

BUCHAN ALPHA



Last Updated:

May 2017

The Buchan field lies in Block 21/01a and 20/05a of the United Kingdom Continental Shelf located 156km North East of Aberdeen. Located at coordinates $57^{\circ}54'13.08''\text{N}$, $00^{\circ}01'55.66''\text{E}$, the Buchan A platform is situated in a water depth of 116m with the Hannay sub-sea tie-back located a further 13.5km NW of Buchan. The Buchan field was discovered in 1974, with first oil production in 1981.

OPERATIONAL INFORMATION

Licence	P.241 and P.294
Licensees (Joint Venture Partners)	Repsol Sinopec Resources UK Limited (Op) 85.024137% Repsol Sinopec North Sea Limited 02.269070% Transworld Petroleum (U.K.) Limited 12.706793%
Platform Type	Pentagon shaped semi-submersible
Platform Weight	Full load displacement: 19,400 tonnes Lightweight: 12,000 tonnes
Wells	Production: 7 Injection: produced water re-injection started June 2005 and stopped October 2013

CAPACITY PROJECTION

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

Description	Unit	Max. Cap.	Projected Ullage (% of maximum capacity)				
			2017	2018	2019	2020	2021
1 st Stage Separator	BPD	70,000	●				
2 nd Stage Separator	BPD	72,000	●				
Crude Oil Export	BPD	22,600	●				
Produced Water Treatment	BPD	20,000	●				
Produced Water Re-Injection	BPD	6,800	●				
Lift Gas Compression	MMscfd	15	●				
Gas Dehydration	MMscfd	15	●				

No dedicated H₂S facilities installed

Production stops in spring 2017

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

PRIMARY SEPARATION PROCESSING FACILITIES

The separation train comprises two horizontal vessels which operate in series at successively lower pressure, separating the well fluids into oil, gas and water phases. Well fluids pass to the HP separator where most of the gas is removed. The oil from the HP separator is passed through a 10" line to the MP separator and on to the crude oil export pumps. The oil is pumped through a metering unit and down the export riser for export.

GAS TREATMENT FACILITIES

There is no gas export from the Buchan platform. Lower pressure gas from the MP separator is directed to flare, whereas gas from the HP is passed to the compression system. The gas lift compressor is a 3-stage in-line centrifugal compressor. Gas is compressed by the 1st stage, after which it passes through a dehydration unit. The dried gas then returns to the compressor, where its pressure is further increased by the 2nd and 3rd stages, before being discharged to the gas lift manifold.

PIPELINES

Oil Export	12-inch oil export 55 km to Forties Charlie platform. Oil is then routed via the Forties Pipeline System to Kinneil (via Cruden Bay).
Gas Export	N/A

ENTRY SPECIFICATION

Subject to discussion and negotiation

EXIT SPECIFICATION

Oil Export	Set by Forties Pipeline System entry requirements
Gas Export	N/A
Produced Water	<30 ppm oil in water