

# Quarterly Activities Report

December 2009



"Night shift" diamond drilling at the Gregory IOCG Project (AUGDD-01).

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## Highlights

- Drilling programs successfully completed for two key project areas in the Mt Isa region.
- Deep diamond drilling at the Gregory Project intersected variable width intervals of iron-oxide alteration and disseminated sulphides (primarily pyrite). Assay results confirmed a “live” copper system with low order anomalous copper values recorded (peak value 0.2% Cu).
- Significant copper assay results were received from the Barbara Copper Prospect (MET 49%) including:
  - 9m @ 5.25% Cu and 0.45g/t Au from 31m (in BARC025)
  - 7m @ 3.97% Cu and 0.26 g/t Au from 98m (in BARC038)
  - 8m @ 3.25% Cu and 0.32 g/t Au from 10m (in BARC040)
  - 6m @ 4.00% Cu and 0.29 g/t Au from 95m (in BARC044)
- A new priority drill target was identified in close proximity to Barbara North Lode. Surface channel sampling results at the “Green Zone” anomaly included 10m @ 1.0% Cu, and 15m @ 0.63% Cu.
- Due diligence commenced over a number of gold properties in the world class Birimian Gold Province of Burkina Faso. MET is targeting commencement of exploration in the first quarter of 2010.
- Mt Isa region drilling programs to re-commence in early 2010.

## Project Areas

The location of the Company’s exploration project areas is shown below:

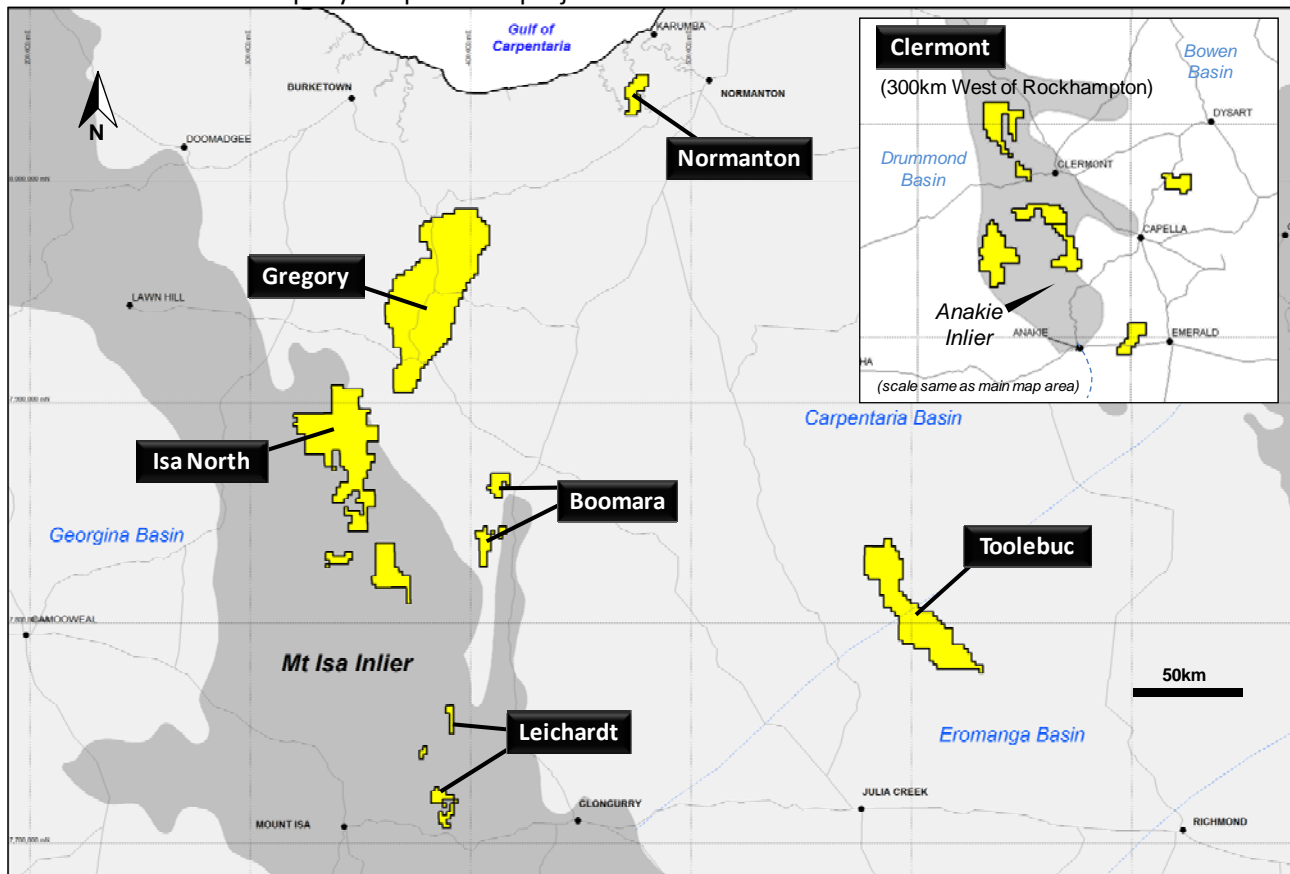


Figure 1 - Location of project areas (excludes competitive tenement applications).

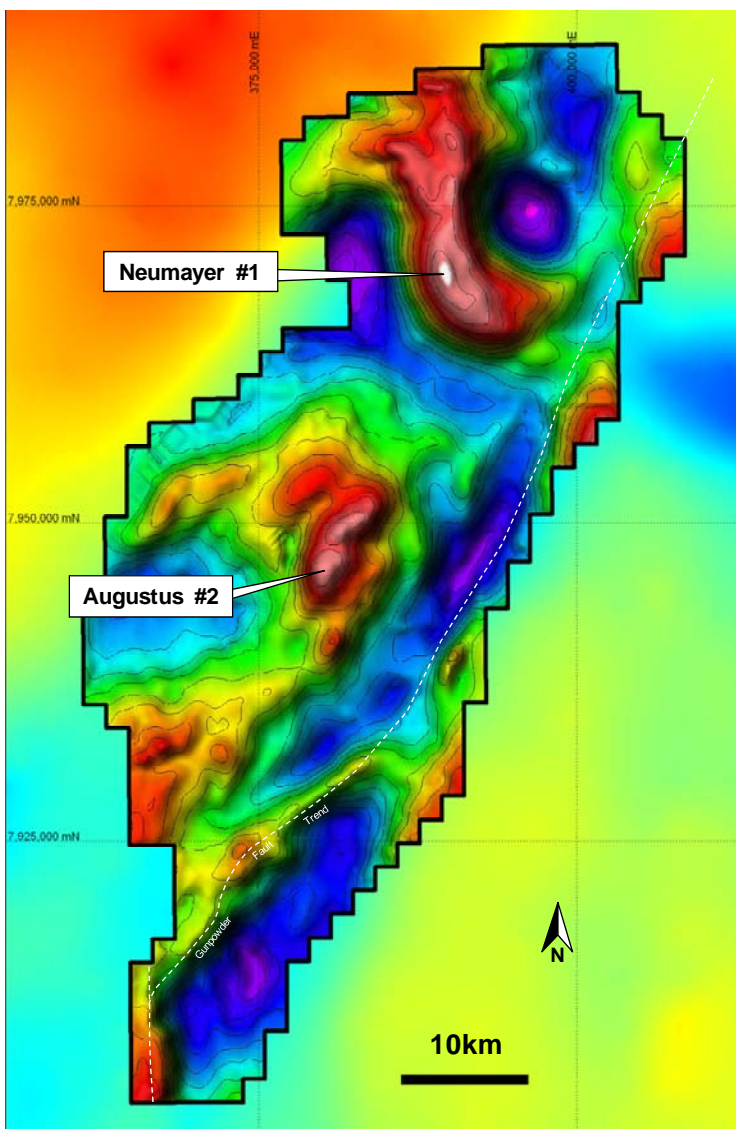
## Exploration

### Gregory Project (MET 100%)

During the quarter the initial two hole deep drilling program was completed at the Gregory iron-oxide copper gold (IOCG) Project. Final assay results were received and processed subsequent to the end of the quarter.

The Gregory Project is located approximately 230 kilometres north of Mt Isa and comprises 2,044km<sup>2</sup> of 100%-owned exploration permits that lie along a projected 90km strike length of the regionally mineralised Gunpowder Fault system.

MET completed a detailed gravity survey of the Gregory area in early 2009 and, on the basis of that survey (and additional modelling of public domain magnetic survey data) identified multiple geophysical anomalies that indicated sufficient prospectivity for drill testing as potential iron-oxide copper-gold (IOCG) targets.



An initial two hole diamond drilling program was proposed at Gregory to test two large gravity “peaks” referred to as the Augustus #2 and Neumayer #1 targets (refer Figure 2).

Funding for the drilling program is to be supported by a grant \$150,000 from the Queensland Department of Mines and Energy under Round 3 of the Collaborative Drilling Initiative (CDI).

MET is very encouraged by the results of the drilling - both of the initial drill holes intersected variable width intervals of disseminated sulphides and iron-oxide alteration which are typical components of iron-oxide copper gold systems.

Although copper assay results were generally low (peak values 0.21% Cu in AUGDD-01 and 0.19% Cu in NEUDD-01) the occurrence of disseminated copper sulphides in the core (as chalcopyrite) confirm that the Gregory Project area is a “live” copper system.

*Figure 2 - Gregory drill hole locations and residual gravity image (30km band pass filtered, 1Mgal contours).*

### **Augustus #2 Target (drill hole AUGDD-01)**

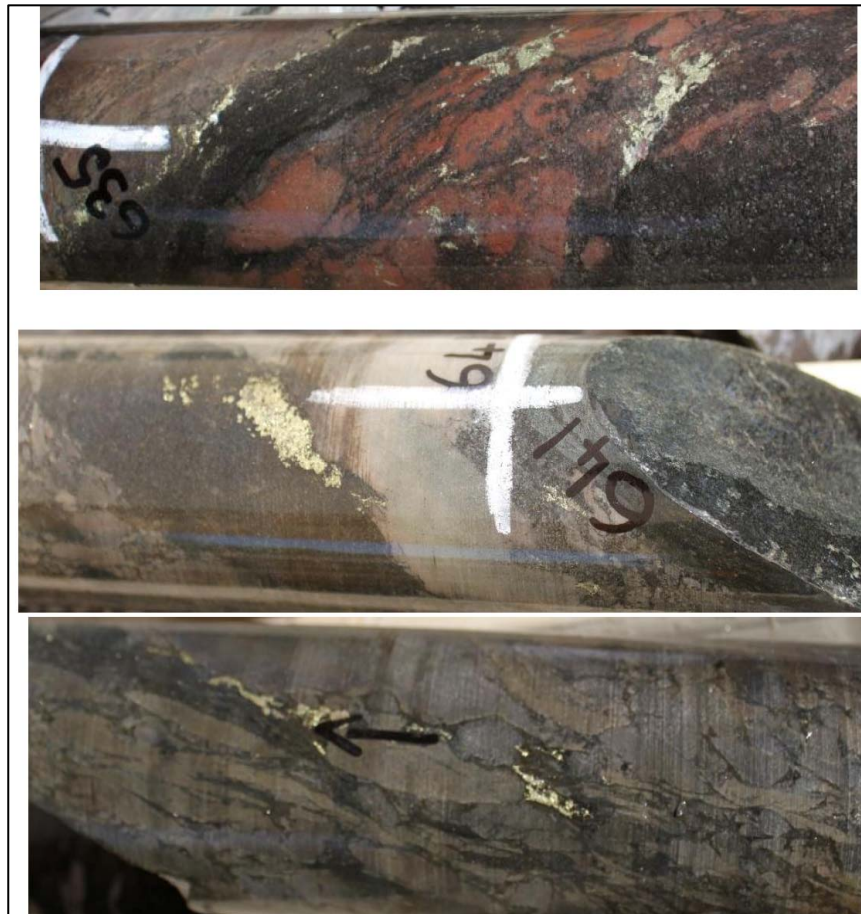
The Augustus #2 target is defined by a significant bulls-eye residual gravity anomaly located in the centre of the project area that extends over a strike length of approximately 5km (figure 2). The target is also associated with a distinct magnetic low which “surrounds” the gravity peak and may represent an early magnetic (magnetite-rich) alteration phase subsequently overprinted by a later stage non-magnetic (hematite-rich) alteration or intrusive body.

AUGDD-01 intersected a thick sequence of Mesozoic cover sediments (primarily siltstones and mudstones) from surface using an open hole rotary mud technique to 515.28 metres depth. Drilling continued with diamond coring through Proterozoic basement granite.

At approximately 606 metres depth the hole intersected sheared and brecciated iron rich rocks containing sulphide mineralisation as disseminations, blebs and stringers over a 61 metre interval to 667 metres depth (figure 3). The sulphide mineralisation was primarily pyrite with minor chalcopyrite (copper sulphide) accompanied by strong chlorite and in places siliceous and hematitic (jasperoidal) alteration.

A competent medium to coarse grained grey granite/granodiorite with minor disseminated pyrite was intersected from 675 metres to the end of the hole at 812 metres final depth.

Low order copper anomalism was recorded in assay results for the interval between 632 metres and 649.5 metres (average 280ppm Cu, peak assay value 0.2% Cu).



*Figure 3 - Drill hole AUGDD-01 -  
(a) chalcopyrite blebs and stringers with jasperoidal silicification / chloritisation (635m).  
(b) chalcopyrite bleb (641m).  
(c) chalcopyrite stringer in breccia at (642m).*

### **Neumayer #1 Target (drill hole NEUDD-01)**

NEUDD-01 was drilled 25km to the north-north-east of AUGDD-01 to test a high order residual gravity anomaly and coincident magnetic anomaly located on a regional scale north-west trending fault structure. The target is also interpreted to lie between two discrete granite batholiths or within the collapsed roof structure of a single larger batholith (figure 2).

NEUDD-01 intersected a thick sequence of younger (Mesozoic) cover sediments from surface before passing into Proterozoic basement rocks at 591 metres depth.



Proterozoic rocks intersected by the drilling comprised a 356 metre interval of calc-silicate rocks with magnetite alteration evident as disseminations to more massive agglomerations of up to 60% magnetite (refer figure 4).

Pyrite was pervasive throughout the basement interval but strongly associated with the magnetite-rich intervals and rare hematite.

The hole was terminated at 947 metres in soft faulted ground with associated quartz veining at the limit of the rig capability.

Low order copper anomalism was recorded in basement rocks including 170m @ 199ppm Cu from 590.83m (peak assay value 0.19% Cu).

*Figure 4 - Drill hole NEUDD-01 - Pervasive magnetite-pyrite alteration (759.6m).*

### **Conclusion**

MET is very encouraged by the results of the first two drill holes completed to date in the Gregory Project area. Both drill holes intersected Proterozoic basement with variable width intervals of disseminated sulphides and iron-oxides, ingredients typically associated with the formation of the IOCG deposits.

The variable development of shearing and brecciation indicate structural features which are also critical components for the development of large scale fluid flow systems and IOCG deposits.

Further to the above, the assay results received (albeit low order values) confirm that the Gregory Project area is a “live” copper system.

A significant number of drill targets remain to be tested within the Gregory Project area. MET intends to fully assess the results of the current drilling, including the completion of petrographic studies, and an assessment of the physical core properties prior to further drilling.

Detailed specific gravity measurements have been taken, in order to calibrate the other gravity anomalies in the Gregory Project area.

## Barbara Copper Prospect (MET 49%)

During the quarter the Barbara (North Lode) phase 2 reverse circulation drilling program was completed and all assay results were received. The results included high grade intersections which continue to support the potential to define an open-pittable sulphide copper deposit.

The Barbara Copper Prospect is located approximately 50km north-east of Mt Isa and forms part of the Company's broader Leichardt Exploration Project area. The Barbara Copper Prospect (North Lode) is held in joint venture between Mt Isa Metals Limited (49%) and Syndicated Metals Limited (51% and manager).

The North Lode is manifest at surface by several old pits and a pronounced copper gossan that extends over an approximate 400m strike length. The sheared and altered zone is approximately 30 to 40 metres wide at surface.

The phase 2 drilling program comprised 22 reverse circulation holes for 2,732 metres.

The phase 2 program was designed to test the mineralised structure to a vertical depth of around 150 metres, and, to provide sufficient data to calculate a maiden Inferred Mineral Resource estimate. One deeper hole was drilled to test an interpreted TEM anomaly below the North Lode at a depth of approximately 250 metres.

The phase 2 results were highly encouraging with a significant number of drill holes returning plus 1% Cu intercepts through shallow sulphide mineralisation. All intersections reported to date from the North Lode occur in primary (sulphide) zone below an oxidised cap of approximately 10 to 15 metres.

Assay results received during the quarter included:

- 9m @ 5.25% Cu and 0.45g/t Au from 31m (in BARC025)
- 7m @ 3.97% Cu and 0.26 g/t Au from 98m (in BARC038)
- 8m @ 3.25% Cu and 0.32 g/t Au from 10m (in BARC040)
- 6m @ 4.00% Cu and 0.29 g/t Au from 95m (in BARC044)

A summary of all North Lode assay results received during the quarter is provided in table 1. The location of the drill hole intersections is also shown in a longitudinal projection in figure 5.

As noted in the previous announcements the drilling at North Lode is progressively outlining what is believed to be a south plunging lode with higher grade copper intercepts at its centre. The Company is confident a potentially open-pittable deposit can be defined from the higher grade (+1% Cu) intersections. The high grades at the core of the lode also provide encouragement that the North Lode has potential for underground mining if continuity at depth can be demonstrated with further drilling.

A maiden resource estimate for Barbara North Lode is presently being prepared by consultants.

Planning is presently underway for an aggressive program of resource delineation and exploration drilling at Barbara. It is anticipated that drilling will commence during the first quarter of 2010.

HOLE ID	East (GDA94)	North (GDA94)	RL (m)	TD (m)	Dip	Azi.	From (m)	To (m)	Width (m)	True Width (m)	Cu (%)	Au (g/t)
BARC024	379823	7741985		73	-60	56.4	15	16	1	1	0.75	0.18
							28	32	4	3	0.53	0.09
							43	48	5	4	1.17	0.05
							60	62	2	2	2.53	0.23
BARC025	379897	7741959		62	-86	56.4	31	40	9	6	5.25	0.45
							47	48	1	0.7	0.94	0.08
BARC026	379924	7741884		82	-60	41.4	43	50	7	6	0.62	0.06
							53	66	13	10	1.59	0.10
BARC027	379927	7741868	325	106	-63	56.4	24	26	2	1.5	0.55	0.03
							48	49	1	0.7	0.78	0.08
							55	61	6	4.2	0.50	0.05
							80	81	1	0.7	0.65	0.06
BARC028	379978	7741856	330	80	-60	57	29	34	5	4.5	1.31	0.14
							47	48	1	0.9	0.51	0.05
							63	64	1	0.9	2.19	0.11
BARC029	380000	7741822	330	80	-60	57	22	23	1	1	1.29	0.11
							38	42	4	3.9	0.75	0.07
BARC030	380020	7741789	322	80	-60	57.4	No results >0.5% copper.					
BARC031	380059	7741763	333	60	-60	57	26	28	2	2	0.83	0.07
							36	37	1	1	1.48	0.16
BARC035	379733	7742016	320	130	-60	45.4	29	31	2	2	3.05	0.05
							40	41	1	1	2.07	0.04
							47	50	3	2.9	0.72	0.01
							104	105	1	1	2.00	0.11
BARC036	379838	7741966	325	140	-60	55.4	55	57	2	1.6	0.86	0.04
							79	81	2	1.6	0.57	0.02
							105	106	1	0.8	1.23	0.03
BARC037	379864	7741937	322	120	-75	54.4	72	73	1	0.8	0.67	0.03
							84	89	5	3.8	1.25	0.08
							102	103	1	0.8	1.56	0.24
BARC038	379856	7741890	319	142	-75	57	98	105	7	6.1	3.97	0.26
							108	109	1	0.9	0.62	0.05
							114	115	1	0.9	0.99	0.12
BARC039	379928	7741938	319	70	-86	57	20	25	5	2.8	1.11	0.12
							50	52	2	1.1	0.82	0.07
BARC040	379907	7741962	315	60	-55	56.9	10	18	8	7.3	3.25	0.32
							27	28	1	0.9	0.62	0.05
							33	34	1	0.9	1.72	0.08
BARC041	379897	7741888	316	148	-70	54.4	71	80	9	6.9	0.62	0.06
BARC042	379893	7741885	316	160	-87	54.4	90	93	3	2.3	2.34	0.16
							97	98	1	0.8	0.64	0.08
BARC043	379856	7741888	320	196	-89	57	159	160	1	0.9	0.64	0.04
BARC044	379902	7741846	316	142	-77	52.4	95	101	6	4.8	4.00	0.29
BARC045	379900	7741844	316	170	-89	53.4	121	130	9	7	1.21	0.07
BARC046	379922	7741820	321	107	-90	57	Abandoned before target depth.					
BARC047	379922	7741818	321	184	-90	57	No results >0.5% copper.					
BARC048	379848	7741718	324	340	-77	28.4	No results >0.5% copper.					

Table 1 - Barbara North Lode drill results (Cut-off 0.5% Cu) - Intersections greater than 1% Cu shaded yellow.

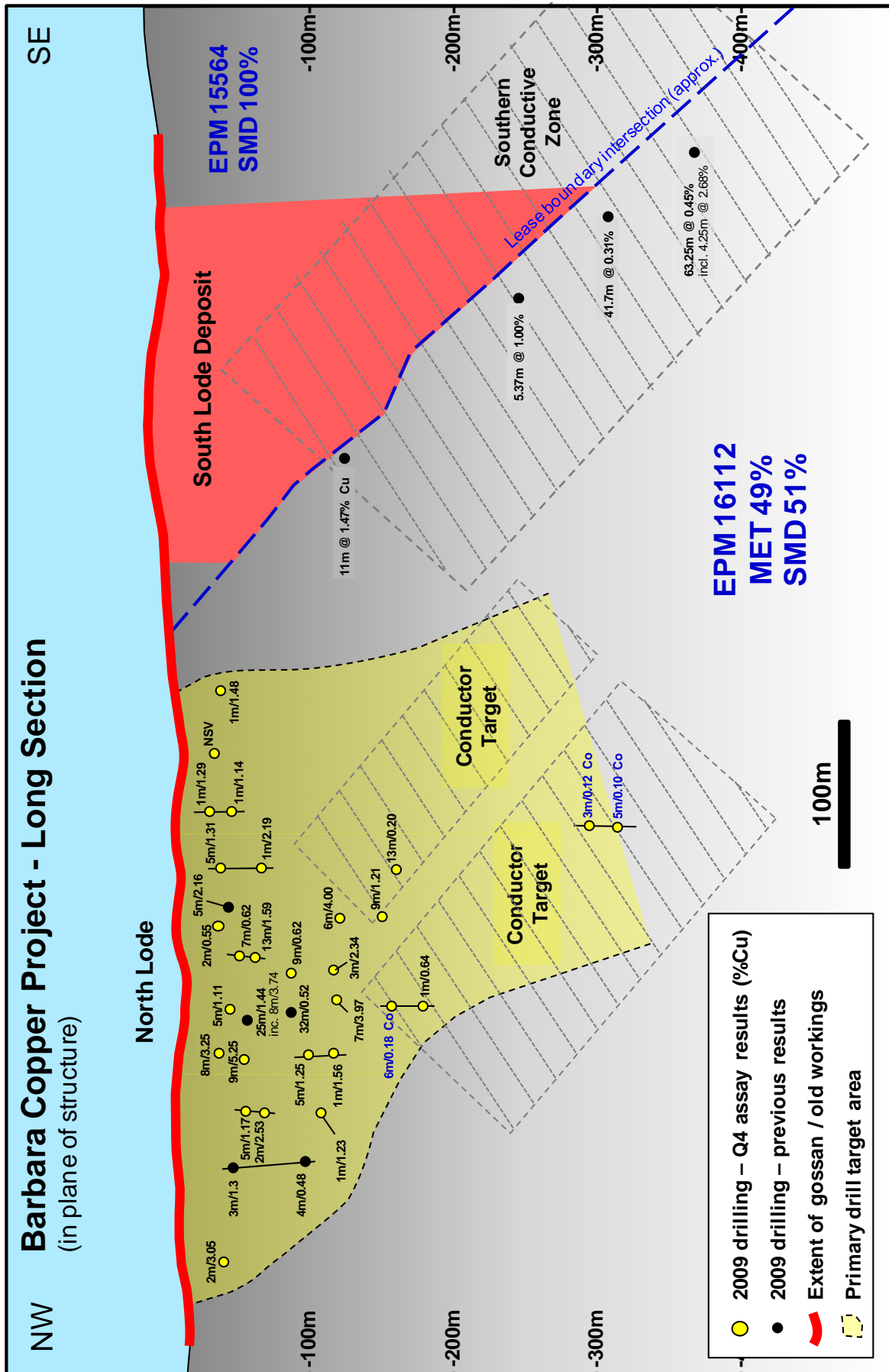


Figure 5 – Barbara longitudinal section.

### **Barbara “Green Zone” Target**

Also during the quarter a program of surface mapping and channel sampling commenced over various copper anomalies previously reported from the Barbara area.

The “Green Zone” anomaly, located about 400 metres northwest of the Barbara North Lode returned highly encouraging channel sampling results from a north striking mineralised shear zone up to 20 metres wide over a sampled strike length of 400 metres.

Channel samples were collected at one metre intervals at right angles to the strike of the shear zone. Results included 10m @ 1.0% Cu and 15m @ 0.63% Cu. Individual rock chips from this zone returned copper values up to 2.9% Cu (figure 6).

There has been no prior drilling of the Green Zone area which represents a priority drilling target.

Follow-up of the Green Zone target and other anomalies within the Barbara joint venture tenement (EPM 16112) will form part of the forward exploration program planned to commence in early 2010.

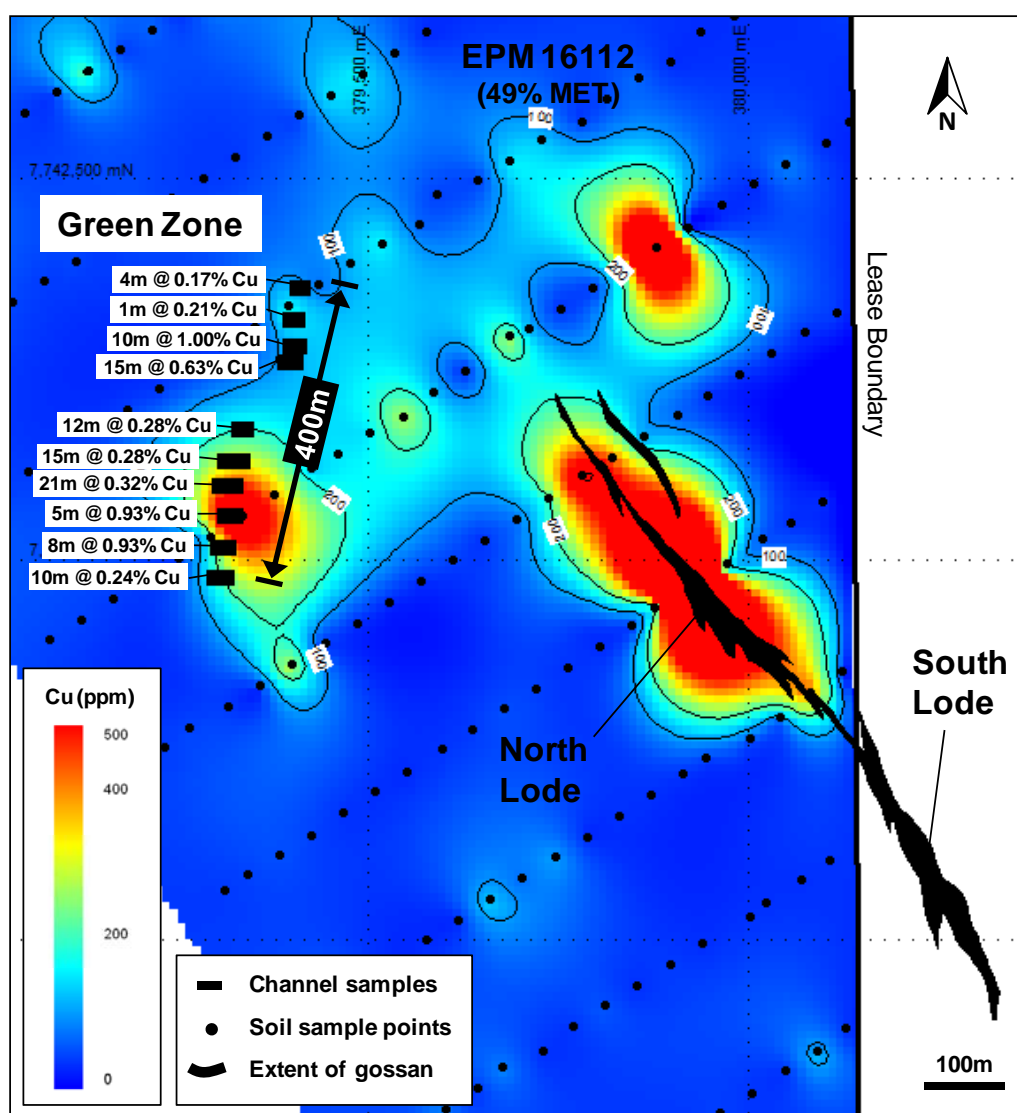


Figure 6 - Barbara Prospect – “Green Zone” channel sample results.

## Boomara Project (MET 100%)

The Boomara Project is located 150km north-east of Mt Isa and comprises two granted tenements totaling 162km<sup>2</sup>.

The project area was targeted for IOCG deposits on the basis of a complex magnetic basement, interpreted multiple fault systems and evidence of IOCG-style alteration systems in historical third party drilling which have included intersections of halo grade of copper and gold.

At the Jimmy's Creek Prospect, which sits to the south of the Company's tenements, previous explorers intersected strong albite-hematite-magnetite alteration, multi stage breccias, and halo grade copper and gold intersections over considerable down hole intervals (Figure 7).

During the quarter assay results were received for the previously announced geochemical soil sampling program. The samples were analysed via a MMI (Mobile Metal Ion) analytical technique which was trialed to determine whether the technique is effective over cover depths in excess of 100 metres.

The data is being reviewed to determine the statistical significance of the assay results. Additional MMI samples may be collected if the technique is deemed effective at Boomara.

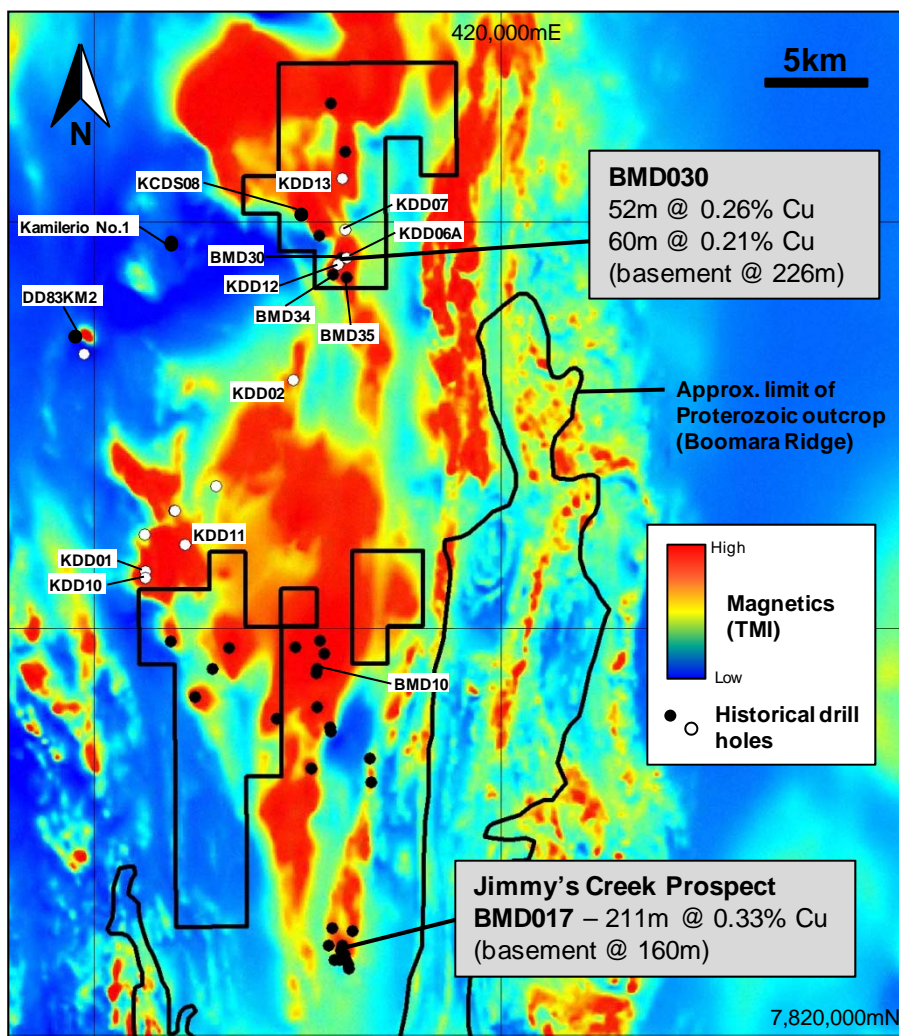


Figure7 - Boomara Project – Historical drill holes on TMI Magnetic image.

## West African Gold Project

During the quarter the Company announced an intention to expand its gold exploration activities to include development of a portfolio of properties in the Birimian Gold Province of West Africa.

The Birimian Gold Province will provide MET with exposure to:

- a proven world-class gold province
- high prospectivity / under-explored geological environment, and
- low entry cost opportunities (as compared to current “western world” projects)

Burkina Faso was selected as the initial entry point to the region (refer figure 8).

There are currently four large-scale gold mines operating in Burkina Faso with two additional projects under development. Gold production in Burkina Faso is forecast to approach 1Mozs per annum over the near term and will play an increasingly important role in the domestic economy.

Burkina Faso was selected by MET as the country offers:

- a familiar “technical” environment - arid area exploration techniques are comparable with those utilised in the Eastern Goldfields of Western Australia
- excellent logistics (generally arid climate, low topography, low population density, ease of access)
- immediate investment / exploration opportunities

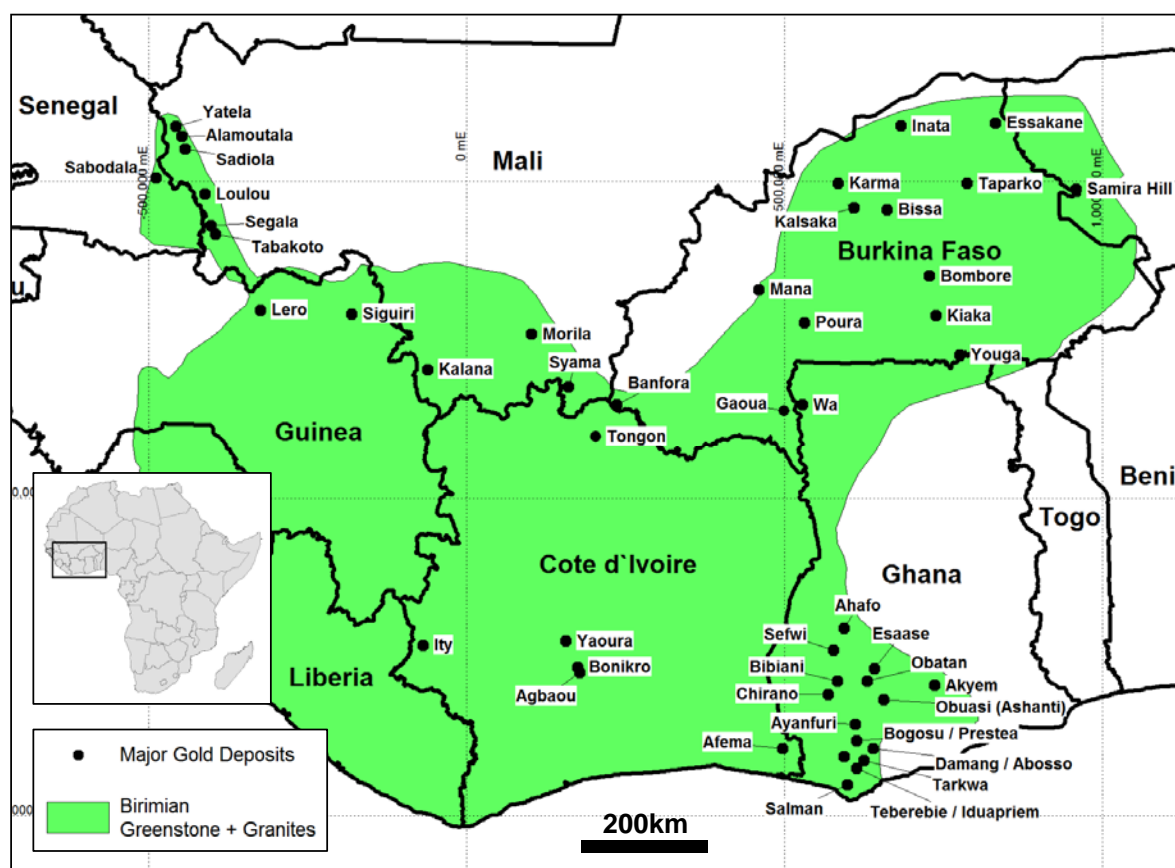


Figure 8 - Location Diagram – West Africa.

During the quarter MET completed first phase targeting of gold opportunities across Burkina Faso.

During the quarter the Company also conducted preliminary field inspection of specific sites and initiated discussion with a number of parties in respect of tenement acquisition / joint venture opportunities.

Following the above due diligence was also commenced over a number of properties. MET will announce the results of due diligence if and when it proceeds to a positive conclusion.

Given the excellent progress to date MET is currently planning for the implementation of initial field programs in the first quarter of calendar 2010.

## Corporate

### Cash Reserves

Cash reserves and liquid investments totalled approximately \$2.58 million at the end of the quarter.

### Capital Structure (at 31 December 2009)

Share price (MET): \$0.20  
 Issued shares: 103.75m (52.29m under escrow)  
 Unlisted options: 13.20m

Market Capitalisation: \$20.8 million (at 31 December 2009)

### Major Shareholders

Shareholder	Shares Held	%
D'Aguilar Gold Ltd	50,000,000	48.2%
Tinkler Investments Pty Ltd	19,445,180	18.7%
Other (all <2% issued capital)	34,304,820	33.1%
<b>Total</b>	<b>103,750,000</b>	<b>100.0%</b>

Table 5 - Summary of major shareholders at 31 December 2009.

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Further information on Mt Isa Metals can be found on our website [www.mtisametals.com.au](http://www.mtisametals.com.au)

#### Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Peter Spiers B.Sc (Hons) Geol., who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Spiers is a full time employee of the company. Mr Spiers 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 Spiers consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.