

Magnus Platform

The Magnus, and Magnus South oil accumulations lie mainly in UK block 211/12a in the Northern North Sea, some 160 km north east of Shetland.

EnQuest (100% equity) owns and operates Magnus.

The Magnus Platform is a fully integrated drilling and production facility. Fluids from the wells are processed in two separate trains. Design capacity using both trains allows peak continuous throughput of 85,400 stbpd of crude oil, a maximum of 110 mmscfd of gas export and a maximum of 240,000 bpd of produced water.

In 2001 a major project was implemented which allows the transport of gas from the West of Shetland oil fields to Magnus and onwards into the gas export systems.

- Oil is exported via a 24 in line (approximately 91 km long) to Ninian Central and from there, via the 36 in Ninian pipeline, to the Sullom Voe Terminal
- Gas is exported through the 20 in Northern Leg Gas Pipeline (approximately 79 km long) to the 36in Far Northern Liquids and Associated Gas Systems line, operated by Shell, to the St Fergus Terminal
- Produced water is treated to reduce the oil content prior to being discharged to sea.

Infrastructure Information

Description:	Four-Legged Steel Jacket
Entry Specification:	Subject to discussion and negotiation
Exit Specification:	Ninian Pipeline System (NPS) specifications for oil & Northern Leg Gas Pipeline (NLGP) specifications for gas
Outline details of Primary separation processing facilities:	<p>Oil System</p> <ul style="list-style-type: none"> • Two parallel two stage separation trains <p>Produced water</p> <ul style="list-style-type: none"> • HP Produced Water (PW) <ul style="list-style-type: none"> ○ HP PW is taken from the HP Separators and treated by two identical HP PW trains via a desander, hydrocyclone and a produced water flash drum before being discharged overboard • LP Produced Water (PW) <ul style="list-style-type: none"> ○ LP PW is taken from the LP Separators and treated by two identical LP PW trains via a produced water flash drum, tilted plate separator and WEMCO Flotation Unit before being discharged overboard. A crossover exists to enable all LP produced water to be routed through a single train
Outline details of gas treatment facilities:	Gas flows through two parallel compression trains with four stages of compression. Each train has a TEG dehydration package before the third stage of compression. The two trains comingle downstream of the fourth and final stage of compression before being routed to export or gas lift
Oil export capacity	86,000 bopd (43,000 bopd per train)
Gas compression capacity	110 mmscfd (55mmscfd per train)
Gas lift capacity	110 mmscfd
Produced water handling capacity	HP Produced Water: 120,000 bwpd LP Produced Water: 30,000 bwpd
Dehydration capacity	110 mmscfd (55 mmscfd per train)
H2S removal capacity	N/A
Water injection capacity	160,000 bwpd

High Level Capacity Information

The basic capacity information is portrayed by colour coded 'traffic lights' that reflect thresholds of availability over the next 5 years

>25% capacity available	
5-25% capacity available	
<5% capacity available	

Processing Facility	Capacity	2021	2022	2023	2024	2025	Comments
Separation	86,000* bopd						*this limit reduces to 40,000 bopd during pigging operations
HP Produced water handling	120,000* bwpd						*current capacity is 85,000 bwpd due to restrictions in dP across the hydrocyclones
LP Produced water handling	30,000* bwpd						*current capacity is approximately 12-15 bwpd
Water Injection	160,000* bwpd						Limited by 4 water injection pumps
Gas Processing	110* mmscfd						*limited by vibration design limitations on gas train thermowells and nameplate capacity on the TEG Contactor (55 mmscfd per train)
Gas Injection	160 mmscfd						



Contact Information

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