



Second Wave Petroleum Inc.

News Release

For Immediate Release
Calgary, Alberta

TSX Venture Exchange: SCS
82,892,628 Common Shares

Second Wave Successfully Completes Gilwood Exploration Well and Provides Operational Update

CALGARY, Sept. 27, 2010. Second Wave Petroleum Inc. ("Second Wave" or the "Company") is pleased to announce that it has successfully tested its first Gilwood/Beaverhill Lake exploration well in Judy Creek and provide a general operations update:

Highlights:

- Second Wave's 100% working interest 03-14-063-09W5 Gilwood well tested at combined final flow rate of approximately 590 barrels of oil equivalent per day consisting of 40% condensate and natural gas liquids (NGLs) and 60% natural gas. No stimulation was required to achieve this test rate.
- Second Wave's initiated its Pekisko horizontal drilling program on the SW block of its Judy Creek land base with the first three wells of its anticipated drilling program drilled, cased and awaiting completion.
- The Company received regulatory approval to water flood its Pekisko pool in the NE block of its Judy Creek land base with the water injection project scheduled to start in Q4, 2010.
- Drilled, completed and commenced production of its first 100% working interest horizontal Ellerslie light oil well in Judy Creek with initial rates exceeding 225 boe/d (60% oil).
- Second Wave is exiting the third quarter with production at approximately 1,900 boe/d and continues to forecast year-end 2010 exit rates of 2,800 boe/d. Despite positive drilling results, average production rates for the third quarter are expected to be relatively flat in comparison with the second quarter due to wet weather-delays on operational and capital activities.

Judy Creek, Alberta - Gilwood/Beaverhill Lake Formation

In the third quarter Second Wave drilled, cased and completed its first Gilwood/Beaverhill Lake exploration well in Judy Creek at its 100% working interest 03-14-063-09W5 location. The Gilwood formation, which resides below the Beaverhill Lake formation, was completed and flow tested in August 2010 for a period of 27 hours before it was shut in. Final production rates from the Gilwood formation during the test period were 2.8 million cubic feet per day (mmcf/d) of liquids rich natural gas and 130 barrels per day (bbl/d) of 65o API condensate for a total combined rate of approximately 590 boe/d (40% condensate and NGLs). The Company elected not to fracture stimulate the well as flowing well head pressures increased throughout the test period. Based on these initial results, liquid recoveries from the Gilwood gas are expected to exceed 50 bbl/mmcf, providing the expectation of higher netback gas production. The Company is proceeding to tie in the 03-14 well to its existing Judy Creek facilities and expects to commence production in the fourth quarter of 2010.

In addition to the Gilwood completion in the 03-14 well, and as part of its planned evaluation of the Beaverhill Lake formation, Second Wave obtained and analyzed an open hole core in the 3-14 well bore. Core analysis indicated that the Beaverhill Lake had an aggregate of four meters of hydrocarbon pay with an average porosity of approximately six percent. Second Wave delayed further testing of the Beaverhill Lake formation due to the success of the deeper Gilwood flow test. The Company is currently planning to drill an additional vertical well in the first half of 2011 to further delineate and evaluate both the Gilwood and Beaverhill Lake formations on its Judy Creek exploration lands.

Judy Creek, Alberta - Pekisko Formation

Second Wave initiated its horizontal Pekisko drilling program on the SW portion of its Judy Creek land block with its first three horizontal wells cased and awaiting completion. The Company anticipates drilling, completing and bringing on production a total of six or seven Pekisko horizontal oil wells from its Judy Creek SW block in the fourth quarter of 2010. Second Wave is currently building pipeline infrastructure to its SW land block and expects to complete the first phase of this pipeline in mid-October at which time it expects the first three Pekisko horizontal oil wells in the SW block will commence production. Thereafter Second Wave anticipates bringing on a new Pekisko horizontal oil well approximately every two to three weeks until the end of the first quarter of 2011.

Based on well performance from the completion of its first three long leg Pekisko horizontals using multi-stage acid fracturing techniques, Second Wave is planning to continue to use this technique on all future Pekisko wells in the area. Results from these first three completed wells have met expectations with average rates per well exceeding 130 boe/d (65% oil) after 60 days of production.

In the third quarter Second Wave engaged a third party to complete an advanced rock properties study on the Pekisko core extracted from its 08-31-063-09W5 vertical well. The objective of the study was to determine the technical feasibility of a water flood in the Judy Creek Pekisko formation by completing a micro water flood on selected core intervals. Results from this preliminary study indicated that 47% of the original oil in place within these selected core intervals was recovered by flooding the core with water. Second Wave believes that this recovery value is optimistic for the pool as a whole; however, the results imply that there is technical and economic merit in proceeding with a water flood pilot on its Judy Creek Pekisko pool. Accordingly, Second Wave has sought and obtained regulatory approval to initiate a water flood pilot in the Pekisko formation in its NE Judy Creek land block. The Company is scheduled to initiate water injection in the fourth quarter of 2010 and expects to obtain results in 2011.

Judy Creek, Alberta - Ellerslie Formation

In the third quarter Second Wave drilled, completed and commenced production from its first horizontal well in the Ellerslie A light oil pool in Judy Creek at its 100% working interest 13-15-062-10W5 location. The Ellerslie formation is shallower than the Pekisko formation and is a secondary geological target in Judy Creek. The 13-15 well was a follow-up location to the Company's 100% working interest 13-10-062-10W5 vertical well which had successfully delineated the Ellerslie A light oil pool in the first quarter of 2010. The 13-10 well achieved production rates of approximately 130 boe/d (70% oil) after being on line for 110 days. To facilitate the drilling of the 100% working interest 13-15-062-10W5 horizontal oil well the 13-10 vertical well was shut in at the start of the third quarter. Upon successfully drilling and completing the 13-15 well Second Wave commenced construction of a 100% owned permanent battery and gas sales system to facilitate production from these two wells and future development in the area. Both wells remained shut in during the construction period which concluded late in the third quarter. The wells were subsequently brought on production with final rates from the 13-15 horizontal well exceeding 225 boe/d (65% oil) over a 20 day test period. Based on field estimates, current production from the Ellerslie battery is approximately 350 boe/d (65% oil). The Ellerslie battery and associated wells have now been on full production for 25 days in the third quarter. The Company is planning to continue delineation of the Ellerslie A light oil pool with an additional two to four 100% working interest vertical wells planned prior to the end of the first quarter in 2011.

Hedging

Second Wave has entered into a number of hedging contracts to reduce its risk on short term commodity price volatility. The Company has hedged 750 bbl/d of oil in the fourth quarter of 2010 at a price of \$82.50 CAD per bbl and 500 bbl/d in the first quarter of 2011 hedged at \$83.80 CAD per bbl. In addition to these contracts Second Wave has recently entered into an series of hedge transactions whereby it has sold a call on 500 bbl/d of oil at \$90.00 USD/bbl for

2011 and 2012 and concurrently entered into a gas swap contract for 3,000 GJ/d at a price of \$9.27 CAD per GJ for the first half of 2011.

Outlook

Second Wave has been extremely active in the third quarter with nine (8.3 net) wells being drilled and eight (7.3 net) wells successfully cased and one (1.0 net) well abandoned. Included among the eight cased wells is one (1.0 net) horizontal water injection well in Judy Creek. Of the remaining seven cased wells, the Company has successfully completed and tied in two (2.0 net) wells and the remaining five wells (4.3 net) are in different stages of the completion and tie-in process. Unseasonably wet weather has resulted in significant delays in all of the Company's operational and capital projects as a result of which the run time of the Company's Ellerslie battery was substantially reduced in the third quarter and the start-up of the Company's next three (3.0 net) Pekisko horizontals has been delayed until the fourth quarter when completion and pipeline activities can be finished. Based on field estimates the Company is exiting the third quarter at 1,900 boe/d (65% oil). While third quarter Corporate production rates are expected to grow modestly or remain flat from the second quarter, the Company remains well positioned to meet its exit production guidance of 2,800 boe/d with an additional six or seven net Pekisko horizontals oil wells and the 3-14 Gilwood well scheduled to be on production by year end.

To view the Company's current corporate presentation, please visit the Second Wave website at www.secondwavepetroleum.com

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Barrels of Oil Equivalent (BOEs). The term BOE refers to barrel of oil equivalent, with natural gas converted to crude oil equivalent at a ratio of six thousand cubic feet to one barrel. BOEs may be misleading, particularly if used in isolation. A BOE conversion ratio of six mcf (six thousand cubic feet) to one bbl (one 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.

Forward-Looking Statements. *This news release contains forward-looking statements as to the Company's internal projections, expectations and beliefs relating to future events or circumstances. Forward-looking statements are typically (but not necessarily) identified by words such as "anticipate", "believe", "plan", "estimate", "expect", "plan", "intend", "potential", "may", "will", "should" or similar words suggesting future outcomes. Although the Company believes that these forward-looking statements are reasonable, undue reliance should not be placed on them as they are subject to known and unknown risks and uncertainties, many of*

which are beyond the Company's control. Forward-looking statements are not guarantees of future outcomes. There can be no assurance that the plans, intentions or expectations contained in the forward-looking statements or upon which they are based will in fact occur or be realized, and actual results may differ from those expressed or implied in the forward-looking statements. The difference may be material.

Second Wave is subject to the inherent risks associated with the exploration, development, exploitation and production of oil and gas. More particularly, material risk factors that could cause actual results to differ materially from those expressed or implied in the forward-looking statements contained in this news release include: adverse changes in commodity prices, interest rates or currency exchange rates; accessibility of capital when required and on acceptable terms; lower than expected production of crude oil and natural gas; production delays; lower than expected reserve volumes on the Company's properties; increased operating costs; ability to attract and retain qualified personnel or to secure drilling rigs and other services on acceptable terms; competition for labour, equipment and materials necessary to advance the Company's projects; unforeseen engineering, environmental or geological problems; ability to obtain all required regulatory approvals on a timely basis and on satisfactory terms; and changes in laws and governmental regulations (including with respect to taxes and royalties). This list is not exhaustive. Readers should also review the risk factors described in other documents filed by the Company from time to time with securities regulatory authorities in Canada, including its most recent annual information form, copies of which are available electronically at www.sedar.com and at www.secondwavepetroleum.com.

Specific forward-looking statements contained in this news release include statements regarding: future drilling and completion plans, including the Company's plans to drill an additional vertical Gilwood/Beaverhill Lake well in the first half of 2011, expectations with respect to the drilling, completion and bringing on production of six to seven Pekisko horizontal oil wells from its SW land block at Judy Creek in the fourth quarter of 2010, anticipated future use of multi-stage acid fracturing techniques, expected timing for bringing new Pekisko horizontal oil wells on line through the end of the first quarter of 2011 and plans to drill an additional two to four vertical Ellerslie wells before the end of the first quarter of 2011; expected timing for completion of the first phase of pipeline infrastructure to Second Wave's SW land block at Judy Creek; scheduled initiation of water injection in the fourth quarter of 2010 and expectation of results in 2011; and the Company's year-end exit production rate target. In making such forward-looking statements, Second Wave has made various assumptions regarding, among other things: the accuracy of geological and geophysical data and interpretations of that data; future oil and natural gas prices; future capital requirements; future exchange rates; the accessibility and cost of capital (including credit); the Company's ability to economically produce oil and gas from its properties and the timing and cost to do so; and its ability to obtain qualified staff, equipment and supplies in a timely and cost-efficient manner.

The forward-looking statements included herein are made as of the date of this news release and Second Wave undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by securities laws.

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