

#### 11 August 2010

# **EXPLORATION UPDATE: LOS CALATOS PROJECT**

- Hampton identifies 8 major targets in 50sq.km 'cluster' grouping generally associated with large mineralized porphyries
- New exploration program using deep looking geophysics and diamond drilling set to test these targets
- New 50,000 metre drill program planned to commence in Q4 2010

Metminco Limited (Metminco), the dual ASX and AIM listed mining exploration company is pleased to announce an update on the Los Calatos Project, owned by 71.9% subsidiary Hampton Mining Limited (Hampton).

#### **SUMMARY**

Extensive regional scale mapping and geochemical traverse sampling over the last two years, covering a large part of the extensive licences held by Hampton in Southern Peru, has identified several significant geochemical anomalous zones within a porphyry 'Cluster' that now requires detailed geophysical surveying and drill testing. These predominantly copper and molybdenum geochemically anomalous areas occur as 'windows' beneath overlying unmineralized volcanics and recent volcanic ash (figure 1).

Eight exploration targets defined within a 'Cluster' have been identified at Los Calatos by diamond core drilling and geochemistry and / or rock chip sampling. The Los Calatos 'Cluster' occurs within an area of approximately 68sq.km. 'Cluster' groupings are often associated with large mineralized porphyries where Giant Systems host Multiple Deposits (figure 2). Examples include the Escondida system hosting the multiple deposits of Escondida, Zaldivar, Carmen and Ricardo within a 36 sq.km limit, the Highland Valley/Bethlehem system in North America within a 60 sq.km limit and the Grasberg/Ertsberg system in Indonesia within a 16 sq.km limit.

Hampton recently announced a 350% increase in resources at Los Calatos to 926 million tonnes at a 0.2% Cu cut-off made up as follows:

Indicated Mineral Resources of 111,264,000 tonnes @ 0.39% Cu and 380ppm Mo Inferred Mineral Resources of 814,970,000 tonnes @ 0.37% Cu and 260ppm Mo

At a 0.2% Cu cut-off total metal content is 4.72 million CuEq tonnes or 10.4 billion CuEq pounds at an average grade of 0.51% CuEq. (Note : Copper equivalence assumes a ratio of Cu/Mo prices of 5.)



**Figure 1** : Recent volcanic ash covering much of the Calatos porphyry system seen as white cover in this photo and obscuring the underlying geology.





**Figure 2 :** 'Cluster' groupings are often associated with large mineralized porphyries where Giant Systems host Multiple Deposits. (Source : Northern Dynasty Minerals 2005, Hampton 2010)



#### **Project Location**

The Los Calatos project is located 80km due southeast of Arequipa in Southern Peru and 60km from the town of Moquegua. Tacna, near the Chile border, is 170km to the south east. Access to the project is by sealed road (Pan American Highway) from Moquegua and Arequipa, except for the last 50km which is unsealed. The port of IIo is located approximately 160km by road to the south of the project area. Access to the site and a potential power supply for future operations are good for Peru. The project area is located at an altitude of approximately 2900m above sea level (figure 3).

The Los Calatos project occurs within a historically well defined copper molybdenum porphyry belt in Southern Peru. Production from these mines exceeded 800,000 tonnes of copper metal in 2009. With the upgrade to the Toquepala mine and the imminent development of the Tia Maria and Quelleveco mines, production from this belt is set to increase to >1.2 million tonnes of copper metal per annum. Molybdenum is a significant by product of copper mining from this belt.



Figure 3 : Los Calatos – location near other porphyry deposits, far south Peru.



#### <u>Tenure</u>

Hampton's licences cover an area of 214 sq km including applications. The main porphyry 'Cluster' or mineralization trend is well covered by the Hampton licences as indicated in figure 4.



### Figure 4 : Hampton's licences with position of 'cluster' and trend of mineralization indicated.



#### <u>Geology</u>

The regional geology of the project area consists of altered, brecciated, Tertiary dioritic intrusive rocks beneath younger overlying Toquepala volcanics. The project area lies on a northwest - southeast trend line between the large operating copper mines of Cerro Verde, Chapi, Cuajone, Toquepala and the proposed mine at Quellaveco. The trend line is recognized as the Incapuquio Fault (figure 3) along which the late stage Paleocene Eocene (50 to 60my) mineralized diorites and granodiorites were intruded. The older Cretaceous, predominantly andesitic volcanics, are overlain to the east by Miocene Pliocene ash tuffs and recent volcanic ash (figure 1).

In the project area multiphase intrusive magmatism is represented by quartz diorite, monzonite and granodiorite phases often overlapping and hydrothermally altered, with varying copper and molybdenum content. The early phase of intrusion appears to be unmineralised, whereas later stages generally carry the copper and molybdenum mineralization in the form of chalcopyrite, bornite, chalcocite and molybdenite. Higher grade copper and molybdenum values are often associated with breccia zones, associated with the various intrusive events, although the extent and control of the breccia zones is not completely understood at the present time (figures 5 and 6).



The surface exposure of alteration is predominantly in the form of quartz sericite in the zone of leaching, with classic outer zones of propyllitic chloritic alteration. Beneath the quartz sericite, alteration becomes more silicic, and with depth gives way to higher temperature potassic alteration. The potassic alteration is often associated with high grades of copper and molybdenum and is increasingly developed at depth, suggesting the presence of a major mineralized intrusive at a depth of approximately 900 metres from surface and tested to date by 4 deep drill holes to 1200m (figure 7).

**Figure 5** : Example of brecciation with high grade molybdenum and minor chalcopyrite in split diamond core at a depth of 550m below surface, Los Calatos Project, Southern Peru.



**Figure 6** : Example of brecciation with high grade molybdenum in veins and chalcopyrite in split diamond core at a depth of 484m below surface, Los Calatos Project, Southern Peru.



Metminco Limited (ASX Code: MNC) Level 2 224 Queens St Melbourne, Victoria 3000

Tel No: 61 2 9670 8896 Fax No: 61 2 9670 8897



**Figure 7** : Section 286,600E at Los Calatos depicting strongly leached zone near surface, underlying Quartz Sericite alteration (yellow) and deeper potassic alteration with increasing copper grades in the potassic zone.



## **Regional Exploration**

Extensive regional scale mapping and geochemical traverse sampling over the last two years, outside the drilled project area, has identified several geochemical anomalous zones that now require drill testing. These predominantly copper and molybdenum geochemically anomalous areas have been identified as **Calatos 1 to 8**. Alteration and geochemical anomalism often occurs as 'windows' beneath the overlying unmineralised volcanics (figure 4).

Metminco Limited (ASX Code: MNC) Level 2 224 Queens St Melbourne, Victoria 3000 Tel No: 61 2 9670 8896 Fax No: 61 2 9670 8897



As a precursor to the next phase of diamond drilling the Company will undertake geophysical surveys including a Total Field Ground Magnetic Survey and a deep seeing 'Titan 23' DCIP MT geophysical survey. The objective of the surveys is the identification of structural trends, and the detection and definition of high sulphidation or porphyry style mineralization and alteration patterns.

Magnetic data will be collected on 200m and 100m line separation, and is planned to cover the main, central portion of the project area. Work is anticipated to commence in August and will cover an area of approximately 13km x 6km.

The deep seeing 'Titan 23' DCIP MT geophysical survey, with possible commencement in September 2010, subject to availability of equipment, is planned over an area of 6km x 3km and will cover the main mineralized, and geochemically anomalous, northwest - northeast trend as outlined in figure 4.

Quantec professionals, familiar with porphyry copper systems, have designed a 9 line spread using a separation of approximately 1000m. The depth of the investigation for DCIP and RES components is approximately 800m, whereas the MT component of the rocks will be modeled to 1500m depth. Titan 24 has been proven to detect porphyry copper bodies at depths of 1400m such as at Rio Tinto's Resolution discovery, and to 1000m depth at Northgate's Kemess North Ora discovery. Quantec have mobilised the Titan 23 survey equipment to Freeport's Cerro Verde porphyry copper mine and exploration area in Southern Peru (figure 3), 60km to the northwest of Los Calatos. The proposed survey at Los Calatos will assist and aid the focusing of more specific drill targets, particularly in the Calatos 2 - 8 target areas, where sulphide rich zones may not be clearly defined by the standard approach of traditional mapping and geochemistry.

#### **Resource Statement**

Hampton from November 2009 to March 2010, completed the Phase 2 drilling program at Los Calatos, Peru. Phase 2 drilling consisted of 10 diamond cored boreholes totaling 9,516 metres and follows the Phase 1 program of 13 diamond cored boreholes, which resulted in the initial resource of 261,504,000 tonnes reported in June 2009.

Prior to Hampton's ownership, previous drilling totaled 5,295 metres of which 26 were reverse circulation holes and 13 diamond cored boreholes drilled by Phelps Dodge Inc and Barrick Gold Corporation. Of this drilling 5 reverse circulation and 11 diamond drill holes, totaling 4,490 metres, are relevant to the resource estimate. The total number of drill holes, therefore, considered for the estimate was 39, totaling 20,393 metres of which 5 were reverse circulation drillholes.

The recent drilling completed by Hampton defined, at the 0.20% copper cutoff, a mineralized porphyry body with a drill tested strike length of 900 metres, up to 500 metres wide and greater than 1,100 metres vertical depth. The Phase 2 drilling, drilled from the south to north, extended the strike length of the mineralization from 600 metres to 900 metres, extended the southern mineralized boundary from 300 metres up to 500 metres, and increased the depth of mineralization from 800 metres to 1,100 metres, hence, considerably increasing the previous resource estimate. The mineralized body at a 0.20% copper cutoff totals 926 million tonnes.

The resource can be subdivided as follows;

Indicated Resource of 111,264,000 tonnes at 0.39% Cu and 0.038% Mo Inferred Resource of 814,970,000 tonnes at 0.37% Cu and 0.026% Mo.



Cut-off		Indicated			Inferred	
Graue		Resources	N.4 -		Resources	N4 -
			IVIO			IVIO
(%)	T ('000)	Cu (%)	(%)	T ('000)	Cu (%)	(%)
0.40	36,975	0.59	0.062	296,699	0.55	0.034
0.35	49,036	0.54	0.055	365,562	0.52	0.034
0.30	64,108	0.49	0.049	463,465	0.47	0.032
0.25	86,325	0.43	0.044	594,390	0.43	0.03
0.20	111,264	0.39	0.038	814,970	0.37	0.026
0.15	136,269	0.35	0.034	1,049,445	0.33	0.022

#### Los Calatos Resource Estimate, June 2010, at different Cu cut-offs

Total contained copper equivalent metal (CuEq), and average grade (% CuEq), for a range of cut-offs are as follows:

		Contained	Average
Cut-off	Total	CuEq	grade
Grade	Tonnes	Metal	CuEq
(%)	('000)	('000) t	(%)
0.40	333,674	2,470	0.74
0.35	414,598	2,920	0.71
0.30	527,573	3,400	0.64
0.25	680.715	4,010	0.59
0.20	926,234	4,720	0.51
0.15	1,185,714	5,330	0.45

Note: 1. Copper equivalence assumes a ratio of Cu/Mo prices of 5.

#### Los Calatos 'Cluster' targets

The 'Cluster' targets identified at Los Calatos are defined by diamond core drilling, in the Case of the Calatos 1 **(C1)** target, and geochemistry and / or rock chip sampling in the case of all other targets (figure 4). Hampton has completed detailed planning for a proposed 50,000 metre diamond core drill program which has been previously announced. The focus of the drilling will be to further define the shape and size of the main mineralized porphyry system identified as **Calatos 1 (C1)** (30,000 metres of drilling) and to test at least 4 of the remaining seven targets (**Calatos 2, 4, 5 and 7**) identified by the regional exploration program (20,000 metres of drilling). The outcome of the proposed geophysical surveys will also help refine actual drill targets.

Parameters used to define each of the target areas **(C2 to C8)** include above background values from geochemical soil and rock chip sampling. The background values identified for each of the elements quoted below are, Cu 42ppm, Mo 2ppm, As 21ppm, Ba 115ppm, Sr 48ppm, W 2ppm, Sb 2ppm, V 30ppm, Zn 49ppm and Pb 12ppm. Values above these levels are considered to be significant.

**Calatos 1 (C1) :** The **C1** target area encompasses the known orebody at Los Calatos. The proposed 30,000 metre drill campaign is designed to further define the outer limits of the mineralized porphyry and to upgrade the resource estimate on a 100m line spacing.



**Calatos 2 (C2) :** This target area is the north western extension of the quartz sericite zone identified in **C1** and is defined by a Mo geochemical anomaly 0.8km x 0.3km in extent with peak geochemical values as follows; Mo 43ppm; Sb 19ppm, both very significant in the heavily leached quartz sericite area contiguous with **C1**.

**Calatos 3 (C3) :** This target is a small molybdenum anomaly 2 km to the northwest of **C1**. The area has a relatively thin cover of volcanics and is worthy of drill testing. A peak value of 21ppm Mo was recorded in the area.

**Calatos 4a and 4b (C4) :** The **Calatos 4a** target is a silica rich lithocap to the immediate southeast of C1 measuring 0.8km x 0.8km in extent. Copper oxides are present in outcrop with peak values as follows; Cu >10000ppm (or >1.0% Cu); Mo 17ppm. This is a very significant target as the anomalous area is defined by strong surface copper mineralization within an outcropping porphyry unit. The **Calatos 4b** target is an outcropping porphyry unit with surface copper oxides and anomalous gold and strontium values measuring 1km x 0.5 km in extent. Peak geochemical values recorded were as follows; Cu >10000ppm (or >1.0% Cu); Au >100ppb; As 278ppm; Ba 1392ppm; Sr 3866ppm and Sb 12ppm.

**Calatos 5a and 5b (C5) :** The **Calatos 5a** target is a large tourmaline copper molybdenum breccia anomaly measuring 2km x 2km in extent and is located 1km west of the main **C1 zone.** Together with earlier IP geophysical information, evidence suggests sulphides at depth. Peak geochemical values are as follows; Cu >10000ppm (or >1.0% Cu); Mo 60ppm; Ba 6494ppm; Mn >10000ppm and W 86ppm. All of these values point towards a potentially large mineralized target. The **Calatos 5b** target includes a surface molybdenum anomaly measuring 1.5 km x 0.5 km in extent, with peak geochemical values of 52ppm for Mo and 4743ppm for Ba.

**Calatos 6 (C6) :** This target is a molybdenum, antimony, barium anomaly 1km x 0.5 km in extent, with peak values recorded for Mo of 52ppm and 1092ppm for Ba.

**Calatos 7 (C7) :** This target is a **very significant** surface polymetallic rock chip anomaly 2 km x 0.5 km in extent and located approximately 5 km northwest of the **C1** deposit area with copper oxides present in outcrop. Peak rock chip values recorded were; Cu >10000ppm (or >1.0% Cu); Mo >2000ppm; Pb >10000ppm; As >10000ppm; Ag >100ppm; Hg >100ppm and V >10000ppm.

**Calatos 8 (C8) :** This target is an ICP geophysical anomaly from previous work which will be worthy of testing subject to confirmation by the proposed ground magnetic and Titan surveys.

Due to intense surface leaching molybdenum is the best indicator of subsurface potential, while Ba indicates the existence of the mineral tourmaline which has significance with respect to the possible development of breccia systems. The other important indicators at Los Calatos are As and Sb as they are products of the oxidation of tenantite (copper suphide) in soils.

On behalf of the Board

Philip W Killen Company Secretary Metminco Limited