Providence Resources

Energy Research

28 March 2018 7:45:[i] / 28 March 2018 7:50[ii]

Buy

Bloomberg	PVR LN
Price (p/shr)	9.4
Target Price (p/shr)	33.0
Upside (%)	251%
12mth high/low (p/shr)	4.63 / 19.75
Shares out (mill)	597.7
Fully diluted (mill)	657.4
Mkt Cap (US$m)	78.7
Enterprise Value (US$m)	58.7

The black stuff

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Investment case

The black stuff

Providence Resources is a UK-listed E&P, focussed on offshore basins in Ireland. It was one of a handful of E&Ps which enjoyed exploration and appraisal success at the height of the AIM resources boom, only to fall victim to a scaling back of industry investment, first triggered by high costs and latterly by the collapse in oil prices. Over the past few years shareholders have not had an easy ride, however the recently announced farm out of the company's flagship asset – the Barryroe oil field – should mark a major inflection point. Providence now has a meaningful stake in a c.350 mmboe appraisal and development project, with a fully funded multi-well appraisal drilling campaign on the horizon. On top of this it has a highly attractive exploration portfolio partnered with some of the most recognisable names in the industry (including Total, ENI, Repsol, and Cairn). With the stock trading at a substantial discount to our risked valuation of Barryroe alone, we initiate coverage with a **BUY recommendation** and a **33p/shr target price**.

Flagship farm out

The recently announced farm out deal with the Chinese consortium is a major coup, and is testament to both the asset and the Providence team. The deal provides funding to drill three wells, including any necessary sidetracks and production tests, the value of which we estimate in the order of US$100m (gross). CNOOC's majority-owned subsidiary China Oilfield Services Co (COSL) forms part of the APEC-led joint venture, and will vend in services associated with the appraisal campaign. Its European subsidiary COSL Drilling Europe currently operates four modern semi sub drilling units, and has drilled wells for the likes of Statoil, Nexen, and Lundin. The second member in the joint venture is state-owned JIC Capital Management (a wholly owned subsidiary of China Investment Corp), which is providing the capital. Having relinquished 50% of its equity stake in return for the funding for the three well programme, Providence is left with a 40% stake in the project – meaningful enough to provide flexibility when it comes to financing the development (either through additional farm outs, debt, equity, or a combination).

The farm out goes a significant distance in de-risking Barryroe from a commercial standpoint, and the campaign should mature the project to the point at which commerciality can be declared. On our numbers even a small first phase development at Barryroe (including just c.40% of current 2C resources estimates) is worth as much as US$461m (55p/shr) unrisked, net to PVR's 40%, demonstrating the upside potential on each milestone to first oil. Plans for the appraisal campaign will be completed over the coming months, ready for appraisal drilling during 2019.

More than Barryroe

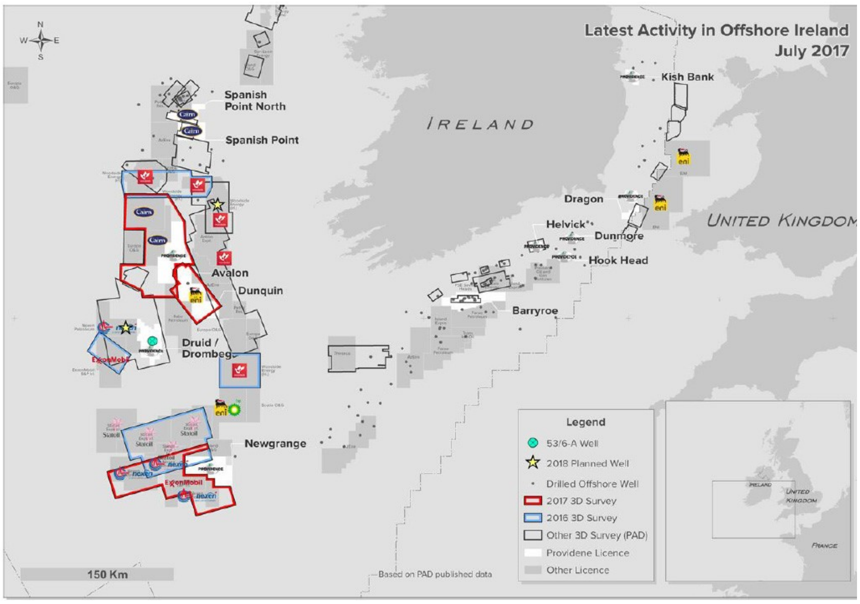
Providence is far from a single asset company however, and, indeed, it is the often overlooked exploration portfolio which we believe really sets the company apart from its peers. As is often the case following anything other than a barnstorming discovery, the market dismissed the Dunquin licence following the non-commercial well in 2013. What was lost by many in the aftermath of the result however, was the fact that the well actually encountered a substantial, but breached, oil reservoir, which hugely advanced technical understanding of the region and significantly de-risked a number of nearby prospects (including Dunquin South). With new, recently acquired 3D seismic clearly demonstrating the failure mechanism at Dunquin North, and supporting the case for an effective seal at Dunquin South, we expect the partners (which include carbonate specialists ENI, and Repsol) to sanction exploration drilling in due course. The structure is very large, and even with just a 27% stake, Dunquin South could be worth as much as 200p/shr, unrisked, net to PVR, or 30p/shr including a conservative 15% risking. We expect Dunquin South to become increasingly central to the investment case as the prospect is matured, and exploration plans firmed up.

Potentially nearer term, and something of a wildcard, is the Newgrange prospect in the Goban Spur Basin off South West Ireland. This prospect is effectively drill ready (a site survey is being prepared later this year), and is giant, with over 9 bn bbls of estimated gross prospective resources (STOIIP). The prospect is not covered with 3D seismic, and is high risk, but at a gross cost of just US$11m to drill versus an unrisked valuation in excess of US$2bn, the well offers a compelling risk reward dynamic. Given Providence's capital allocation considerations it is unlikely to drill Newgrange alone, and we expect it to seek to farm down its 80% stake, which would add another drilling catalyst to the hopper.

Providence's heritage

On a more general note, Providence has a high quality and well established team. Despite its relatively small size, it has by far the largest database of seismic and well data in the region, and has been continuously active since the early 1980s. Since entering the region, Providence has been joined by an impressive list of Majors and Supermajors, including Total, ENI, BP, Repsol, Petronas, Statoil, ExxonMobil, Nexen-CNOOC, Woodside and Cairn (six of which have served as partners in Providence-operated licences). What's more, the company holds the record for operating the deepest water depth well in the North Atlantic (at over 2.2 km) – empirical evidence of its operational credentials. In total, since 2004 Providence has successfully drilled seven wells (six of which as operator) and participated in 14 seismic surveys, investing over US$0.5bn. Importantly, less than half of this investment was funded via equity placings, with the majority financed by partners in industry farm outs and asset divestments.

Figure 1: Offshore Ireland regional activity



Source: Providence Resources.

Providence's shareholder register is testament to this track record, and is as strong as any in the sector. The largest holders are predominantly long-only blue chip institutions, and include the likes of M&G, Capital, Hargreave Hale, Goldman Sachs, Henderson and Blackrock. In total, institutions own approximately 85% of the company.

Valuation – Core NAV of 33p/shr.

We have used a discounted cash flow methodology to value Providence, focusing our Core Valuation on a small scale, first phase development at Barryroe. The key assumptions include a long term oil price of US$70/bbl (flat), as well as a discount rate of 10%. We have also applied onerous haircuts to account for technical and commercial risks (discussed in more detail later in the note). The net effect is a Core NAV of 33p/shr, from which we have set our target price. On top of this Core NAV we attribute some 27p/shr to Barryroe Phase II (risked), resulting in Core plus Appraisal NAV of 60p/shr. Our Total NAV of 101p/shr also includes value for the two nearest term exploration opportunities – Dunquin South and Newgrange.

Figure 2: Valuation summary

Asset	Gross mmboe[1]	Interest	Net mmboe[1]	US$/boe	Unrisked US$m	p/shr	CoS[2]	Risked US$m	p/shr
Barryroe Phase I	141	40%	56.4	8.18	461	55.1	60%	277	30.1
Warrant proceeds					10	1.2		10	1.2
Cash					20	2.4		20	2.2
Core NAV	**141**		**56**		**491**	**58.7**		**307**	**33.4**
Barryroe Phase II	205	40%	82	6.14	503	60.2	49%	247	26.8
Core + Appraisal NAV	**346**		**138**		**995**	**118.9**		**553**	**60.2**
Dunquin South	1,389	27%	373	4.46	1,664	198.9	15%	250	27.1
Newgrange	1,360	80%	1,088	2.23	2,427	290.1	5%	121	13.2
Total NAV	**3,095**		**1,599**		**5,086**	**607.8**		**924**	**100.6**

Key valuation assumptions:

Shares out: 597.7m basic, 59.7m 12p/shr warrants, 657.4m shares fully diluted.

Brent US$60/bbl 2019, US$65/bbl 2020, US$70/bbl flat thereafter.

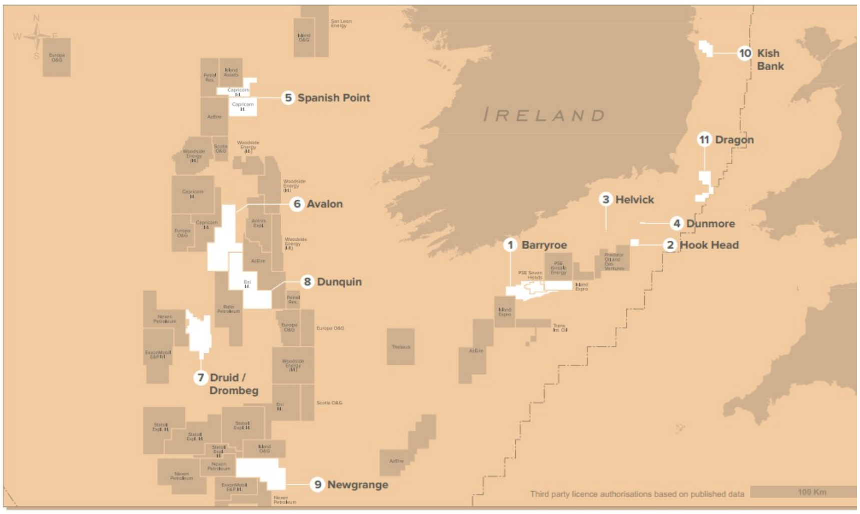
Cash flows discounted at 10% discount rate.

Source: Mirabaud Securities. [1]Million barrels of oil equivalent - recoverable oil & gas reserves. [2]Chance of success.

Portfolio overview

Providence Resources is a 100% Irish focussed E&P. Despite this tight geographic focus, the company has a broad portfolio of assets ranging from the 311 mmbbls oil field at Barryroe, through to giant deep water, oil and gas prospects off the west coast. In total, the company has interests across 11 licences, as illustrated in Figure 3, below, with partners including the likes of Total, Repsol, Petronas, Cairn and ENI. The section below focusses on what we consider Providence's most prospective acreage, and the assets most likely to bring near term newsflow – namely, Barryroe, Dunquin South, and Newgrange.

Figure 3: Providence Resources portfolio overview



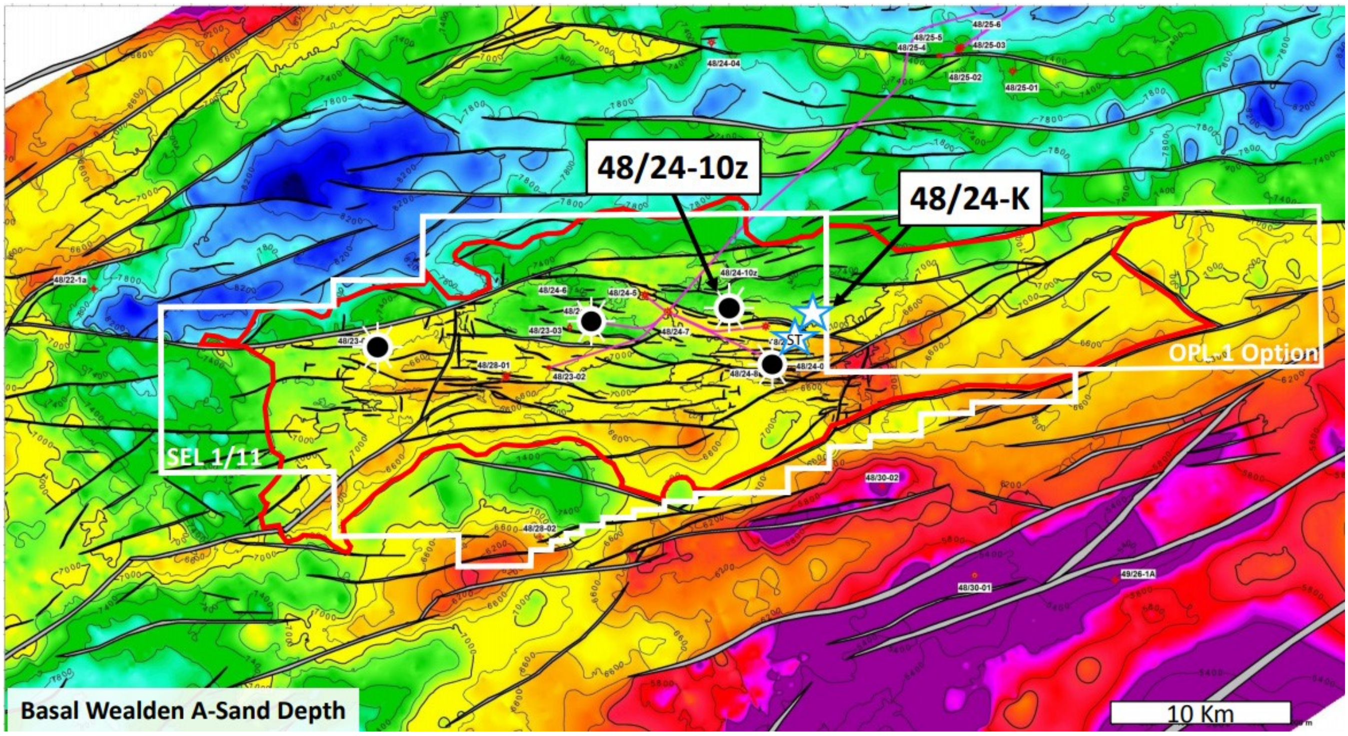
Source: Providence Resources.

Barryroe overview

Providence's flagship asset is the 311 mmbo (gross, recoverable 2C oil resources only) Barryroe field, situated c.50km off the Cork coast of southern Ireland. Providence originally licenced the 1974 Esso discovery in 2006, and enjoyed success in the early 2010s with the acquisition of new 3D seismic and the drilling of an appraisal well.

Providence's 2012 well was the sixth consecutive well on the field to successfully encounter hydrocarbons, with the result contributing to a substantial upgrade of in place oil resources at the field to over 1 bn bbls. According to independent auditors Netherland Sewell & Associates and RPS Energy, this indicates some 311 mmbbls of gross recoverable oil resources, plus 207 bcfe of gas and condensate. The well was significant in that it demonstrated flow rates well in excess of pre-drill expectations, with over 3,500 bopd flowing from a seven metre vertical section of reservoir. The test also confirmed the effective use of vacuum-insulated tubing in managing the c.20% wax content of the crude, successfully maintaining temperatures above the wax precipitation level.

Figure 4: Barryroe field structure map (Basal Wealden level) and volumetric table (oil only)



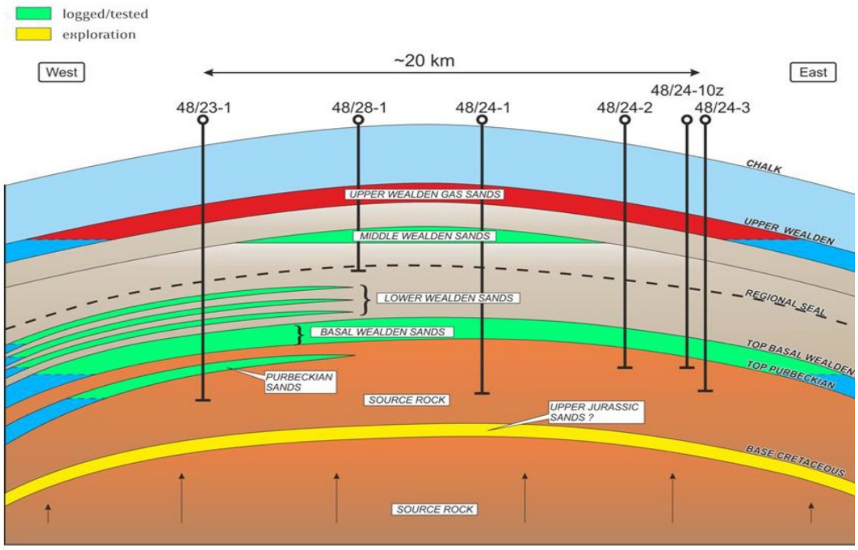
	1C mmbo	2C mmbo	3C mmbo
Basal Wealden STOIIP	338	761	1,135
Basal Wealden recoverable	**85**	**266**	**511**
Recovery factor (%)	*25%*	*35%*	*45%*
Middle Wealden STOIIP	31	287	706
Middle Wealden recoverable	**4**	**45**	**113**
Recovery factor (%)	*13%*	*16%*	*16%*
Total contingent resource STOIIP	369	1,048	1,841
Total recoverable contingent resources	**89**	**311**	**624**
Recovery factor (%)	*24%*	*30%*	*34%*
Prospective resources STOIIP (L. Wealden & Purbeckian)	456 (P90)	778 (P50)	1,165 (P10)

Source: Providence Resources.

Geological overview

Barryroe comprises a large dip-closed structure, with a footprint of c.400 sq km. Although it is aerially broad, the field is relatively thin, with gross pay in the order of just c.30 metres. The resource is split over two key Cretaceous horizons, namely the Basal and Middle Wealdon. The reservoir sands were deposited close to the paleo shoreline as braided channels, and are of good quality with high quartz content (Providence's latest well encountered average permeability of 660mD, and porosities of up to 30% have been measured). In conjunction with the light nature of the crude in place, testing results demonstrate productive flow rates (>3,500 bopd from a 7 metre vertical section), which also indicates relatively high ultimate recovery factors.

Figure 5: Barryroe schematic cross section



Source: Providence Resources.

The Barryroe structure is capped with shales and siltstones of the Middle and Upper Wealden. These serve as effective sealing units. A thick Purbeckian shale immediately underlies the reservoir units, serving as the source rock. The shale is lacustrine, and is very rich, generating substantial volumes of light oil (c.43° API). The oil is, however waxy, with a content in the region of 17-20%. The crude has a pour point at 21 degrees Celsius, versus a subsurface temperature of c.65 degrees Celsius, meaning that it is highly mobile in situ, but solid at surface temperatures.

Wells on Barryroe have also encountered oil in a deeper Purbeckian sand and thinly stacked Lower Wealden sands, with an additional c.800 mmbbls (gross, P50 STOIIP) estimated by Providence in these horizons (no tests have been performed to date, hence the classification as prospective as opposed to contingent resources). A deeper oil target has been postulated within the Upper Jurassic (in yellow in Figure 5), although to date no well has reached such depths. In addition to the oil potential, gas has been encountered in multiple wells at the top of the Barryroe structure. One of the objectives of Providence's planned appraisal well(s) would be to identify whether or not the gas is connected to the upper oil reservoir.

Farming down Barryroe

The most significant recent news is the farm down of a 50% stake in Barryroe to the Chinese consortium, headed by APEC Energy Enterprise Limited. APEC is a privately owned Chinese company, with a joint venture alongside Chinese Oilfield Services Co. (COSL, a majority owned subsidiary of CNOOC), and JIC Capital Management (an investment arm of the state owned China Investment Corp). On completion of the farm in (anticipated for Q3 this year), Providence's stake will be reduced to 40% in return for the funding of three appraisal wells, and any necessary sidetracks and tests. APEC will also provide the rig and related operational services, drilling the wells on a turnkey basis (protecting Providence from exposure to cost over-runs). Providence will continue to operate Barryroe through the appraisal programme, with APEC providing technical assistance, and the reins handed over once the asset moves into the development phase (subject to ministerial approval).

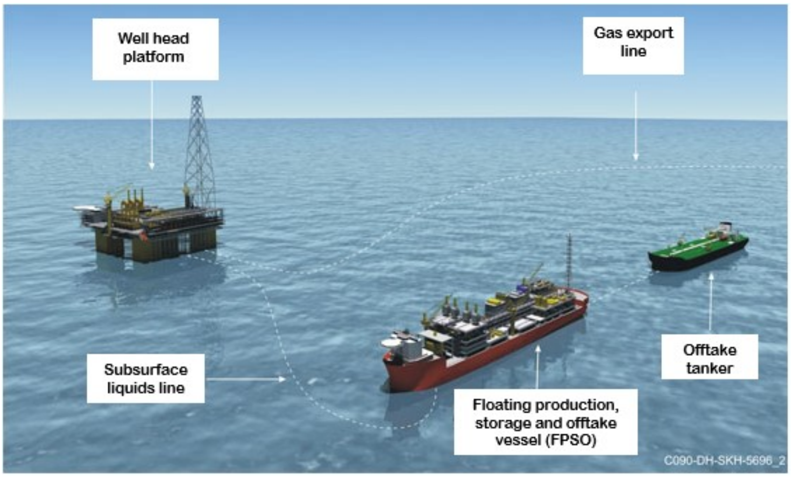
The drilling finance (net to Providence and Lansdowne 50% combined stake) will be provided by the way of a non-recourse loan, which will incur an annual interest rate of LIBOR +5%. The loan will be repayable from production cashflow from Barryroe, with APEC entitled to 80% of operating cash flow until the load is settled in full. APEC also has the right to acquire up to c.US$10m worth of 12p/shr warrants (59.7m warrants representing c.9.9% of the issued share capital), for a period up to 6 months post the appraisal campaign.

Next steps & conceptual development

The recent commitment from APEC materially expands the upcoming appraisal drilling campaign. Providence had been planning for a single well and sidetrack (marked 48/24-K in Figure 2, above), and while this well will undoubtedly form part of the campaign, decisions will have to determine the most effective sites for the other two wells. The challenge will be to ensure that commerciality is established, while at the same time maximising volumetric estimates.

Providence has undertaken a number of studies looking at conceptual developments for Barryroe. Clearly, with the recent arrival of development specialists COSL, and with further appraisal to come, the concept is likely to change significantly ahead of sanction. Still, the latest concept considers a phased approach, maximising time and cost exposure to first production. Providence has identified OMV's Maari oil field in New Zealand as a potential development analogue, with similar water depths and oil characteristics. Here, oil is produced via a wellhead platform, tied back to a floating production, storage and offtake vessel (as in Figure 6, below). Shuttle tankers then ferry produced liquids to market. In the case of Barryroe, gas could be tied back to the Seven Heads manifold, which is situated only 5 km away, before being exported onshore via the existing gas pipeline.

Figure 6: Development concept analogy



Source: Modified from INPEX.

In many ways, the Barryroe development is straightforward. The North Sea, and its vast array of services and infrastructure is nearby. It is also close to both European and international markets. Water depths are not extreme, at around 100 metres, and it can easily be serviced by a number of large ports, including the deepwater Cork port. The key challenge in developing Barryroe will be handling the wax in the crude, and mitigating against wax precipitation and blockages. That said, the wax content at Barryroe is far from unique – indeed in the Moray Firth of Scotland the Beatrice field produced analogous oil for almost four decades ahead of its recent suspension pending decommissioning.

With a pour point at 21°C, Barryroe crude is solid at surface temperature, however it is highly mobile in situ within the reservoir (which averages c.65°C). The challenge is maintaining the temperature of the crude as it flows to surface (once at the surface it can be more easily managed). During the appraisal test of 2012, vacuum-insulated tubing (similar to thermos flask technology) in the well was used effectively, with no issues with wax precipitation. On top of this, electrical heating elements can be installed into the pipeline bundle, which can be switched on to 'defrost' any wax which may have precipitated out of solution. This can be particularly useful during extended periods of downtime where crude is left stationary in-pipe to cool. The additional heating and processing requirements for the wax will come at a cost – expected in the order of c.US$1/bbl – however this will be offset by the premium price expected for the high quality crude, and therefore on a net basis Providence should realise prices broadly in-line with Brent.

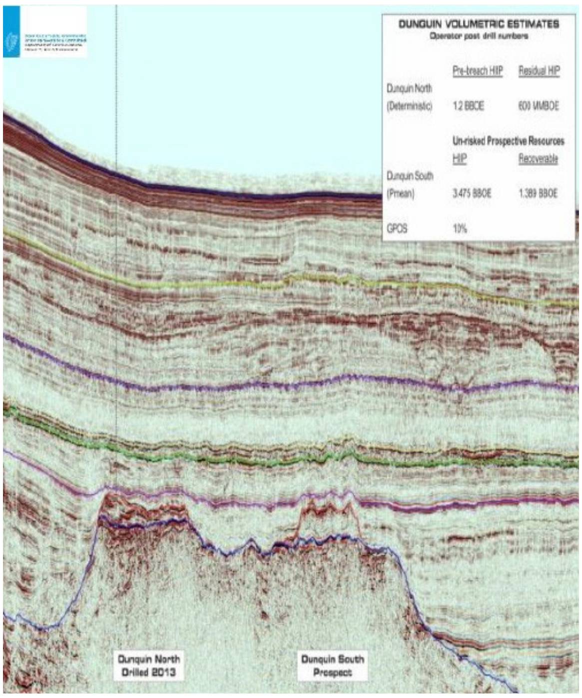
Dunquin South (PVR 26.8% working interest)

Dunquin South is a large exploration prospect situated in the southern Porcupine Basin. The prospect is a twin to Dunquin North (see Figure 7, below), which was tested by a consortium including ExxonMobil, Eni, Repsol and Providence in 2013. Although the 2013 result was disappointing in that the well was non-commercial, a low saturation oil accumulation was encountered, demonstrating that the failure mechanism here was a breached seal. Accordingly, some 50% of the original 1.2 bn bbls of oil in place is believed to have migrated elsewhere, with the remaining 600 mmbbls in place not currently considered commercial.

The result from Dunquin North, therefore, while disappointing, was far from a write off, with the well proving a working regional hydrocarbon (oil) system with a viable reservoir. Last year the Dunquin partners acquired new 3D seismic (Dunquin North was drilled on 2D alone), which has further improved understanding of the subsurface. We understand that one striking feature of the 3D is a huge chimney feature above Dunquin North, which is clearly evidence of the breach of the structure. A similar chimney is conspicuously absent from Dunquin South, which bodes well for the southern 'twin'. The seismic also demonstrates how the northern structure has been more heavily faulted than the south, suggesting that it has been subject to higher tectonic pressures which could have contributed to the hydrocarbon breach. The fact that the southern structure shows lower levels of deformation lessens the risk of seal failure.

The partners have yet to formally commit to drilling Dunquin South, however should the interpretation of the recently acquired 3D seismic fall in line with expectations, a well could feasibly be drilled in the next couple of years. We would expect gross drilling costs based on today's market to be in the order of US$80m, implying a cost of just over US$21m, net to Providence.

Figure 7: Dunquin North & South 2D seismic cross section

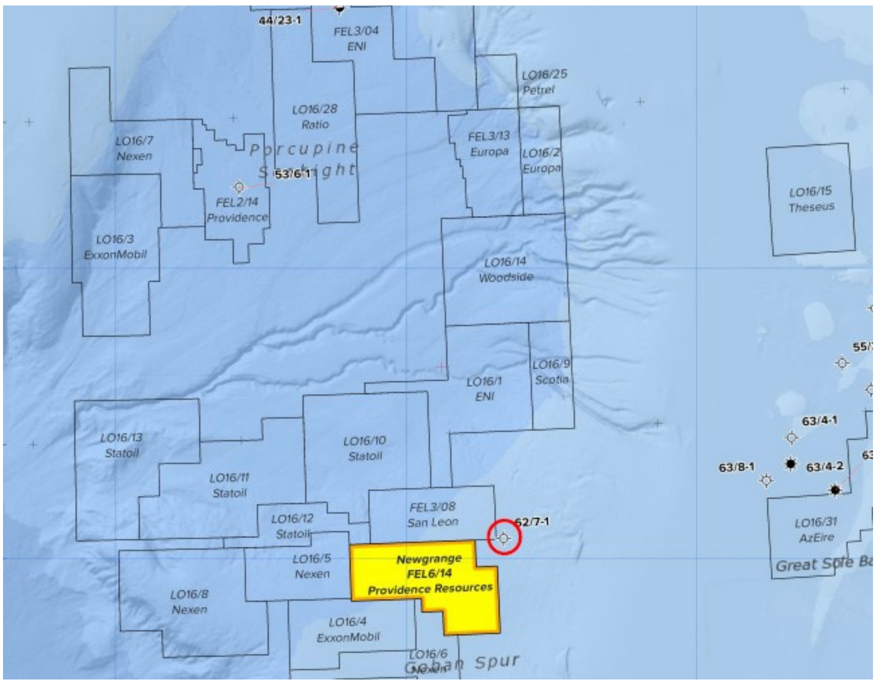


Source: Providence Resources.

Newgrange (PVR 80% working interest)

The Newgrange structure is one of the largest four-way dip-closed structures to be identified on the Atlantic Margin. Although the prospect is situated in over 1,000 metres of water, it is very shallow, at only 500 metres below the sea floor, meaning that the well can be drilled for only US$11m. While it is high risk, the size of the structure (13.6 Tcf or 9.2 bn bbls in place) and the low costs make for compelling risk rewards, and accordingly, it would be an interesting well as part of a wider campaign.

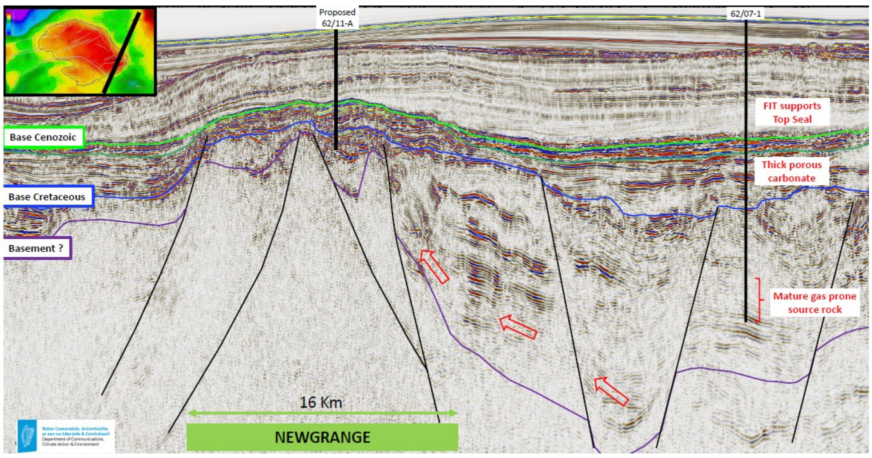
Figure 8: Southern Porcupine Basin licences



Source: Providence Resources.

Newgrange is a Lower Cretaceous carbonate target, analogous to the Dunquin South prospect, which lies due north in licence FEL 3/04 (see Figure 7, above). The Newgrange feature also lies updip of the Esso well 62/7-1 (see Figure 9), which was drilled in 1982 targeting a deeply buried Jurassic tilted fault block structure. Although the Esso well failed to encounter commercial hydrocarbons, it encountered gas shows in Lower Jurassic sands and a mature Jurassic source rock.

Figure 9: Newgrange prospect cross section



Source: Providence Resources.

The Newgrange structure is covered by modern (2014) 2D seismic, which not only illustrates the large (50km x 30km) carbonate structure, but also indicates far lower seismic velocities over Newgrange than at the similar level in the failed Esso well. This could potentially be an indicator for hydrocarbon presence. Schlumberger reviewed Newgrange under its exploration collaboration project with Providence. The report focussed specifically on the viability of the top seal, given the thin overburden and potential for gas, and concluded that the seal could potentially support a 350 metre hydrocarbon column. Given Newgrange's large aerial footprint, the structure could therefore feasibly contain a mammoth 13.6 Tcf gas or 9.2 bn bbls oil. Clearly, with only 2D seismic coverage, and relatively little regional exploration, the well is high risk. The key potential failure mechanism is finding a competent seal. Still, with drilling costs so modest an exploration well is attractive on a risk reward basis, and is the most cost effective way of categorically determining the viability of Newgrange.

Near term regional activity

Figure 10, below surmises Providence's near term work programme, as well as some of the publically announced plans of Providence's peers. Excluding Barryroe, the next well to be drilled offshore Ireland is likely to be on Nexen-CNOOC's Iolar prospect. Iolar lies due west of Providence's Druid / Drombeg permit, and is an updip analogue to its Diablo prospect (see Appendix 2 for more detal). The drilling results, therefore, will be watched closely by Providence and its licence partners, which include French major, Total. Incidentally, having entered the basin last year ahead of the Druid / Drombeg exploration well, it was encouraging to see Total recently commit to the block by exercising its option to formally farm in and assume operatorship, despite the disappointing exploration result. The farm-out was Providence's second to Total in the space of 12 months, coming on the heels of the deal on the Avalon permit. Here the partners are planning a 3D seismic programme, which should commence at some point next year.

Woodside is also preparing to drill in the region, with its own Beaufort exploration well situated to the north-east Avalon. This well will be targeting a large Upper Jurassic fan, with gross Pmean recoverable resources of 395 mmbbls. With the costs of mobilisation/demobilisation largely fixed regardless of the size of the campaign, it would make sense for Woodside and Nexen-CNOOC to combine both wells in a summer 2019 drilling campaign. Having a deep-water rig active in the region will undoubtedly increase Providence's chances of attracting a partner to one of its own drill ready opportunities, with Newgrange in particular looking like a prime candidate for farm out. In preparation for this, Providence is planning an exploration well site survey later this year.

Finally, it's worth noting APEC's recent comments regarding an agreement to jointly investigate further opportunities alongside Providence. The comment doesn't specify whether this agreement would cover new ventures, or farm-outs of Providence's existing assets, however, either case could result in new additions to the near term work programme.

Figure 10: Near term activity schedule

Asset	Operator	Partners	2018	2019	2020	2021
Providence licences						
Barryroe	**Providence (40%)***	APEC (50%), Lansdowne (10%)	Site survey	Drilling		
Dunquin South	ENI (36.9%)	Repsol (33.6%, **Providence (26.8%)**, Sosina (2.7%)	3D interpretation	Survey / consent	Drilling	
Newgrange	**Providence (80%)**	Sosina (20%)	Site survery / consent	Drilling		
Avalon	Total (50%)	**Providence (40%)**, Sosina (10%)		3D seismic & interpretation	Survey / consent	Drilling
Other Irish operators						
Iolar	NexenCNOOC (100%)			Drilling		
Beaufort	Woodside (90%)	Bluestack (10%)		Drilling		

Source: Providence Resources. *Operatorship to be transferred to APEC post appraisal drilling, subject to ministerial approval.

Funding and Valuation

Funding position

We estimate that Providence currently has in the order of US$20m of cash, with no debt. Like most in the industry, Providence has successfully reduced overheads in the wake of the fall in oil prices, and last year G&A costs came in under €5m (c.US$6m). With modest ongoing E&A costs, and with no cost obligations associated with the upcoming three well appraisal campaign on Barryroe, Providence is well capitalised for the foreseeable future.

DCF analysis

Our NAV table is predominantly based on DCF models considering a phased development at Barryroe, as well as a generic large standalone discovery in the Porcupine Basin. Our base case Barryroe model assumes only Phase I of the development (141 mmboe of gross resource with production plateauing at a rate of c.50,000 boepd). In terms of our macro assumptions, we have modelled long term oil prices of US$70/bbl, with gas prices at US$6/mcf, and a discount rate of 10%. We have detailed our modelling considerations later in this note in Appendix 4.

Figure 11: Valuation summary

Asset	Gross mmboe[1]	Interest	Net mmboe[1]	US$/boe	Unrisked US$m	p/shr	CoS[2]	Risked US$m	p/shr
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Key valuation assumptions:

Shares out: 105.6m basic, 59.6m warrants at 12p/shr, 657.4m shares fully diluted.

Brent US$60/bbl 2019, US$65/bbl 2020, US$70/bbl flat thereafter.

Cash flows discounted at 10% discount rate.

Source: Mirabaud Securities. [1]Million barrels of oil equivalent - recoverable oil & gas reserves. [2]Chance of success.

Our 101p/shr Total NAV essentially has three components:

- **Core NAV:** our Core NAV includes value for Barryroe Phase I, including c.140 mmboe of recoverable resource (c.126 mmbbls of which oil). Our 60% overall chance of success includes an 80% technical chance of success, as well as an additional 25% haircut to represent timing and other commercial risks. We have assumed that APEC fully exercises its 59.6m 12p/shr warrants, resulting in US$10m of proceeds, and have estimated US$20m of current cash on the balance sheet.
- **Appraisal NAV:** Our Appraisal NAV also includes later phases of the Barryroe development, effectively increasing total recoverable volumes to the current 2C resource estimate of 346 mmboe. Due to the likely later development of Phase II, we have assumed that barrels are worth 75% of those in Phase I (equivalent to US$6.1/boe in the ground today). On top of this, we have applied a 70% geological chance of success and a 70% commercial chance of success,

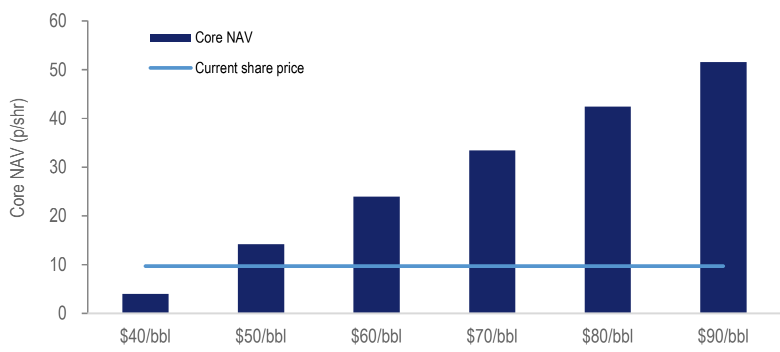
equivalent to an overall risking of 49%. With 26.8p/shr of incremental value, we calculate a Core plus Appraisal NAV of 60p/shr.

- **Exploration NAV:** Our exploration NAV includes value for the Dunquin South and Newgrange prospects. We have assumed that Dunquin South is an oil discovery, in line with the Pmean pre-drill estimates of c.1.4bn bbls gross recoverable. Our model values oil in the ground at c.US$4.5/bbl at Dunquin South – the discount to Barryroe largely a reflection of the length of time to first production, and the more costly operating environment of the deeper water Porcupine Basin. On this basis, and after applying a 15% chance of success, we value Dunquin South at 27p/shr, risked. In the case of Newgrange, we have assumed a large gas discovery, valuing barrels of oil equivalent at c.US$2/boe. Assuming a more onerous 5% chance of success, we calculate a risked value of 13p/shr, taking Total NAV to 101p/shr.

Oil price sensitivity

The attractive fiscal regime in Ireland helps contribute to a low breakeven oil price for Barryroe of just US$40/bbl on our numbers. The project is also naturally sensitive to our long term oil price assumption, as illustrated in Figure 12, below. Assuming zero value for anything other than Core NAV, the market is currently discounting a long term oil price of just US$45/bbl (NPV10). Our long term oil price assumption of US$70/bbl results in a Core NAV of 33p/shr – 3.5x the current share price. US$80/bbl long term would imply a Core NAV of 42p/shr – 4.5x the current share price.

Figure 12: Valuation sensitivity to long term oil prices*



Source: Mirabaud Securities.

Peer analysis

Providence is not alone in suffering at the hands of the industry downturn in exploration and appraisal, with a number of listed peers in a remarkably similar position of having a material discovery seeking industry finance in order to commercialise. As our summary of peers in Figure 13 demonstrates, each asset has its own pros and cons. From a geographical perspective, Hurricane is Providence's closest comparable. Having tapped investors for US$520m last year, the North Sea operator is funded for an early production facility, however, unlike Providence it lacks industry validation. Furthermore, Hurricane's assets are far more speculative from a technical perspective given the unconventional nature of its fractured basement reservoir. Including all of Hurricane's non-core assets, the stock trades on an EV/2P+2C multiple c.30% lower than Providence's, however if we include only the resource associated with Hurricane's core asset (the Lancaster field), it trades at US$1.4/boe – more than three times Providence's US$0.44/boe.

The closest comp from an operational perspective in our list below is probably Bowleven. Its Etinde discovery is large, and has a funded appraisal campaign. However given the respective fiscal regimes (Ireland versus Cameroon), the fact Barryroe is predominantly oil versus Etinde's gas (and its associated issues monetising the resource), plus Providence's blue chip shareholder register versus Bowleven's uncertain structure, we would expect Providence to trade at a substantial premium. This indicates at least 2.5x uplift. Once Barryroe is fully appraised, and assuming results are in line with expectations, we would be looking at FAR (which trades at over US$6/bbl) for the closest comp.

Figure 13: Providence peer analysis

		EV US$m	2P+2C net, mmboe	EV/2P+2C US$/boe	Pros	Cons
Hurricane	UK	818	2,573	0.31	Funded, scale, politically benign	Conceptual technology, no industry validation
Providence	**Ireland**	**60**	**138**	**0.44**	**Scale, funded, fiscally & politically attractive**	**Wax**
Rockhopper	Falklands	117	260	0.44	Scale, fiscally attractive, fully appraised	Remote, partner drag, wax, politics
Borders & Southern	Falklands	19	170	0.11	Scale, fiscally attractive	Remote, gas condensate, politics
FAR Ltd	Senegal	578	96	6.01	Strong partnership, fully appraised	Low equity stake
Bowleven	Cameroon	63	58	1.09	Funded through appraisal	Uncertain shareholder register, gas
Sound	Morocco	687	30	23.0	-	Gas, country risk, poor shareholder register
Weighted average				**0.68**		

Source: Mirabaud Securities.

Appendix 1: Management & Board

Board members:

Pat Plunkett – Non-executive Chairman

Pat Plunkett was appointed Non-Executive Chairman of the Company in October 2016. He was previously Non-Executive Chairman of Tullow Oil Plc from 2000 to 2011 during which time Tullow grew from a small cap Oil & Gas plc to become Africa's leading independent oil company and a constituent of the UK's FTSE100. He is currently Executive Chairman of T5 Oil and Gas Ltd, a private company he founded in 2013 and which is focused on acquiring oil and gas assets in Africa and the Middle East. Pat has over 30 years' experience in the financial services sector. He was a founding partner of the Riada & Co stockbroking and corporate finance businesses and following their acquisition by ABN AMRO NV, he continued to manage these businesses until 1998. He is a former director of the Irish Stock Exchange.

Tony O'Reilly – Chief Executive Officer

Tony O'Reilly has been Chief Executive of Providence Resources P.l.c. since 2005, having founded the Company in 1997 and he has served as a Director since its incorporation. He has previously worked in mergers and acquisitions at Dillon Read and in corporate finance at Coopers and Lybrand, advising natural resource companies. He served as Chairman of Arcon International Resources P.l.c. (having been Chief Executive from 1996 to 2000) until April 2005 when Arcon merged with Lundin Mining Corporation.

Dr. John O'Sullivan – Technical Director

John O'Sullivan is a geology graduate of University College, Cork and holds a Masters in Applied Geophysics from the National University of Ireland, Galway. He also holds a Masters in Technology Management from the Smurfit Graduate School of Business at University College, Dublin and a doctorate in Geology from Trinity College, Dublin. John is a Chartered Geologist and a Fellow of the Geological Society of London. He is also a member of the Petroleum Exploration Society of Great Britain, the Society of Petroleum Engineers and the Geophysical Association of Ireland. John has more than 28 years' experience in the oil and gas exploration and production industry having previously worked with both Mobil and Marathon Oil. John is a qualified person as defined in the guidance note for Mining Oil & Gas Companies, March 2006 of the London Stock Exchange.

James S.D. McCarthy – Non-executive Director

James McCarthy was appointed as a Non-Executive Director of the Company in May 2005 and held the position of Non-Executive Chairman from May 2015 until the appointment of Pat Plunkett in October 2016. Mr McCarthy holds a Bachelor Degree in Civil Law, an MBA from the University of Pittsburgh and is a qualified solicitor. He is Chief Executive of Nissan Ireland and a Director of Corporate Finance Ireland Limited, Windsor Motors and Rockall Technologies Limited and a number of other companies. Mr McCarthy is a former Director of Arcon International Resources P.l.c.

Lex Gamble – Non-executive Director

Lex Gamble was appointed as a Non-Executive Director of the Company in August, 2005. Mr. Gamble holds a Bachelor of Arts Degree from the University of Washington, and a Master's Degree from Harvard Business School. He is a Director of Cardiac Insights Inc. and a former Director of Harris Private Bank NA, Northwestern Trust Co., Keystone Capital Corp., General Nutrition Corp. and Ashford Castle. He has been an investment banker for over 35 years serving as a Managing Director of Smith Barney, Morgan Grenfell and Kidder Peabody. He has provided strategic advice to more than 200 U.S. and international companies, including several in the FTSE 100 and Fortune 500.

Philip O'Quigley – Non-executive Director

Philip O'Quigley was Finance Director of Providence Resources from June 2008 until his appointment as Chief Executive Officer of Falcon Oil & Gas in May 2012. Philip continues to serve the Company in his capacity as Non-Executive Director. Philip has over 20 years' experience in finance positions in the oil and gas industry. His career spans a number of London and Dublin listed resources companies. He is the chairperson of the Onshore Petroleum Association of South Africa. Philip is a fellow of the Institute of Chartered Accountants in Ireland and qualified as a Chartered Accountant with Ernst & Young.

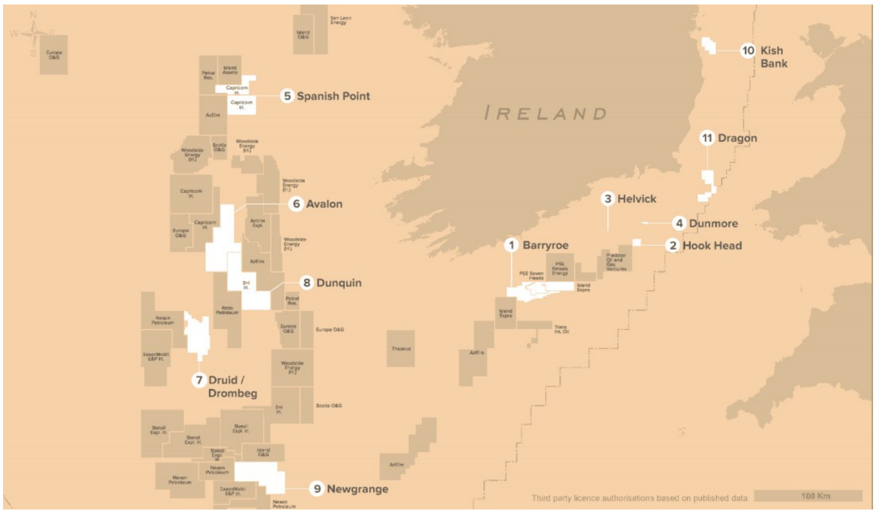
Dr. Angus McCoss – Non-executive Director

Angus McCoss joined the board as a non-executive director in June 2017. Angus holds a PhD in Structural Geology and is a member of the Advisory Board of the industry-backed Energy and Geoscience Institute of the University of Utah. Angus is the Exploration Director and main Board Director of Tullow Oil plc, a leading independent oil & gas, exploration and production group, quoted on the London, Irish and Ghanaian stock exchanges. Angus joined Tullow in 2006 following 21 years of wide-ranging exploration experience, working primarily with Shell in Africa, Europe, China, South America and the Middle East. Angus held a number of senior positions at Shell, including Regional Vice President of Exploration for the Americas and General Manager of Exploration in Nigeria.

Appendix 2: Other exploration assets

Providence is, by some considerable distance the largest acreage holder in Ireland. We have covered what we consider the company's most prospective permits in the asset section above, however there are additional less mature permits, leads and prospects, which may in time become more prominent aspects of the company's portfolio. Two such prospects are Avalon and Diablo, in which Providence has a 40% and 28% stake respectively, both partnered with French major, Total during the last 12 months.

Figure 14: Providence Resources full portfolio



Licence	Key asset	Operator	Partners	PVR %
NORTH CELTIC SEA BASIN				
SEL 1/11	Barryroe	Providence*	APEC, Lansdowne	40.0%
SEL 2/07	Hook Head	Providence	Atlantic, Sosina	72.5%
LU	Helvick	Providence	Atlantic, Sosina, Lansdowne, MFDC	62.5%
LU	Dunmore	Providence	Atlantic, Sosina, MFDC	72.5%
NORTHERN PORCUPINE BASIN				
FEL 2/04	Spanish Point	Cairn	Providence, Sosina	58.0%
FEL 4/08	Spanish Point	Cairn	Providence, Sosina	58.0%
SOUTHERN PORCUPINE BASIN				
LO 16/27	Avalon	Total	Providence, Sosina	40.0%
FEL 2/14	Diablo	Providence	Cairn, Sosina, Total	28.0%
FEL 3/04	Dunquin	ENI	Providence, Repsol, Sosina	26.8%
GOBAN SPUR BASIN				
FEL 6/14	Newgrange	Providence	Sosina	80.0%
KISH BANK BASIN				
SEL 2/11	Kish Bank	Providence		100.0%
ST GEORGE'S CHANNEL BASIN				
SEL 1/07	Dragon	Providence		100.0%

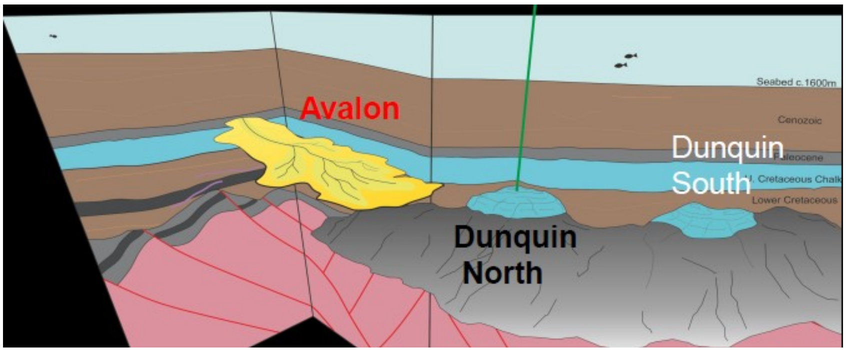
Source: Providence Resources. *Operatorship to be handed to APEC during development phases.

Avalon (PVR 40% working interest)

Avalon is situated to the North West, and updip of the Dunquin North well. Unlike the reefal (carbonate) Dunquin structure, Avalon is a clastic, basin floor fan, with structural closure negating the need for sandstone pinch out – by far the most common failure mechanism in stratigraphic fan prospects. Providence believes that Avalon may be on the migration pathway for crude breaching the Dunquin North structure, where residual oil was encountered in 2013.

Avalon is currently imaged on 2D seismic data, which is relatively limited, however it does provide support with AVO anomalies. The next steps for Avalon will be the acquisition of new 3D seismic, for which Providence benefits from a small carry from operator. Should the partners elect to drill an exploration well (most likely in 2021), Total will pay 60% of gross costs, up to a cap of US$42m.

Figure 15: Avalon prospect schematic cross section



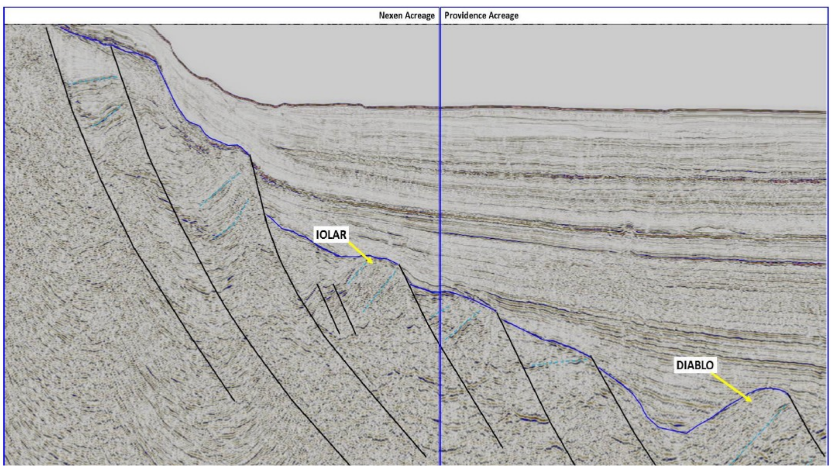
Source: Providence Resources.

Diablo (PVR 28% working interest)

Diablo is a tilted fault block, analogous to productive oil fields in the Flemish Pass Basin, offshore Newfoundland. The permit, FEL 2/14, was drilled last summer by Providence alongside licence partners Total and Cairn Energy, targeting two shallower stratigraphic prospects Druid and Drombeg. Although the well only traces of oil in drill cuttings, it proved a regional productive source rock, which goes some distance in de-risking the deeper Diablo prospect. It also gave Providence the record as operator of the deepest water depth well ever drilled in the North Atlantic – a remarkable accolade for a company of its size.

Next year, neighbour Nexen-CNOOC plans to drill a lookalike prospect to Diablo named Iolar (see Figure 16, below). With no outstanding commitments on Providence's acreage, and plenty of time left on the licence, Iolar essentially provides a free option to Providence. Should Nexen-CNOOC be successful, Providence and Total will undoubtedly want to test Diablo. Should the well fail, and raise questions over the viability of Diablo, the licence can be relinquished at no material cost.

Figure 16: Diablo and Iolar seismic cross section

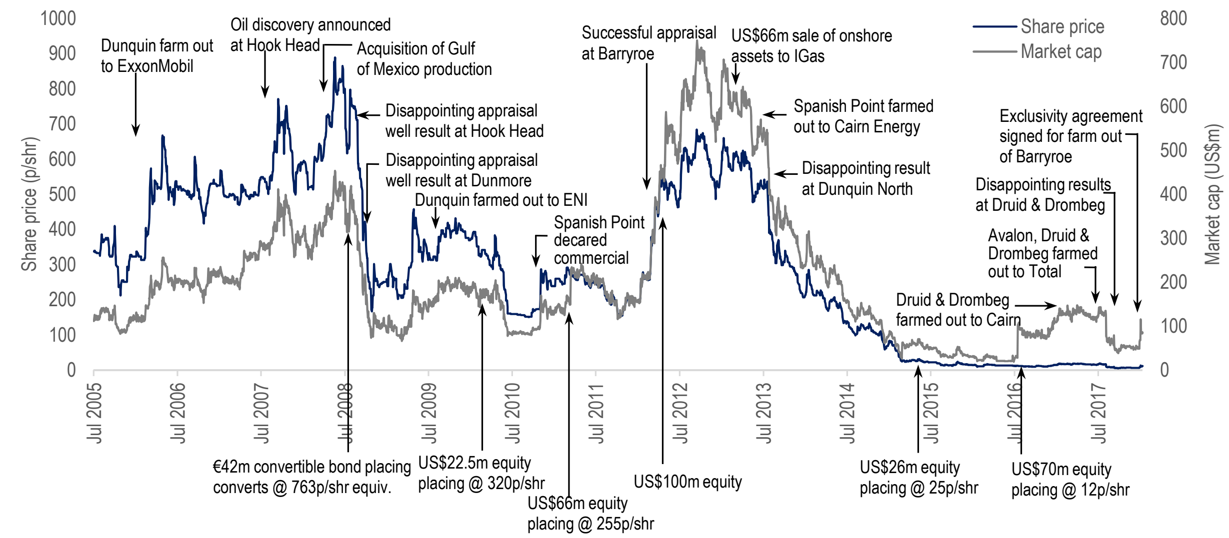


Source: Providence Resources.

Appendix 3: Corporate history & shareholder profile

Providence can trace its genealogy offshore Ireland back to the start of the 80s. The company's predecessor was Atlantic Resources, which was acquired by Conroy Petroleum to form ARCON International Resources plc, a company which successfully developed the Galmoy zinc mine in Ireland. In 1997, ARCON de-merged its oil and gas licences and publically listed in Dublin as Providence Resources. Providence added an AIM listing in 2005 at the height of the resources boom, and was one of the standout success stories. The company's market cap peaked at over US$700m in 2012 on the back of appraisal success at Barryroe and the anticipation of a result from the exploration well at Dunquin North. The non-commercial oil discovery at Dunquin North however proved to be the catalyst for an extended slump, exacerbated by the pressures of industry slow-down and the collapse in global oil prices. In June 2016, Providence raised US$70m at 12p/shr in its biggest placing since 2012. The proceeds were used to settle a long standing dispute with Transocean (regarding compensation for a faulty rig), repay all corporate debt, as well as to bolster the company's working capital position.

Figure 17: PVR share price history

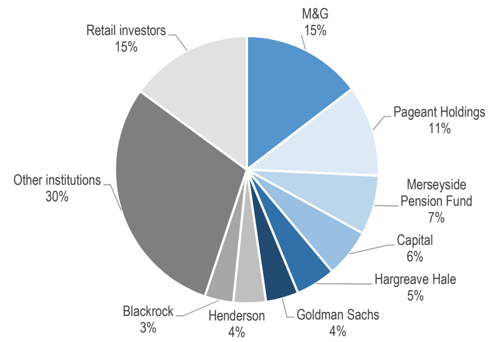


Source: Providence Resources, Mirabaud Securities

Shareholder profile

Providence has a high quality shareholder register, including M&G (which owns 15% of the company), Pagent Holdings (11%), Merseyside Pension Fund (7%), Capital (6%), Hargreave Hale (5%), Goldman Sachs (4%), Henderson (4%) and Blackrock (3.5%). In total, institutions hold approximately 85% of the outstanding share capital.

Figure 18: Shareholder structure



Source: Mirabaud Securities.

Appendix 4: Modelling assumptions

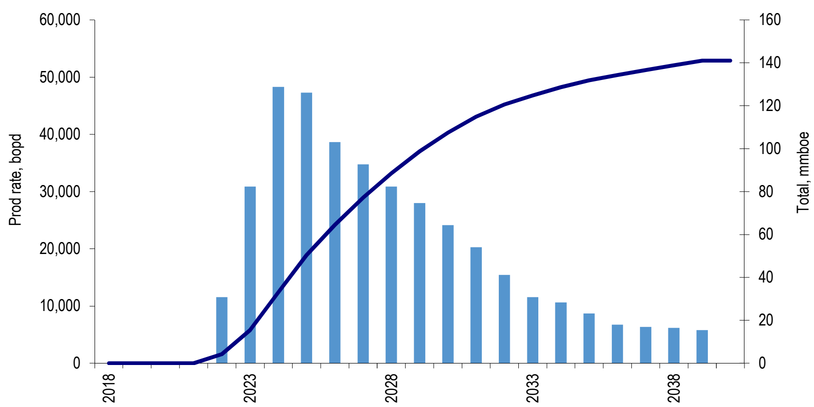
Barryroe

We have modelled a hypothetical 'Phase I' development of Barryroe, which produces 141 mmboe (including 127 mmbbls oil) over an 18 year period. Our development concept assumes 13 wells, tied back to a leased FPSO via subsea manifolds. The quality of Barryroe crude is high (API of 43°) meaning that it should realise a slight premium to Brent. Our model, however, assumes that this premium is offset by the additional treatment required to manage the high wax content. Our model accounts for the 50% financing facility provided by APEC for the appraisal campaign.

The Irish tax regime is very attractive, with a corporate tax rate of 25%, as well as a modest 'R factor' petroleum specific tax. 100% of costs (capex and opex) can be written off in the year incurred, and any unused losses can be carried forwards. Based on our Phase I model, the government take over the life of the asset is equivalent to under 30%, making it one of the most attractive regimes globally.

Production profile: We have assumed that 141 mmboe is produced during Phase I, of which 127 mmbbls is oil, 12 mmboe gas, and 3 mmboe condensate. We have assumed first oil during H1 2022, with peak production in 2024 at just under 50,000 boepd gross (on an annualised basis equivalent to 12.5% of field life production). Our decline curve assumes abandonment in 2040. For now, we have ignored later phases of development which may increase peak production levels and push out the production tail.

Figure 19: Barryroe Phase I production profile & key assumptions (field level)



Sales mmboe	Capex* US$m	Unit capex US$/bbl	Opex US$m	Unit opex US$/bbl	NPV10 US$m	Per barrel US$/bbl
141	1,853	13.1	2,975	21.1	1,307	9.27

Source: Mirabaud Securities estimates. *Including abandonment and appraisal drilling

Capex assumptions: We have assumed that a total of 13 wells are required for Phase I, each costing in the order of US$40m. We have assumed an additional US$950m is spent on facilities, and c.US$300m on abandonment, equivalent to 20% of capex sunk to date. All-in this is equivalent to US$13/boe on a unit basis.

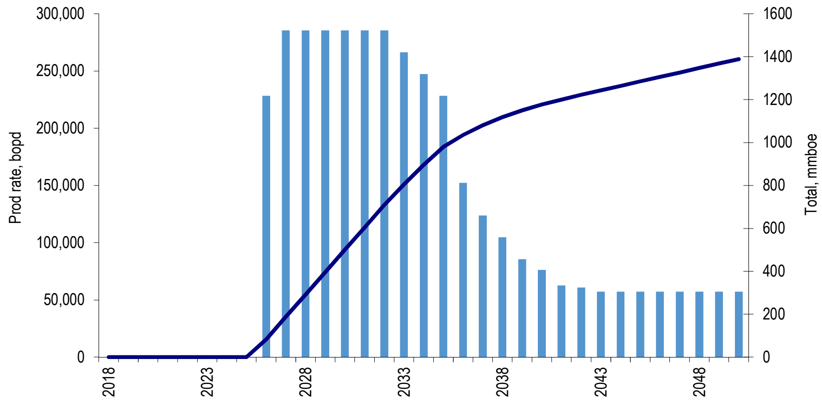
Opex assumptions: Reflecting the fact that Providence will most likely lease the FPSO, we have modelled a fixed and variable component to our opex forecasts. We have assumed that fixed costs total c.US$95m/annum, with an additional US$10/bbl to reflect other costs, including workovers. The net effect is a life of field opex averaging US$21/bbl, with lows of c.US$15/bbl at peak production.

Dunquin South

A development at a large deepwater discovery such as Dunquin South would have very different requirements to Barryroe and therefore we have built a separate DCF model. Given that this model is more conceptual than our Barryroe model, we have taken a more general approach, typically using more broad-brushed assumptions.

Production profile: We have assumed gross production of c.1.4 bn bbls, in line with current recoverable estimates for Dunquin South, with first oil beginning in early 2026. Due to its size, we have assumed a longer plateau than at Barryroe, but with a lower annual volume as a percentage of total production (7.5% of gross reserves produced at peak, equivalent to 285 kbopd). We have assumed that the field produces for 24 years, implying decommissioning in 2051.

Figure 20: Dunquin South production profile & key assumptions (gross)



Sales mmbbls	Capex* US$m	Unit capex US$/bbl	Opex US$m	Unit opex US$/bbl	NPV10 US$m	Per barrel US$/bbl
1,389	22,919	16.5	13,890	10.0	6,198	4.46

Source: Mirabaud Securities estimates. *Including abandonment

Capex assumptions: We have assumed unit capex of US$15/bbl for the Dunquin South development, which represents a slight discount to recent projects such as Kraken (US$17/bbl), Catcher (US$16/bbl) and TEN (US$16/bbl). This reflects the economies of scale associated with a far larger development, as well as the lower cost environment today. On top of this, we have assumed decommissioning costs equivalent to 10% of the capital budget of the development. All-in, this is equivalent to US$16.5/bbl on a unit basis.

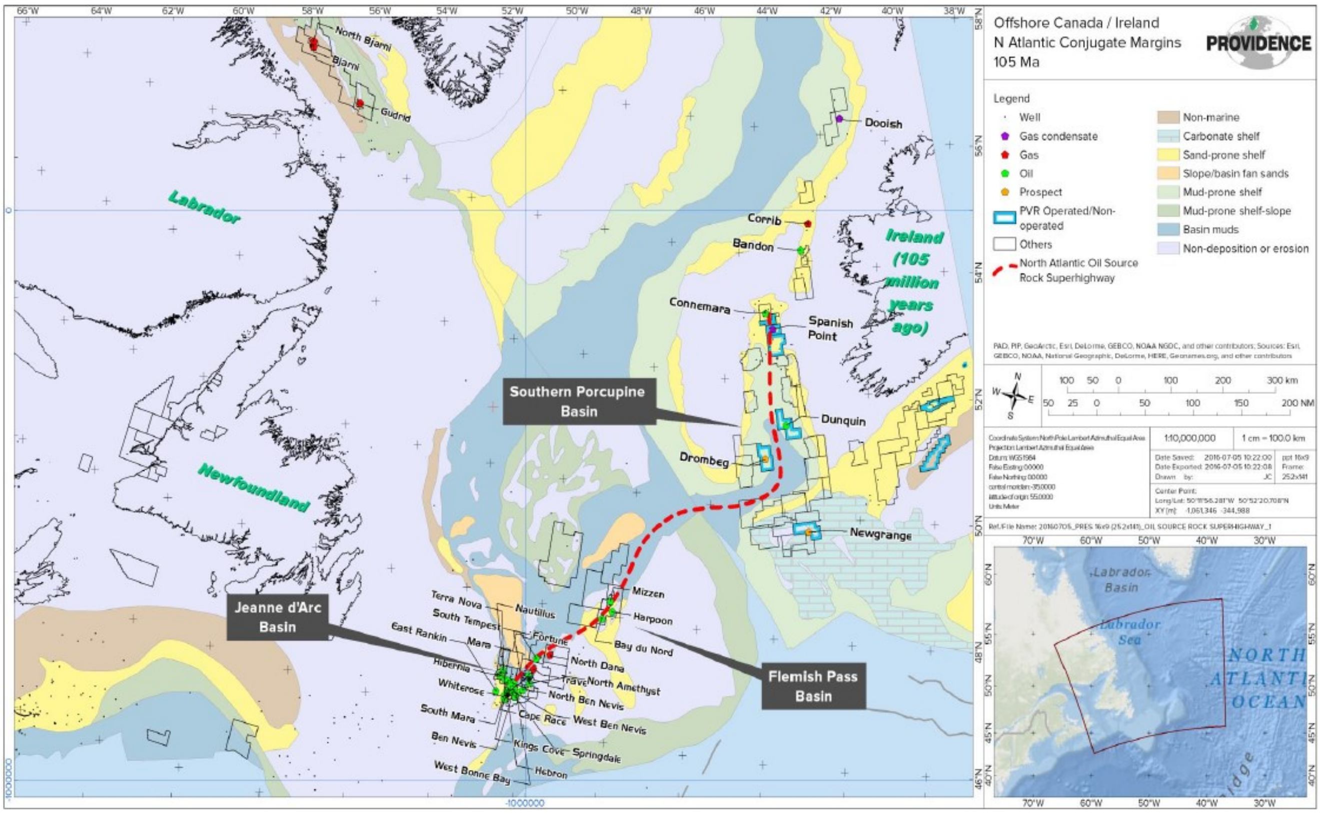
Opex assumptions: We have assumed operating costs of US$10/bbl over the life of the field, which represents a slight premium to the current operating costs of Tullow in Ghana (US$8/boe forecasted for 2018).

Appendix 5: North Atlantic margin geology

Geological overview

As Figure 21, below demonstrates, the North Atlantic margin off the west coast of Ireland is the conjugate margin to the more mature petroleum basins of eastern Canada. Throughout the Paleozoic, Triassic and Jurassic (spanning more than 400 million years), land which now forms Ireland and Newfoundland lay adjacent to one another (as in Figure 21 below), only to be separated during rifting (the mid-Atlantic rift) which commenced in the mid-Cretaceous, just over 100 million years ago. The result is that the two regions share many geological characteristics.

Figure 21: North Atlantic margin conjugate basin



Source: Providence Resources.

Grand Banks of Newfoundland

The Grand Banks is a large underwater plateau, effectively serving as an extension of the continental shelf east of Newfoundland. Off the plateau lie a series of sedimentary basins and sub-basins, including the Jeanne d'Arc and Flemish Pass Basins (see Figure 21, above). These basins have been relatively well explored, and have yielded significant discoveries such as the giant Hibernia oil & gas field, which recently produced its billionth barrel of oil, and the multi hundred million barrel Hebron, Bay du Nord, Terra Nova and White Rose fields.

The oil and gas charge for the Newfoundland discoveries is predominantly sourced from rich and thick Late Jurassic shales (predominantly Kimmeridgian in age). This source rock has been shown to extend across the Atlantic rift into the Porcupine, Rockall Trough and Slyne Basins, on what has been dubbed the North Atlantic Source Rock Superhighway. Depending on the burial temperatures, the Kimmeridgian along the superhighway is mature for oil and/or gas, with the source rock in particular believed to deepen into the gas window towards the north Porcupine basin (as evidenced by the gas at Spanish Point). The challenges for explorers include avoiding areas where the source rock is over-mature, or too thin to generate significant volumes of hydrocarbons.

In terms of reservoir potential, again the Grand Banks demonstrates analogous prospectivity to the Irish Porcupine and Rockall basins. Both regions underwent the same Early Cretaceous uplift and erosion, which deposited fluvial and shallow marine sandstones (such as those at Barryroe and Kinsale Head). Later, reworked, deeper marine sandstones are also considered to be prospective on both sides of the Atlantic, and are of particular interest in the Porcupine and Rockall basins.

Reefal carbonate mounds

One characteristic of the Porcupine Basin is the abundance of giant carbonate mounds. The mounds are found along much of the Atlantic margin of Europe, and were formed through the growth of coral banks during rising sea levels. The initial cause of the mounds is somewhat contentious, with oceanic circulation patterns, volcanics, and hydrocarbon seeps all postulated as feeding the growth of the mounds. The result however is often spectacular features, hundreds of metres high and kilometres long. Worldwide, carbonate mounds serve as effective reservoir rocks, thanks to often high levels of porosity (thanks to fracture and cave network distribution). Should a viable hydrocarbon system be present, due to the scale of carbonate mound structures, discoveries are often giant, with ENI's 5.5 bn boe Zohr gas discovery in Egypt a case in point. Carbonate mound structures in Providence's acreage include Dunquin North and South, and Newgrange.

.

RECOMMENDATIONS HISTORY

Market index FTSE AIM O&G

Date	Market Index level	Share Price (p)	Target Price (p)	Opinion
Providence Resources				
28 Mar. 2018	1,169.6	9.4	33	BUY

RATINGS, CERTIFICATION AND DISCLOSURE

RATINGS SYSTEM

BUY: The stock is expected to generate absolute positive price performance of over 10% during the next 12 months.

NEUTRAL: The stock is expected to generate absolute price performance of between 10% positive and 10% negative during the next 12 months.

SELL: The stock is expected to generate absolute negative price performance of over 10% during the next 12 months.

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The ratings are applicable to all research produced after 1st January 2016.

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