OPTIVA SECURITIES
EMERGING GLOBAL INVESTMENTS

Barney Gray	(Research Analyst)	+44 (0) 20 3137 1906
Graeme Dickson	(Dealing Desk)	+44 (0) 20 3411 1880
Hal Norwood	(Dealing Desk)	+44 (0) 20 3411 1882
Vishal Balasingham	(Institutional Sales)	+44 (0) 20 3411 1881
Christian Dennis	(CEO/Corporate Broking)	+44 (0) 20 3137 1903

Upland Resources Ltd*

29 January 2016

BUY

Stock Data

Share Price:	0.98p
Valuation :	£2.1m
Shares in issue:	213.4m
Fully diluted equity	228.9m

Company Profile

Sector:	Oil & Gas
Ticker:	UPL
Exchange:	LSE

Activities

Low risk oil and gas appraisal and development in the UK onshore sector

Performance Data

Source: LSE

Directors

Stephen Staley:	CEO
Norza Zakaria:	Chairman
Jeremy King:	Non-Executive Director

Major Shareholders

Norza Zakaria	21.03%
Stephen Staley	8.1%
Optiva Securities	7.03%
Portmann Cap. Man. Ltd	3.02%
Gerard Walsh	2.11%

*Optiva Securities acts as broker to Upland Resources Limited

First acquisition

Upland Resources is focused on building a portfolio of exciting assets in the upstream oil and gas sector. The company listed on the LSE in October 2015 and was offered its maiden asset in the UK onshore sector within the space of two months. We believe that the current low oil price environment will give Upland further opportunities to acquire exploration and production assets with attractive risk/reward profiles at historically low cost over the next twelve months.

Upland listed on the LSE through a Standard Listing at the end of October 2015, simultaneously raising gross proceeds of £1.3m. The group now has the financial capacity coupled with the management expertise to accelerate its strategy of building an attractive portfolio of upstream oil and gas assets.

In December 2015, Upland was offered an interest in Block SK46c in the 14th UK Onshore Licensing Round. This acreage is located in the East Midlands Oil Province, home to numerous discoveries and producing fields. This acreage is especially appealing given that it provides the opportunity to rejuvenate the Hardstoft oil field with a comparatively low cost, low risk deviated well.

Upland holds a 16.67% interest in the block and is partnered with Ineos (operator), a large energy conglomerate with substantial financial resources and Europa Oil & Gas, a UK independent with extensive operating experience in the East Midlands Basin.

The non-Ineos partners in Block SK46c, which also includes private company, Shale Petroleum, will focus solely on the conventional oil opportunities on the acreage. In particular, the current plan is to drill a deviated development well on the Hardstoft field and access potential reserves over a far larger area of the field, including the Hardstoft East prospect which represents substantial upside to existing resources.

Independent consultant, Blackwatch Petroleum Services Ltd estimates that total resources on Hardstoft are 6.75 million barrels of oil on a best, or base case scenario (1.125 mmbbls net to Upland). We believe that two new wells on the field will be sufficient to fully develop its existing resource potential.

Given the deferred timing of a potential second well on Hardstoft, Upland has resources available for near term acquisition opportunities. However, the company would require additional funding after 2017, whether through additional equity, debt, or a potential farm down as financial commitments relating to Hardstoft are triggered.

Upland will not be exposed directly to crude prices until production commences in 2019, so short term pricing is of little consequence. We expect that the Hardstoft field will be value accretive at $30 per barrel and our NPV analysis indicates that the current market value of Upland is already covered at only $50 per barrel (flat from 2019 onward). An NPV based on $70 flat provides us with an NPV of 2.3p per share indicating that there is major upside in the share price even in the event of a modest oil price recovery only.

Although the sector has not witnessed such a difficult operating environment since the late 1990s, we argue that Upland represents an attractive opportunity to play the junior oil and gas sector while it remains very much a buyers' market. Even a modest cyclical recovery over the next three years has the potential to provide significant upside to investors. We believe that this represents a strong position for Upland to be in before the company even acquires its second asset.

Introduction to Upland Resources

Upland Resources was incorporated in March 2012 with the purpose of acquiring companies or assets in the oil and gas exploration and production sector. The group's wider strategic focus is on opportunities in the UK in addition to North Africa and the Far East. The company was admitted to trading on the Standard List of the London Stock Exchange (LSE) on 26 October 2015. Concurrently, Upland raised gross proceeds of £1.3m through the placing of 130 million new shares at 1p per share. The company's current market capitalisation is based on 213.4 million shares in issue.

Since incorporation, the company has been assessing several acquisition opportunities in the oil and gas sector and we believe that the recent injection of funds, in the context of a particularly difficult operating environment, provides Upland with a significant opportunity to execute its longer term business plan effectively.

Financial capability coupled with the current management team's expertise and knowledge (See Appendix A) provides the potential to take advantage of the increasing number of investment and acquisition opportunities evident in the current low oil price environment.

In this context, the management is keen to assemble a portfolio of assets which provides investors with an attractive risk/reward balance. As such, Upland generally focuses on projects with relatively low entry costs and modest short term work programme commitments in addition to robust economics in order to provide attractive long term returns to investors.

Maiden asset acquired

On 17 December 2015, the company announced that the UK oil and gas regulator, the Oil and Gas Authority (OGA) had offered Upland's wholly owned subsidiary, Upland Resources (UK Onshore) Limited, along with its original bid partners, Europa Oil & Gas Limited and Shale Petroleum (UK) Limited plus Ineos Upstream Limited, a Petroleum Exploration and Development Licence (PEDL) in respect of Blocks SK46c and SK36a in the East Midlands. This acreage was offered as part of the 14th UK Onshore Oil and Gas Licensing Round. The partners in the PEDL have agreed to the following interests in principle in Block SK46c. It is anticipated that the formal award date for the block will be 2 April 2016.

Equity interests in Block SK46c

Company	Interest
Upland Resources	**16.67%**
Europa Oil & Gas	16.66%
Shale Petroleum (UK) Ltd	16.66%
Ineos (operator)	50.00%

Source: Company

Block SK46c is the core asset

The interests outlined in the table above will apply to all conventional oil and gas plays within the block, while Ineos will retain all the rights and obligations to unconventional hydrocarbon plays such as shale gas and oil which would likely require fracture stimulation ("fracking") at later stages of development.

Block SK46c provides a very exciting opportunity to Upland as it contains the Hardstoft oil field which was the first discovery made in the UK, in 1919. This field produced oil without water cut for several years after its initial development. It is currently non-producing. However, Upland believes that modern high angle (deviated) wells drilled into the main structures could access a gross resource in excess of 6.75 mmbbls, of which more than 1.1 mmbbls would be attributable to Upland.

Block SK36a

The whole PEDL offered to Upland and its partners also includes Block SK36a, although the non-Ineos partners did not originally apply for the acreage due to the unconventional nature of the prospects on the block. As such, all parties have agreed that only Ineos will have a participating interest and cost exposure to the block. Ineos will have all the conventional and unconventional hydrocarbon rights to the plays in this block and neither Upland nor Europa and Shale Petroleum will have any cost exposure or participating interest in Block SK36a.

Onshore UK oil and gas

Prior to the First World War, the UK's total petroleum requirement of less than 50,000 barrels per day was satisfied by imports although there was some modest oil production in the Midland Valley of Scotland, which averaged about 6,000 bopd in 1913.

With the onset of the First World War, a secure domestic oil supply became strategically vital as oil demand doubled due to the rapid mechanisation of war. The Hardstoft oil field holds an illustrious position in the history of UK onshore oil development in that it was the first oil field discovered in England in 1919.

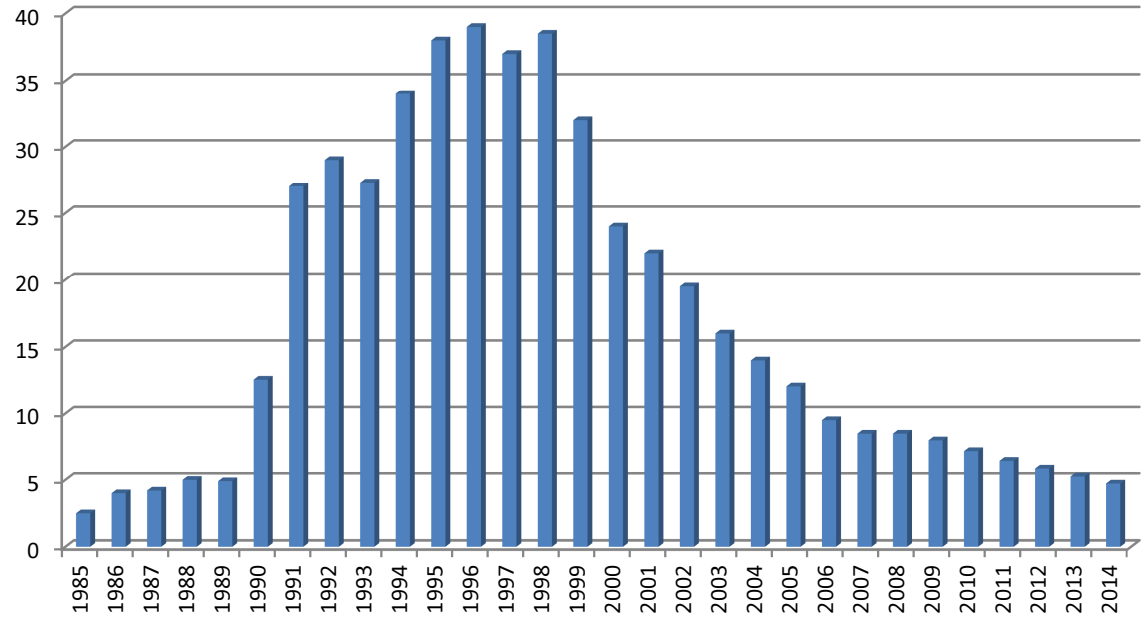
Prior to 1934, the UK government prohibited entities other than the Crown or those licenced by the Crown to conduct activities related to the exploration and production of oil and gas. However, by 1935 the government issued the first licences to four companies and commercial discoveries were made in 1937. This activity was accelerated by the onset of the Second World War and by 1964 there were 25 onshore discoveries, of which seven were gas fields, and national production had risen to 3,000 bopd. This modest production volume was hugely overshadowed by the UK's demand for petroleum imports which had increased by an average 8.5% per annum in the preceding 10 years.

Offshore exploration, focused on the North Sea, commenced in 1964 with first production in 1975 rapidly increasing to over 2.5 million barrels per day within ten years and transforming the UK energy sector into a net exporter of energy.

Prior to the commencement of North Sea production, the Wytch Farm oil field was discovered in Dorset by the British Gas Corporation in 1973. This field had estimated reserves of approximately 480 mmbbls and peak production of 110,000 bopd per day in 1997. Although production is currently a fraction of this level as the field has been depleted, production of oil and gas from the field is expected to continue until 2020 and 2025 respectively.

Wytch Farm is completely anomalous in the context of UK onshore oil production in that there has never been a discovery of remotely similar magnitude in the history of onshore exploration. The chart below depicts the growth of UK onshore oil production from a very modest level in the 1970s (not shown) and 1980s to the 1990's peak as Wytch Farm output dominates the sector.

UK onshore oil production, 1985-2014 (million barrels)



Source: British Geological Survey

The sector today: poised for huge growth

UK Oil and Gas plc estimates that there have been approximately 2,000 wells drilled over c.120 producing sites in the onshore UK sector. Current production is estimated to be around 20,000 boepd (including gas) from approximately 300 operating wells.

This is equivalent to a miniscule 1% of UK consumption. However, we believe that the UK onshore sector is poised for a long term renaissance. In the 13th Onshore Licensing Round in 2008, 93 new conventional licences were offered to 54 companies. In addition to this, applications were received for coal bed methane, coal mine methane and shale gas licences.

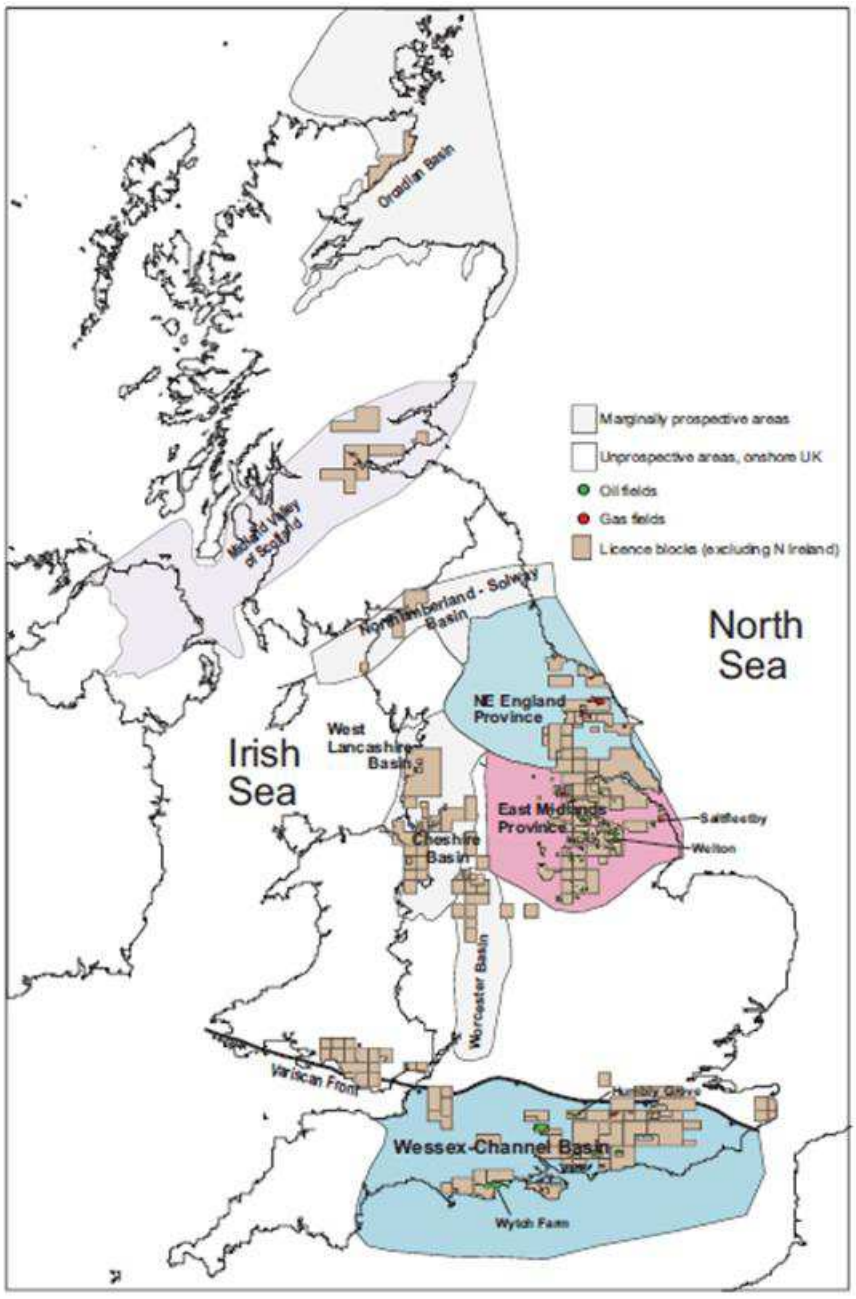
Although we are not considering the potential for shale gas exploration in this report, it is worthy of note that the British Geological Survey, in association with the Department of Energy and Climate Change (DECC), estimates that shale gas in place in central England alone could exceed 1,300 trillion cubic feet. Admittedly, major environmental, legal and technical hurdles must be overcome before a fraction of this potential resource can be commercialised. However, few entities, both governmental and environmental now dispute the fact that this strategic resource exists and will likely become the focus of increasing exploration and development activity within the next decade.

In December 2015, the 14th Onshore Licensing Round was even more successful than the 13th Round with over 100 applications received and the OGA issued 159 onshore blocks incorporated into 93 licences. Approximately 75% of these licences were in relation to unconventional shale hydrocarbons which reinforces our point that government backing for increased unconventional exploration is accelerating. However, we believe that within this wider context, the drive to exploit the remaining conventional resources in the UK will be strong given that these assets represent the most technically and environmentally straightforward and the lowest cost development opportunities particularly in the context of the current tough oil price environment. As such, the imperative to advance the development of existing conventional oil fields is strong.

The East Midlands Oil Province

Hardstoft Field is located in the East Midlands Oil Province. The map below depicts the general location of this important hydrocarbon basin in pink as a broad swathe between Nottingham in the southwest of the region to the Humber estuary in the northeast.

Location of the East Midlands Oil Province



Source: British Geological Survey and DECC

Remaining reserves

By comparison, the hydrocarbon basins in the North West and North East of England and Central Scotland are modest in terms of discovered reserves and production. The Wessex Channel Basin which includes the Weald Basin is home to the Wytch Farm oil field which distorts the aggregate picture of the region somewhat.

However, the eastern section of this region has been the subject of intense focus in recent years due to the potential of large shale gas deposits associated with the Horse Hill discovery in particular.

The table below depicts the estimated remaining reserves in the UK's onshore basins. As is evident, Wytch Farm comprises most of the remaining reserves in the Wessex/Weald plays. However, the East Midlands Basin is of particular interest given that, with the exclusion of Wytch Farm, it is the largest onshore play in the UK by a considerable margin.

Remaining UK onshore reserve potential

Oil Province	Recoverable reserves (Barrels)
Wytch Farm	70,247,825
Wessex Basin (ex. Wytch Farm)	68,437
Weald Basin	11,293,460
East Midlands Basin	**21,927,470**
North West	N/A
Total	**103,537,192**

Source: British Geological Survey

East Midlands Basin exploration and geology

There has been more than 75 million barrels of recoverable oil and over 27 BCF of gas discovered in the Carboniferous rocks of Northern England with most of the oil concentrated in the East Midlands Oil Province. The oilfields, of which there are in excess of 30, are located generally in a broad northeast-southwest swathe from south of Nottingham to the Humber Estuary in the north. A secondary swathe of small gas fields extend broadly south from Ironville to Hatfield Moors (now used for gas storage) near Doncaster in the north.

Exploration history

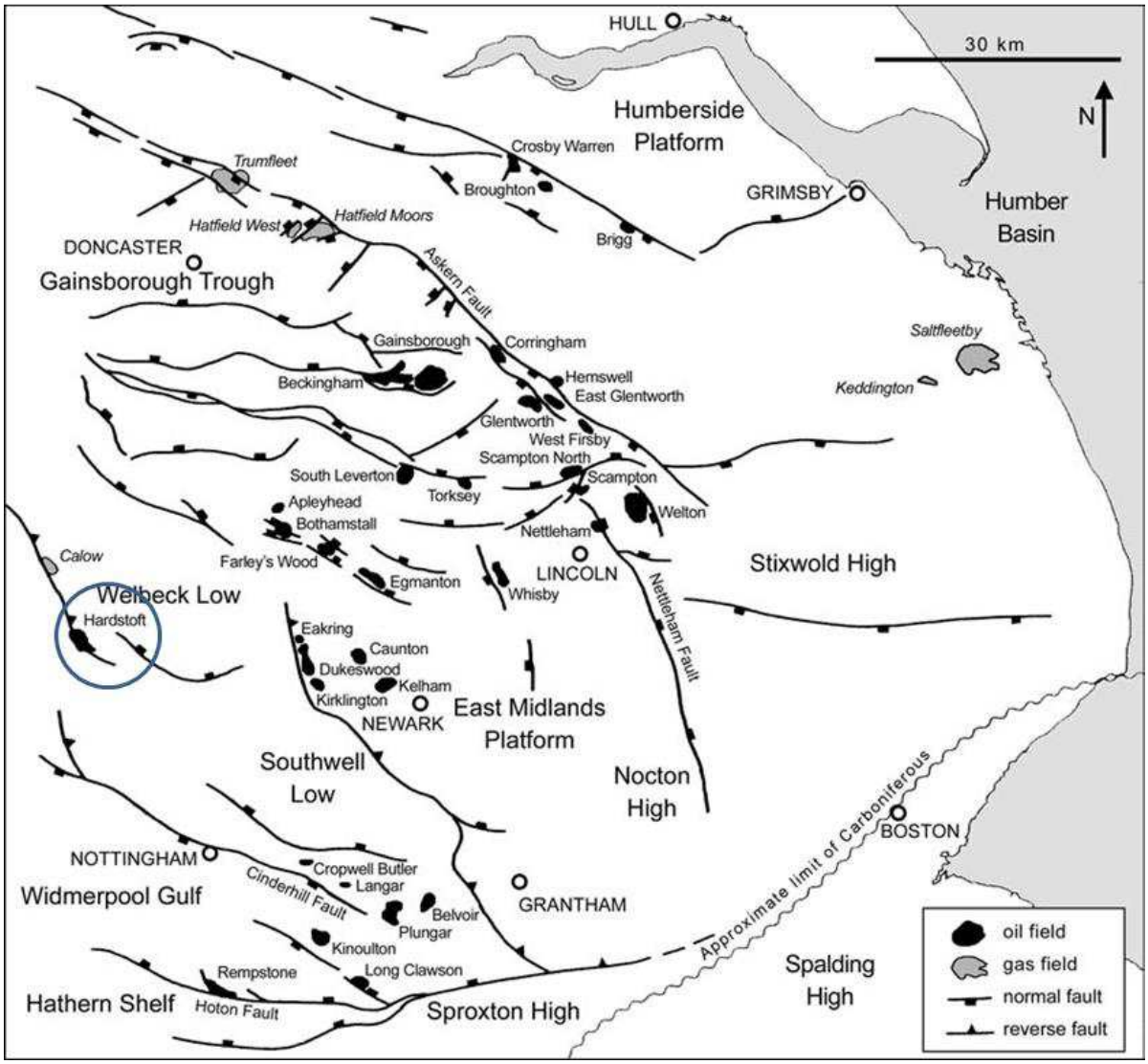
Hardstoft, outlined on the map below, was the first field discovered in the basin in 1919. During the early years of World War Two, the Eakring-Duke's Wood, Caunton and Kelham Hills oil fields were discovered in 1939-43. Exploration activity dipped after the War. However, a raft of discoveries was made in the 1950s and 1960s including:

- Plungar (1953)
- Egmanton (1955)
- Bothamsall and Corringham (1958)
- Beckingham and Gainsborough (1959)
- Apleyhead and South Leverton (1960)
- Glentworth (1961)
- Torksey (1962)

Exploration activity almost ceased in the late 1960s but was rejuvenated following the oil price increases derived from the 1973 oil price crisis. In 1981, the UK's second largest onshore find was made at Welton and several minor discoveries such as Farley's Wood and Brigg were subsequently made in the early 1980s although Brigg was not developed.

Much of this exploration activity was conducted by BP and its predecessors who pulled out of the region in the late 1980s. However, as is common in maturing oil provinces, a wide range of smaller and lower cost operators have been attracted to the basin since 1990 as a function of the region's steady, proven success rates. This has been particularly evident over the last two successful UK Licensing Rounds.

Major oil and gas accumulations in the East Midlands Oil Province

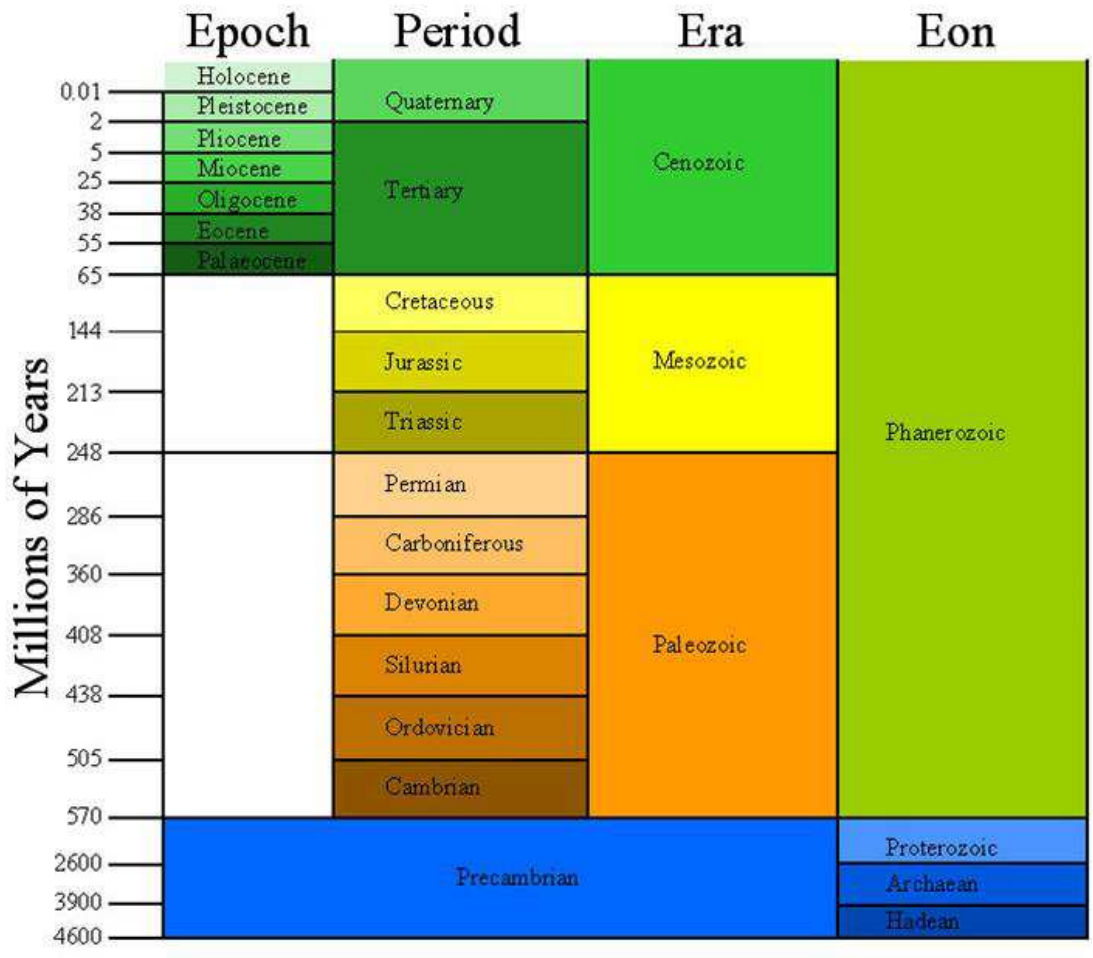


Source: Fraser and Gawthorpe 2003

Basin structure

The East Midlands hydrocarbon province comprises several Carboniferous sub-basins trending northwest to southeast. To the west is the Pennine Anticline (the modern day Pennine Hills) which shows clear evidence of Carboniferous rock outcrops. The 33 fields discovered to date are mostly located in Upper Carboniferous reservoirs in a broad swathe extending over 70 miles from Loughborough in Leicestershire to the Lincolnshire North Sea coast.

Geological timescale for reference



Source: DiracDelta

Basin creation

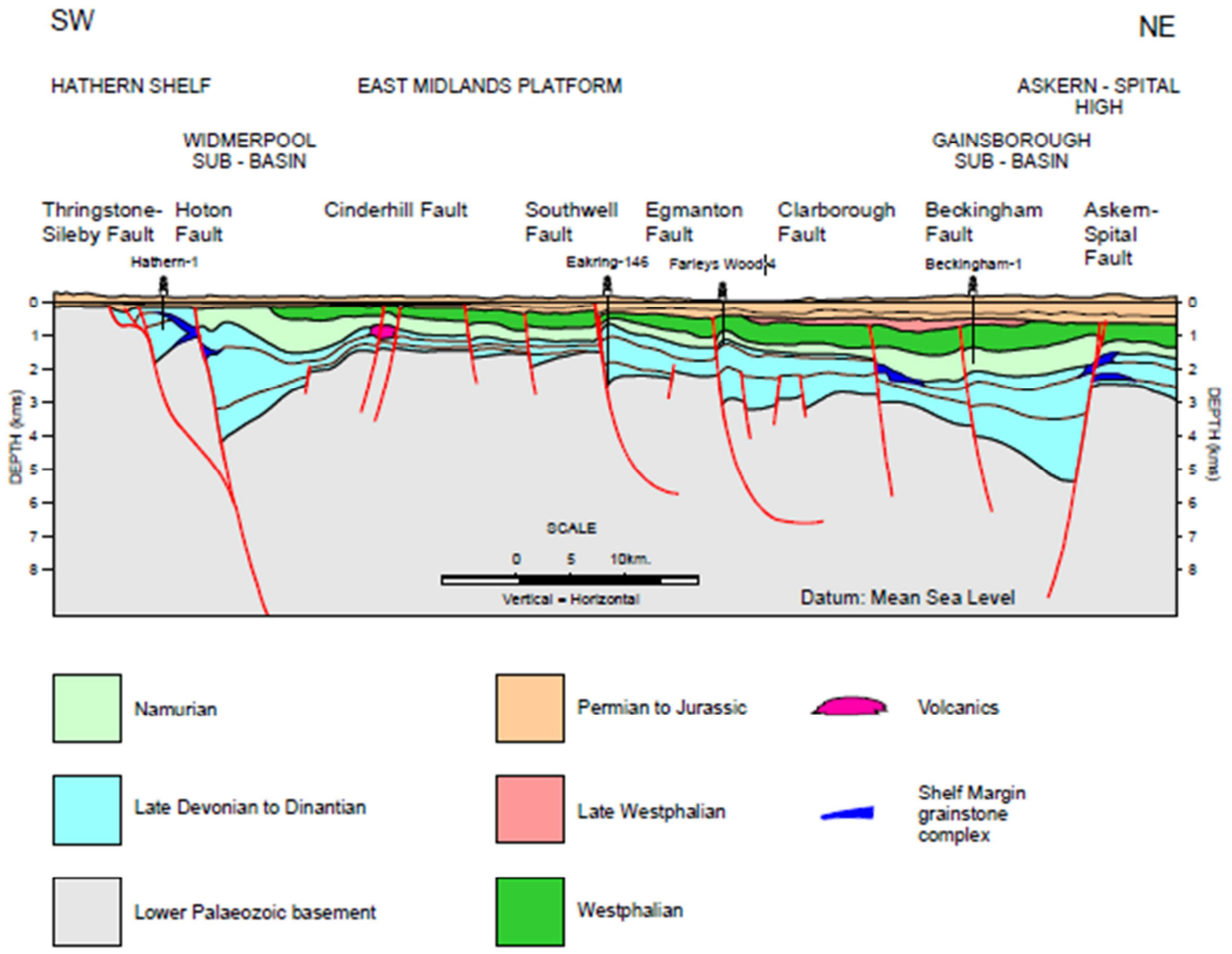
The East Midlands region was subject to the subduction (the sideways and downward movement of the edge of a plate of the earth's crust into the mantle beneath another plate) of the Variscan Fold-Belt to the south of the region in the late Devonian period (see chart above). This resulted in extensional movements of existing structures within the region, principally along north-westerly trends.

In particular, the formation of a number of tilted blocks and half-graben structures along fault lines was evident during this period and these were believed to have become relatively fixed during the Carboniferous period. Although some subsidence continued throughout the period, the Dinantian aged (Early Carboniferous period) tilted blocks were buried by sediments during the Late Carboniferous period.

The province was subsequently subject to an east-west compressional phase in the Late Carboniferous/Early Permian period which led to the inversion of the Carboniferous aged rocks. A further period of basin uplift and erosion occurred in the Tertiary period which is representative of the basin in the present day.

The chart below depicts a cross section of the basin from southwest to northeast depicting the major faults and the location of several hydrocarbon discoveries within the play.

Geological section through the East Midlands Oil Province (SW/NE)



Source: DECC

Basin dynamics

Source rocks

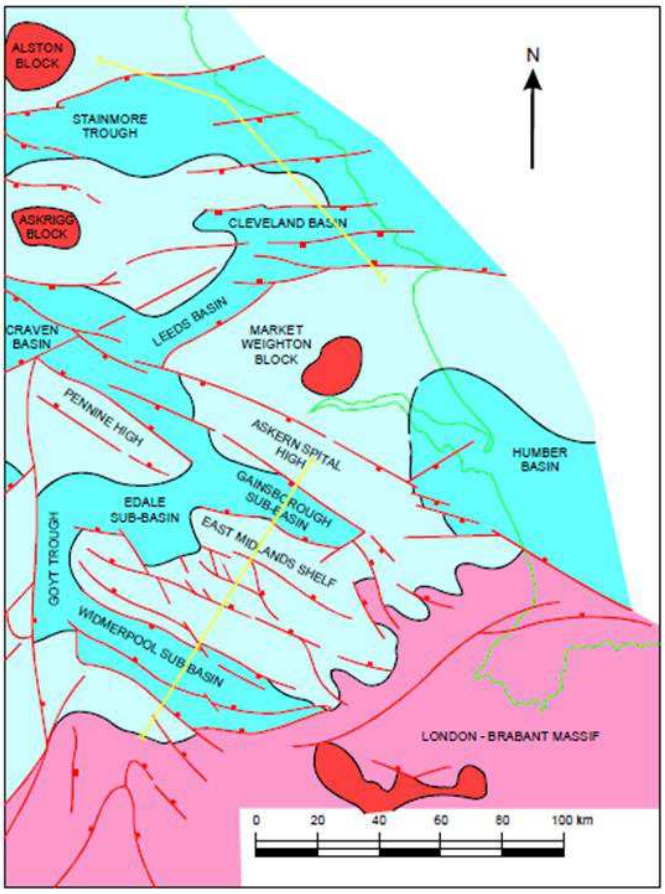
Source rocks are mature and plentiful throughout the Carboniferous formations. In particular, thick sequences of oil-prone shales are evident in the late Dinantian shales, specifically in the Widmerpool, Edale and Gainsborough sub-basins. These areas are depicted on the overlay on the right hand map below.

Even more widely occurring are the thick early Namurian shales (see left hand chart for approximate time period) which were a prolific source rock for both oil and gas generation.

It is thought that the timing of oil generation was spread over a considerable period as there is evidence of early Carboniferous oil generation in the Bothamsall oil field. Burial modelling indicates that some of the deeper Dinantian source rocks, such as those which may have charged the Hardstoft field, could have become mature in the late Westphalian stage, during times of fastest sedimentation.

Carboniferous period: timescale and sub basins

System	Series (NW Europe)	Stage (NW Europe)	Series (ICS)	Stage (ICS)	Age (Ma)
Permian					younger
Carboniferous	Silesian	Stephanian	Pennsylvanian	Gzhelian	299–303,9
		Westphalian		Kasimovian	303,9–306,5
				Moscovian	306,5–311,7
				Bashkirian	311,7–318,1
		Namurian	Mississippian	Serpukhovian	318,1–326,4
	Dinantian	Visean		Visean	326,4–345,3
		Tournaisian		Tournaisian	345,3–359,2
Devonian					older



Sources: Quarterly Journal of the Geological Society, DECC

Migration

Migration was primarily away from the Pennine Basin High depocentre in a southeast direction towards the East Midlands and the Wash. This is evident given that the southeast margin of the basin is marked by a thinning of the Namurian shales in this direction where the Westphalian Basal Sandstone reservoir is more productive.

Reservoir rocks

The principal reservoir rocks in the East Midlands Oil Province are sandstones of late Namurian and Westphalian age although some production has also been derived from Dinantian Carboniferous limestone. With a few exceptions, the reservoirs have relatively low permeability even when fractured and mean values are generally less than 15 mD (millidarcies). However, where massive carbonates are present near to major fault systems (as is the case at Hardstoft) it is common to find many natural sub-vertical fractures that can enhance porosity and permeability markedly and so can hold and help produce considerably more hydrocarbons than would otherwise be the case. The effects of ancient karstification (mainly vertical dissolution of the limestone) and dolomitisation (replacement of the calcium carbonate of the limestone with calcium magnesium carbonate) also enhance porosity and are possible in Hardstoft.

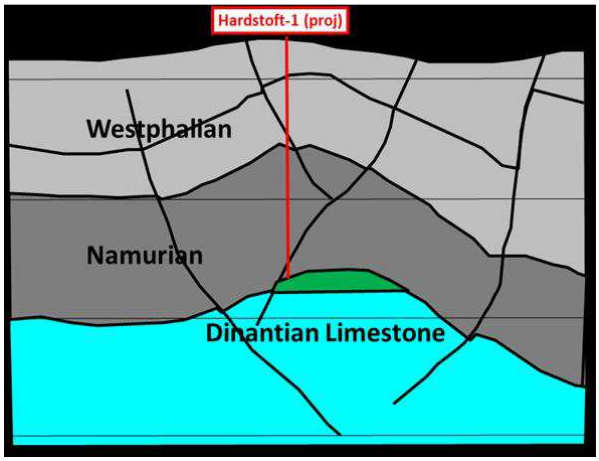
Oil varies in composition from field to field in the basin and can also differ within the same reservoir. There are believed to be two isotopically distinct oil types on the basin. However, current understanding assumes that both types of oil are derived from more than one local source rock over a long period of time and that some deposits are a mixture from multiple source rocks. In general the quality of produced oil across the basin is high with an average gravity of approximately 38° API.

Traps

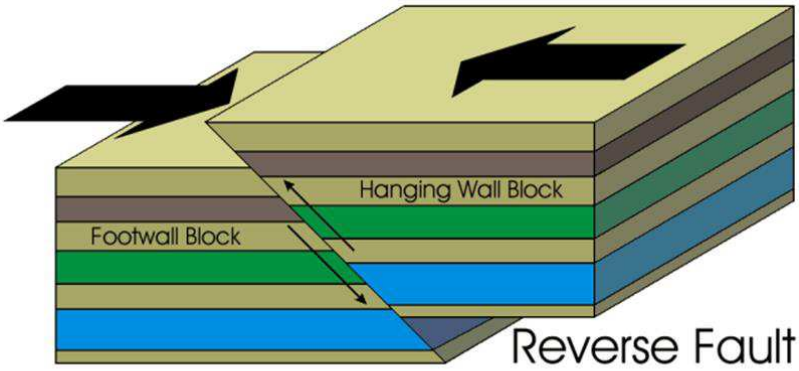
The oil in the basin is generally trapped in anticlinal structures that were in place at the end of the Carboniferous period (See illustration 1 below for a basic interpretation of the Hardstoft trapping mechanism). Although the Dinantian Limestone is of primary interest to us in the context of the Hardstoft oil field, there is believed to be upside potential in the Namurian and Westphalian sandstone plays within the permit area.

For many deposits in the region, the reservoirs are not continuous bodies and have been altered by faulting. It is believed that faulting at Hardstoft has produced two separate oil accumulations: Hardstoft Field and Hardstoft East. The former has produced oil; the latter is as yet undrilled but lies adjacent to Hardstoft Field and is separated from it by a reverse fault. A reverse fault is a geologic fault in which the hanging wall has moved upward relative to the footwall. Reverse faults occur where two blocks of rock are forced together by compression. With a normal fault, the hanging wall would move downward relative to the footwall block.

1. Outline trapping mechanism for Hardstoft



2. Basic reverse fault



Source: Europa Oil & Gas, Artinaid

Multistage fracking not required

High angle wells drilled in a direction so as to intersect the maximum likely number of sub-vertical fractures should access a much greater volume than the old simple vertical wells which are believed to have only accessed only about 200,000 barrels of STOIIP (the volume of in-place oil) to date.

It is important to note that horizontal wells drilled in to target the Dinantian Limestone do not require multistage fracking. A successful well has the potential to be highly productive as it should intersect multiple natural fracture 'swarms' which are sub parallel to the main fault systems. These can provide high permeability conduits for oil production.

Significant oil fields in the East Midlands Oil Province

As stated previously, there are over 30 oil fields situated in the East Midlands Basin. Although we have no intention of examining all of these in detail, we believe that it is important to outline the parameters of the major oil accumulations in the region in order to understand the relative context of Upland's asset. In particular, it is noteworthy that the East Midland's fields are categorised in the context of several sub-basins in the wider basin area.

Welton area fields

These fields are accumulated predominantly in the Gainsborough sub-basin (see map on previous page) and most production from this area is transported by road tanker for refining at Immingham on the Humber estuary. The Welton field in particular is, like many others in the region, trending on a NW-SE anticline and produces from a 68 metre thick sandstone overlying thick Dinantian limestones.

The field was discovered in in 1981 by BP and recoverable reserves were estimated to be over 16 mmbbls at the time. At the time of discovery Welton was the largest onshore UK field with the obvious exception of Wytch Farm in Dorset.

Other significant fields in the Welton area include East Glentworth, Scampton, Cold Hanworth, Stainton, Fiskerton Airfield, Nettleham, Keddington and Farley's Wood. These fields are all detailed in the following table which illustrates most of the major oil and gas discoveries in the East Midlands Oil Province since 1983 when BP was focused on the region. It is also quite clear from the timeline implicit in the table when BP exited and the smaller independent oil companies commenced operatorship of most of the licences.

Discoveries in the East Midlands Oil Province since 1983

Year	Well	Well number	Original operator	Original licence	County	Discovery
1983	Farley's Wood 4	L46/21-98	BP	PL215	Notts	Oil
1984	Stainton 1	L46/23-22	BP	PL179	Humberside	Oil
1984	Nettleham 2	L46/23-14	BP	PL179	Lincs	Oil
1984	Hemswell 1	L46/18-5	BP	PL179	Lincs	Oil
1984	Cropwell Butler 2	LO/01-51	BP	PL218	Lincs	Oil
1984	Broughton 1	L46/13-3	BP	PL185	Notts	Oil
1985	Whisby 1	L46/22-11	BP	PL199	Lincs	Oil
1985	Scampton North 1	L46/23-26	BP	PL179b	Lincs	Oil
1985	Scampton 1	L46/23-27	BP	PL179b	Lincs	Oil
1985	Rempstone 1	LN/10-1	BP	PL220	Notts	Oil and gas
1986	Crosby Warren 1	L46/12-13	RTZ	EXL009	Humberside	Oil
1986	Long Clawson 2	LO/01-4	BP	PL220	Leics	Oil
1986	Belvoir 1	LO/02-8	BP	PL219	Leics	Oil
1986	Kirklington 2	L46/26-321	BP	PL216	Notts	Oil
1986	Kinoulton 1	LO/01-52	BP	PL218	Notts	Oil
1987	East Glentworth 1	L46/18-6	BP	PL179	Lincs	Oil
1988	West Firsby 1	L46/18-7	Saxon	EXL012	Lincs	Oil
1989	Caythorpe 2	L41/29-9	Kelt	PL234	Humberside	Gas
1989	Everton 1	L46/16-27	Enterprise	EXL053	Notts	Gas
1990	Beckering 1	L46/24-4	Gas Council	PL256	Lincs	Oil
1996	Saltfleetby 1Z	L47/16-2Z	Candecca	PEDL005	Lincs	Gas
1997	Fiskerton Airfield 1	L46/23-41	Cirque	EXL294	Lincs	Oil
1997	Cold Hanworth 2Z	L46/23-38Z	Candecca	PEDL006	Lincs	Oil
1998	Keddington 1	L47/16-4	Candecca	PEDL005	Lincs	Oil
1998	Newton on Trent 1	L46/22-15	Altaquest	EXL141	Lincs	Oil
1998	Reepham 1	L46/23-44	Cirque	EXL294	Lincs	Oil
2008	Dukes Wood 1	L40/15-14	Egdon	PEDL118	Notts	Oil

Source: UK OGA

Widmerpool sub-basin accumulations

There is an accumulation of discoveries in the southern reaches of the East Midlands Basin in an area comprised of the Widemerpool sub-basin. These include the Langar, Belvoir, Long Clawson and Rempstone discoveries. Like many fields in the area, the majority of discoveries in this part of the basin were made by BP in the 1980s.

Exhausted fields

There are a number of depleted and abandoned fields located in the Edale sub-basin in particular where much of the earlier exploration took place in the region. Such exhausted oil fields include Egmanton, Eakring and Duke's Wood which produced 3.3 mmbbls, 2.1 mmbbls and 4.4 mmbbls respectively over their productive life.

Nevertheless, this area of the basin is still productive with Farley's Wood and Kirklington still producing oil from this area of Nottinghamshire.

Other significant fields

Three other fields in the Gainsborough sub-basin are worthy of note as they are currently operated by Upland's partner in Hardstoft, Europa Oil & Gas. The Whisby and West Firsby fields in Lincolnshire are 100% owned and operated by Europa and the company holds a 65% non-operated interest in Crosby Warren field located near the Humber estuary.

These fields are very typical of production in the region. Daily production from the three assets combined is approximately 140 bopd which is transported, along with most of the regions output, to the refinery at Immingham in northeast Lincolnshire. Production from Crosby Warren and Whisby is operated through the use of beam pumps which are ubiquitous across the region given that most of the older fields do not produce using natural reservoir pressure because of the historical levels of depletion.

A typical 'nodding donkey' beam pump at the Stainton field

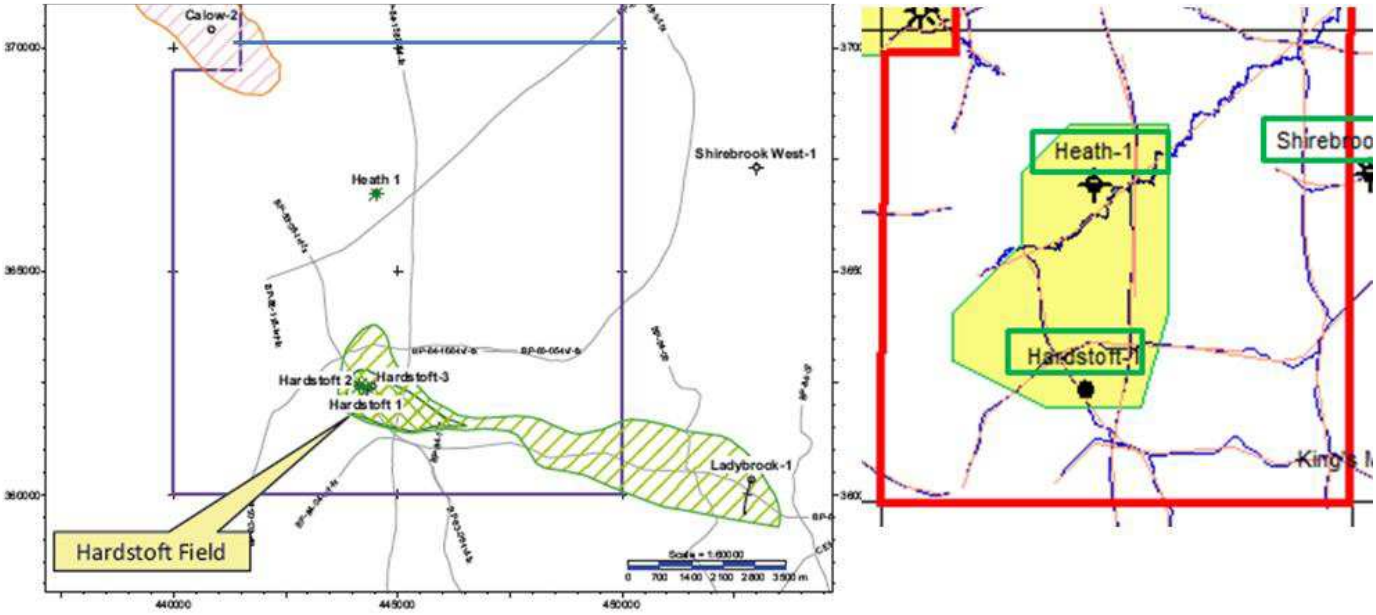
Source: Kate Jewell (Geograph)

Block SK46c and the Hardstoft oil field

As outlined previously, Upland was offered a 16.67% interest in Block SK46c which contains the Hardstoft oil field, in tandem with its partners, Europa (16.66%), Shale Petroleum (16.66%) and Ineos which will act as operator with a 50% interest. These interests will apply to conventional hydrocarbon plays on the acreage only while Ineos will retain all rights and obligations to unconventional oil and gas plays.

Block SK46c is located on the western side of the East Midlands Oil Province near Chesterfield as depicted on the maps below. The block is approximately 100 km^2. The area is very accessible and traversed by numerous roads including the M1 motorway. No additional licence restrictions have been placed on the area and the government recommendation is to allow fracking if necessary subject to consultation due to the proximity of local conservation areas. The block also excludes a portion (outlined in yellow on the right hand map below) which is retained by the Trustees of the Duke of Devonshire's Chatsworth Estate under the CE Licence (CE001) in which the three Hardstoft wells were drilled.

Map depicting Block SK46c and its location in the East Midlands Oil Province



Source: Source: Blackwatch Petroleum Services Limited, Upland Resources

The Chatsworth Estate exclusion

Although the section of the block retained by the Chatsworth Trustees represents a significant proportion of the block by area, Blackwatch estimates that only between 6.34% and a maximum of 9.31% of the oil in place is covered by the Chatsworth area as the excluded section of the block is almost entirely located to the north of the Hardstoft structure which is believed to extend in a broadly easterly trend.

We believe that this caveat on the licence is not an issue for the partners given that the current location of the Hardstoft discovery well is now used for retail activities and the expected utilisation of deviated development drilling implies that there will be flexibility on the surface well locations. This exclusion is factored into Blackwatch's resource estimates outlined in a later section of this report.

Field history

The Hardstoft-1 well was completed in 1919. It was the first oil exploration well drilled in the UK and it was a discovery producing a maximum rate of 10 bopd with pumping. Total production to date is 26,000 barrels of oil and no water cut was observed until 1924. The field was discovered at a depth of 3,077 feet in a faulted anticline structure and subsequently deepened in 1938 to 3,272 feet. Water was reported between 3,247 and 3,261 feet and no additional production was derived from deepening and acidising the well at the time. Two appraisal wells were drilled in 1925 and 1926: Hardstoft 2 and 3 respectively. However, these failed to increase production from the field.

Seismic data

Several seismic lines were acquired over the Hardstoft field by BP in 1984 and they are of moderate quality. These are evident on the map on the previous page and tend to follow the contours of local roads and tracks over the field (including the M1). Overall, the competent person, Blackwatch Petroleum Services, concludes that seismic data quality is moderate to poor over the crest of the anticlines in particular. Consequently, Upland plans to participate in additional seismic as part of its work programme on the field.

Seismic review

The Hardstoft structure is constrained by six seismic lines linked by a single strike line. The data shows the Hardstoft structure as an elongated faulted anticline with a crest to the southeast of the wells. The anticline contains two secondary closures and a third which is located in the neighbouring block to the east.

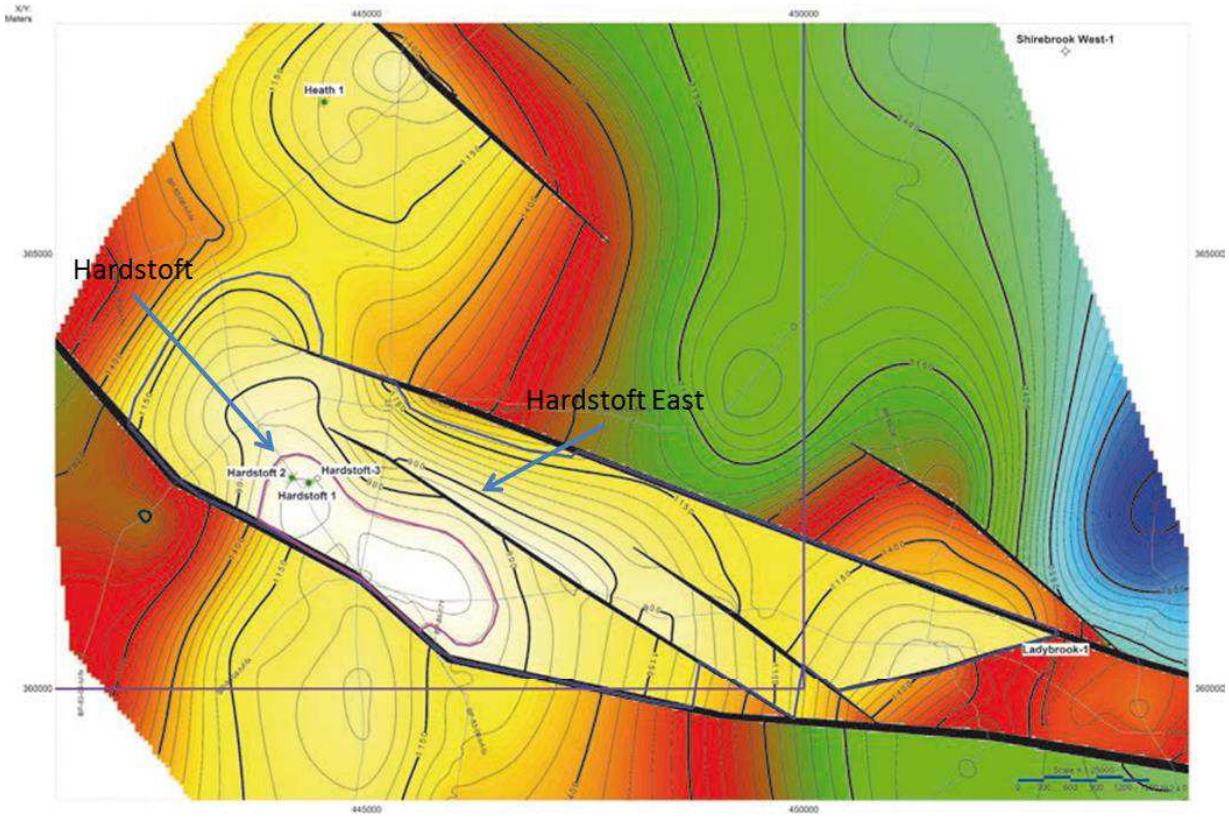
A closer look at the structure

The Hardstoft anticline structure is complex and cross cut by several large faults as can be seen on the map below. Upland believes that it is highly likely that additional faults would be mapped in the event that further seismic is shot over the area.

However, the CPR concludes that the seismic interpretation around the three Hardstoft wells is reasonably robust with uncertainty increasing to the west and east due to a lack of seismic coverage. A secondary closure located on the northern flank of the main anticline has also been identified as having the potential to contain significant volumes of hydrocarbons. This has been named Hardstoft East.

It is expected that the partners will engage in further seismic acquisition prior to drilling activity on the structure in order to firm up both the existing field and the Hardstoft East prospect.

Hardstoft Top Reservoir Depth map



Source: Blackwatch Petroleum Services Limited, Upland Resources

Resource estimates

Blackwatch has estimated that oil in place in the Hardstoft and Hardstoft East structures on SK46c is up to 55 mmbbls with up to 19 mmbbls recoverable though deterministic calculations yield even larger volumes. In regard to the Hardstoft structure, the competent person has attributed 2C contingent resources of 3.1 mmbbls to the main Hardstoft structure and attributed a geological chance of success of 80% (1 in 1.25) to the recovery of said resources. In regard to Hardstoft East, Blackwatch has attributed best estimate prospective resources of 3.65 mmbbls with a 64% chance of success. Note that these resource estimates exclude the proportion retained by the Trustees of the Chatsworth Estate under the CE Licence (CE001).

Since early production on Hardstoft has demonstrated the presence of source rock, seal, reservoir and trap, we believe that the low risk status ascribed to the deposit is justified. Given that Hardstoft East is unproven at this stage, we are satisfied that the risk factor is higher although the prospect is still defined as relatively low risk given its proximity to the main structure.

Hardstoft resource estimates (gross and net to Upland)

Contingent resources (mmbbls)	**1C**	**2C**	**3C**
Hardstoft field	0.49	3.10	18.46
Net to Upland	0.08	0.52	3.08
Prospective resources (mmbbls)	**Low**	**Best**	**High**
Hardstoft East prospect	0.58	3.65	26.06
Net to Upland	0.10	0.61	4.34
Total resource estimate	**1.07**	**6.75**	**44.52**

Source: Blackwatch Petroleum Services Limited, Upland Resources

Company valuation summary

We have arrived at a valuation within a range of potential outcomes for Upland's interest in Block SK46c. Our initial assumptions are based on the outline work programme shown in the table below. These are indicative at this stage given that the partners may elect to adjust the work programme over the next two years.

Anticipated work programme summary

Item	Gross ($)	Net to Upland ($)	Commences
Seismic data acquisition	500,000	83,350	2016E
Well preparation	100,000	16.670	2017E
Appraisal well	3,000,000	500,100	2018E
Development well	3,000,000	500,100	2019E
Total	**$6,600,000**	**$1,100,220**	

Source: Upland Resources

Potential funding milestones

It is important to note that Upland has approximately £1.3 million of cash (c. $1.9m) and an expected annual corporate overhead of approximately £0.3m while it is in the growth phase of assessing various acquisition opportunities. This implies that the company will run short of cash after the first well is drilled on Hardstoft. However, we fully expect Upland to raise additional equity on the back of a successful first well result. Alternatively, Upland could farm down its interest for a smaller share of a larger project or participate in a round of debt finance with its partners in order to complete a full development of the field. We would also suggest that an unsuccessful well result from the first well would negate the need for these subsequent stages.

Given the deferred timing of the group's major drilling commitments, we believe that the company has resources at hand for value accretive or cash generating acquisitions should they arise in the short term. However, this again would imply that Upland would require additional funding after 2017 as longer term financial commitments relating to Hardstoft are triggered.

Upland is confident that it has a highly supportive cornerstone investor for the likely successive stages of the group's expansion in current Chairman, Norza Zakaria.

Valuation methodology

We have applied an indicative work programme to a notional field development at Hardstoft. Within our assumptions, we have assumed that the drilling programme is successful and both the Hardstoft and Hardstoft East structures are oil bearing in line within the mid-range of expectations.

We have assumed that first oil production commences in 2019 and reaches a peak of 3,000 bopd in 2020 from two producing wells before declining at a rate of approximately 17% per annum from 2021. We have assumed a flat rate of opex of $25.00 per barrel over the life of the field.

No royalties are incurred on the field. However, we anticipate that profits will incur corporation tax and a supplementary charge of 20% and 32% respectively.

As these numbers are indicative at the moment given that much can change in the sector over the next three years and the major variable within our assumptions is of course the oil price, we have elected to generate a range of NPVs (10) per barrel and apply it to the risked resource estimates attached to the asset in order to illustrate a range of potential outcomes. This will provide a transparent outcome and enable the investor to apply a significant measure of their own judgement to the Upland valuation.

Apply NPV to risked resource

Assuming that all variables aside from the oil price remain equal and in line with the assumptions previously outlined, we have applied a range of NPVs per barrel based on different oil price scenarios to our risked resource numbers. The US dollar valuations for the asset less corporate deductions are also included. Finally, we have generated a Sterling based per share range of valuations based on the current fully diluted equity. We have excluded the company's cash balance at every stage as most of this cash is earmarked for expenditure and does not represent free cash resources.

Range of valuation scenarios

Contingent resources	**2C**
Upland interest	16.67%
Hardstoft field	3.10
Net to Upland (mmbbls)	0.52
Risk factor	80%
Risked resources	0.41
Prospective resources	**Best**
Hardstoft East prospect	3.65
Net to Upland (mmbbls)	0.61
Risk factor	64%
Risked resources (mmbbls)	0.39

Oil price flat from 2019 ($)	**30.00**	**40.00**	**50.00**	**60.00**	**70.00**	**80.00**
NPV 10 per barrel ($)	0.91	3.19	5.45	7.71	9.97	12.22
Asset value ($m)	0.73	2.56	4.37	6.19	8.00	9.81
Corporate deductions ($m)	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
Options and warrants ($m)	0.29	0.29	0.29	0.29	0.29	0.29
Fully diluted equity (m)	228.94	228.94	228.94	228.94	228.94	228.94
Value per share (p)	**0.16**	**0.70**	**1.24**	**1.79**	**2.33**	**2.87**

Source: Blackwatch, Upland Resources, Optiva estimates

Conclusions

The absence of deductions from revenue such as royalties implies that onshore UK producing assets are comparatively robust at low oil prices assuming that unit operating costs remain under control. Nevertheless, a modest expectation of $50 per barrel three years hence is not an unreasonable assumption given that we anticipate that the current cycle will begin an upturn by early 2017 at the latest.

In the context of the current share price, Upland's current market valuation is more than covered in a $50 flat oil price environment. Any further oil price upside towards a long term $70 average and we assume a valuation for the shares of more than 2.3p fully diluted. This is in line with the management's estimates at the time the company secured its interest in Block SK46c.

Bear in mind that the acquisition price for the asset was effectively nil (not including considerable management time and effort), this asset is value accretive to a level below a long term oil price of $30 per barrel and excluding the current cash balance of £1.3m.

Appendix A – Director's Biographies

Norza Zakaria – Non-Executive Chairman

Norza Zakaria is a highly experienced businessman and as well as Chartered Accountant with the Malaysian Institute of Accountants (MIA). He is also a Fellow of the Australian Certified Practising Accountants (FCPA). He is currently a director of several public listed companies in Malaysia including Bintulu Port Holdings Bhd.

Previously, he has also held senior positions with PETRONAS, Central Bank of Malaysia and Arthur Andersen & Co. He is also currently the Chairman of National Sports Institute of Malaysia.

Dr Stephen Staley – CEO and Director

Dr Staley has over 30 years of wide-ranging technical and commercial experience in the international oil, gas and power sectors. He has co-founded and listed several companies over the past decade, including Fastnet Oil & Gas plc where he was the founding CEO.

He was also a technical consultant to, and non-executive director of, Cove Energy plc, the highly successful East Africa focused explorer that went from having a market capitalisation of £2m in mid-2009 to being sold to PTTEP for £1.2 billion in less than three years. Dr Staley is owner and founder of Derwent Resources Limited, an upstream consultancy advising on oil and gas opportunities, and is a non-executive director of 88 Energy Ltd. Earlier in his career he worked for Cinergy Corp., Conoco and BP.

He holds a BSc (Hons.) in Geophysics from Edinburgh University, a PhD in Petroleum Geology from Sheffield University and an MBA from Warwick University. He is a Fellow of the Geological Society and a member of the EAGE, the PESGB and The Arctic Club.

Jeremy King – Non-executive Director

Jeremy is a senior corporate finance executive with over 19 years' experience. He has a wealth of experience advising clients on IPOs, fundraising, takeovers, mergers and acquisitions and continuing obligations. Jeremy is currently a director of and head of corporate finance for, Optiva Securities Limited.

Previously he was a Director of English Trust Company Ltd, a corporate finance house, where he originated and led the IPO of Private Equity Investor plc on the Full List of the LSE, raising £100 million from investors. Prior to this he was at Kleinwort Benson Investment Management Ltd, where he became Head of UK Smaller Companies, managing unit trusts, investment trusts and pension funds investing in UK smaller companies.

THIS DOCUMENT IS NOT FOR DISTRIBUTION INTO THE UNITED STATES, JAPAN, CANADA OR AUSTRALIA

General disclaimers

This is a marketing communication under the rules of the Financial Conduct Authority ("FCA"). It has not been prepared in accordance with legal requirements designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research.

This document, which presents the Optiva Securities Limited ("OSL") research department's view, cannot be regarded as "investment research" in accordance with the FCA definition. The contents are based upon sources of information believed to be reliable but no warranty or representation, expressed or implied, is given as to their accuracy or completeness. Any opinion reflects OSL's judgement at the date of publication and neither OSL, nor any of its affiliated or associated companies, nor any of their directors or employees accepts any responsibility in respect of the information or recommendations contained herein which, moreover, are subject to change without notice. OSL accepts no liability whatsoever (in negligence or otherwise) for any loss howsoever arising from any use of this document or its contents or otherwise arising in connection with this document (except in respect of wilful default and to the extent that any such liability cannot be excluded by the applicable law).

The document is confidential and is being supplied solely for your information. It must not be copied or re-distributed to another person / organisation without OSL's prior written consent.

This is not a personal recommendation, offer, or a solicitation, to buy or sell any investment referred to in this document. The material is general information intended for recipients who understand the risks associated with investment. It does not take account of whether an investment, course of action, or associated risks are suitable for the recipient.

OSL manages its conflicts in accordance with its conflict management policy. For example, OSL may provide services (including corporate finance advice) where the flow of information is restricted by a Chinese wall. Accordingly, information may be available to OSL that is not reflected in this document. OSL and its affiliated or associated companies may have acted upon or used research recommendations before they have been published.

This document is approved and issued by OSL for publication only to UK persons who are authorised persons under the Financial Services and Markets Act 2000 and to professional clients, as defined by Directive 2004/39/EC as set out in the rules of the Financial Conduct Authority. Retail clients (as defined by rules of the FCA) must not rely on this document.

Specific disclaimers

OSL acts as broker to Upland Resources Limited ("Upland"). OSL's private and institutional clients hold shares in Upland.

This document has been produced by OSL independently of Upland. Opinions and estimates in this document are entirely those of OSL as part of its internal research activity. OSL has no authority whatsoever to make any representation or warranty on behalf of Upland.

NEITHER THIS DOCUMENT NOR ANY COPY OF IT MAY BE TAKEN OR TRANSMITTED INTO THE UNITED STATES OF AMERICA, OR DISTRIBUTED, DIRECTLY OR INDIRECTLY, IN THE UNITED STATES OF AMERICA OR TO ANY US PERSON AS DEFINED IN REGULATION S UNDER THE UNITED STATES SECURITIES ACT OF 1933. ANY FAILURE TO COMPLY WITH THIS RESTRICTION MAY CONSTITUTE A VIOLATION OF UNITED STATES SECURITIES LAWS.

NEITHER THIS DOCUMENT NOR ANY COPY OF IT MAY BE TAKEN OR TRANSMITTED INTO CANADA OR DISTRIBUTED IN CANADA OR TO ANY INDIVIDUAL OUTSIDE CANADA WHO IS A RESIDENT OF CANADA, EXCEPT IN COMPLIANCE WITH APPLICABLE CANADIAN SECURITIES LAWS.

NEITHER THIS DOCUMENT NOR ANY COPY OF IT MAY BE TAKEN OR TRANSMITTED INTO AUSTRALIA OR DISTRIBUTED IN AUSTRALIA OR TO ANY RESIDENT THEREOF EXCEPT IN COMPLIANCE WITH APPLICABLE AUSTRALIAN SECURITIES LAWS. ANY FAILURE TO COMPLY WITH THIS RESTRICTION MAY CONSTITUTE A VIOLATION OF AUSTRALIAN SECURITIES LAWS.

NEITHER THIS DOCUMENT NOR ANY COPY OF IT MAY BE TAKEN OR TRANSMITTED INTO OR DISTRIBUTED INTO JAPAN OR TO ANY RESIDENT THEREOF FOR THE PURPOSE OF SOLICITATION OR SUBSCRIPTION OR OFFER FOR SALE OF ANY SECURITIES. ANY FAILURE TO COMPLY WITH THIS RESTRICTION MAY CONSTITUTE A VIOLATION OF JAPANESE SECURITIES LAWS.

NEITHER THIS REPORT NOR ANY COPY HEREOF MAY BE DISTRIBUTED IN ANY JURISDICTION OUTSIDE THE UK WHERE ITS DISTRIBUTION MAY BE RESTRICTED BY LAW. PERSONS WHO RECEIVE THIS REPORT SHOULD MAKE THEMSELVES AWARE OF AND ADHERE TO ANY SUCH RESTRICTIONS.

Optiva Securities Limited, 2 Mill Street, Mayfair, London, W1S 2AT
Tel: 0203 137 1902, Fax: 0870 130 1571

Member of the London Stock Exchange. Authorised and regulated by the Financial Conduct Authority.