

The Devil’s Hole Horst Prospect Offshore UK North Sea

Farmin Opportunity - Under Appraised Oil Discovery – mean 1837 MMBO Prospective Resources

Hydrocarbon Play Concept: The DHH prospect is an overlooked basin margin play concept. This play is proven to occur in the recent giant Johan Sverdrup oil field (2.7 BBO 2P Reserves) discovered in 2010.

NSNR has demonstrated with a high quality IGI oil migration study that billions of barrels of oil migrate into the DHH structure.

Mean Prospective Resources:

Project Devil's Hole Horst						
Prospective Resources Mean Unrisked MMBO						
Reservoir Horizon	Low	Best	High	Gross Mean to NSNR	Net Mean to NSNR	
Jurassic Sand	524	1,081	2209	1,259	1,259	
Upper Permian Dolomite	6	25	73	34	34	
Lower Permian Dolomite	84	290	858	531	531	
Devonian Sand	4	10	24	13	13	
Totals			Total	1,837	1,837	

Figure 3 DHH 1.8 BBO Mean Prospective Resources Volumes Report (26/06/2020) by Gaffney, Cline and Associates. **Gaffney, Cline & Associates**

Exploration History

Two wells were drilled in 1967 and 1970 by Amoco who were targeting Rotliegendes sand.

The wells failed to find the target but proved oil pay zones, oil in fluid inclusions and thick, porous Jurassic Fulmar Sand and Permian Zechstein Dolomite reservoirs.

Downdip Well 27/10-1 proved Jurassic Fulmar sand - 122 feet thick, 82% N/G, 24% porosity and Net pay 77 feet.

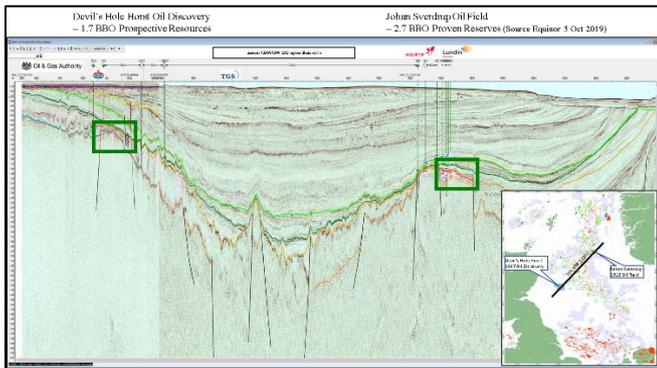


Figure 1 Overlooked basin margin Hydrocarbon play concept

Johan Sverdrup oil field proves long distance (30 to 70kms) Oil migration occurs.

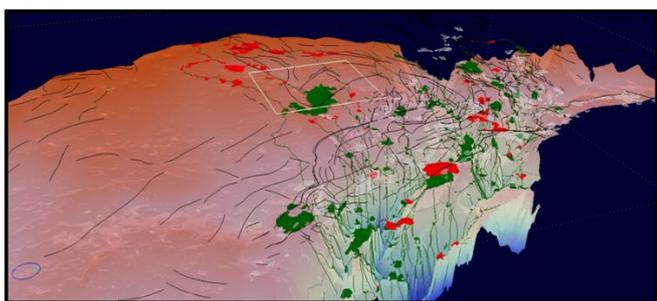


Figure 2 IGI Oil Migration Study with Central Graben oil kitchen and DHH.

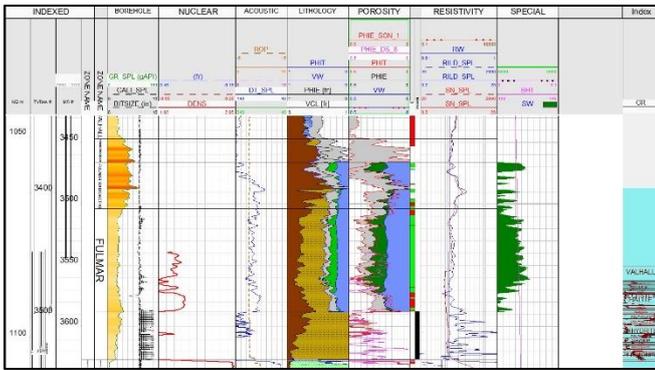


Figure 4 27/10-1 Fulmar Sand Gross Reservoir thickness- 122 feet, N/G - 82%, Net Pay – 77 feet, Porosity-24%.

Downdip well, 27/10-1, proves a 50m thick, porous, high N/G, Permian Dolomite

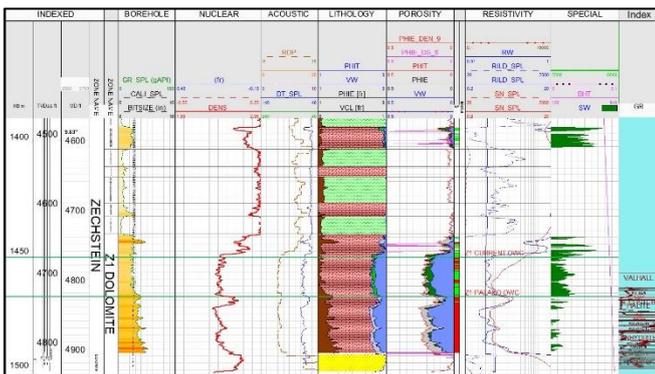


Figure 5 27/10-1 Z1, Z2 and Z3 4405’ to 4828’ (423’ gross) 164’ net reservoir 38% N/G with lowermost 50m having 19% porosity. Possible OWC at 4646’ (1416m) corresponding with large four-way closure.

The updip well 27/3-1 drilled a 20 feet thick dolomitic sandstone pay zone with oil and gas shows.

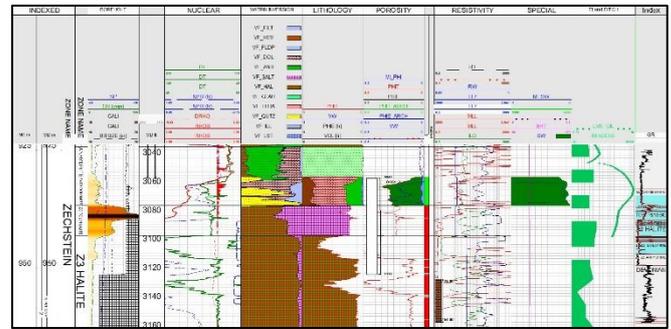


Figure 6 Permian Z3 Z4 Carbonate 20.5 feet net pay zone, N/G – 100%, Porosity – 22% Saturation – 90%.

This was tested twice but failed to flow due to cement blocking the reservoir. Cement had been set in the rathole at the base of the 17 ½ “ hole. This was drilled out into the 12 ¼ “ hole leaving a 2” thick cement sheath barrier.

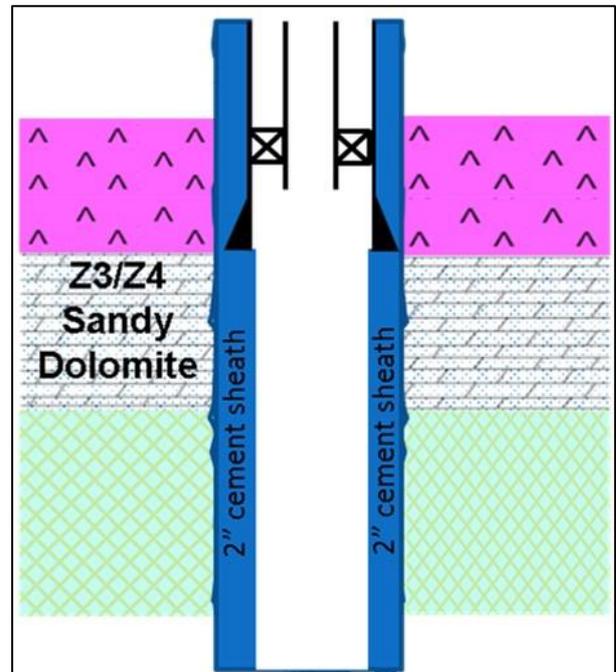


Figure 7 Illustration showing test in rathole with 2" cement sheath blocking reservoir highlighted in blue.

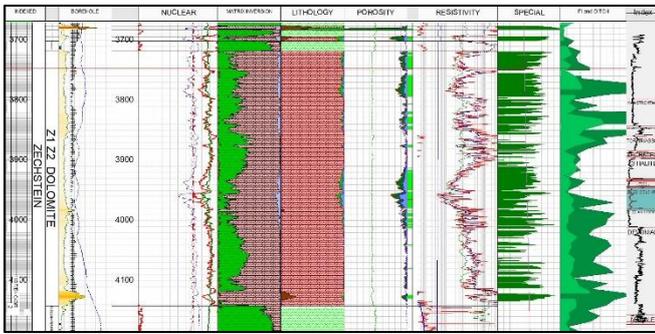


Figure 8 27/3-1 Z1 Z2 Z3 Dolomites. Net pay 188 feet. N/G 44%, Porosity 6% ODT 1233m tvdss.

Updip well 27/3-1 proves Net pay thickness of 188 feet. N/G – 44% and an Oil Down To of 1233m tvdss.

At this time (1967) the Permian Dolomite play was not well understood. There was no production from Permian Dolomites in the North Sea and the play was not developed. Subsequently Permian dolomites proved production in fields such as Auk (1970), Argyll (1971), Carnoustie, Claymore, Ettrick, Morag, and more recently at Johan Sverdrup (2019) West Newton (2019) and Darach (2019) wells.

The Jurassic Fulmar sand exploration prospect is a large stratigraphic closed structure with an area of 282 sq kms.

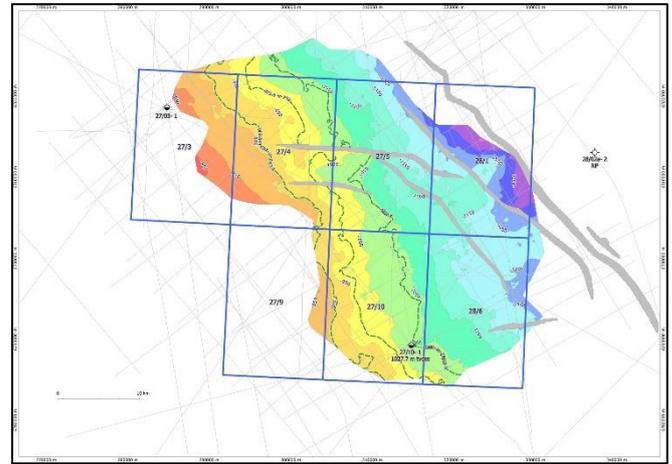


Figure 10 Fulmar Sand Depth Structure with 1037.5 OWC highlighted

The Upper Dolomite Z3 Z4 Oil Discovery is a large four-way dip closed structure. The Amoco 27/3-1 was drilled on target and within closure. The 1960’s seismic was good enough to map this closure.

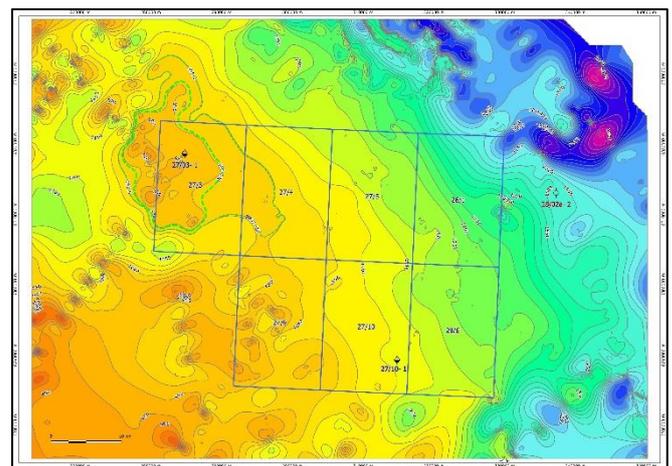


Figure 11 Z3 Z4 Permian Upper Sandy Dolomite Depth Structure Map

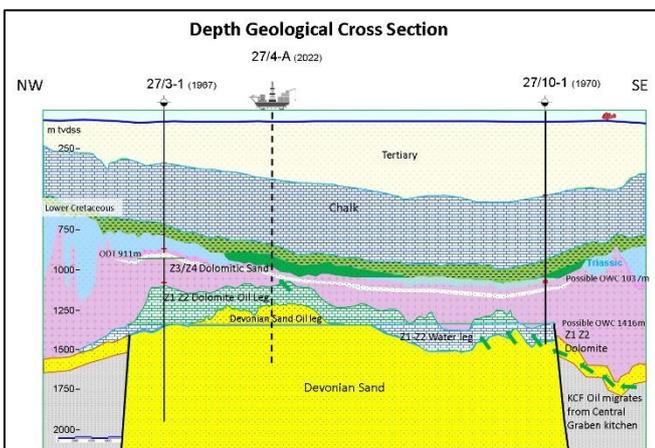


Figure 9: Geological Cross Section with contacts, reservoirs and oil migration pathways.

Prospects:

The Zechstein Z1 Z2 Z3 Dolomite appraisal prospect is a large four-way dip closure. The lowest closing contour 1416m corresponds with a possible Oil Water Contact in well 27/10-1.

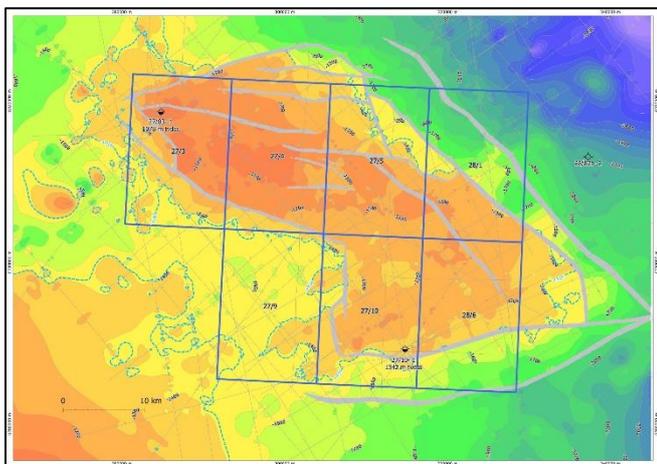


Figure 12 Zechstein Z1 Z2 Z3 Dolomite Depth Structure with 27/10-1 4646' tvdss (1416m) OWC highlighted.

Work Programme:

The P2321 Seaward Production Licence is divided into the phases: A, B and C.

Desktop studies in Phase A (May 2017 to May 2019) are completed. The studies, including the NSNR well calibrated IGI Oil Migration study, have substantially derisked the prospect.

2000 sq kms of 3D seismic is planned for Summer 2021. Cost is \$7M. An Appraisal/Exploration Well will be drilled in a water depth of 260 feet (80m) to a depth of 6500 feet (1990m) at an estimated gross cost of £15M (success case). Time estimate for drilling is 48 days. Dry hole estimated

gross cost is £8M. The drill or drop decision is 14th November 2022.

NSNR Economics Summary:

NSNR has carried out its own economics using the Gaffney, Cline & Associates verified volumes and risks. These economics are high level and have not yet had rigorous third-party auditing.

Combining the economic scenarios at \$50/bbl yields the following - Expected Monetary Value (EMV) is £1.8 Billion (\$2.4 Billion) with an IRR of 27%.

GCA Exploration Well Outcome Probability		
Reservoir	Success	Fail
Z3	49%	51%
Z1&Z2	34%	66%
Jurassic	21%	79%

Table 1 GCA Risking is basis for Probability of Development of the three main stacked reservoirs (Devonian Sand is not included but is upside potential)

From the subsurface risking of three separate reservoirs eight possible success failure cases are generated each with their own probability and volume.

Exploration Well Outcome Probability and Value Matrix					
Z3	Reservoir		Probability	Resource Volume MMstb	NPV10 at 50 \$/bbl £ MM
	Z122	Jurassic			
Fail	Fail	Fail	27%	0	-13
Fail	Fail	Success	7%	1259	5,804
Fail	Success	Fail	14%	531	2,260
Fail	Success	Success	4%	1790	7,225
Success	Fail	Fail	26%	34	31
Success	Fail	Success	7%	1293	4,949
Success	Success	Fail	13%	565	1,995
Success	Success	Success	3%	1824	6,069
Expected Resource / Value			100%	462	£ 1,798
					\$ 2,428

Table 2 Expected Well Outcome Probability and Value Matrix

Probability of a Development, based on three stacked reservoirs, is 73%.

Expected Resource Development Project Size Distribution	
Field size is larger than	Probability
MMBO	%
30	73%
500	48%
1,250	21%
1,750	7%
1,800	3%

Table 3 Expected Resource Development Size distribution table

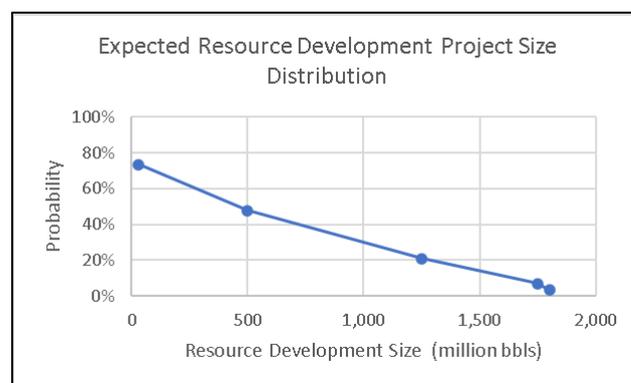


Figure 13 Probability of a Development

Breakeven is \$15/bbl for the two-reservoir case.

The NPV10 at \$50/bbl is £1.9 Billion. NPV/bbl is 4.8 \$/bbl, RoR is 38% with a PI of 2.9

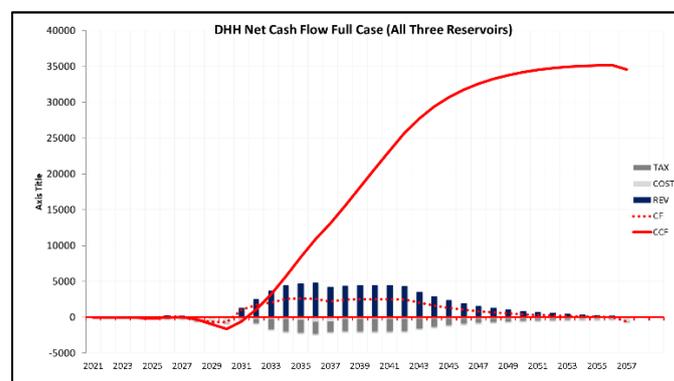


Figure 14 Net Cash Flow

Further information:

A detailed technical Information Memorandum is available.

Online and Physical Data Rooms can be viewed upon signing of a Confidentiality Agreement.