



NORTHERN STAR  
RESOURCES LIMITED

# High-grade results reveal strong potential to duplicate Paulsens gold deposit immediately next door

## Highlights

- ▶ **High-grade assays of up to 14gpt received from the recently discovered quartz lode located immediately adjacent to the known mineralisation at Paulsens**
- ▶ **Significant results include;**
  - 0.4 m @ 13.9 g/t gold
  - 0.6 m @ 11.6 g/t gold
- ▶ **These quartz veins are hosted in a similar position as Paulsens, but external to the gabbro rock unit which has historically been seen as a 'fence' either side of the Paulsens mineralisation**
- ▶ **Discovery of high-grade mineralisation on the other side of the gabbro unit highlights the strong potential to replicate the Paulsens quartz lode, which has produced over 500,000oz to date**
- ▶ **Surface drilling has now confirmed the continuity of the new quartz lode over 250m down plunge extent**
- ▶ **Potential to discover more quartz lode repetitions in further gabbro offset positions similar to Paulsens orebody**
- ▶ **Drilling to resume in the March quarter**
- ▶ **More assays pending**

Northern Star Resources (ASX: NST) is pleased to announce that fresh high-grade drilling results have provided strong evidence of the potential to replicate its rich Paulsens gold deposit immediately next door.

The assays of up to 14gpt come from drilling into the recently discovered quartz lode which lies adjacent to the known Paulsens mineralisation in WA.

These quartz veins are located within an offset position similar to Paulsens mineralisation but outside the main gabbro rock unit which has historically been seen as a 'fence' either side of Paulsens, acting as a natural perimeter on the extent of the mineralisation.



## ASX ANNOUNCEMENT 20 JANUARY 2012

Australian Securities Exchange  
**Code:** NST

### Board of Directors

Mr Chris Rowe  
*Non-Executive Chairman*

Mr Bill Beament  
*Managing Director*

Mr Michael Fotios  
*Non-Executive Director*

Mr Peter Farris  
*Non-Executive Director*

Ms Karen Brown  
*Company Secretary*

### Issued Capital

Shares  
352 M

Options 24M

Current Share Price  
\$0.93

Market Capitalisation  
\$327 million

Cash/Bullion in Bank: 31 Dec2011  
\$41.7 million

### Projects

Paulsens  
Ashburton  
Range  
Emull

### Commodities

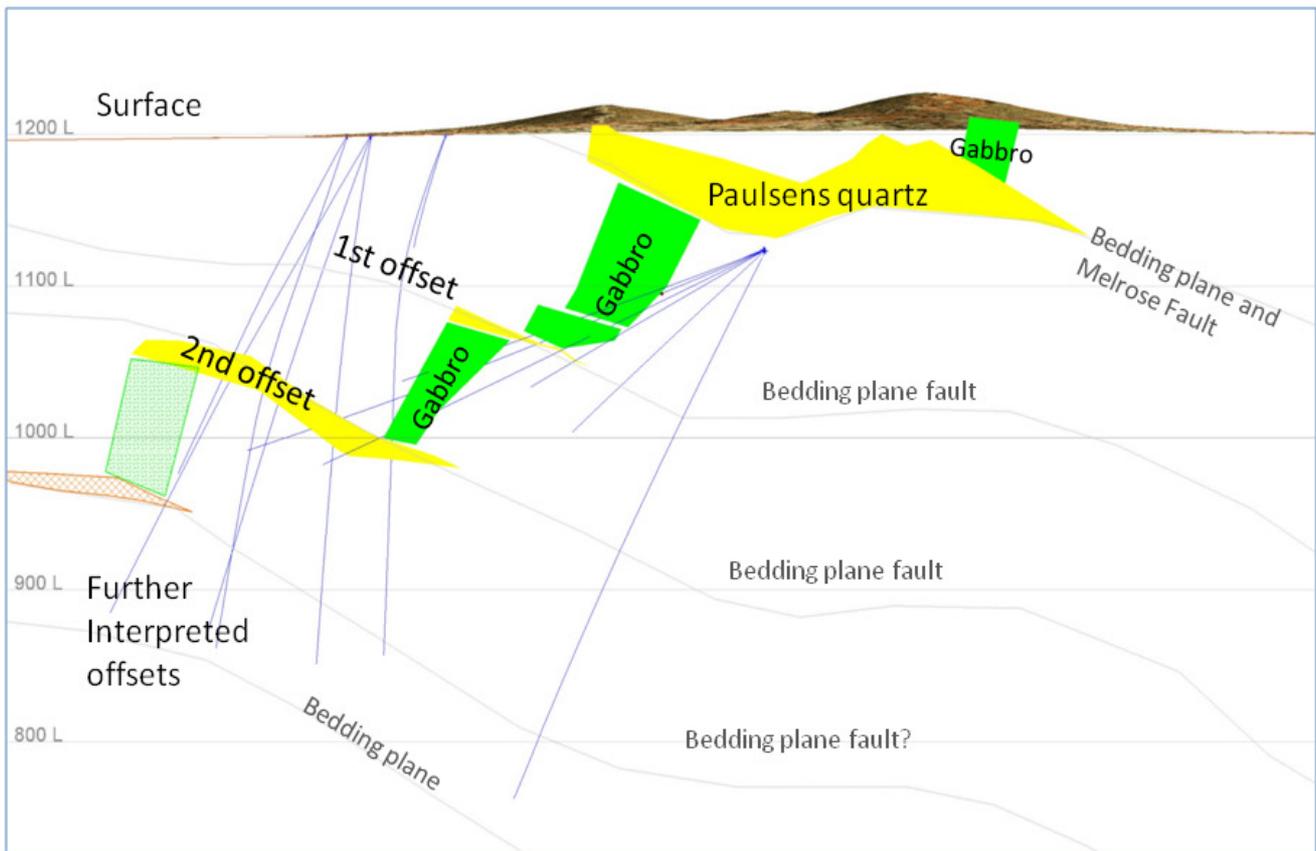
gold  
gold  
gold, silver  
Zn, Cu, gold

However, the recent discovery of quartz on the southern side of the gabbro 'fence' provided evidence of a potential repeat of the Paulsens quartz lode. This evidence has now been strengthened considerably with the latest assays which show that this quartz contains high-grade gold.

Importantly, this drilling was aimed only at gaining further knowledge of the structural geology on the other side of the gabbro rather than ascertaining whether it was mineralised.

In light of this, the results are considered particularly promising, though Northern Star emphasises that it is early days in its bid to establish the gold content and potential viability of this new quartz lode.

The mineralised quartz intercept was drilled from underground and is located around 1067mRL (133m below surface) and 167m down-hole (around 160m from existing workings). Although it is a relatively narrow intercept, it does confirm the existence of a gabbro offset quartz lode position with ore-grade mineralisation in the immediate vicinity of the existing operations.



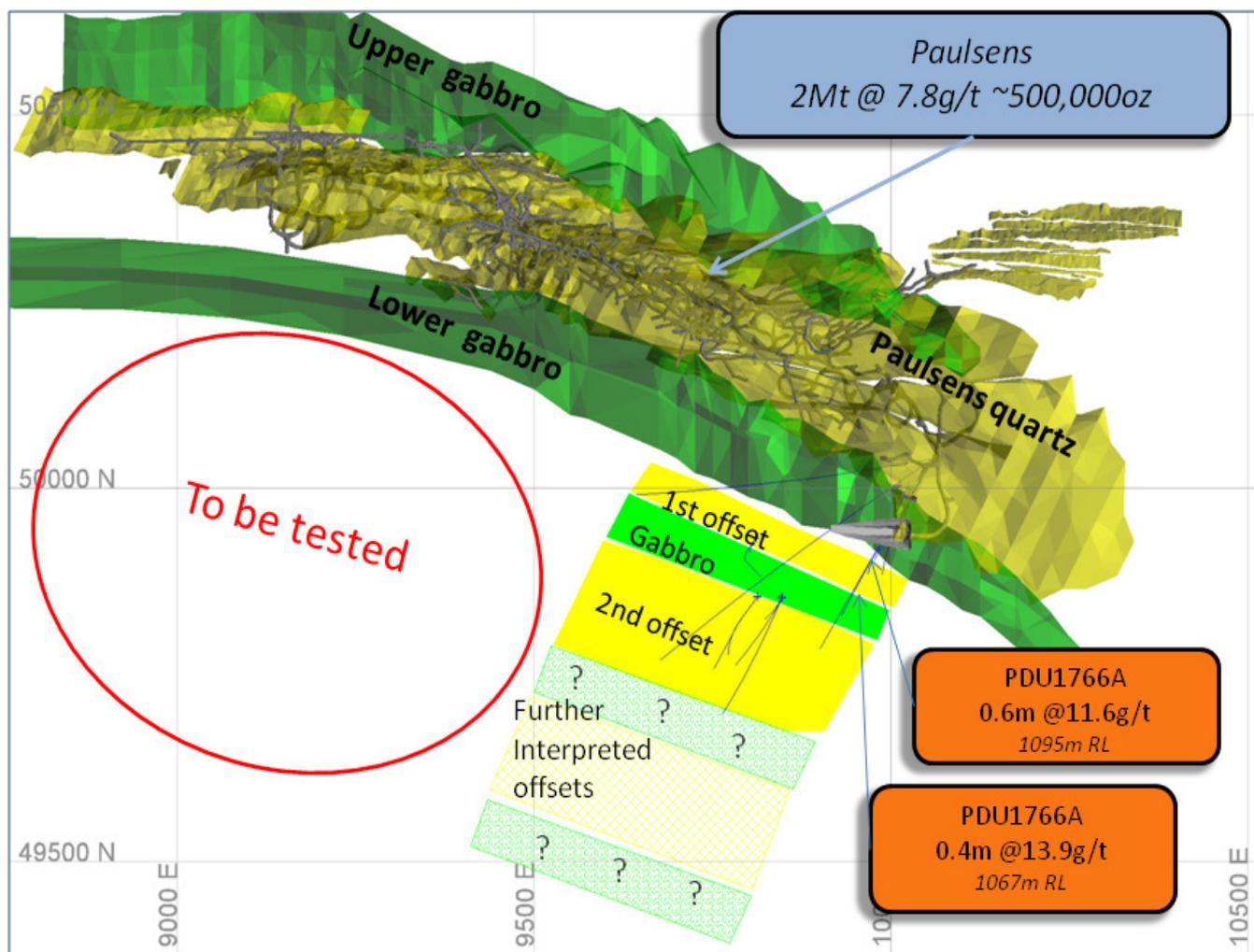
**FIG 1 - CROSS SECTION OF INTREPRETATION OF QUARTZ LODES AND GABBRO OFFSET POSITION**

Quartz and mineralisation has now been confirmed in two gabbro offset positions and within similar geological settings to that of the Paulsens ore lodes which have produced over 500,000 ounces to date.

The initial drilling completed late last year has enabled the Company to start building a geological model based on the interpretation of drill data. In-conjunction with previous mapping of localised faults and bedding planes, the model has highlighted the potential for further gabbro offset positions to be found parallel to the two discovered recently.

Surface drilling, which is the most practical way to target the offset position, was utilised late last year. All these holes intersected encouraging widths of quartz, up to 13 metres.

The latest drilling, both diamond and RC, has now confirmed the continuity of quartz bounded by the gabbro unit over 250m down plunge extent (refer to Figure 2).



**FIG 2 - PLAN VIEW OF INTREPRETATION OF QUARTZ LODS AND GABBRO OFFSET POSITION**

Surface drilling will resume later in the March quarter, subject to clearance by DIA and DMP.

A number of the drilling logs where quartz was intersected identified the presence of minor sulphides, typically pyrite. Commentary on the logs for each hole drilled so far can be seen in table 1. Assays are pending for all the surface drilling and one underground hole.

Hole No.	Drill Location	Assays	Comments
PDU1743	Underground	NSR	Confirmed the geological theory that there was a gabbro offset position
PDU1744	Underground	NSR	3m of quartz intersected with no grade. Very positive confirmation of the geological theory.
PDU1745	Underground	NSR	Confirmed the gabbro unit is offset but hole stopped short of potential quartz/mineralised setting due to operational issues
PDU1747	Underground	NSR	Intersected quartz with 50% sulphides but no grade. Again positive for the geological theory.
PDU1766	Underground	0.6m@ 11.6g/t 0.4m@ 13.9g/t	Follow-up hole down plunge of PDU1745. Great success with small quartz vein in gabbro with ore-grade intercept of 11.6g/t. Then intersected 1st gabbro offset position going through right lithology then intersecting 17m of quartz (downhole)with minor sulphides grading 0.4m @ 13.9g/t.
PDU1768	Underground	Outstanding	Has intersected 30m of quartz (downhole) in the 1st gabbro offset position. Quartz intersected is 250m down plunge from that in PDU1766A. Minor sulphides observed in core.
PGDD01	Surface	Outstanding	Intersected 11.5m (true thickness) of quartz with minor sulphides.
PGDD02	Surface	Outstanding	Intersected 5.5m of quartz (true thickness) with minor sulphides.
PGDD03	Surface	Outstanding	Intersected 15m quartz vein (true thickness) in sediments and minor sulphides.
PGRC02	Surface	Outstanding	Intersected 4m of quartz (true thickness) with minor sulphides in 2nd gabbro offset position.
PGRC03	Surface	Outstanding	Intersected 13m of quartz (true thickness) with sediments on the top sequence and in right geological position.
PGRC03	Surface	Outstanding	Intersected 11m zone of quartz veins (true thickness) plus sediments including two 3m wide veins with minor sulphides in the 1st gabbro offset position.

**TABLE 1 - GEOLOGICAL LOG COMMENTARY ON GABBRO OFFSET DRILING**

"These latest results are highly encouraging because not only do they support Northern Star's theory that there is more quartz on the other side of the Paulsens southern gabbro, but they show the quartz is mineralised," Northern Star Managing Director Bill Beament said.

"These results point to the potential to replicate Paulsens. And given that we have now identified two additional zones of quartz, each separated by gabbro and there is the prospect of finding more such zones, we consider them to be a potential game-changer at Paulsens.

"But at the same time, it is important to note that just a few holes have been drilled and assayed and therefore there is much work to do before we will know the true significance of what we have."

Yours faithfully,



Bill Beament  
Managing Director  
Northern Star Resource Ltd

**Competent Persons Statements**

The information in this announcement that relates to Paulsens mineral resource estimation, exploration results, data quality, geological interpretations, potential for eventual economic extraction and estimates of exploration potential, is based on information compiled by or under the supervision of Brook Ekers, (Member AIG), who is a full-time employee of Northern Star Resources Ltd. Mr. Ekers has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Ekers consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**Forward Looking Statements**

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<b>GABBRO OFFSET DRILLING</b>				
<b>Hole #</b>	<b>Downhole Intersection (m)</b>	<b>Grade (g/t) cut to (100g/t)</b>	<b>Ore zone and comments</b>	<b>RL of intersection</b>
PDU1743	NSR			
PDU1744	NSR			
PDU1745	NSR			
PDU1766A	0.6	11.6	VEIN IN GABBRO	1095mRL
PDU1766A	0.4	13.9	QUARTZ WITH SULPHIDES	1067mRL

At a nominal 3g/t lower cut off and a 100g/t upper cut off

NSR means no significant result

**Quality Control - Paulsens**

All core is logged and whole core samples (if LTK60 size, NQ2 sized core is cut and half cored) are marked and prepared for shipping at the Paulsens Mine Property and sent to an independent Laboratory for assay. The remaining half core is stored on site. All samples from which information in this document is derived were received by ALS Chemex – Australian Laboratory Services Pty ('ALS') Limited in Karratha, Western Australia. Samples are weighed and crushed to 70% passing -6mm mesh. The crushed material is split and a portion is pulverised. A 100-gram pulp is sent to ALS Perth, Western Australia for assay. A 30-gram portion of the pulp is treated by fire assay method with atomic absorption finish (Au-AA25). A second pulp sample split (150-200 g) is kept in Karratha. Sample rejects are discarded after 90 days.

Limit samples (>100 grams per tonne gold) are re-analysed using ALS' dilution method (Au-DIL). Northern Star Resources inserts one standard in each hole, and one blank is now inserted in each ore zone. Laboratory standards and blanks are inserted by ALS and several pulp duplicates are also assayed as a determinant of mineralisation variability.

ALS has AS/NZS ISO 9001:2000 certification in Perth. This does not cover the sample preparation facilities; however these preparation laboratories follow the same quality management system. They are not audited by NCSI but are audited internally by ALS.