



PRESS RELEASE

(Stock Symbol “CLT” – TSX)

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Calgary, Alberta

**CELTIC ACHIEVED RECORD QUARTERLY PRODUCTION AVERAGING 17,302 BOE PER DAY
IN THE FIRST QUARTER OF 2010**

Celtic Exploration Ltd. (“Celtic” or the “Company”) has released its financial and operating results for the three months ended March 31, 2010. Summary of results are as follows:

HIGHLIGHTS

	Three months ended March 31,		
<i>[\$ thousands, unless otherwise indicated]</i>	2010	2009	Change
FINANCIAL			
Revenue, before royalties and financial instruments	63,809	41,435	54%
Funds from operations	35,083	28,140	25%
Basic (\$/SHARE)	0.79	0.68	16%
Diluted (\$/SHARE)	0.77	0.68	13%
Net earnings (loss)	5,605	(5,039)	-
Basic (\$/SHARE)	0.13	(0.12)	-
Diluted (\$/SHARE)	0.12	(0.12)	-
Capital expenditures, net of dispositions and drilling credits	(5,994)	41,583	-
Total assets	652,604	658,765	-1%
Bank debt, net of working capital	126,483	160,974	-21%
Bank debt, net of working capital, excluding non-cash financial instruments	126,784	177,620	-29%
Shareholders' equity	395,907	363,376	9%
Weighted average common shares outstanding (<i>thousands</i>)			
Basic	44,680	41,307	8%
Diluted	45,556	41,359	10%

NOTE: Effective May 6, 2010, the Company split its stock on a two-for-one basis. All references to shares in this report are prior to the stock split.

	Three months ended March 31,		
	2010	2009	Change
OPERATIONS			
Production			
Oil [BBL/D]	4,297	3,601	19%
Gas [MCF/D]	78,031	57,706	35%
Combined [BOE/D]	17,302	13,219	31%
Production per million shares [BOE/D]	387	320	21%
Realized sales prices, after financial instruments			
Oil [\$/BBL]	70.65	79.01	-11%
Gas [\$/MCF]	5.19	5.36	-3%
Operating netbacks [\$/BOE]			
Oil and gas revenue	40.98	34.82	18%
Realized gain (loss) on financial instruments	(0.05)	9.72	
Realized sales price, after financial instruments	40.93	44.54	-8%
Royalties	(6.32)	(8.55)	-26%
Production expense	(9.25)	(10.21)	-9%
Transportation expense	(0.68)	(0.49)	39%
Operating netback	24.68	25.29	-2%
Drilling activity			
Total wells	21	15	40%
Working interest wells	15.2	12.6	21%
Success rate on working interest wells	87%	84%	4%
Undeveloped land			
Gross acres	312,217	334,152	-7%
Net acres	256,689	262,430	-2%

HIGHLIGHTS – FIRST QUARTER 2010

The three months ended March 31, 2010 was another successful quarter in the execution of the Company's growth strategy. Highlights for the first quarter of 2010 are as follows:

- Drilled 21 (15.2 net working interest) wells during the quarter resulting in an overall success rate of 87%;
- Increased average daily production by 31% to 17,302 BOE per day, up from 13,219 BOE per day in the first quarter of 2009;
- Received an average price of \$40.93 (\$40.98 before hedging) per BOE, down 8% from \$44.54 (\$34.82 before hedging) per BOE in the first quarter of 2009 and recorded an operating netback of \$24.68 per BOE, down 2% from \$25.29 per BOE in the corresponding quarter of 2009; and
- Generated \$35.1 million in funds from operations for the three month period ended March 31, 2010, up 25% from \$28.1 million in the same quarter of the previous year. Reported funds from operations per share, diluted, of \$0.77, an increase of 13% from \$0.68 per share in the first quarter of the previous year.

PRESIDENT'S MESSAGE

Celtic Exploration Ltd. ("Celtic" or the "Company") is pleased to report to shareholders the Company's activities in the first quarter of 2010. During the quarter, Celtic drilled 21 (15.2 net) wells with an overall success rate of 87%. Despite the down-time resulting from the KA Gas Plant outage for five days during the quarter, Celtic achieved record quarterly production levels during the first quarter of 2010.

Production during the quarter averaged 17,302 BOE per day, an increase of 31% from 13,219 BOE per day in the first quarter of 2009. In the first quarter of 2010, Celtic recorded funds from operations of \$35.1 million (\$0.77 per share, diluted), compared to \$28.1 million (\$0.68 per share, diluted) reported in the same quarter of the previous year. Higher funds from operations in 2010 were due to increased production volumes, despite lower realized oil and gas prices compared to the previous year.

During the first quarter of 2010, Celtic participated in the drilling of 3 (0.3 net) wells in the non-operated Kaybob BHL Unit #1. These wells were successful in the Devonian Beaverhill Lake formation where wells typically have initial gas production rates of 2.0 MMCF per day with 60 barrels per MMCF of associated liquids. The remaining 18 (14.9 net) wells were all horizontal wells, the majority of which were put on production in March and April 2010.

At Drumheller in southern Alberta, Celtic participated in the drilling of a horizontal well (37.5% working interest) with success in the Viking formation. Initial gas test rates were 3.0 MMCF per day.

In the Greater Kaybob area of Alberta, Celtic drilled 14 (11.5 net) horizontal wells targeting the Triassic Montney and Cretaceous Bluesky formations, with a 91% success rate based on net wells drilled. These wells are liquids rich with NGLs of 26 to 40 barrels per MMCF.

In an environment of low gas prices, the high NGL yields along with the high heat content of gas at Kaybob, Celtic's netbacks are enhanced significantly. In many cases, the liquids that will be produced from these wells are equivalent to many of the horizontal oil wells that industry is currently drilling.

In the case of Kaybob Montney wells, average estimated ultimately recoverable NGL reserves are over 70,000 barrels per well and for Kaybob Bluesky wells, estimated ultimately recoverable NGL reserves are over 140,000 barrels per well. Low royalty rates on horizontal wells at Kaybob and drilling royalty credits earned for depth drilled have also mitigated the effect of low gas prices resulting in short payout periods and high rates of return on capital. As a result, Celtic expects to continue development of its high impact program at Kaybob.

As previously announced, the Company completed the disposition of its Swan Hills property in the first quarter of 2010 for proceeds of \$53.25 million, prior to adjustments. Production from this property was approximately 500 BOE per day. The disposition strengthens Celtic's financial position and leaves significant unused credit lines available to fund the Company's planned 2010 capital expenditure program in an environment of low natural gas prices. At March 31, 2010, bank debt, net of working capital, was \$126.5 million and the authorized borrowing capacity on the Company's credit facility was \$200.0 million, adjusted for the Swan Hills disposition.

Celtic's successful first quarter drilling results should result in significant production gains in the second quarter as these wells are brought on-stream. The Company is forecasting production during the second quarter to average between 18,500 and 18,700 BOE per day, after taking into consideration the disposition of 500 BOE per day at Swan Hills.

Celtic continues to generate new ideas for continued growth and has been actively acquiring new lands. The Company has accumulated 46,400 acres (72.5 sections) of undeveloped land at 100% working interest in new "exploration" resource plays in west central Alberta, targeting the Montney, Bluesky, Notikewin and Cardium formations in these potential gas reservoirs. With success in these tight gas reservoir plays, the Company would follow-up with a development project utilizing horizontal drilling and multi-stage fracture completions, similar to the program that Celtic has implemented at Kaybob. To date in 2010, Celtic has

drilled three wells on these exploration plays and expects to drill six more wells by the end of summer. Results from this exploration program will be made available in the second half of 2010.

In the Kaybob area of Alberta, Celtic owns Devonian Duvernay rights in 93,920 gross (87,476 net) acres of land and expects to drill its first well in this gas shale play by the end of summer in 2010. Celtic believes that this exploration play is similar to the Horn River shale in British Columbia where several companies have had good success.

PRODUCTION

Oil and gas production in the first quarter of 2010 increased 31% to average 17,302 BOE per day compared to 13,219 BOE per day in the same quarter of 2009. Production per million shares outstanding for the three months ended March 31, 2010 averaged 387 BOE per day, up 21% from 320 BOE per day in the corresponding quarter of the previous year.

Production increases in 2010 reflect the continued successful development program in Kaybob, Alberta.

REVENUE

Revenue, before royalties, and before realized and unrealized gains or losses on financial instruments, for the three months ended March 31, 2010, was \$63.8 million, an increase of 54% compared to \$41.4 million in the same quarter of the previous year.

Increase in revenue for 2010 was due to significantly higher production volumes that more than offset lower realized oil and gas prices.

The combined average product price received for oil and gas sales, adjusted for realized gains or losses on financial instruments for the three months ended March 31, 2010 was \$40.93 per BOE, a decrease of 8% compared to the corresponding three month period of the previous year.

OIL OPERATIONS

Oil production for the first quarter ended March 31, 2010 averaged 4,297 barrels per day, an increase of 19% compared to the same quarter of the previous year.

The average price received for oil sales, after realized financial instruments, for the first quarter ended March 31, 2010 was \$70.65 (\$70.65 before financial instruments) per barrel, down 11% from the average price of \$79.01 (\$45.01 before financial instruments) per barrel received in the first quarter of 2009. In 2010, the differential from WTI to the Company's realized wellhead oil price narrowed compared to 2009 as Celtic received a premium for its condensate and butane production.

For the quarter ended March 31, 2010, average oil royalties were 20.9% of revenue, after realized financial instruments (20.9% of revenue, before financial instruments). In the first quarter of the previous year, average oil royalties were 18.3% of revenue, after financial instruments (32.3% of revenue, before financial instruments).

Lower oil royalty rates in 2010, before financial instruments, reflect the benefit of the new well royalty reduction incentive that was introduced by the Alberta government effective April 1, 2009.

Transportation expenses for oil production in the first quarter of 2010 averaged \$0.30 per barrel compared to \$0.34 per barrel in the first quarter of 2009.

Lower per unit transportation expenses in 2010 reflect the larger portion of newer NGL production from Kaybob which is mostly pipeline connected and therefore less expensive to transport compared to trucking oil.

For the first quarter ended March 31, 2010, oil production expenses were \$12.56 per barrel. In the same quarter of the previous year, oil production expenses were \$13.87 per barrel.

Lower per unit production expenses in 2010 reflect the larger portion of newer NGL production from Kaybob which is less expensive to produce compared to the Company's older oil production.

GAS OPERATIONS

Gas production for the first quarter ended March 31, 2010 averaged 78,031 MCF per day, an increase of 35% compared to the corresponding quarter of the previous year.

Increases in gas production in 2010 were primarily a result of Celtic's successful drilling results in its resource development prospect located in the Greater Kaybob area of Alberta.

The average price received for gas sales, after realized financial instruments, for the first quarter ended March 31, 2010 was \$5.19 (\$5.20 before financial instruments) per MCF, down 3% from the average price of \$5.36 (\$5.17 before financial instruments) per MCF received in the first quarter of 2009.

For the quarter ended March 31, 2010, average gas royalties were 11.4% of revenue, after financial instruments (11.4% of revenue, before financial instruments). In the first quarter of the previous year, average gas royalties were 19.8% of revenue, after financial instruments (20.7% of sales, before financial instruments).

Lower gas royalty rates in 2010, before financial instruments, are a result of lower natural gas selling prices, longer depth horizontal wells which receive favourable treatment under the Alberta royalty framework and new production qualifying for reduced royalty rates under the new well royalty reduction program. In addition, royalties are reduced further as the Company continues to receive gas cost allowance credits which do not fluctuate with gas prices.

Transportation expenses for the first quarter ended March 31, 2010 were \$0.13 per MCF, up from \$0.09 per MCF for the same quarter in the previous year.

Higher transportation expenses in 2010 reflect the higher cost to transport the Company's sulphur production, primarily from Celtic's interests in the Devonian units at Kaybob, Alberta.

For the first quarter ended March 31, 2010, production expenses of \$1.36 per MCF were 7% lower than \$1.47 per MCF in the corresponding quarter of the previous year.

Higher production expenses in 2009 reflect certain one time expenses that were incurred at Kaybob as a result of turnaround operations at the KA Gas Plant where the majority of Celtic's gas is processed. The turnaround operations occur every four years.

OTHER EXPENSES

For the quarter ended March 31, 2010, general and administrative expenses were \$1.4 million (\$0.89 per BOE), interest expense was \$1.3 million, and depletion, depreciation and accretion expenses were \$27.3 million (\$17.51 per BOE). In the previous year, for the quarter ended March 31, 2009, general and administrative expenses were \$1.0 million (\$0.86 per BOE), interest expense was \$0.9 million, and depletion, depreciation and accretion expenses were \$24.7 million (\$20.78 per BOE).

Higher general and administrative expenses in 2010 reflect the Company's increased activities and growth in production year over year. Increase in interest expense in 2010 reflects higher average debt levels and higher bank spreads. Debt levels were reduced as a result of the proceeds from the Swan Hills disposition that was completed on March 31, 2010. Lower depletion, depreciation and accretion expense per BOE reflects the addition of proven reserves at lower than historic average costs.

TAXES

For the quarter ended March 31, 2010, Celtic provided for a provision for future income taxes in the amount of \$2.4 million, compared to a recovery of \$1.9 million in the first quarter of 2009.

For the three months ended March 31, 2010, Celtic is not required to pay current income taxes as it has sufficient income tax deductions available to shelter taxable income for the period. Estimated income tax deductions available at March 31, 2010 are \$371.2 million and are comprised of \$58.2 million of COGPE, \$178.9 million of CDE, \$33.9 million of CEE, \$96.1 million of UCC and \$4.1 million of share issue costs.

EARNINGS

Net earnings for the quarter ended March 31, 2010 were \$5.6 million (\$0.13 per share basic and \$0.12 per share diluted). On a barrel of oil equivalent basis, net earnings in the first quarter of 2010 were \$3.60 per BOE, compared to a net loss of \$4.24 per BOE in the same quarter of 2009.

During the same period, funds from operations were \$35.1 million (\$0.79 per share basic and \$0.77 per share diluted). On a barrel of oil equivalent basis, funds from operations in the first quarter of 2010 were \$22.53 per BOE, down 5% from \$23.65 per BOE in the same quarter of 2009.

CAPITAL EXPENDITURES

During the quarter ended March 31, 2010, Celtic spent \$59.2 million on capital projects. Drilling and completion operations accounted for \$49.6 million, equipment and facility expenditures were \$8.0 million and \$1.6 million was spent on land and seismic. Drilling royalty credits earned and deemed collectible in the future were \$11.9 million. Proceeds from property dispositions were \$53.3 million. In the first quarter of the previous year, capital expenditures were \$41.6 million.

At March 31, 2010, the Company had 312,217 (256,689 net) acres of undeveloped land. The Company continues to build on its inventory of prospects for future drilling.

DRILLING ACTIVITY

During the first quarter of 2010, the Company drilled 21 (15.2 net) wells resulting in 19 (13.2 net) natural gas wells, for an overall success rate of 87%. During the first quarter ended March 31, 2009, Celtic drilled 15 (12.6 net) wells, with an overall success rate of 84%.

The average measured depth of net wells drilled in the first quarter of 2010 was 3,504 metres, an increase of 37% compared to the average drilling measured depth of 2,559 metres in the first quarter of 2009.

SHARE INFORMATION

The Company is authorized to issue an unlimited number of common shares and an unlimited number of preferred shares. As at March 31, 2010, there were 44.8 million common shares outstanding (as at May 7, 2010, there were 89.6 million common shares outstanding, after taking into effect the two-for-one stock split that was approved by the shareholders of the Company and became effective May 6, 2010). There are no preferred shares outstanding.

As at March 31, 2010, directors, employees and certain consultants have been granted options to purchase 3.1 million common shares of the Company at an average exercise price of \$14.13 per share.

The Company's common shares trade on the TSX under the symbol "CLT".

FUTURE COMMITMENTS – FINANCIAL INSTRUMENTS

The Company may, from time to time, enter into fixed price contracts and derivative financial instruments with respect to oil and gas sales, currency exchange and interest rates in order to secure a certain amount of cash flow to protect a desired level of capital spending.

The following is a summary of NYMEX-AECO fixed natural gas basis differential derivative contracts in effect as at March 31, 2010:

Quantity	Remaining term of contract	Fixed price per MMBTU
50,000 MMBTU/day (swap)	April 1 to December 31, 2010	US\$0.68

The following is a summary of U.S. currency average rate forward swap contracts in effect as at March 31, 2010:

Amount	Remaining term of contract	Fixed exchange rate (CAD/USD)
US\$4,000,000/month	April 1 to December 31, 2010	1.2106

The following is a summary of interest rate swap contracts that settle based on the floating Canadian Dollar Banker Acceptance CDOR rate, in effect as at March 31, 2010:

Amount	Remaining term of contract	Fixed interest rate
CA\$80,000,000	April 1, 2010 to April 22, 2010	3.30%
CA\$20,000,000	April 1, 2010 to April 22, 2010	2.54%
CA\$100,000,000	April 22, 2010 to April 21, 2011	2.07%

ADVISORY REGARDING FORWARD-LOOKING STATEMENTS

Certain information with respect to Celtic contained herein, including management's assessment of future plans and operations, contains forward-looking statements. These forward-looking statements are based on assumptions and are subject to numerous risks and uncertainties, certain of which are beyond Celtic's control, including the impact of general economic conditions, industry conditions, volatility of commodity prices, currency exchange rate fluctuations, imprecision of reserve estimates, environmental risks, competition from other explorers, stock market volatility and ability to access sufficient capital. As a result, Celtic's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any events anticipated by the forward-looking statements will transpire or occur. In addition, the reader is cautioned that historical results are not necessarily indicative of future performance.

CURRENT ECONOMIC ENVIRONMENT

Late in 2008 and early in 2009, the financial community around the world was rocked with unprecedented losses and business failures. The recovery has been slow and as a result, the current economic environment is challenging and uncertain. Celtic expects to see an improving economic environment in 2010, with improving commodity prices, less volatile financial markets and better access to capital markets.

In this environment, Celtic has maintained financial flexibility through the prudent use of bank debt and through an active capital management strategy whereby certain assets were sold in the first quarter of 2010 providing the Company with financial flexibility in terms of larger unused credit lines.

Celtic's capital expenditure program remains flexible and if the current economic environment deteriorates, the Company has the ability to defer expenditures into the future.

2010 GUIDANCE

Celtic continues to remain optimistic about its future prospects. Celtic is opportunity driven and is confident that it can continue to grow the Company's production base by building on its current inventory of development prospects and by adding new exploration prospects. Celtic will endeavour to maintain a high quality product stream that on a historical basis receives a superior price with reasonably low production costs. In addition, the Company takes advantage of royalty incentive programs in order to further increase netbacks. Celtic will continue to focus its exploration efforts in areas of multi-zone hydrocarbon potential.

Celtic's Board of Directors has approved a capital expenditure budget in the amount of \$187.0 million for 2010. Capital expenditures will be reduced by drilling royalty credits earned during 2010 in the amount of approximately \$15.0 million. Capital spending for 2010 is expected to be financed by property dispositions, funds from operations, with access to available bank credit lines and common share issuances, if necessary.

After forecasting risked production discoveries, timing of production on-stream dates resulting from the Company's planned capital expenditures for 2010, estimated decline rates on existing and new volumes, Celtic expects production in 2010 to average between 18,500 and 18,700 BOE/d (23% oil and 77% gas). This represents between a 30% and 32% increase from the average production of 14,192 BOE/d achieved in 2009. Celtic expects to exit 2010 with production in excess of 20,000 BOE/d.

The Company's average commodity price assumptions for 2010 are US\$78.00 (previously US\$72.50) per barrel for WTI oil, US\$4.50 (previously US\$6.50) per MMBTU for NYMEX natural gas, \$3.95 (previously \$5.75) per GJ for AECO natural gas and a US/Canadian dollar exchange rate of US\$0.963 (previously US\$0.952). These prices compare to average 2009 prices of US\$61.63 per barrel for WTI oil, US\$4.01 per MMBTU for NYMEX natural gas, \$3.97 per GJ for AECO natural gas and a US/Canadian dollar exchange rate of US\$0.880.

After giving effect to the aforementioned production and commodity price assumptions and taking into effect risk management contracts in place (as outlined under Future Commitments above), funds from operations for 2010 is forecasted to be approximately \$132.0 million or \$1.48 per share (\$1.46 per share, diluted) and net earnings are forecasted to be approximately \$8.0 million or \$0.09 per share (\$0.09 per share, diluted).

Changes in forecasted commodity prices and variances in production estimates can have a significant impact to estimated funds from operations and net earnings. Please refer to the advisory regarding forward-looking statements shown above.

Bank debt, net of working capital, is estimated to be \$154.6 million by the end of 2010 or approximately 1.2 times forecasted 2010 funds from operations.

Celtic's capital expenditure budget for 2010 will see the Company participate at high working interests in the drilling of approximately 55 to 60 wells during the year, of which approximately 85% will be horizontal wells. Celtic continues to evaluate and pursue potential property acquisitions that would complement its existing asset base and completion of such acquisitions would be over and above the Company's planned capital expenditure budget.

Celtic is excited about the growth prospects being generated in the Company and remains optimistic about the Company's ability to deliver continued per share growth in production, reserves, net asset value and funds from operations. Given the Company's strong inventory of drilling locations, we look forward to continued growth in 2010 and beyond.

The information set out herein under the heading "2010 Guidance" is "financial outlook" within the meaning of applicable securities laws. The purpose of this financial outlook is to provide readers with disclosure regarding Celtic's reasonable expectations as to the anticipated results of its proposed business activities for 2010. Readers are cautioned that this financial outlook may not be appropriate for other purposes.

NON-GAAP FINANCIAL MEASUREMENTS

This document contains the terms “funds from operations”, “operating netback” and “production per share” which do not have a standardized meaning prescribed by Canadian GAAP and therefore may not be comparable with the calculation of similar measures by other companies. Funds from operations and operating netbacks are used by Celtic as key measures of performance. Funds from operations and operating netbacks are not intended to represent operating profits nor should they be viewed as an alternative to cash provided by operating activities, net earnings or other measures of financial performance calculated in accordance with GAAP. Operating netbacks are determined by deducting royalties, production expenses and transportation expenses from oil and gas revenue. Funds from operations are determined by adding back settlement of asset retirement obligations and change in non-cash operating working capital to cash provided by operating activities. The Company calculates funds from operations per share using the same method and shares outstanding which are used in the determination of earnings per share.

OTHER MEASUREMENTS

All dollar amounts are referenced in Canadian dollars, except when noted otherwise. Where amounts are expressed on a barrel of oil equivalent (“BOE”) basis, natural gas volumes have been converted to oil equivalence at six thousand cubic feet per barrel and sulphur volumes have been converted to oil equivalence at 0.6 long tons per barrel. The term BOE may be misleading, particularly if used in isolation. A BOE conversion ratio of six thousand cubic feet per barrel is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. References to oil in this discussion include crude oil and natural gas liquids (“NGLs”). NGLs include condensate, propane, butane and ethane. References to gas in this discussion include natural gas and sulphur.

ADDITIONAL INFORMATION

Additional information relating to Celtic, including the Company’s Annual Information Form (“AIF”) is filed on SEDAR and can be viewed on their website at www.sedar.com. Copies of the AIF can also be obtained by contacting Sadiq H. Lalani, Vice President, Finance and Chief Financial Officer at Celtic Exploration Ltd., Suite 500, 505 Third Street SW, Calgary, Alberta, Canada, T2P 3E6. Further information relating to the Company is also available on its website at www.celticex.com.

For further information, please contact:

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