

# QUARTERLY REPORT

For period ending 30 September 2011

Argonaut Resources NL is pleased to deliver the following report for the Quarter to 30 September 2011.

## Highlights

### Lumwana West, Zambia

- Argonaut subsidiary, Lumwana West Resources, secured the area west of the Lumwana Mine in Zambia.
- The licence area covers geology analogous to that seen at the adjacent Lumwana Mine.
- Lumwana West Resources can earn up to 85% in the project under the terms of a Joint Venture signed on 27 July 2011.
- Exploration is focusing on confirming and extending the mineralisation revealed in previous drilling.

### Xekong, Laos

- Five new gold drill targets peripheral to the Ban Klong gold discovery identified.
- Drilling planned to confirm potential additional, near surface gold mineralisation in adjacent areas.
- Possible skarn style, polymetallic mineralisation identified in calcareous sediments adjacent to a major porphyry intrusion.

### Blackwood Coal, QLD

- In the Quarter, Blackwood announced coal intercepts from its initial drilling campaign at its Galilee Project.
- Blackwood announced preliminary drill results for the East Wandoan area.
- Blackwood also announced the acquisition of a significant portfolio of coal tenements in Queensland.

### Torrens, SA

- On 10-11 October 2011 the Full Court of the Supreme Court of South Australia partially heard the appeal against the decision by the ERD Court that proposed exploration activities may not be undertaken on EL4296.
- The matter is scheduled to continue before the Full Court on 27 October 2011.

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# Exploration

## Zambia

### ***16121-HQ\_LPL, Lumwana West (Argonaut earning up to 85%)***

On 28 July 2011, Argonaut announced that its 80% held subsidiary, Lumwana West Resources Ltd, has entered a Farm-in Joint Venture with Mwombezhi Resources Ltd to explore and develop the western portion of the Mwombezhi Dome, adjacent to Barrick's Lumwana Mine in Zambia.

The Mwombezhi Dome is composed of two northeast–southwest trending basement inliers, and is one of several domes (Kafue, Luswishi, Solwezi, Mwombezhi and Kabompo) within an area referred to as the 'Domes Region'.

The Mwombezhi Dome is located in the western extension of the Lufilian Arc which is host to the Central African Copperbelt. This forms the largest and highest grade sediment hosted copper province in the world.

The host lithologies and structural setting of several of the known prospects within the 16121-HQ-LPL licence are analogous to the Malundwe and Chimiwungo deposits of the Lumwana Mine. These deposits are hosted in highly sheared quartz-phlogopite-muscovite-kyanite schists. Mineralisation is predominantly disseminated chalcopyrite and bornite. The licence also has significant potential to host more traditional stratiform/stratabound Copperbelt style targets in Lower Roan stratigraphy.

There are numerous previously identified target areas within the licence, but Argonaut expects to focus initial exploration efforts on

the Nyungu, Lumwana, Kavipopo and ZNS prospects (Figure 5).

Of particular interest is the Nyungu prospect which is located on the south-western flank of the western lobe of the Mwombezhi Dome. A first pass RC drilling program by Anglo American at Nyungu in 2001 revealed multiple lenses of low-grade copper mineralisation over a minimum north-south strike extent of 800 metres. Five of the eleven holes produced intersections of  $\pm 1\%$  copper over 8 metres with a maximum of 1.84% copper over 13 metres from 69 metres in drill hole RC-009.

The copper mineralisation at Nyungu is associated with cobalt and gold. Drill hole RC-001 returned a polymetallic intersection of 47 metres at 0.56% copper, 0.19% cobalt and 0.48g/t gold from 119 metres in gneisses and quartz-phlogopite-muscovite-kyanite schists. A cut-off grade of 0.1% copper was applied and the hole was terminated in mineralisation at 228 metres. This mineralised intersection was characterised by a prominent IP chargeability anomaly.

### **Lumwana West Joint Venture**

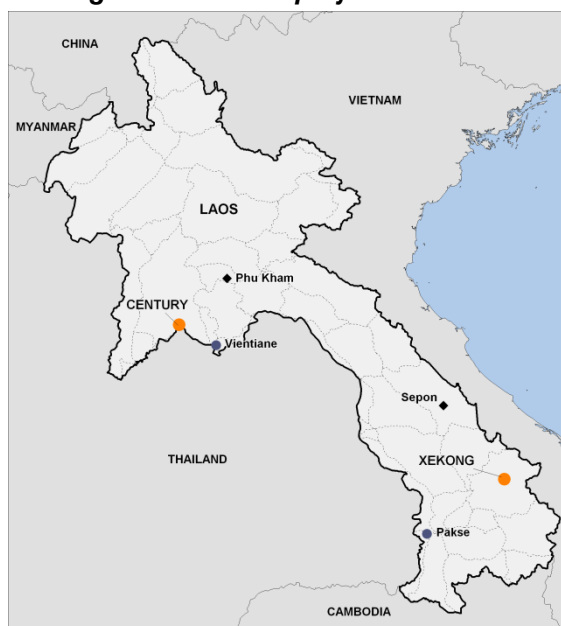
Under the terms of the Joint Venture, Lumwana West can earn up to 85% of 16121-HQ-LPL over three phases of exploration. To earn an initial 51%, Lumwana West spend USD1.8 million on exploration then pay USD600,000 to the original shareholders on the allotment of shares.

To earn a further 24% for a total of 75%, Lumwana West must spend an additional USD2.4 million on exploration and make a final cash payment of USD1.1 million to the original shareholders.

Lumwana West can take a further 10% interest in the licence for a total of 85%, by completing a Feasibility Study.

# Laos

**Figure 1: Laotian project locations**



## Xekong Area (Argonaut 65%)

On 18 July 2011, Argonaut announced that final results have been received from the reverse circulation (RC) drilling program that was conducted over the 2010/2011 dry season at the company’s 65% held Xekong tenement in southern Laos.

Drilling targeted gold anomalies in the Ban Bak area. The two principal targets were Ban Bak Central and Ban Klong. Geologically, the exploration program targeted replacement style gold mineralisation analogous in nature to mineralisation found at the Sepon gold mine in Laos and at the Carlin trend in Nevada, USA.

On 6 September 2011, Argonaut released further results exploration results from the Xekong concession.

### Ban Klong Extensions

The initial RC drilling program at Ban Klong returned drill intercepts including 6m at 26.2g/t gold from 22m in drill hole BBRC31; 12m at 3.48g/t gold from 10m in drill hole BBRC24; and 8m at 4.45g/t gold from 0m in drill hole BBRC22.

Following receipt of these results, Argonaut commenced a program of sampling aimed at identifying extensions to the magnitude of the Ban Klong anomaly as well as additional mineralised zones peripheral to the Ban Klong and Ban Bak Central anomalies. The program succeeded in delineating five new target zones (Figure 6) for drill testing in the upcoming Laotian dry season.

Of the five new target zones, three that are located south of the Ban Klong discovery are supported by rock chip sampling with gold up to 10.95g/t in recently acquired rock chip samples.

**Table 1: Xekong Rock-chip highlights**

	ID	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
Ban Klong Extension	88312	10.95	9.7	-	-	-
	88307	2.03	2.5	-	-	-
	88183	1.39	1.2	-	-	-
	88806	1.36	8.5	-	-	-
Ban Bak South West	92777	2.29	1,100	-	24.0	0.56
	93487	0.21	64	0.77	11.9	0.22
	92789	-	3.7	-	1.46	0.76
	92788	-	14.6	-	3.39	4.80
	92793	-	2.9	-	0.96	0.62
	93488	-	7.8	-	0.98	0.61

Four of the five target zones are supported by high order (>0.5g/t gold) soil samples.

*Ban Klong drill intercepts cited in Figure 6 and the text of this report may not represent the true widths of mineralised bodies. Additional drill hole data is required to properly determine the geometry and dimensions of any potentially economic mineralisation.*

### Ban Bak South West

Argonaut previously identified a low priority gold/base metal target in the south-western corner of the broader Ban Bak area. Recent sampling has substantially elevated the ranking of this target.

The target sits on the margin of a confirmed porphyry intrusion, which is interpreted by Argonaut geologists to be the intrusive centre

of the various porphyry elements found across the Ban Bak area. The company is also conscious that many surrounding sedimentary units are calcareous, thus creating the ideal geological setting for formation of skarn style mineral deposits.

Recent work has identified possible skarn style mineralisation at Ban Bak South West as well as polymetallic veining with rock chip sampling returning gold, silver, lead and zinc (+/- copper) grades of up to 1,100g/t silver and 24% lead (Table 1 and Figure 7).

The company will follow up on these encouraging results in November and December 2011 with a program of exploration work designed to better define targets for RC drilling.

## ***Century Area (Argonaut 70%)***

### **Century Joint Venture**

The Century tenement is subject to a Management and Shareholders Agreement with Aurum Resources Pty. Ltd.

Under the terms of the agreement, Aurum has been appointed the manager of the Century Thrust Joint Venture Agreement and will have the right to earn a 51% beneficial interest in the Century concession.

In order to acquire this interest, Aurum must spend US\$6.5 million on exploration within five years. The five year period includes an initial one year assessment period. At the completion of this earn-in Argonaut Resource's interest in the Century concession will be 19%.

Century is located approximately 70km north-west of the capital city Vientiane on the highly prospective Loei-Luang Prabang fold belt, a prominent, regionally mineralised belt, which stretches from Thailand in the south, to Laos in the north.

### **Nam Hone**

Exploration activities during the period have focused on the Nam Hone prospect area,

within the south west quadrant of the Century tenement, and have included detailed geological mapping and rock-chip sampling, a 200m x 50m auger sampling geochemical program, and an Induced Polarization (IP) geophysical survey.

While the field work is ongoing to complete coverage over the entire 6km by 2km Nam Hone anomaly, interpretation and modelling of initial data generated over the core of the prospect area has highlighted an encouraging target area for drill testing.

Of particular interest is a continuous and consistent high-grade (up to 24.5 g/t Au in surface rock chip samples) silica-pyrite-hematite unit observed in surface mapping and sampling.

The IP geophysical model indicates a sizeable chargeability anomaly at depth which strongly correlates with this high-grade zone at surface.

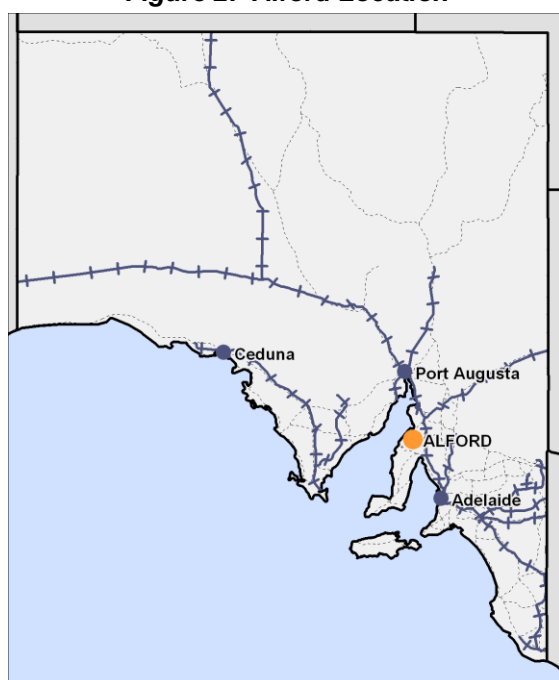
To intersect this target area and test the geological model Aurum has planned an initial 2000m diamond drilling program utilising a multi-purpose drilling rig.

# Australia

## EL3969, Alford (Argonaut 100%)

On 12 July 2011, Argonaut announced results for two drilling programs at the company's 100% held Alford project (EL3969) on South Australia's Yorke Peninsula.

**Figure 2: Alford Location**



### Alford East aircore drilling program

Final results for 76 aircore holes for a total of 5,136 metres were received during the Quarter.

The aircore drilling was completed in the Alford East area across six prospects. Final results for the aircore drilling program include:

**Table 2: Alford aircore drilling highlights**

Hole	From (m)	Interval (m)	Cu (%)	Ag (g/t)
ALAC158	77	26	0.54	4.15
ALAC160	75	18	0.50	8.07
ALAC164	68	31	0.58	26.01
ALAC197	8	67	0.72	1.54
including	10	21	1.01	2.38
and	57	18	1.04	

A complete summary of final aircore assays is shown in Appendix 2 of the ASX release by Argonaut dated 12 July 2011.

A significant new copper-cobalt discovery, located 1,100 metres to the south-west of the Netherleigh Park prospect, has been intersected by aircore drilling at the Truck Paddock prospect.

The zone of copper mineralisation is open along strike and down dip, and the discovery hole terminated in mineralisation.

The mineralised zone is interpreted to strike north-east with a broad halo of low grade copper intercepts (including 84m at 0.12% copper from 12m in ALAC204). Low order gold and silver anomalism is also associated with the newly discover mineralisation with a peak of 8m at 0.68 g/t gold from 44m in ALAC197.

First pass aircore drilling at Truck Paddock was at 80 metre drill hole spacing with 160 metres between traverses.

*All Alford drill intercepts are reported as apparent widths. Drilling completed to date is not sufficiently detailed to determine the true width of mineralised bodies.*

The prospectivity of the Alford East target area is reaffirmed by aircore drilling results.

Previous exploration involved wide-spaced RAB traverses. The company has interpreted that this drilling targeted weathered basement samples below Tertiary cover. Recent drilling by Argonaut has shown that even minor copper anomalism in shallow RAB drilling will be subject to follow up exploration to better define the potential.

Scoping metallurgical testwork is being conducted on oxide mineralisation from the Netherleigh Park and Truck Paddock prospects. The results from this preliminary metallurgical sampling will better define the extent of the potential resource base.

## **EL4296, Torrens (Argonaut 100%)**

### **The Torrens Joint Venture**

The Torrens Joint Venture is between Argonaut Resources NL and Straits Resources Limited (ASX: SRL) and relates to the Torrens Project, EL 4296. Argonaut currently holds 100% of EL 4296 and Straits is earning a 70% interest.

The Torrens Joint Venture is exploring for iron-oxide copper-gold (“IOCG”) systems in the highly prospective Stuart Shelf region of South Australia. The Torrens Project is located near the eastern margin of South Australia’s Gawler Craton (Stuart Shelf), within 50 kilometres of Oz Mineral’s Carrapateena copper - gold deposit and 75 kilometres from BHP Billiton’s Olympic Dam mine.

### **Litigation**

There are two streams of litigation related to the Torrens currently in progress. The first relates to an approval under section 23 of the Aboriginal Heritage Act 1988 in South Australia and the second to an application to the Environment, Resources and Development Court of South Australia by the Torrens Joint Venture under section 63M of the Mining Act 1971 South Australia.

In July 2010 the Torrens Joint Venture announced that its application under section 23 of the Aboriginal Heritage Act in respect of the Torrens Project (EL4296) had been approved by the Minister for Aboriginal Affairs and Reconciliation.

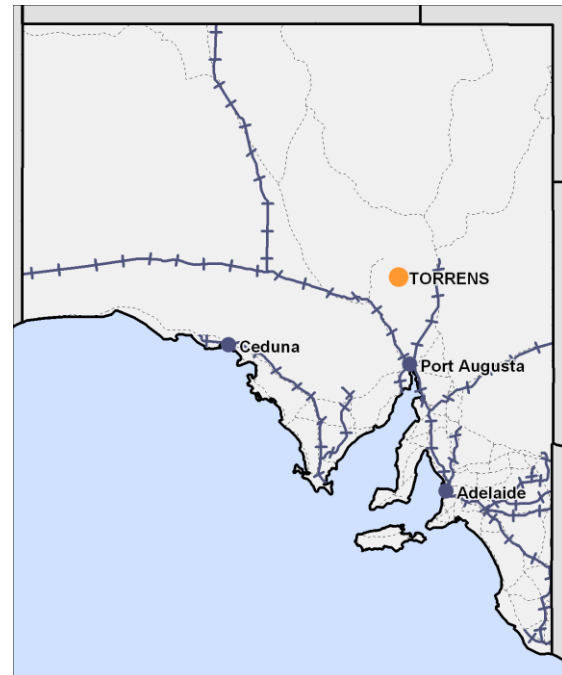
A judicial review of the Minister’s decision was dismissed on 17 March 2011 in the Supreme Court of South Australia. This decision was then appealed. The appeal was heard by the Full Court of the Supreme Court on 12 September 2011. The outcome of this appeal is pending.

The parties to the Torrens Joint Venture were granted leave to appeal the ERD Court decision of 14 January 2011 to the Full Court

of the Supreme Court of South Australia. This appeal was partially heard on 10 and 11 October 2011 when the case was adjured to 27 October 2011 for further directions.

The Torrens Joint Venturers remain open to a mediated settlement with regard to land access for the purposes of proposed drilling activities on Andamooka Island and Lake Torrens.

**Figure 3: Torrens Location**



## **Blackwood Coal (Argonaut 38%)**

Argonaut holds a 38% undiluted interest in Blackwood Coal Ltd.

On 12 July 2011, Blackwood Coal announced it had completed a 15 hole drilling program at its 90% held East Wandoan project in Queensland. The East Wandoan is a joint venture between Blackwood and Australia Pacific Coal Ltd.

Drill holes intersected multiple plies of coal at shallow depths. Each of the holes has been geophysically logged to determine cumulative coal thicknesses. Blackwood expects to drill a further six to eight holes in the area to generate sufficient data for a coal resource to be calculated to JORC standards. It is anticipated that the drilling will determine whether adjacent areas to the current target area to be targeted for exploration in the 2012 drilling season.

On 20 July 2011, Blackwood announced that it had acquired 100% of the shares in Scorpion Pty Ltd. Scorpion holds five EPCs in Queensland, one of which, the Amberely project, has been explored previously. The results of previous exploration are being compiled to examine the possibility that a resource can be estimated from existing data.

On 26 July 2011, Blackwood announced it had acquired a significant portfolio of coal exploration permits in Queensland.

Seven tenure parcels relate to the RDB project at the Bowen Basin near Emerald and one priority application relates to the Callide Basin near Biloela in Queensland.

Historical coal quality data from the RDB project area suggests that the majority of coal seams produce an export thermal/PCI product.

The Callide project is adjacent to the open-cut Boundary Hill coal mine. The coal from Boundary Hill is sub-bituminous in nature and

is sold to Gladstone Power Station and two alumina refineries.

On 4 August 2011, Blackwood announced preliminary drilling results for East Wandoan, EPC 1955. 14 vertical open holes were drilled for a total of 1,409 metres.

Highlights include:

- maximum cumulative coal thicknesses of 11.69m were intersected in the southern western area of the tenement;
- 2.8km strike length of cumulative coal thicknesses ranging from 11.69m in the south to 6.14m in the north was noted;
- geophysical logging has indicated separate clean coal seams over 2.0m thick;
- the Blackwood Coal technical team believes the deposit is open to the north and north east;
- Blackwood has identified three areas for follow up infill drilling in the 2011 drill season to allow an initial Inferred Resource to be calculated; and
- six open holes and three cored holes are to be completed in the follow up drill campaign.

*Insufficient drilling has been completed to date to fully understand the extent of the coal coverage on EPC1955.*

On 5 September 2011 Blackwood announced it had intersected significant coal in the eastern Galilee Basin margin with its initial drilling campaign.

Highlights of work carried out in the eastern Galilee Basin included:

- coal intersected at depths of between 40 and 110m from surface within EPC 1802;
- coal intersections lie 8km east of previously known Galilee Basin margin;
- eastern Galilee Basin now priority target for 2012 drill program;
- Blackwood has over 3,800km<sup>2</sup> of tenements in its Galilee Project

Blackwood is a private company with a substantial tenement holding in Queensland.

The company expects to list on the ASX in Q4 2011.

Subsequent to the quarter ended 30 September, Blackwood undertook a corporate restructure with the company's name to be changed to Cuesta Coal Limited.

### **Musgrave Minerals (Argonaut 2.1%)**

Argonaut's wholly owned subsidiary, Kelaray Pty Ltd, vended four mineral Exploration Licence Applications in the Musgrave Block into Musgrave Minerals Ltd. Argonaut holds 2.1% of the ordinary shares in Musgrave Minerals.

Musgrave Minerals has a large footprint in the Musgrave Block - one of the least explored geological provinces in Australia - with tenements covering an area totalling 50,000km<sup>2</sup>, approximately 5% of the State of South Australia.

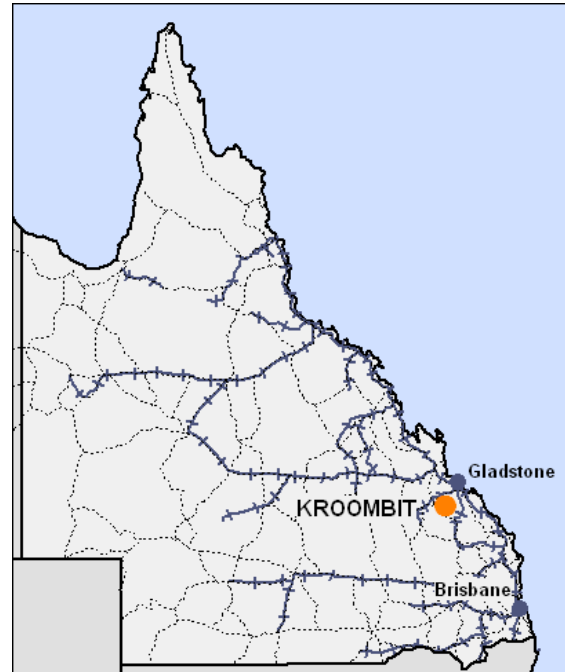
### **EL4358 and EL4153, Aroona (Argonaut 100%)**

No field based work was undertaken on the Aroona project during the Quarter. These tenements are subject to a joint venture agreement with Perilya Limited.

### **Kroombit (Argonaut 100%)**

No field based work was undertaken on the Kroombit project during the Quarter.

**Figure 4: Kroombit location**



Lindsay Owler  
 Director  
 Argonaut Resources NL

*Sections of information contained in this report that relate to Exploration Results were compiled or supervised by Mr Lindsay Owler BSc, MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy and is a full time employee of Argonaut Resources NL. Mr Owler has sufficient experience which is relevant to the style of mineral deposits 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 Mineral Resources and Ore Reserves". Mr Owler consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*



**Figure 5**

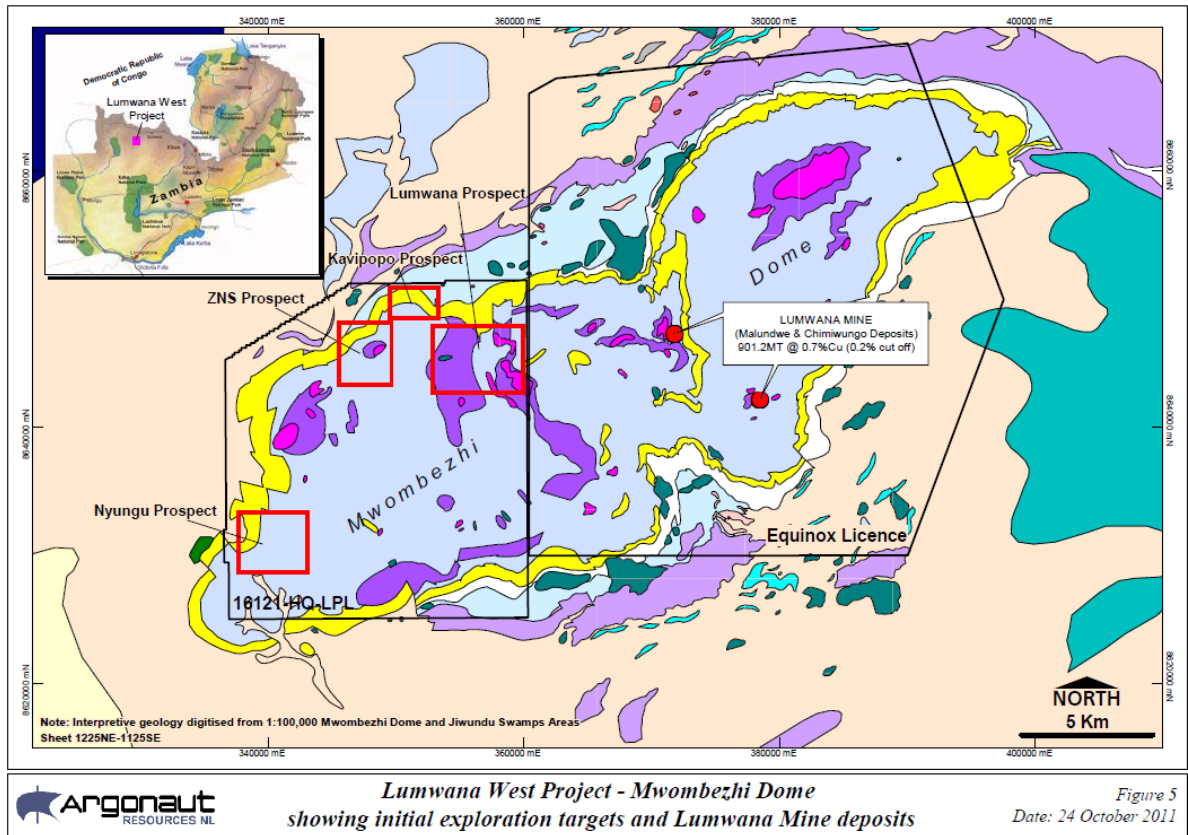


Figure 6

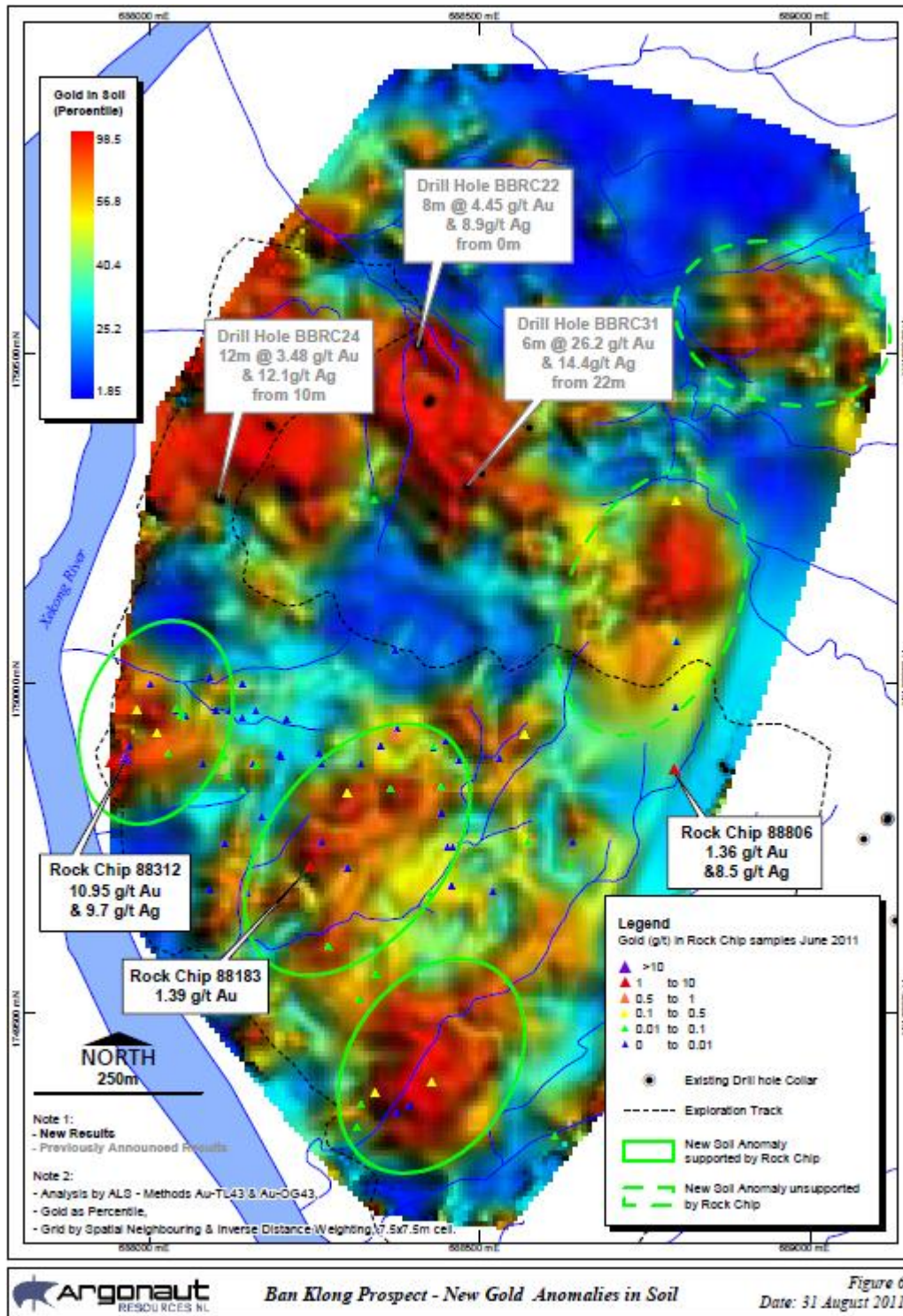


Figure 7

