

# QUARTERLY REPORT

## PERIOD ENDED 30 SEPTEMBER 2008



**ASX Code: NST**

**Shares on Issue**  
99,260,631

**Current Share Price**  
\$0.038

**Market Capitalisation**  
\$3.8 M

### DIRECTORS

*Chris Rowe (Chairman)*

*Bill Beament (MD)*

*Terry Ransted*

*Peter Langworthy*

### COMPANY SECRETARY

*Karen Brown*

### CONTACT DETAILS

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## HIGHLIGHTS

### CORPORATE

- ▶ \$0.55M raised via placement of 8.5M shares
- ▶ Full support and participation in placement from major shareholder Xstrata
- ▶ Xstrata cited NST as a great example of an exploration business model they want to be involved in

### EXPLORATION

- ▶ Gold potential extended at the Range, with high grade assays
  - 3m @ 3.6 g/t Au (12.5 g/t Ag)  
inc 1m @ 8.3 g/t Au (33.5 g/t Ag)
  - 21m @ 1.0 g/t Au (13.7 g/t Ag)  
inc 1m @ 4.5 g/t Au (15.2 g/t Ag)  
and 3m @ 2.2 g/t Au (55.3 g/t Ag)
  - 2m @ 7.0 g/t Au and 21.3 g/t Ag
- ▶ 7,115m RC Drilling completed across three major projects
- ▶ Hunter gold/silver project maiden drill campaign
- ▶ Emull Zinc/copper mineralisation intersected at depth

## OVERVIEW

*Northern Star Resources (ASX Code: **NST**) is a diversified resource company focused on the exploration and development of three project groups centred on Halls Creek in the East Kimberley region of Western Australia. The project groups cover an area of approximately 3,055 km<sup>2</sup> and are highly prospective for gold, nickel-copper-cobalt, base metals, uranium, platinum group elements (PGE) and diamonds.*

*Northern Star has defined an initial 33,600oz gold resource at the Golden Crown Project, high-grade epithermal gold/silver exploration opportunities at the Wilson River Project, and significant zinc-copper mineralisation at the Emull Project. These three projects will form the principal focus of its exploration & development strategy during 2008.*

This year the Company conducted its most aggressive exploration season to date with the major targets being gold/silver at the Wilson River (Range and Hunter) and zinc/copper at Emull. Phase 1 of the drilling campaign which consisted of over 7,000m was completed with great early gold results from the Range. Phase 2 drilling was scheduled to commence later in the field season however the Company decided that in the current volatile markets to defer activities to preserve our shareholders investment.

The Company has received the majority of the assay results from the 30 hole phase 1 drilling program at its high grade gold/silver Range Project. The majority of these holes have intersected mineralised epithermal quartz veining down dip from previous drilling, further adding to the epithermal mineralisation model that is evolving in this new gold province.

During the quarter the Company formalised arrangements for a two stage capital raising to continue the aggressive exploration approach it has applied to its gold and base metal projects. Stage 1, a placement raised \$551,976.08, by way of an issue of 8,491,939 fully paid ordinary shares at an issue price of \$0.065 per share.

It was proposed that stage 2 of the capital raising would be via a 2 for 5 pro rata non-renounceable rights issue to shareholders. The purpose of the Offer is to raise approximately \$2,580,500 for the continued assessment of the Company's projects. Subsequent to the quarters end the Board has taken the prudent decision to extend the Offer until the 23<sup>rd</sup> January 2009 due to the uncertain and volatile nature of the market.

Xstrata continues to be an active investor in the Company as was evident in their 2008 Diggers and Dealers presentation. The presentation included a description of how Xstrata might work with selected juniors to take advantage of exploration opportunities in Australia. Northern Star Resources was given as a specific example of how this policy was operating successfully. During the quarter Xstrata subscribed pro-rata for 2,123,479 shares in the placement and also committed to its share of funds for the rights issue to retain the 25.1% holding in Northern Star Resources Ltd.

## PROJECT UPDATE

### ► **Range Epithermal Gold/Silver Prospect**

Phase 1 of drilling was completed during the quarter with a total of 3,950m (30 holes) to further evaluate the high grade gold and silver mineralisation previously defined at this

prospect. The program focused on testing beneath existing shallow RC and diamond drill holes to determine depth extent, grade continuity and geometry of mineralisation.

The Company received the majority of the assay results from the 30 hole phase 1 drilling program. The majority of these holes intersected mineralised epithermal quartz veining down dip from previous drilling, further adding to the epithermal mineralisation model that is evolving in this new gold province (refer to figure 1).

Some significant results include:

**Hole WRC059**

Intersection 1 - 4m @ 0.75 g/t Au and 1.3 g/t Ag from 1m  
Intersection 2 - 3m @ 3.6 g/t Au and 12.5 g/t Ag from 79m,  
**including 1m @ 8.30 g/t Au and 33.5 g/t Ag**

**Hole WRC060**

Intersection 1 - 3m @ 1.5 g/t Au and 2.5 g/t Ag from 0m  
Intersection 2 - 21m @ 1.0 g/t Au and 13.7 g/t Ag from 51m,  
**including 1m @ 4.5 g/t Au and 15.2 g/t Ag,**  
and 3m @ 2.2 g/t Au and 55.3 g/t Ag

**Hole WRC064**

Intersection 1 - 2m @ 0.3 g/t Au and 18.3 g/t Ag from 92m  
Intersection 2 - **2m @ 7.0 g/t Au and 21.3 g/t Ag from 110m**

All drill holes except WRC075 (which did not reach target depth due to mechanical issues) intersected the quartz vein targets, with the majority of holes intersecting mineralisation down-dip from existing mineralised intercepts (refer to table 1). This is significant as it shows:

- 1) Mineralisation is widespread and associated with quartz veins to at least 120m vertical, increasing the likelihood of finding high grade zones.
- 2) Quartz vein orientation is consistent to at least 140m down-dip, indicating structural controls to this depth are not complex. This enables easier drill planning.
- 3) Mineralised quartz – adularia vein width varies down-dip. Previous drilling intersected a 4m (apparent width) vein returning 4m @ 15.06g/t Au (WRC027). Recent drilling intersected a 21m (apparent width) vein 40m down-dip, returning 21m @ 1g/t Au (WRC060) (refer to figure 1). This is significant as it shows quartz - adularia veins can become wider in places thus resulting in potentially larger mineralised zones. The next step is to determine where there will be wider veins accompanied by high grades such as intercepted in WRC027. It initially appears that higher gold mineralisation is associated with higher quartz concentration, making it easy to visually distinguish mineralisation.

Initial mapping and interpretation suggests near surface + 1g/t Au intercepts from WRC061 and 72 may be related to Grahame's vein and therefore intersects Trudi's vein in the vicinity (figure 2). All high gold grades returned to date are located in this area and therefore may indicate the intersection of two quartz vein-infilled structures as favourable drill targets. Although a few shallow RC holes exist along strike to the west (intersecting anomalous gold), Trudi's vein remains untested at depth and over a strike length of 250m.

One of the aims of recent drilling was to use geochemical and geological interpretation to determine where the surface of the Range Prospect is located within an epithermal profile. Figure 3 shows a typical epithermal model, with the 'boiling zone' being where bonanza gold/silver deposits are likely to occur. Once the position of the Range is determined in relation to the boiling zone, drill programs can be planned to narrow in on this target zone. Gold:silver ratios are one way of determining where one is located in the profile, with ratios of about 1:10 for near the top of the boiling zone and 1:25 near the bottom (figure 3). The

majority of significant intercepts in table 1 have Au:Ag ratios ranging from 1:1 to 1:7 and although this is early days, it is encouraging as it indicates the Range could lie above the top of the boiling zone. Base metal values returned to date at the Range are low, which is also promising as base metal content tends to be higher near the bottom of the boiling zone.

Locating the boiling zone in epithermal systems can be drill intensive. By understanding the alteration geochemistry, rock type, stratigraphy and structural controls on high grade mineralisation, drill programs can be focused thus reducing both time taken to make a significant discovery and exploration costs. In evaluating a prospect a single epithermal model should not be relied on and consequently, Northern Star Resources will enlist the help of a contract geologist highly experienced in epithermal systems to assist in the evaluation of the Range and Hunter Prospects.

During the quarter the new tenement covering the Range project was granted earlier than anticipated. This final action closes out the Fraka dispute that occurred early last year. It now gives the Company a new five year window to continue exploring this very promising tenement. Together with the present ground holdings at the Wilson River, Dunham and Tunganary projects, the Company holds a major ground position totalling 2,200 km<sup>2</sup> in the East Kimberley district and is strategically well placed to take advantage of the emerging epithermal style of gold mineralisation in the region.

### ► ***Hunter Epithermal Gold/Silver Prospect***

During the quarter drilling commenced on the maiden program to evaluate high grade gold and silver mineralisation previously defined at the Hunter Prospect. The program focused on testing significant gold and silver results returned from reconnaissance rock chip sampling of outcropping quartz reefs, which have never been drilled. Shallow drill holes were designed to determine continuity and geometry of the mineralised quartz veins.

The Company only managed to drill 3 holes (358m) due to numerous drill rig mechanical and operational issues prompting a decision to demobilise the rig as the downtime was causing unjustifiable costs to the Company. This has left the Company with numerous high priority targets to be tested next season.

### ► ***Emull Prospect – Zinc/Copper***

The Company completed drilling at Emull, with 10 holes for a total of 2,807m. Currently, mineralised zones have been defined by drilling to a reasonably shallow depth. Drilling this season targeted potential feeder zones at depth. The planned series of RC holes was designed to further define the mineralisation and to assist in the geological modelling with the ultimate aim of outlying a resource.

Mineralisation has been intersected at depth in some of the holes however due to a backlog in the assays at the laboratory and Emull samples being deferred until the data compilation of Range was completed the results from this drilling are expected to be available for release in the near future.

### ► ***U3O8 URANIUM JOINT VENTURE***

Specialist uranium explorer U3O8 Limited completed an airborne electromagnetic survey over selected portions of the East Kimberley JV in late August. The survey was flown with the SkyTEM platform as operated by Perth based company Geoforce.

The data collected will provide detailed information on subsurface geology including direct targeting of any subsurface shallow conductors which may be associated with surface

radiometric anomalies. In total, seven separate areas were chosen for surveying resulting in a combined acquisition length of 755 line kilometres. Interpretation of the survey will proceed once final data has been received.

Two separate sampling programmes (total of 57 samples) have been completed. Results from the earlier helicopter supported rock chip sampling programme (total of 17 samples) have been received. 4 samples returned grades in between 289-530ppm U<sub>3</sub>O<sub>8</sub>.

A consistent high phosphorus association with the uranium mineralisation suggests the presence of a uranium-bearing phosphate, consistent with visual observations. Other anomalous element associations were recognised with the suite of samples. The significance of these anomalies is still being assessed.

Results from the second sampling programme (total of 40 samples) are expected to be returned during the December Quarter and will be released to the market when available.

Bill Beament

## Managing Director

*Information in this announcement is based on information compiled by Mr J Boladeras, AIG, Exploration Manager of the Company who is a competent person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Boladeras is a full time employee of Northern Star Resources Ltd and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken, and consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.*

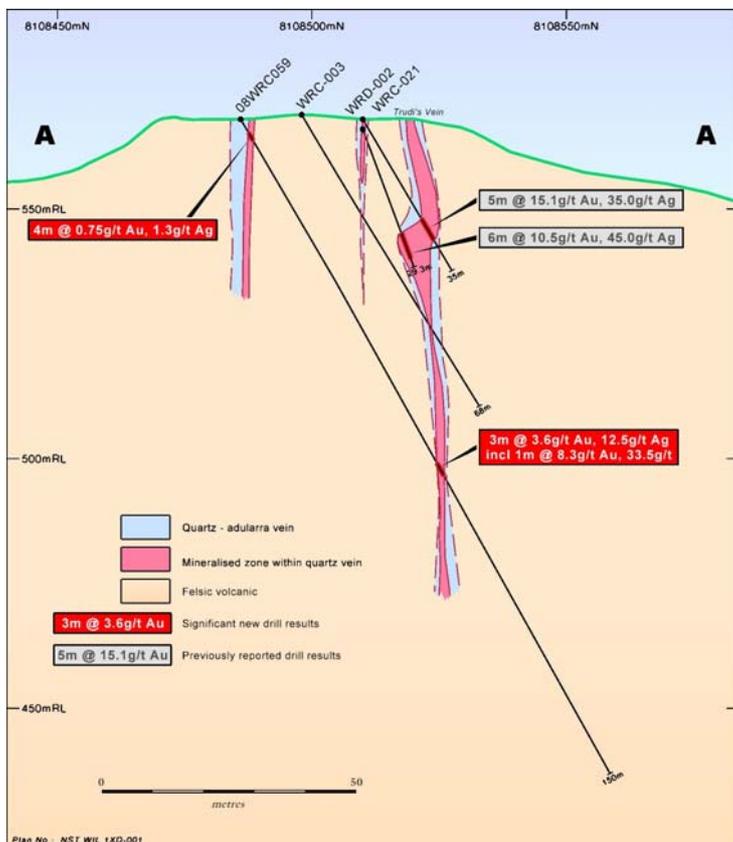


Figure 1 – Section A - A 358820mE

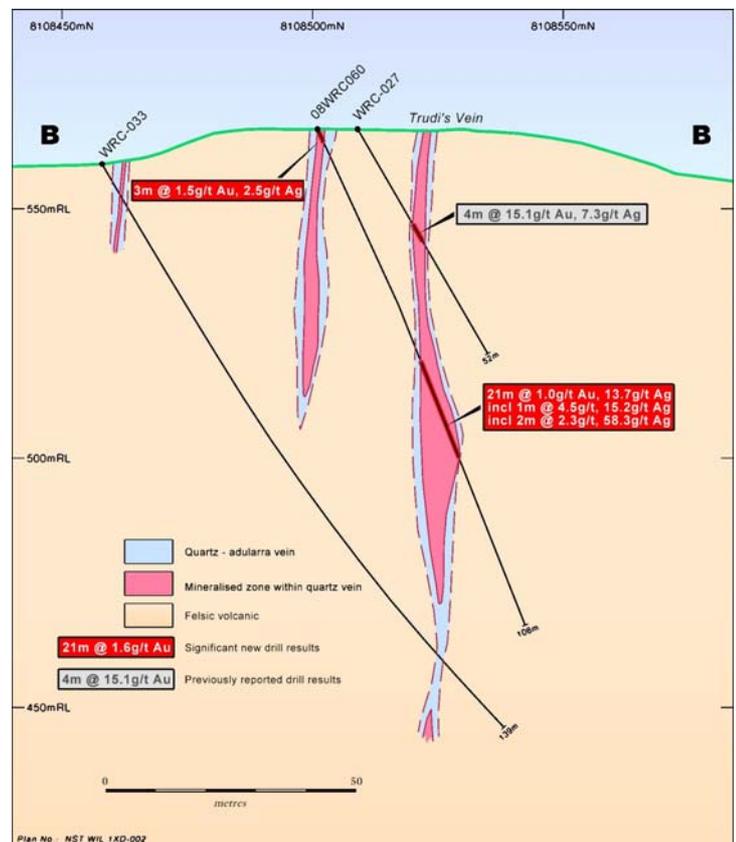


Figure 1 – Section B - B 358840mE

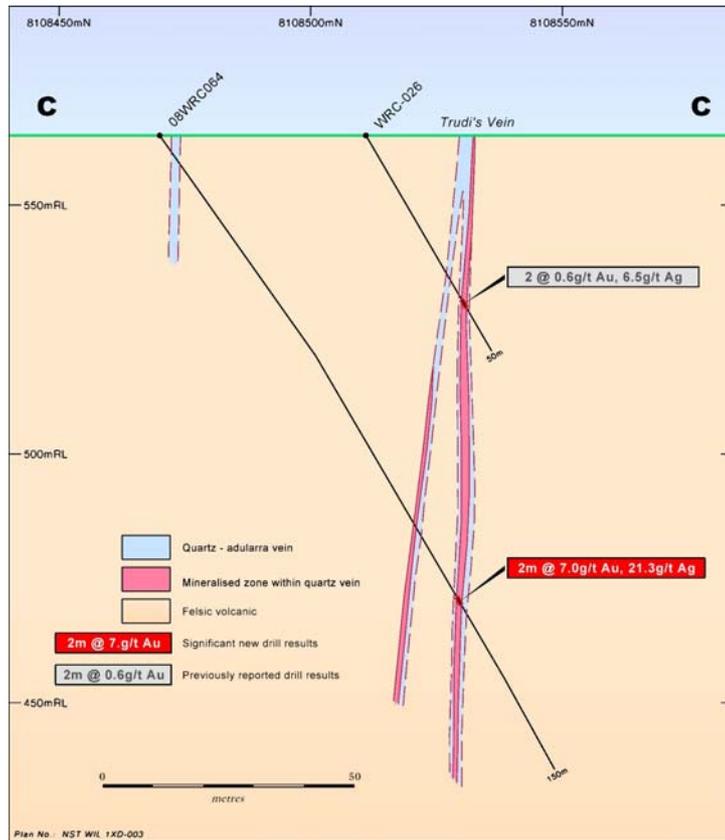


Figure 1 – Section C - C 358805mE

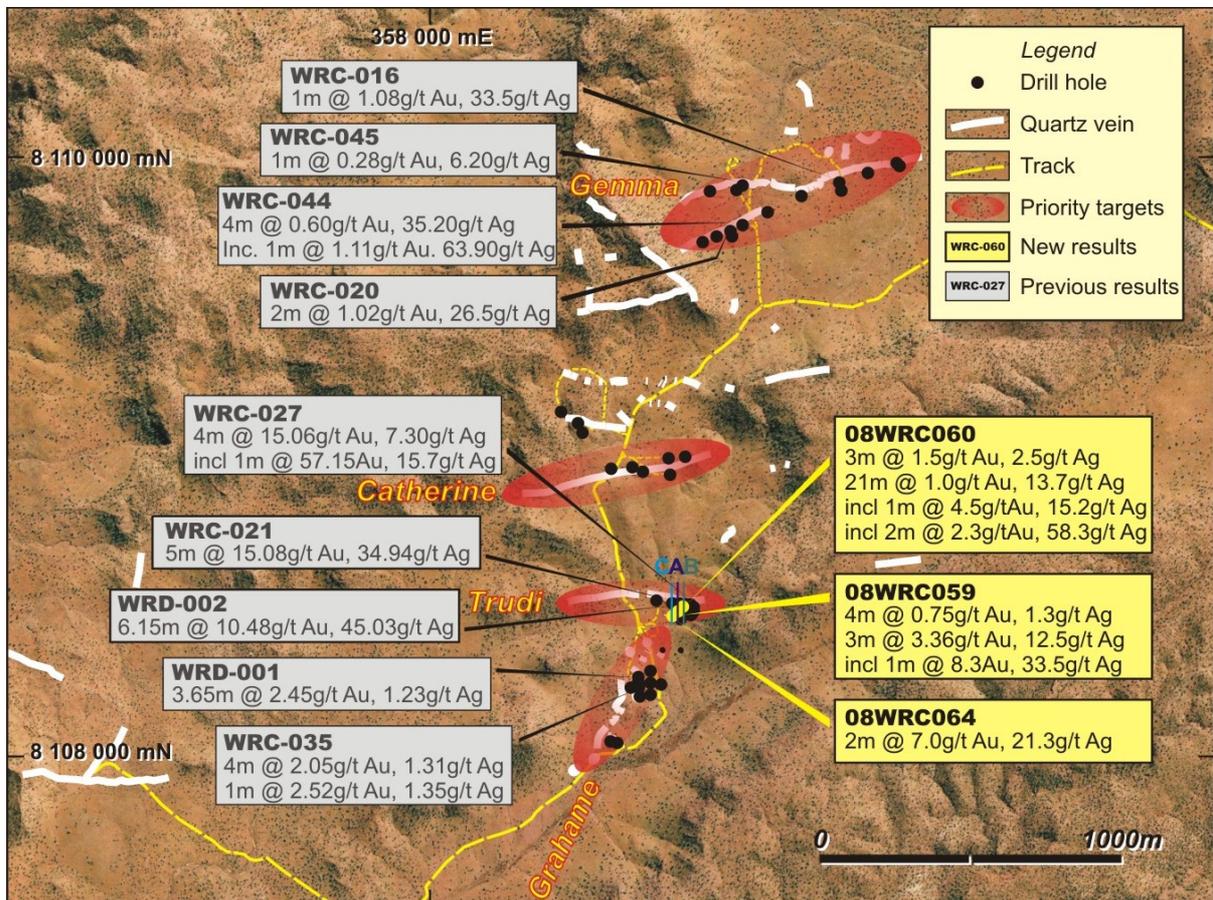


Figure 2 – Range Prospect

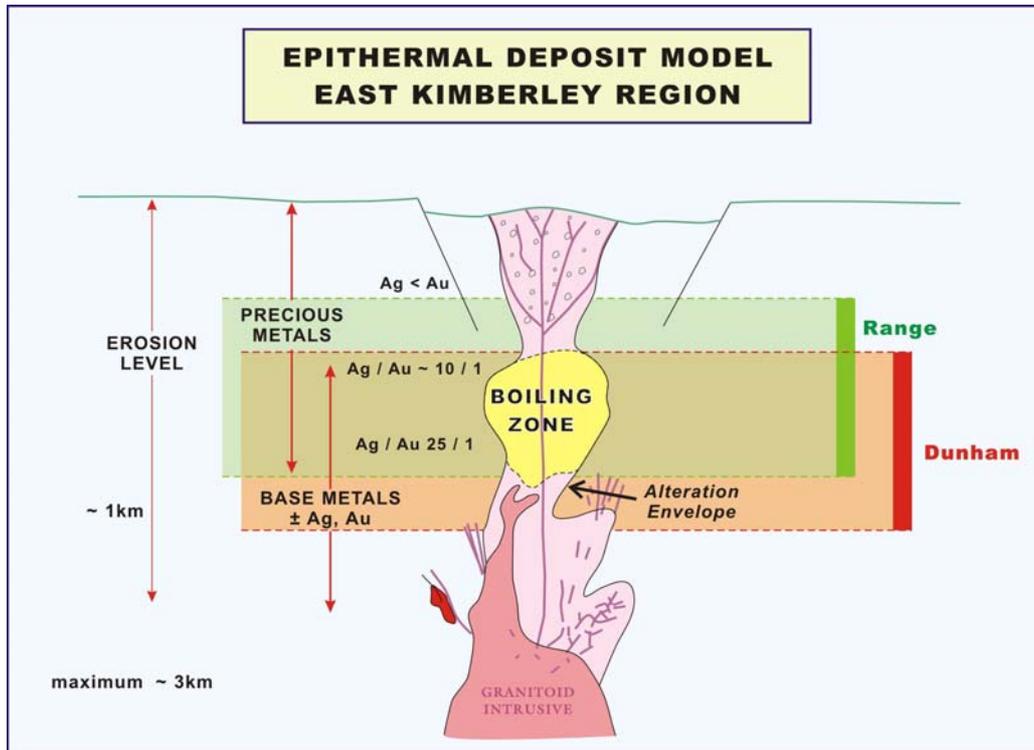


Figure 3 – Epithermal Deposit Model

Table 1 RC Percussion Drilling 2008– Range Phase 1

Hole No	Northing	Easting	From	To	Interval	Au	Ag	Target Intercepted?
	(AMG66)	(AMG66)	(m)	(m)	(m)	(g/t)	(g/t)	
<b>Trudi's Vein</b>								
WRC059	8108486	358822	1	5	4	0.75	1.3	<input checked="" type="checkbox"/> Quartz - adularia vein
			79	82	3	3.6	12.5	<input checked="" type="checkbox"/> Quartz - adularia vein
			80	81	1	8.3	33.5	
WRC060	8108501	358837	0	3	3	1.5	2.5	<input checked="" type="checkbox"/> Quartz - adularia vein
			51	72	21	1.0	13.7	<input checked="" type="checkbox"/> Quartz - adularia vein
			59	62	3	2.2	55.3	
			67	68	1	4.5	15.2	
WRC061	8108442	358844	11	19	8	0.3	1.3	<input checked="" type="checkbox"/> Quartz - adularia vein
			14	15	1	1.7	2.5	
			137	139	3	0.1	11.7	<input checked="" type="checkbox"/> Quartz vein
WRC064	8108470	358803	92	94	2	0.3	18.3	<input checked="" type="checkbox"/> Quartz - adularia vein
			110	112	2	7	21.3	<input checked="" type="checkbox"/> Quartz - adularia vein
WRC074	8108498	358845	0	7	7	0.4	0.5	<input checked="" type="checkbox"/> Quartz vein
			0	1	1	1.8	2.0	
			123	128	5	0.01	1.5	<input checked="" type="checkbox"/> Quartz - adularia vein
<b>Grahame's Vein</b>								
WRC062	8108253	358729	27	30	3	0.05	0.0	<input checked="" type="checkbox"/> Quartz vein
WRC063	8108232	358721	22	30	8	0.2	0.9	<input checked="" type="checkbox"/> Quartz vein
WRC065	8108229	358817	72	76	4	0.03	0.2	<input checked="" type="checkbox"/> Quartz - adularia vein
<b>Gemma's Vein</b>								
WRC067	8109745	359051	90	92	2	0	1.3	<input checked="" type="checkbox"/> Quartz vein

1 metre samples analysed for gold using fire assay 40g with ICP-OES finish; Silver by total mixed acid digest with ICP-OES finish