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NEWS RELEASE 06-18

## **New Geological Model of Interest at Gossan's Bird River Property**

December 19, 2006 – **Gossan Resources Limited** (GSS-TSX.V & GSR-Frankfurt/Freiverkehr) is pleased to report on a new geological model with significant economic considerations for its Bird River Sill Property. The theory which postulates a new magmatic model for the emplacement of the Chrome, Page, Peterson and the National-Ledin Blocks of the Bird River Sill (BRS) is one of the recent findings of the Joint Industry-Government-University Mapping Program of the Bird River Sill. The new model was developed by Caroline Mealin B.Sc. under the supervision of Robert Linnen, PhD., and Shoufa Lin, PhD., all of the University of Waterloo.

Shoufa Lin commented, "Caroline Mealin's alternative model for the segmentation of the blocks of the Bird River Sill is a highlight of this year's research. The various, often very visible, variation in magmatic characters from east to west along the Page Block are highly supportive of this new model."

G. Ryan Cooke, P.Geo., Gossan's Qualified Person for the Bird River Property explained "This new magmatic model developed by Caroline Mealin has important economic considerations in that the feeder system for the Page, Peterson and Chrome Blocks may be located at the western end of the Page Block. This area and its related faults provide an ideal location for the investigation of economic concentrations of nickel, copper and PGEs."

The two drilling programs which were conducted on Gossan's Bird River Property in 2005-2006, primarily focused on the eastern portions of the Page Block. Ironically, although high priority drill targets were identified and scheduled for drilling at the western end of the Page Block, last winter's late freeze-up made it impractical to drill at these locations. At the eastern end of the Page Block the best drill intersection was from hole BR-05-02 that intersected 13.75 metres of 1.077% nickel and 0.501% copper including 4.75 metres grading 2.143% nickel, 0.440% copper, and 1.52gpt combined precious metals. Management believes that future exploration on the property will be significantly affected by Mealin's new theory.

Previous studies have treated the BRS as a single continuous intrusion that was block faulted. This summer's mapping program, in conjunction with total field magnetics, failed to find any evidence to support the existence of these faults. Accordingly an alternative theory is proposed for the segmentation of the blocks of the BRS, based on field observations and preliminary geochemical interpretation. The blocks of the BRS are best explained if there were initially separate magmatic intrusions (i.e., the BRS does not represent a single, continuous intrusion). A

preliminary magmatic model for the emplacement of the Chrome, Page, Peterson and National-Ledin Blocks is presented at [www.gossan.ca/jigu.pdf](http://www.gossan.ca/jigu.pdf) in Figure 10. According to this model, the properties were fed from a large, primitive mantle-derived, lower magma chamber. It is proposed that the Page, Peterson and Chrome Blocks are separate intrusions but part of a single conduit system. The Page intrusion, stratigraphically the lowest chamber, was first to crystallize and form massive chromite layers. At least one successive injection of magma broke up part of the chromite layers producing chromite 'pebbles'. The larger pebbles remained close to the feeder dyke and the smaller chromite pebbles were deposited stratigraphically on top of existing chromite layers further east on the Page Block becoming rounded and partially resorbed in the process. A successive magma pulse, either the same or following the injection that produced the chromite pebbles, was injected into the stratigraphically higher chamber of the Chrome Block carrying clasts from the Page Block and depositing them near the feeder dyke in the eastern edge of the Chrome property. The magma remained relatively uncontaminated as it moved through the conduit system.

Currently, there are no whole rock analyses of the Peterson or National-Ledin Blocks and surface exposure is poor. It can only be hypothesized that the Peterson Block is a small, separate offshoot of the feeder dyke between the Chrome and Page Blocks. It is also hypothesized that the National-Ledin Block shares the same lower magma chamber as the other three intrusions.

The relevant field observations focus primarily on the Page Block. Chromite mineralization on the Page Block is similar to that of the Chrome Block hosting massive chromitite seams, chromitiferous peridotite layers and 'disrupted' chromitite layers. However, the Page Block also contains chromite 'pebbles' located stratigraphically above the chromite seams in the east end of the property but in the west end the chromite 'pebbles' are present at various stratigraphic levels, within the ultramafic unit, between 'disrupted' and massive chromitite seams. Additional east to west trends on the Page Block exhibited by the chromite pebbles include: an increase in size from a few millimetres up to approximately 15 cm (Figures 4a, b and c); an increase in angularity from rounded to subrounded (Figure 4d); and a decrease in chromite content as pebbles observed in the eastern end of the property are chromitite (>85% chromite) but towards the west, in addition to the chromitite pebbles, chromitiferous pebbles (<85% chromite) are also present (Figure 4c). All of the cited Figures can be found at [www.gossan.ca/jigu.pdf](http://www.gossan.ca/jigu.pdf).

Two additional papers resulting from the Joint Industry-Government-University Mapping Program of the Bird River Sill are of interest in relation to Gossan's Bird River Property. These papers are referenced GS-16 "Geology and Structure of the Bird River Belt" by M. Duguet, H. P. Gilbert, M. T. Corkery and S. Lin and GS-17 "Geological Investigations in the Bird River Area" by H. P. Gilbert. Caroline Mealin's paper is referenced GS-19 "Geological Investigations in the Bird River Sill". All of these papers are published in the Manitoba Geological Survey's "Report of Activities 2006" and can be respectively found at:  
[www.gov.mb.ca/iedm/mrd/geo/field/roa06pdfs/GS-16.pdf](http://www.gov.mb.ca/iedm/mrd/geo/field/roa06pdfs/GS-16.pdf)  
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G. Ryan Cooke, P.Geol., Gossan's Qualified Person has reviewed and approved the contents of this news release.

Gossan Resources Limited is engaged in mineral exploration in Manitoba and northwestern Ontario. It has a well-diversified portfolio of properties hosting gold, platinum group and base metals, as well as the specialty metals, tantalum, chromium, titanium and vanadium. The Company also has a large deposit of magnesium-rich dolomite and a silica sand prospect. Gossan trades on the TSX Venture and the Frankfurt/Freiverkehr & Xetra Exchanges and has 20,920,900 shares outstanding (26,880,776 shares fully diluted).

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**The TSX Venture Exchange has not reviewed and does not accept responsibility for the adequacy or accuracy of this news release.**