, according to

Thomas, is the strength of Mammoth Transport France? "Our strongest selling point is that we are a specialized transport company. We know how to organize. When needed we receive good technical support from the head offices of Mammoet Shipping and Mammoet Stooft. As soon as a customer needs more forms of transportation, many transport companies have difficulty organising. We sell every link in the transport chain. Together with the Mammoet offices around the world we have developed a door-to-door service which is highly appreciated by the customer. We have, for example, good contacts with the Mammoet organisation in Tokyo and sell complete packages to Japanese clients."



### *Mammoet in Germany*

The commercial interests of Mammoet Shipping in Germany, Austria and eastern Europe are taken care of by the offices of Mammoet Starman Shipping GmbH in Bremen and Düsseldorf. Kees Sindorf is responsible for the German organisation and can be found in the Düsseldorf region. "A large number of industries are represented here and we are therefore close to the market. Besides, many Japanese companies have settled down in Düsseldorf with whom we develop and maintain interesting contacts."

The German market has strongly been influenced by the political developments in the last two years. Through the very high costs of the reunification, the German export position has been under great pressure. The import side is not very active either. The reunification lies as a heavy burden on the economy. Sindorf speaks of a kind of recession going through former Western-Germany. It is expected, however, that from the second part of 1993 a slow recovery will take place. The German economy remains one of the strongest in the world. For the new east German and east European market the expectations for the near future are not very high. "For the time being, we are following developments and establishing

contacts. "The whole privatisation of the east part of Germany by Treuhand is an extremely difficult affair. Many parts of the industry have been reorganised and export from this area has reduced considerably."

It has been decided not to open an own office yet in eastern Europe since from the west of Germany the market can be worked on intensively enough. Much information is also received in the contacts with west German companies who have established themselves in eastern Germany and eastern Europe. "The market in east Europe shows many similarities with the developments in the former GDR although east Europe is more advanced. Some industries have been able to maintain themselves and focus increasingly on the west. They manage to produce competitive products. The problem of the erstwhile GDR industry is that they have always focused on the Soviet Union."

Under the said circumstances Sindorf is not dissatisfied with the results of Mammoet Shipping in the existing and new markets. "In the west part of the German market our contacts with forwarders and shippers are good. In the east part the heavy industry knows our name too. Personal contacts with clients are very important. They enable us to pick up information about new developments of running and future projects and make that we can adapt better to the wishes of our clients for the transportation of project and heavy cargoes."

### ***Mammoet in the U.K.***

Mammoet Transport U.K.'s office is situated in Middlesbrough. Norman Reed calls it "a good operational centre". There is a lot of expertise both on management level and operational level, a good source of labour. In the offshore business Mammoet deals exclusively with fabricators who are based along the coast. "But, we are increasingly carrying out consultancy for the engineering and oil companies, who are often based in London. We undertake early



feasibility studies and analysis of conceptual designs and advise whether the modules can be loaded-out using present-day technology. Or if load-outs are not possible what changes should be introduced to the designs to make them suitable for loading out. All advice is supplied in a very early stage of the operation."



### ***Mammoet Ferry Transport***

In the shade of the heavy transport activities, Mammoet have been operating a renown ferry trailer service for many years. Mammoet Ferry Transport, an efficient organisation daily running a fleet of tilt trailers between the United Kingdom and Europe, has recently opened new offices in Glasgow, Scotland and Moers, Germany in addition to the existing offices in Europoort, Zeebrugge, Hull, Felixstowe and Deeside. Since the start of Mammoet Ferry Transport in 1983 the company has grown quickly and now the red and white trailers form an essential link in the transport chain between the most important production and trade centres at both sides of the North Sea. As an underlining of the high quality and safety standards Mammoet Ferry Transport in Europoort and Zeebrugge obtained the well-known quality certificate ISO 9002 in 1991, while the U.K. branch received the highly appreciated BS 5750/ISO 9002 Quality Management System accreditation last July.



Gilles Thomas



Kees Sindorf





# Mammoet in Pictures



## Delivery xylene splitter

In a combined transport operation Mammoet Shipping and Walter Wright Mammoet delivered a 890 tonne Xylene splitter to the Mobil Jurong Aromatics Plant in Jurong, Singapore. The 95 meter long column, with a diameter of 10 meters, had been manufactured by I.H.I. in Yokohama, Japan and had been collected by Mammoet Shipping's m.s. "HAPPY BUCCANEER" for shipment to Singapore. Loading and unloading of the huge column had taken place by the ship's own 360 degree rotating heavy lift cranes, whereas the unloading in Singapore was performed in two steps. The ship's

cranes placed the column onto a barge and after towage to the quay a floating crane transferred the splitter column onto the Self Propelled Modular Transporters, mobilised by Mammoet Shipping's sistercompany Walter Wright Mammoet. Transportation to the Mobil site took place at night in order not to obstruct the daytime traffic in Jurong. Walter Wright Mammoet (S) Pte. Ltd was also in charge of the local forwarding and transportation. A number of other shipments had been carried out for this project, as for instance a 72 meter long platform reactor of 303 tonnes from Italy and a 260 tonne pressure vessel from the U.S.A.



## Alatas Mammoet in length

Alatas Mammoet Company Ltd carried out a long transport in the Jubail Industrial area in Saudi Arabia. A 475 tonne column with a length of 97.5 m was transported from the works of Belleli Saudi Heavy Industries to the Ibn Zahr site. In the same period a 250 tonne sludge catcher was transported for Saudi Aramco. The sludge catcher was shipped to the Jubail Commercial Port, from where it was transported through Jubail town to the Berri Gas Plant. AMC used their 280 tonne lattice boom crane to position the catcher onto its final foundations.





### Special transport in Malaysia

Skanza Mammoet (M) Sdn Bhd has been Walter Wright Mammoet's operating transport company in Malaysia since 1990. They have experienced an increasing demand for heavy haulage and specialized transportation from the beginning.

At Pasir Gudang Industrial Estate, Skanza Mammoet delivered 13 heavy pieces with a total weight of 1300 tonnes for the Naphta Cracking Plant of Titan Petrochemicals. The cargo consisted of cooling towers, maximum single piece weight 241 tonnes and lengths varying from 40 to 70 metres. The pieces were transported to the site by multi-axled platform trailers over a distance of 3 km. Part of this cargo was shipped to Johore Port in Malaysia by Mammoet Shipping's "ENVOYAGER". After dressing the columns, they were erected and positioned by Walter Wright Mammoet with the use of one of their Manitowoc 4600 Ringer cranes. JGC (M) SDN BHD is the main contractor for the new ethylene plant and subcontractor is Daelim (M) SDN BHD.

Another spectacular move took place, also at Pasir Gudang, by the transportation from the construction site onto a sea going barge of a 1700 tonne offshore jacket, fabricated by AY Engineering (M) Sdn Bhd. The multi-axled platform trailers were pulled on board by winches.

A last example is the transportation of two transformers of 150 tonnes each from Port Kelang to the Connaught Bridge Power Station in Klang. Upon arrival the transformers were slid from the platform trailers by means of rollers over sliding beams which were placed over the concrete foundations. Four 80 tonne jacks lowered the transformers one after another onto their final resting positions.

Due to the economical development in Malaysia a great number of power stations will be upgraded in the near future.



### Mammoth load-out for Exxon

Davenport Mammoet loaded twenty-two offshore modules for Gulf Marine Fabricators at the Arkansas Pass Yard.

The modules varied in weight from 700 to 1400 tonnes and were placed onto 8 barges within only eleven working days.

Gulf Marine Fabricators complimented Davenport Mammoet for their excellent work and the Mammoet personnel were especially acknowledged as people "who did their work in a professional, safe, friendly and productive manner."



# M

## Mammoet Shipping features in Indonesian refinery project



In Indonesia the building of a new, 2 billion dollar refinery, known as Exor-1, is making progress. The refinery, which is built to boost Indonesia's export capacity in refined oil products, will start operating in 1994. Mammoet Shipping carries out a large number of shipments for the project.



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The new refinery for the Indonesian state oil and gas company Pertamina is taking shape on the north-west coast of West Java in Balongan, 100 miles east of Jakarta. The plant is being built by a consortium consisting of UK engineering group Foster Wheeler, the Japanese engineering company Japan Gas Corporation (JGC), Mitsui who organises the financing for the project and British Petroleum (BP) who will market products from several Pertamina refineries. In ten voyages, Mammoet Shipping transports a total of 55,000 cbm heavy lifts, among which are drums and steamboilers from Korea and

Japan to Indonesia. Furthermore, a contract has been finalized for the transportation of six reactors from Rotterdam to Balongan; four pressure vessels of 750 tonnes per piece and two of 450 tonnes each to be brought to Java in three voyages.

Mammoet Shipping carries out the shipments by the order of the Indonesian freight forwarding company P.T. Handfast and their European partner Schenker. Mr N.J. Kesek, president of P.T. Handfast, knows Mammoet from previous large projects in Indonesia. "We are very satisfied with Mammoet. Over the years we have built up a good





relationship which is of extreme importance in our industry. Logistics play a key role in projects such as Exor-I. The erection schedule has top priority. If the transportation fails, this has serious effects on the construction of the refinery." The erection programme of the vessels lies at present three months ahead of schedule.

The new refinery at Balongan will allow Indonesia to follow a strategy successfully implemented by other members of the Organisation of Petroleum Exporting Countries (OPEC). The OPEC-members are exporting more of their oil as refined product which tends to provide

more flexibility. Indonesia has opted to rely on BP for the marketing of their product in stead of going on the market themselves. The Far East is one of the fastest growing markets for petroleum products.

The Exor-I refinery, which will be producing LPG, propylene, mogas, kerosine, diesel and oil, is built to supply the domestic market. The new refinery will, however, enable the surplus capacity of other Indonesian refineries to be used for export to increase earnings in vital foreign currency - hence the project's name EXOR: Export Orientated Refinery.



# FLEET PARTICULARS HEAVY

Recently, m.s. "Encourager" and m.s. "Gruz" were added to Mammoet Shipping's heavy lift and project fleet, so that now a total of 13 vessels are being operated by the Mammoet organisation. In these pages we give you an overall view of the fleet with facts and figures.



**HAPPY BUCCANEER**

LENGTH O.A.	145.89
LENGTH P.P.	134.00
BREADTH MLD	28.30
DEPTH U.D.	14.80
DEADWEIGHT	13,740
UNDERDECK CBM	19,800
ONDECK SQ.M.	2210
TEU CAP	1050
HEAVY LIFT GEAR	2 cranes each 550t.
RD-RD RAMP WIDTH	20.30
RD-RD RAMP CAP.	2500
CLASS	LRS + 100A1 +LMC UMS



**PROJECT ORIENT**

LENGTH O.A.	138.95
LENGTH P.P.	128.90
BREADTH MLD	21.50
DEPTH U.D.	13.00
DEADWEIGHT	12,800
UNDERDECK CBM	12,900
ONDECK SQ.M.	1766
TEU CAP	650
HEAVY LIFT GEAR	2 derricks each 250t.
RD-RD RAMP WIDTH	8.60
RD-RD RAMP CAP.	1000
CLASS	GL+100A4E + MC AUT



**PROJECT AMERICAS**

LENGTH O.A.	138.95
LENGTH P.P.	128.90
BREADTH MLD	21.50
DEPTH U.D.	13.00
DEADWEIGHT	12,800
UNDERDECK CBM	12,900
ONDECK SQ.M.	1766
TEU CAP	650
HEAVY LIFT GEAR	2 derricks each 250t.
RD-RD RAMP WIDTH	8.60
RD-RD RAMP CAP.	1000
CLASS	GL+100A4 MC AUT



**THOR SCAN**

LENGTH O.A.	123.42
LENGTH P.P.	112.35
BREADTH MLD	20.60
DEPTH U.D.	10.30
DEADWEIGHT	9,800
UNDERDECK CBM	11,140
ONDECK SQ.M.	1520
TEU CAP	584
HEAVY LIFT GEAR	2 derricks each 175t.
RD-RD RAMP WIDTH	15.00
RD-RD RAMP CAP.	400
CLASS	GL + 100A4 MC AUT



**STARMAN AUSTRALIA**

LENGTH O.A.	91.50
LENGTH P.P.	85.00
BREADTH MLD	16.80
DEPTH U.D.	8.25
DEADWEIGHT	3,012
UNDERDECK CBM	3,251
ONDECK SQ.M.	1001
TEU CAP	—
HEAVY LIFT GEAR	2 derricks each 216t.
RD-RD RAMP WIDTH	9.00
RD-RD RAMP CAP.	1000
CLASS	GL + 100A4E+ MC AUT 24/24



**ENVOYAGER**

LENGTH O.A.	152.63
LENGTH P.P.	145.00
BREADTH MLD	26.80
DEPTH U.D.	13.80
DEADWEIGHT	21,183
UNDERDECK CBM	24,891
ONDECK SQ.M.	2112
TEU CAP	237
HEAVY LIFT GEAR	1 crane 426t.
RD-RD RAMP WIDTH	—
RD-RD RAMP CAP.	—
CLASS	NK + NS' + MNS' + MO-

More detailed information can be obtained with



Mammoet Shipping B.V.  
Neptunusstraat 27  
HOOFDDORP - NL

Postal address:  
P.O. Box 3062  
2130 KB HOOFDDORP - NL

# LIFT VESSELS



**PROJECT ARABIA**

LENGTH O.A.	138.95
LENGTH P.P.	128.90
BREADTH MLD	21.50
DEPTH U.D.	13.00
DEADWEIGHT	12,800
UNDERDECK CBM	12,900
ONDECK SQ.M.	1766
TEU CAP	650
HEAVY LIFT GEAR	2 derricks each 350t.
RO-RO RAMP WIDTH	8.60
RO-RO RAMP CAP.	1000
CLASS	GL+100A4 + MC AUT



**PROJECT EUROPA**

LENGTH O.A.	139.00
LENGTH P.P.	128.90
BREADTH MLD	22.86
DEPTH U.D.	13.00
DEADWEIGHT	13,400
UNDERDECK CBM	13,690
ONDECK SQ.M.	1879
TEU CAP	650
HEAVY LIFT GEAR	2 derricks each 350t.
RO-RO RAMP WIDTH	10.00
RO-RO RAMP CAP.	1000
CLASS	GL+100A4 + MC AUT



**SUNRISE**

LENGTH O.A.	123.01
LENGTH P.P.	117.00
BREADTH MLD	30.00
DEPTH U.D.	7.00
DEADWEIGHT	10,045
UNDERDECK CBM	—
ONDECK SQ.M.	3000
TEU CAP	—
HEAVY LIFT GEAR	—
RO-RO RAMP WIDTH	30.00
RO-RO RAMP CAP.	5000
CLASS	NK + NS* + MNS*



**TITAN SCAN**

LENGTH O.A.	123.42
LENGTH P.P.	112.35
BREADTH MLD	20.60
DEPTH U.D.	10.30
DEADWEIGHT	9,800
UNDERDECK CBM	11,140
ONDECK SQ.M.	1520
TEU CAP	584
HEAVY LIFT GEAR	2 derricks each 175t.
RO-RO RAMP WIDTH	15.00
RO-RO RAMP CAP.	400
CLASS	GL+ 100A4 + MC AUT



**ENLIVENER**

LENGTH O.A.	161.00
LENGTH P.P.	152.00
BREADTH MLD	25.40
DEPTH U.D.	13.50
DEADWEIGHT	20,763
UNDERDECK CBM	23,746
ONDECK SQ.M.	1900
TEU CAP	317
HEAVY LIFT GEAR	1 crane 630t.
RO-RO RAMP WIDTH	—
RO-RO RAMP CAP.	—
CLASS	NK + NS* + MNS* + MO



**ENCOURAGER**

LENGTH O.A.	161.00
LENGTH P.P.	152.00
BREADTH MLD	25.40
DEPTH U.D.	13.50
DEADWEIGHT	20,763
UNDERDECK CBM	23,746
ONDECK SQ.M.	1900
TEU CAP	317
HEAVY LIFT GEAR	1 crane 375t.
RO-RO RAMP WIDTH	—
RO-RO RAMP CAP.	—
CLASS	NK + NS* + MNS* + MO



**GRUZ**

LENGTH O.A.	104.00
LENGTH P.P.	93.76
BREADTH MLD	20.50
DEPTH U.D.	8.9
DEADWEIGHT	4,244
UNDERDECK CBM	8,590
ONDECK SQ.M.	1360
TEU CAP	312
HEAVY LIFT GEAR	2 cranes each 200t.
RO-RO RAMP WIDTH	15.17
RO-RO RAMP CAP.	400
CLASS	LRS + 100A1 + LMC + UMS

## DISMANTLING THE "SPRUCE GOOSE"



Long Beach, California's "Spruce Goose" was carved up to be shipped piece by piece to its new location in Oregon. The world's largest aeroplane,

built by the late billionaire Howard Hughes between 1942 and 1946 and flown only once, will be re-assembled and displayed as the centrepiece of the new Evergreen Airventure Museum in McMinnville, Oregon. The wooden plane is credited with contributing to the development of jumbo aircraft with large lift capabilities.

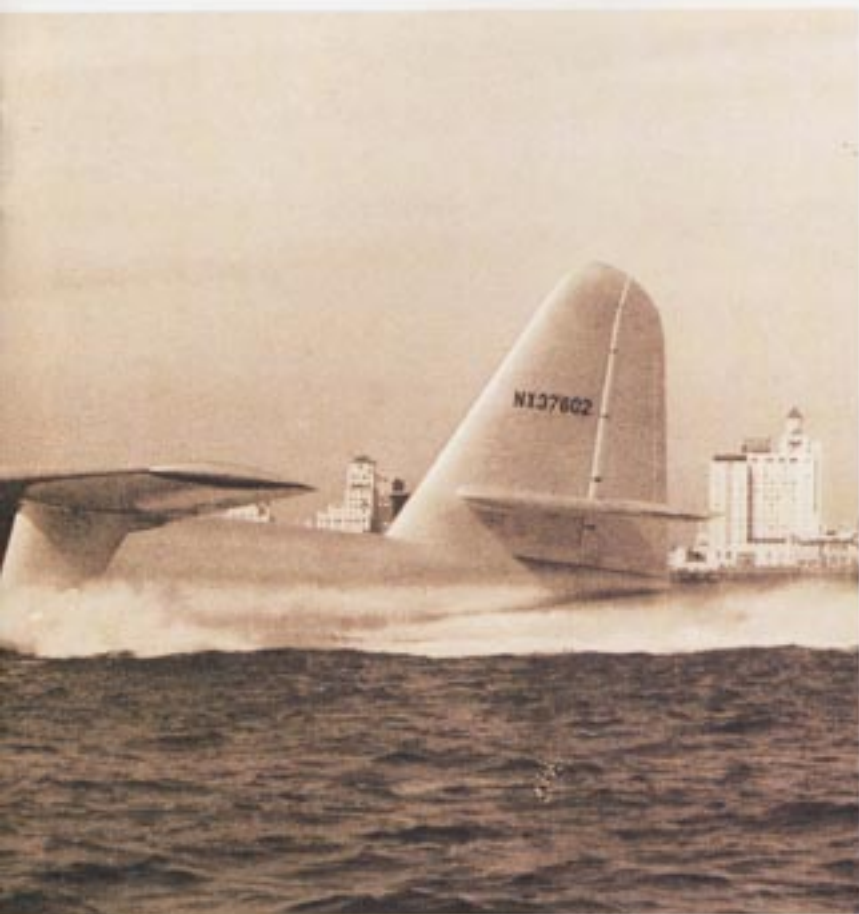


The "Spruce Goose" began as the dream of another famous American, Henry J. Kaiser. During World War II, Kaiser's shipyards were turning out small freighters, the "Liberty Ships", at a tremendous pace. But the Nazi Submarine Wolfpacks on the North Atlantic were sinking them as fast as they could be built. Kaiser, the U.S. Government and commanders of the Allied Forces were desperate. If something was not done soon, all vital supplies to Great Britain and Europe would be cut off. Thus Kaiser came up with the idea of giant flying boats larger than any aircraft ever built. Kaiser sought the assistance of Howard Hughes, whose aeronautical expertise both as a pilot and a designer was legendary. The Kaiser-Hughes Corporation was founded and a U.S. Government contract was received to start design and construct the "HK1".

Experts in the aircraft industry said it could not be done. Ignoring the scoffers, construction began in Culver City, California. Because of war-time shortages the U.S. Government required the craft to be made of non-essential materials. So Hughes built his flying boat of wood, mostly birch. The plane never went into production

because the war ended before his prototype was completed. But to complete the contract, the plane had to fly. The first and only flight took place on November 2, 1947 over Los Angeles Harbour, when Hughes, who was piloting the plane, surprised thousands of people who had come to see the craft taxi on the water. In the one-minute flight the plane flew about a mile at an altitude of about 70 feet, thus fulfilling the U.S. Government contract. Until Hughes's death in 1976, the "Spruce Goose" was regularly maintained; it could be flown on 30 days notice, and was kept in a climate-controlled hangar. In 1982 the plane was moved to a specially constructed dome next to the ocean liner "Queen Mary" in Long Beach, California.

The wings posed the greatest challenge during disassembly. Aircraft experts called upon Mammoet Western, Inc. to provide a safe and stable method of removing the delicate wing sections simultaneously. This was accomplished using two 400 ton point lift system hydraulic gantries to lift, propel away from the fuselage and lower the wings. Mammoet Western's gantry crew completed the task without a mark on the wings.



- ▲ The Spruce Goose gathers speed prior to take-off, November 2, 1947
- ▲ The Spruce Goose at anchor, Terminal Island, Long Beach, California, November 1, 1947, shortly before maiden flight



# Mammoet in Pictures

## Lifting job in Flushing

Mammoet Stooft's new 500 tonne telescopic crane in a special configuration was used to assemble a marine watch tower in Flushing in the South of The Netherlands. The top deck weighed 59 tonnes and the spectacular lift drew a lot of attention from passers-by.

## Safety Certificates

Safety is the main issue throughout the Mammoet organisation. At Mammoet Stooft in Breda, The Netherlands, 51 candidates received a certificate for successfully concluding the study "Safety for Contractors Working in the Petrochemical Industry".

The correspondence course included two coaching evenings and a multiple choice exam. In the near future, this certificate will be obligatory in the petrochemical industry in The Netherlands.

The official certificate will replace an in-house safety training that Mammoet Stooft's employees followed in the past. As a reminder the successful Mammoet employees received a special windcheater with the Mammoet logo.



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## Composting installation under construction

At the compost production company VAM in Wijster, The Netherlands, some five covered compost installations are being built with a total capacity of 300,000 tonnes organic waste per year. The 50 meter long support beams with a piece weight of 40 tonnes, which were installed to carry the automatic tedder machines, were transported from Alphen aan de Rijn to Wijster. A 500 tonne hydraulic crane was used to position the beams. The machines came from Emmen and were also placed by the 500 tonne crane. In The Netherlands the production of compost is subject to strict rules from the government in order to minimise the smell in the environment.





### New equipment for Mammoet Canada

In addition to the existing fleet of heavy transport trailers, Mammoet Canada acquired a new modular trailer, the one and only of this kind in Canada and North America. It had been built by Scheuerle of Germany according to Mammoet's specifications. The concept proved to be so successful that the orderbook for the first half of 1993 was filled within the first two months of operation. One of the first moves is pictured here. It is part of a bigger transport job consisting of a total of 12 modules engineered and designed by Foster Wheeler in Calgary, built by Geco Steel Corp. of Calgary and destined for the Dow Chemical plant in Fort Saskatchewan. The biggest module weighs 112 tonnes and measures 21 by 8 by 8.5 metres. The roundtrip to the jobsite is 1000 km.



### New super cranes for Mammoet

Mammoet ordered two 1200 tonne capacity Manitowoc M-1200R ringer cranes for Walter Wright Mammoet in Singapore and Alatas Mammoet Company in Saudi Arabia.

The Manitowoc M-1200R is a recent innovation in crane engineering, combining a 60 ft. ringer attachment with an M-250 standard crawler crane. The new M-1200R provides nominal lifting capacities of 750 and 1200 tonnes and meets the international road weight and dimensions transport standards. The M-1200R also includes a modular counterweight and various combinations of booms and masts to provide a 750 tonne capacity at 18m radius with 45.7m of No. 75 boom and a vast 1200t can be lifted at 18m radius with 54.2m of No. 72 main boom. Walter Wright Mammoet's president, Rolf de Ruijter de Wildt commented that the experience with their Manitowoc 4600 Series-4 ringers had led to the design and construction of a higher capacity crane at the Manitowoc factory in Wisconsin, U.S.A., to meet the requirements for upcoming petrochemical projects.

"Our decision to purchase Manitowoc's M-1200R was based not only on its present capabilities, but its potential for the future," states Rolf de Ruijter de Wildt. He adds: "the return on investment is especially attractive as the M-250 can operate as a stand-alone crane or in combination with its very heavy Ringer attachment."

Mammoet also ordered a fixed jib for the M-1200R, which provides 800 tonne capacity at 22.8m radius with 77m of No. 72 boom and 30m of No. 75 jib - 8.5' offset. The M-1200R will be able to erect and position an 800 tonne pressure vessel of 90m long and 7.5m diameter. A 375 tonne vessel can be lifted by a combination of 77m main boom + 76.2m fly-jib at a radius of 33.5m. Mr de Ruijter de Wildt continues: "And relocation of the complete crane with Ringer attachment on site is still possible, in spite of its bigger size and weight. Some might think this can only be done with Rough, All-Terrain and Crawler cranes, but that is a misunderstanding. Moreover, the extra capacity of the new crane makes it possible to use the crane in a single lift application, where otherwise two cranes have to be used. The new super cranes are expected to be delivered in Summer 1993.



M1200R WITH # 72 BOOM  
1200T CAPACITY



# STOP IS THOROUGH



A refinery stop for maintenance or inspection usually takes up a number of weeks. The preparation for a stop, however, starts often more than eighteen months earlier. Mammoet Stoof is often involved in shut-downs in an early stage.

In the second half of last year the activities of the ethylene-oxide/glycol factory (MEOD) of Shell Nederland Chemie in Moerdijk were stopped for its four-yearly turn-over.

Over 500 people of various contractors and almost 100 Shell employees worked on the MEOD-stop for seven-and-a-half weeks. For the period when the production process was to be stopped, 10,000 different activities were foreseen, ranging from taking apart and cleaning valves and hermetic seals to exchanging columns.

Besides the usual maintenance and inspection work some special projects were carried out in the 20-year old factory. A new catalytic reactor was built in and a great number of carbon-steel ducts were exchanged with stainless steel material. Moreover, during the stop part of the ethylene-oxide/glycol factory was dismantled

and checked by the Steamboard and six columns waited to be replaced.

The preparations for the MEOD-stop had started a year-and-a-half before. The various projects were defined, described and subsequently a main contractor was selected, in this case the Vermeer- en Troostcombinatie VIC/TIS. "At the moment a stop begins, we have minutely gone through all the plans", says Jan Heming of Shell Nederland Chemie. He points at an impressive pile of paper in his office at the chemical plant in Moerdijk: "the main contractor prepares for more than a year. All items of the stop in the field of transportation pass through us." During the stop, Heming and his people over-



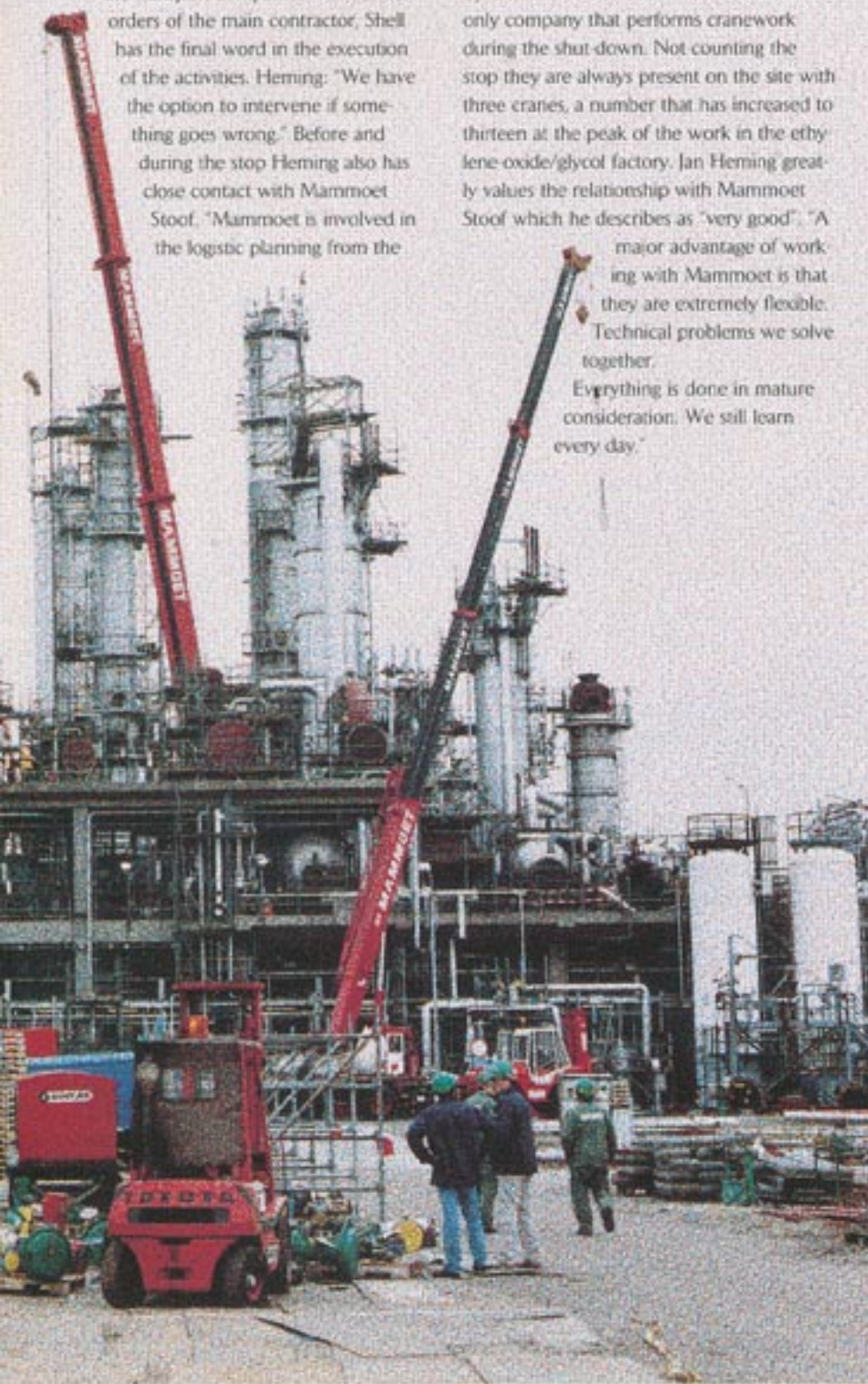
## WELLY PREPARED FEAT

see the horizontal and vertical transport that is executed by the main and sub contractors, among which is Mammoet Stooft. The logistic activities in and around the confined complex are of major importance. Although the transport companies work under orders of the main contractor, Shell has the final word in the execution of the activities. Heming: "We have the option to intervene if something goes wrong." Before and during the stop Heming also has close contact with Mammoet Stooft. "Mammoet is involved in the logistic planning from the

start. During the stop Krijn van Dongen of Mammoet gives me a daily planning. We discuss the major jobs beforehand. We meet regularly, some two or three times a day."

By Shell's mediation Mammoet Stooft is the only company that performs crane work during the shut-down. Not counting the stop they are always present on the site with three cranes, a number that has increased to thirteen at the peak of the work in the ethylene oxide/glycol factory. Jan Heming greatly values the relationship with Mammoet Stooft which he describes as "very good". "A

major advantage of working with Mammoet is that they are extremely flexible. Technical problems we solve together. Everything is done in mature consideration. We still learn every day."



## "STOP" is grondig voorbereide krachttoer

Het stopzetten van delen van een raffinaderij voor onderhouds- en inspectiewerk duurt meestal een aantal weken. De voorbereiding van een "stop" echter, start vaak ruim anderhalf jaar van tevoren. Mammoet Stooft wordt vaak in een vroeg stadium bij een "shut down" betrokken.

In de tweede helft van vorig jaar werd de ethyleen-oxide/glycolfabriek (MEOD) van Shell Nederland Chemie in Moerdijk stilgelegd voor haar vierjaarlijkse onderhoudsbeurt. Ruim 500 mensen van verschillende aannemers en bijna 100 Shell-medewerkers werkten zeven-en-een-halve week achtereenvolgens aan de MEOD-stop. Gedurende het stopzetten van het productieproces waren 10.000 verschillende activiteiten voorzien, uiteenlopend van het uit elkaar halen en schoonmaken van kleppen en afsluiters tot het verwisselen van kolommen.

Naast het gebruikelijke onderhouds- en inspectiewerk werden in de 20 jaar oude fabriek een paar bijzondere projecten uitgevoerd. Zo werd een nieuwe katalysator ingebouwd en een groot aantal koolstofstalen leidingen en apparatuur vervangen door roestvrij-staal materiaal. Tijdens de stop werd bovendien een deel van de ethyleen-oxide/glycolfabriek ontmanteld en door het Stoomwezen gekeurd, en wachtten zes kolommen op renovatie.

De voorbereidingen van de MEOD-stop startten al anderhalf jaar geleden. De verschillende projecten werden gedefinieerd, beschreven en vervolgens werd een hoofdaannemer geselecteerd, in dit geval de Vermeer- en Troostcombinatie VIC/TIS. "Op het moment dat een stop begint, zijn alle plannen gedetailleerd doorgenomen", vertelt Jan Heming van Shell Nederland Chemie. Hij wijst op een indrukwekkende stapel papier in zijn kantoor op het chemie-complex in Moerdijk: "de hoofdaannemer is ruim een jaar aan het voorbereiden. Alle items in de stop op het gebied van transport passeren ons."

Tijdens de stop houdt Heming met zijn mensen toezicht op het horizontale en verticale transport dat door de hoofd- en onderaannemers, waaronder Mammoet Stooft, wordt uitgevoerd. De logistieke activiteiten in en rond de compacte fabriek zijn van groot belang. Hoewel de transportbedrijven in opdracht van de hoofdaannemer werken, heeft Shell het laatste woord bij de uitvoering van de activiteiten. Heming: "Wij hebben de mogelijkheid om in te grijpen als er iets niet goed gaat."

Heming heeft vóór en gedurende de stop ook intensief contact met Mammoet Stooft. "Mammoet is al van het begin af aan bij de logistieke planning betrokken. Van Krijn van Dongen van Mammoet krijg ik gedurende de stop dagelijks een planning. De grote klussen nemen we van tevoren door. We zien elkaar regelmatig, zo'n twee tot drie maal per dag."

Mammoet Stooft is op voorspraak van Shell het enig bedrijf dat tijdens de shut-down kraanwerk uitvoert. Buiten de stop is men permanent op het complex aanwezig met drie cranes, een aantal dat tijdens de piek van de werkzaamheden aan de ethyleen-oxide/glycolfabriek is opgelopen tot dertien. Jan Heming hecht veel waarde aan de relatie met Mammoet Stooft die hij als "zeer goed" bestempelt. "Een groot voordeel van het werken met Mammoet is dat ze bijzonder flexibel zijn. Technische problemen lossen we samen op. Alles gaat in goed overleg. We leren nog elke dag van elkaar."

## MAMMOET LIFTS HEAVIEST COMPONENTS



In Buggenum in the Dutch province Limburg the world's first commercial coal-vaporizing installation is being built. Mammoet Stooft transported the two process vessels that form the heart of the new power station and placed them onto foundation with the Hydra-Jack system.



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The coal-vaporizing installation on the banks of the River Maas near Roermond is built by commission of Demkolec. This project partnership, a daughter company of the Samenwerkende Elektriciteitsproduktiebedrijven (SEP) (Cooperating Electricity Production companies), has been working on the coal-vaporiser for the last two years. Most likely, the factory will be operational towards the end of 1993.

## MAMMOET HIJST ZWAARSTE COMPONENTEN MET HYDRA-JACK SYSTEEM

In het Limburgse Buggenum wordt de eerste commerciële kolenvergassingsinstallatie ter wereld gebouwd. De twee procesvaten die het hart van de centrale vormen, werden door Mammoet Stof vervoerd en met het Hydra-Jacksysteem op de fundatie gezet.

De kolenvergassingsinstallatie aan de Maas bij Roermond wordt in opdracht gebouwd van Demkolec. Deze projectvennootschap, een dochteronderneming van de Samenwerkende Elektriciteitsproduktiebedrijven (SEP), werkt al twee jaar aan de kolenvergasser. Naar alle waarschijnlijkheid wordt de fabriek aan het eind van 1993 in gebruik genomen.

In de nieuwe installatie in Buggenum worden kolen omgezet in gas dat vervolgens gebruikt wordt voor de aandrijving van turbines voor elektriciteitsopwekking. De kolenvergasser wordt gebouwd op basis van Shell licenties en moet op een milieuvriendelijker wijze een hoger rendement opleveren dan de conventionele wijze van elektriciteitsopwekking op basis van steenkool. Op dit moment voorziet Nederland met behulp van kolengestookte elektriciteitscentrales in ruim 40% van de elektriciteitsbehoefte.

Mammoet plaatste vorige zomer de zwaarste delen van het project. Twee bij RDM gebouwde procesvaten van elk ongeveer 450 ton werden in Rotterdam met de trailers van Mammoet en de hulp van twee drijvende bokken op een ponton gezet en vervolgens in Buggenum via een speciale ro/ro-ramp naar de site vervoerd. Met het Hydra-Jack systeem werden tenslotte zowel de vergasser als de synthesegaskoeler op de fundatie geplaatst. Tevens werd een topdeel van 167 ton op de beide vaten gezet.

Het Hydra-Jack systeem - een hydraulisch hefsysteem - werd 15 jaar geleden door Mammoet ontwikkeld. Het neemt nog steeds een belangrijke plaats in in het dienstenpakket van Mammoet. Ton Raemakers, hoofd van de Afdeling Hydra-Jack: "De strategie van Mammoet Transport is er op gericht het volledige vervoer van fabriek tot op fundatie aan te bieden. Als we wel kunnen vervoeren maar niet plaatsen, beantwoordt dat niet helemaal aan onze strategie.

Raemakers erkent wel dat de steeds groter wordende invloed van mastkranen merkbaar is. "De markt voor de Hydra-Jack wordt steeds beperkter. Het systeem kan in standaard uitvoering vaten tot 1300 ton oppakken. Omdat de kranen echter steeds grotere gewichten kunnen hijsen, wordt het deel van de markt waarvoor het Hydra-Jack systeem nog in aanmerking komt steeds kleiner."

Mammoet mikt met het Hydra-Jack systeem voornamelijk op het marktsegment boven 900 ton en de civiele sector (onder andere het hijsen van bruggen). "En," vult Raemakers aan, "het inzetten van het systeem in combinatie met hoog gekwalificeerde engineering. Een goed voorbeeld hiervan is het uitwisselen van stoomgeneratoren in kerncentrales. Dat zijn lichtere vaten, maar het komt daarbij aan op een combinatie van diverse technieken en de ondersteuning op engineering en logistiek gebied." Raemakers legt uit dat het Hydra-Jack systeem bij de kolenvergassingsinstallatie in Buggenum om drie redenen de voorkeur boven het inzetten van kranen heeft gekregen. "Het systeem wordt op projectbasis ingezet en niet op uurbasis. Dat vergroot de flexibiliteit voor de klant. Het werken met de Hydra-Jack is bovendien veiliger; men heeft een uitstekende controle over de last tijdens het hijsen. Tenslotte bleef de klant in staat om de belendende activiteiten op het complex voort te zetten. Als de klant gebruik had gemaakt van kranen had hij bepaalde delen van de fabriek pas na de installatie van de zware delen kunnen bouwen."

## WITH HYDRA-JACK SYSTEM

In the new installation in Buggenum coal is converted into gas, which then powers turbines for the generation of electricity. The coal-vaporiser is being built based on Shell licences. It must yield a higher output in an environmentally friendlier way than the conventional way of making electricity by burning coal. At the moment the coal fired power installations supply 40% of The Netherlands' demand for electricity.

Last Summer, Mammoet positioned the heaviest parts of the project. Two process vessels of about 450 tonnes each had been built by RDM and were loaded onto a barge with the assistance of two floating cranes. Then they were unloaded on Mammoet's trailers in Buggenum via a special ro/ro ramp and taken to the site. Finally, both the vaporiser and the gas cooler were placed on their foundations with the Hydra-Jack system.

The Hydra-Jack system - a hydraulic lifting system - was developed by Mammoet 15 years ago. It still has an important place in the service package Mammoet provides. Ton Raemakers, head of the Hydra-Jack department: "Mammoet Transport's strategy is aimed at offering complete transportation from factory to foundation. If we can move but not place, it does not exactly comply with our strategy."

Raemakers recognizes, however, that the increasing influence of the mast cranes can be felt. "The market for the Hydra-Jack system becomes more restricted. The basic Hydra-Jack can lift vessels up to 1300 tonnes. But, as crane capacities increase, the area in the market that the Hydra-Jack is cut out for becomes smaller."

With the Hydra-Jack system Mammoet aims mainly at the market segment over 900 tonnes and the civil sector (among others the lifting of bridges). "And", Raemakers adds, "we use the system in combination with highly qualified engineering. A good example is the exchange of steam generators in nuclear reactors. That involves lighter vessels, but the combination of different techniques and logistic support makes for a sensitive combination."



Raemakers explains that the clients preferred the Hydra-Jack system for the coal-vaporisation installation in Buggenum over cranes for three reasons: "The system is used on project basis and not per hour, which increases the client's flexibility. Moreover, working with the Hydra-Jack is safer. One has excellent control over the weight while lifting. And finally it enabled the client to proceed with the other activities on the complex. Had the client used cranes, the building activities next to the process vessels could only have taken place after installation of the heavy pieces."

As soon as the coal vaporising installation is operational Demkolec will make an "acceptation test run" to check if the production limits indicated by Shell can be reached. If Demkolec subsequently meets the demands of the SEP, a demonstration programme will be started to last for three years. In this programme various kinds of coal feedstock will be tested. After these three years Demkolec will cease to exist and the complex will be transferred to the electricity company EPZ. Buggenum will then change its status as demonstration plant into the first commercial coal vaporizing installation in the world.



# Mammoet in Pictures



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## Container cranes for Bangkok

Mammoet Shipping's heavy lift vessel "SUNRISE" carried a full load of four container cranes for the container terminal Klong Toey in the port of Bangkok, Thailand.

The cranes, each weighing 414 tonnes and with a height of 45 meters, had been built by Metalna in Koper, Slovenia. For this client three earlier voyages had been performed whereby a total of nine container cranes had been shipped. However, this voyage was more demanding than the other ones; instead of three, four cranes had now been ordered by the Thailand Port Authorities; the fourth crane was a replacement for one commissioned earlier, which had been damaged in an accident in the port on the quayside. A premium of the "SUNRISE" is that the ship's construction permits ro-ro over the side. This allowed for the cranes to be unloaded sideways without having the vessel block the other ships' movements and at the same time avoiding most of the strong tidal forces in the port of Bangkok.

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## Reformer and reactor for fertilizer plant

For Uhde GmbH, Germany, Mammoet Shipping delivered two heavy pieces for the Saferco Corp. in Belle Plaine, Canada. Both columns were shipped from Japan. The 180 tonne Secondary Reformer came from Moji Port with m.s. "PROJECT ARABIA" and the 395 tonne Urea Reactor sailed from Kobe with m.s. "THOR SCAN". The columns were unloaded in Thunderbay by vessels' own gear. All subsequent landtransportation was arranged by Mammoet Canada.





#### Transtainers for Manila

Via Nedlloyd Lines Philippines, we received this picture of the unloading of two Mitsubishi transfer cranes ex m.s. "PROJECT AMERICAS". The cranes were shipped directly from Hiroshima in Japan to the Manila International Container Port, where they were unloaded with ship's own gear. The cranes were shipped fully assembled and weighed 135 tonnes each.



#### Transfer cranes for Kaohsiung

Three M.H.I. transfer cranes were shipped for Sea-land Service Inc. from Hiroshima, Japan to Kaohsiung in Taiwan. One of the cranes is pictured here during the unloading operation with m.s. "HAPPY BUCCANEER"'s own gear.



#### From Korea to Indonesia

For the CAPC project in Banten, Indonesia, Mammoet Shipping booked three voyages from Koje, Mipo and Ulsan to Banten. In Koje m.s. "HAPPY BUCCANEER" loaded a 525 tonne fractionator, while m.s. "SUNRISE" loaded in Mipo one 518 tonne and one 369 tonne fractionator. Finally, from Ulsan to Banten, m.s. "HAPPY BUCCANEER" took a 72 tonne pressure vessel and some 1000 tonnes project cargo.

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