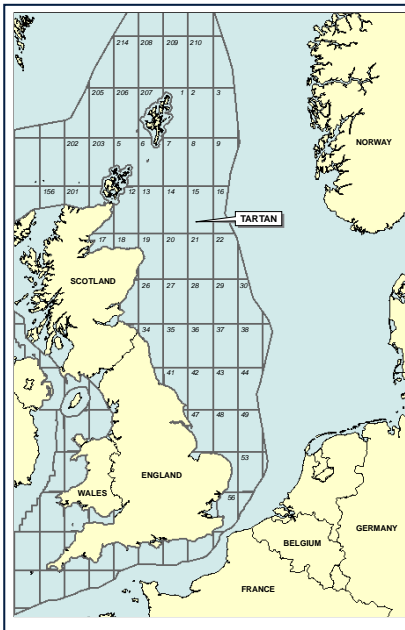


TARTAN ALPHA



Last Updated:

May 2017

The Tartan 'A' platform is located in blocks 15/16a and 14/20a of the United Kingdom Continental Shelf 187 km north east of Aberdeen in 138 m of water. The location co-ordinates are 58°21'11"N, 00°04'25" E. The platform comprises a four-legged K-braced steel jacket supporting process, utilities drilling and accommodation modules via a module support frame (MSF). The jacket is fixed to the seabed by an array of 28 piles, was installed in 1979 and first production was achieved from the Tartan field in January 1981. The Tartan field is developed with a mixture of platform-drilled and subsea-wells tied back to the platform. The Highlander field was developed as a subsea tie-back to the platform in 1985 followed by the Petronella Field in 1986. Oil and gas from the Galley Field were tied-in to Tartan infrastructure in 1998 and then reconfigured as a full sub-sea tie-back in 2007. The Duart Field was developed as a subsea tie-back also in 2007.

OPERATIONAL INFORMATION

Licence	P.237
Tartan Owners	Repsol Sinopec Resources UK Limited (Op) Repsol Sinopec Oil Trading Limited 100.000%
Platform Type	Four-legged steel jacket supporting process with MSF supporting utilities drilling and accommodation modules.
Platform Weight	Topside: 14,100 Tonnes Jacket: 14,400 Tonnes TOTAL: 28,500 Tonnes
Active Tartan Wells	Production: 5 platform Injection: 1 subsea
Drilling	Total of 32 drilling slots (8 x 4): 14 in well use 16 for risers, caissons etc. 2 free
Nearest Installations	Claymore: 27 km NW Piper 'B': 18 km NE Saltire: 24 km ENE Scott: 13 km SE
Associated Fields	Duart: Single well subsea-back Galley: Subsea tie-back Highlander: Subsea tie-back Petronella: Single well subsea tie-back Tartan North Terrace (TNT): Single well subsea tie-back

CAPACITY PROJECTION

The platform process system is nominally designed for the following quantities:

Description	Unit	Max Capacity	Projected ullage (% of maximum capacity)				
			2017	2018	2019	2020	2021
Oil Export	STBD	30,000	●	●	●	●	●
Produced Water Treatment	BPD	86,000	●	●	●	●	●
Water Injection	BPD	113,500	●	●	●	●	●
ST compressor stage 1	MMscfd	14	●	●	●	●	●
ST compressor stage 2	MMscfd	45	●	●	●	●	●
LP compressor stage 1	MMscfd	66	●	●	●	●	●
LP compressor stage 2	MMscfd	55	●	●	●	●	●
IP gas compressor	MMscfd	40	●	●	●	●	●
Sweetening	MMscfd	70	●	●	●	●	●
Dehydration	MMscfd	70	●	●	●	●	●

Available Capacities:	●	> 25%
	●	5% to 25%
	●	< 5%

PRIMARY SEPARATION PROCESSING FACILITIES

Reservoir fluids from Tartan and tied-back fields (Highlander, Petronella, Galley, TNT & Duart) are processed with a total of six horizontal separators configured with five 1st stage vessels and a single 2nd stage vessel. All but one of the separators are three phase units (gas, oil and water) with oil ultimately pumped through metering streams into the export pipeline. Produced water is treated in a degassing vessel and hydrocyclones package before being discharged overboard.

GAS TREATMENT FACILITIES

Gas from the production separators is compressed using a single 5-stage compression train and treated to remove H₂S, CO₂ and H₂O prior to export/injection. The gas is either used as lift gas or is metered and exported. NGL recovered from gas compression is treated to remove H₂S prior to export via the crude oil pipeline. Gas can also be imported from the Frigg gas pipeline.

PIPELINES

Oil Export	24" * 27km to Claymore Onward transport to Flotta
Gas Export	18" * 72km to the MCP01 Bypass Pipeline Onwards transport to St Fergus
Galley – Tartan	10" 14Km existing oil export re-used for multiphase production (main oil line) and three 8" 2.5Km infield pipelines 8" 13Km existing gas export pipeline re-used as water injection main line and a 8" 2.5Km water injection infield flowline
Petronella – Tartan	8" 11 Km subsea production flowline 12" 11 Km gas lift to Petronella
Highlander – Tartan	12" 13Km production pipeline and 8" 13Km test line. 8" 13Km gas lift line 4" 13 Km water injection pipeline (former utilities pipeline)
Duart – Tartan	8" production pipeline with 3" NB Electric and Hydraulic Control umbilical ("EHC Umbilical")

TNT Well - Tartan

6" * 3.4km Multiphase Import from TNT

3" * 3.4km Gas Lift to TNT

ENTRY SPECIFICATION

Subject to discussion and negotiation

EXIT SPECIFICATION

<p>Crude Oil Export (Set by Flotta Pipeline)</p>	<p>TVP H2S CO2 Base Sediment/Water</p>	<p>9.3 bara @ 29.4°C 10 ppm 0.3 % mol 5 % vol</p>
<p>Gas Export (Set by Frigg Pipeline)</p>		<p>Set by St Fergus Entry Requirements</p>
<p>Produced Water (Prevention of Oil Pollution Act 1971)</p>		<p><30 mg/L oil in water</p>