

Seismic reflections

Confirmation of the Neuquen shale play

Repsol YPF's recent announcement of a huge discovery at Loma de la Lata in the Argentine province of Neuquen has confirmed the Neuquen basin as a major new shale play. Neuquen, indeed, is rapidly emerging as the first major shale play outside North America. Significantly, reserves of 927mmboe relate only to a very small part of the basin (428km²). Repsol YPF is expected to announce further news on Neuquen's reserves very shortly that could double the initial estimate. The news from Argentina is highly positive for both the domestic economy and shale development.

Neuquen basin background

The Neuquen basin is one of five hydrocarbon producing basins in Argentina located between about 900km and 1,700km south-west of Buenos Aires. It covers a substantial 30,000km² and is the largest source of hydrocarbons in Argentina. Excellent infrastructure is available. The Neuquen basin is considered to be broadly analogous geologically to the Great Plains basins of North America. Importantly, the sedimentary formations are laterally continuous and the shales specifically are extremely thick at over 2,000ft in places. The focus of development activity has been the late Jurassic/early Cretaceous Vaca Muerte shale, which is considered analogous to the Eagle Ford and Haynesville formations.

Loma de la Lata discovery

YPF's discovery of 927mmboe is split roughly 75% oil and 25% gas. The oil is of excellent quality with an API of 40° to 45° and is low in sulphur. The estimate of reserves is 6x that indicated in May and was made after drilling 15 wells into the Vaca Muerte formation at a depth of 9,000-10,000ft. Significantly, all wells drilled so far by YPF have been verticals using four-stage fracks. This contrasts with US plays such as the Bakken and the Eagle Ford where horizontal drilling has predominated. The productive zone of the Vaca Muerte formation is 820ft against about 115ft in the Bakken and 245ft in the Eagle Ford. Production from Loma de la Lata is running at 5,000b/d and according to YPF could be 50,000b/d by 2015. The Loma discovery applies to only 428km² of the Neuquen basin, so reserves and production potential could in due course greatly exceed current indications. Over the next 18-24 months YPF intends to investigate the scope for extrapolating the conditions in the initial 428km² across its remaining Neuquen acreage (12,000km²).

Who else is involved?

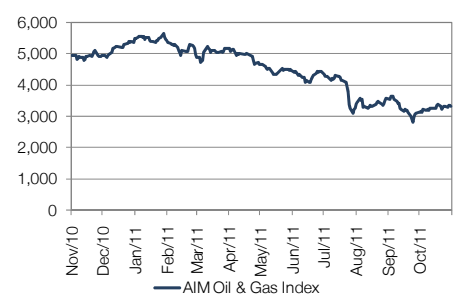
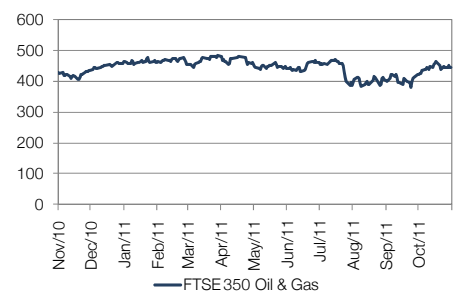
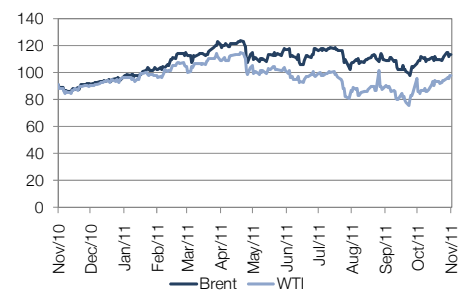
Not surprisingly, the Neuquen basin has become hot property over the past year or so. Other shale players in the basin include Exxon, Apache, EOG, Total and the TSX-V juniors Americas Petrogas (BOE) and Madalena Ventures (MVN).



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Exhibit 1: Best and worst performers

		1 week			
No.	Best performers	% change	No.	Worst performers	% change
1	BORDERS & SOUTHERN PETROL	23.5%	1	PETRO MATAD	(29.1%)
2	FALKLAND OIL AND GAS	22.5%	2	ENDEAVOUR INTERNATIONAL	(14.1%)
3	GLOBAL ENERGY DEVELOPMENT	17.9%	3	AFREN PLC	(14.0%)
4	FORUM ENERGY	15.8%	4	ASCENT RESOURCES	(13.9%)
5	COASTAL ENERGY COMPANY	14.7%	5	GASOL PLC	(13.6%)

		1 month			
No.	Best performers	% change	No.	Worst performers	% change
1	ROXI PETROLEUM	71%	1	PETRO MATAD	(53.8%)
2	DOMINION PETROLEUM	62%	2	RESACA EXPLOITATION INC	(28.2%)
3	FALKLAND OIL AND GAS	46%	3	CADOGAN PETROLEUM	(23.5%)
4	ANTRIM ENERGY INC	42%	4	GASOL PLC	(20.8%)
5	AURELIAN OIL AND GAS	39%	5	ASCENT RESOURCES	(17.9%)

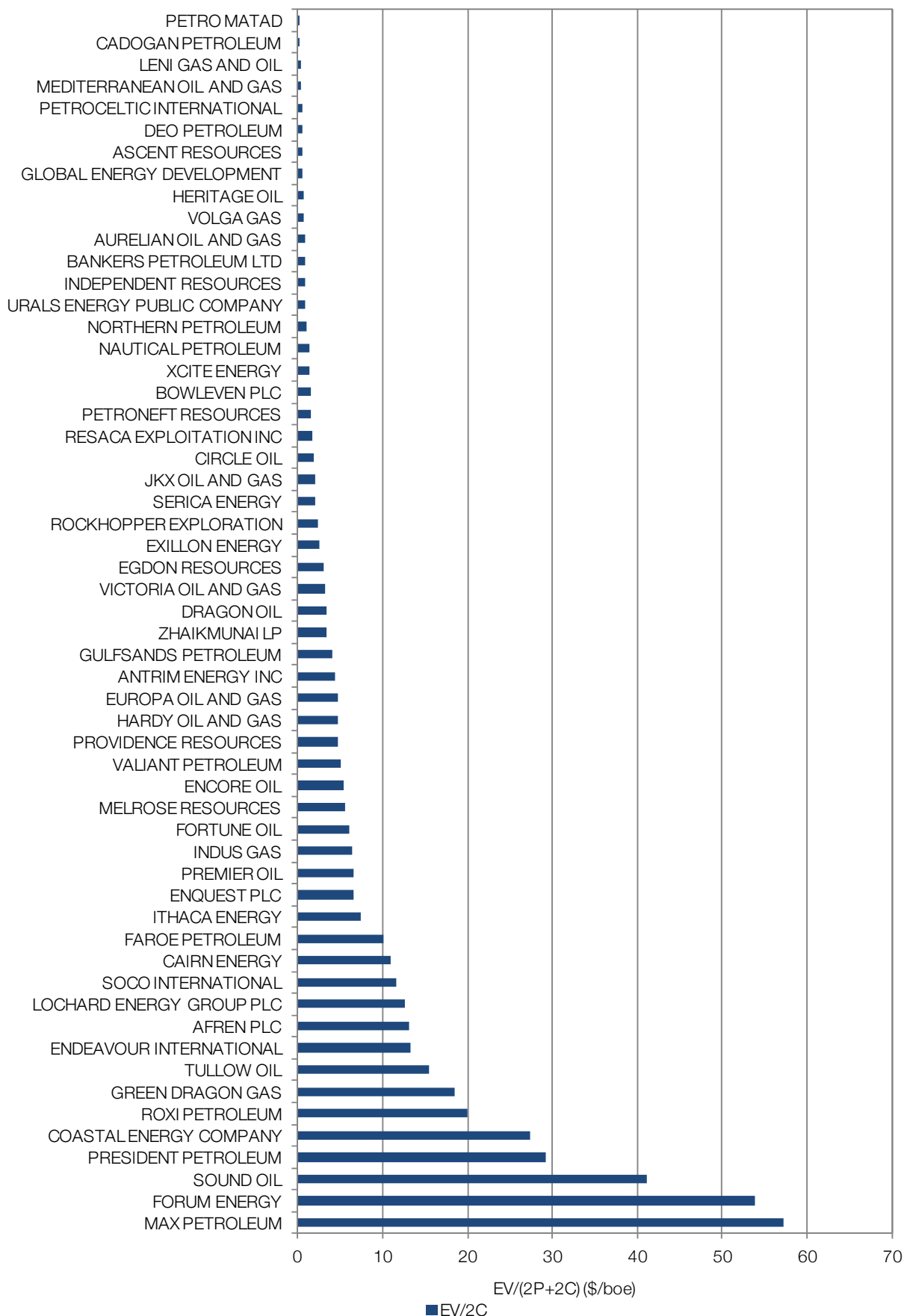
		3 months			
No.	Best performers	% change	No.	Worst performers	% change
1	ENCORE OIL	63.5%	1	PETRO MATAD	(82.6%)
2	DOMINION PETROLEUM	49.1%	2	AMINEX PLC	(50.9%)
3	ROXI PETROLEUM	44.0%	3	LENI GAS AND OIL	(47.3%)
4	COASTAL ENERGY COMPANY	39.8%	4	FRONTERA RESOURCES CORPORATION	(46.7%)
5	SOUND OIL	39.2%	5	AURELIAN OIL AND GAS	(43.9%)

		6 months			
No.	Best performers	% change	No.	Worst performers	% change
1	COASTAL ENERGY COMPANY	109.8%	1	PETRO MATAD	(91.3%)
2	GLOBAL ENERGY DEVELOPMENT	63.5%	2	FRONTERA RESOURCES CORPORATION	(73.3%)
3	DESIRE PETROLEUM	63.5%	3	BOWLEVEN PLC	(69.2%)
4	PRESIDENT PETROLEUM	34.0%	4	LENI GAS AND OIL	(66.1%)
5	ANTRIM ENERGY INC	25.4%	5	AMINEX PLC	(65.7%)

		1 year			
No.	Best performers	% change	No.	Worst performers	% change
1	COASTAL ENERGY COMPANY	203.4%	1	PETRO MATAD	(86.2%)
2	CADOGAN PETROLEUM	86.6%	2	DESIRE PETROLEUM	(83.0%)
3	SOUND OIL	86.4%	3	FRONTERA RESOURCES CORPORATION	(80.7%)
4	INDUS GAS	44.8%	4	NIGHTHAWK ENERGY	(75.8%)
5	GLOBAL ENERGY DEVELOPMENT	43.6%	5	LENI GAS AND OIL	(69.3%)

Source: Bloomberg

Exhibit 2: EV/2P + 2C rankings



Source: Bloomberg, company releases, Edison Investment Research

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