

ASX ANNOUNCEMENT

ACN 123 567 073

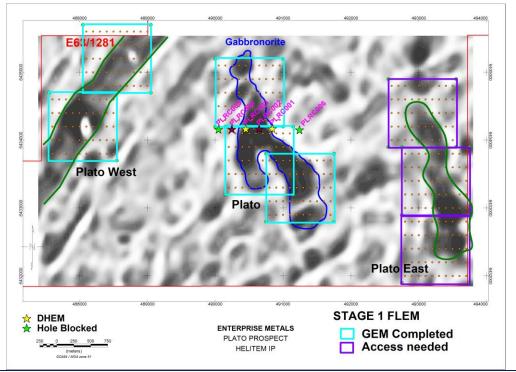
10 June 2014

## FRASER RANGE - PLATO EXPLORATION UPDATE

- Downhole electromagnetic (DHEM) surveying completed on two holes. No "off hole" conductors diagnostic of massive sulphides encountered in PLRCD001 or PLRCD003
- Ground EM (GEM) surveying completed on Plato and Plato West, & processing & interpretation of GEM data in progress
- Detailed logging & sampling of drill core continues, assay results awaited
- Petrographic analysis of RC chips suggests drilled mafic granulites (norites, gabbronorites & olivine gabbronorites) were originally cumulate mafic rocks in a layered mafic complex.

Enterprise Metals Limited ("Enterprise" or "the Company", ASX: ENT) wishes to provide an update regarding the progress of its drilling and geophysical program at the Plato Target located at the Company's Fraser Range Project in Western Australia ("the Project").

Downhole EM was completed on holes PLRCD001 and PLRCD003, but DHEM was not completed on PLRCD005 and PLRC006 due to blockages in these holes (crimping of the downhole PVC "sleeves"). GEM surveying was completed over Plato and Plato West features, but due to heavy vegetation, Plato East target was unable to be accessed. The GEM data from these two target areas is currently been processed and interpreted. Refer Figure 1 below.



### Figure 1. Magnetic Image Displaying Drill Holes and GEM Survey Areas

Level 1, 640 Murray Street, West Perth, WA 6005 www.enterprisemetals.com.auTel: (+61 8) 9436 9200 PO Box 992, West Perth, WA 6872 Email: admin@enterprisemetals.com.au

## Summary of Plato Drill Program

Six reverse circulation ("RC") pre-collar holes were drilled at Plato for 1,672m of drilling in one east – west traverse across the coincident magnetic, soil geochemical and electromagnetic ("EM") target, with two holes intersecting disseminated nickel and copper sulphide mineralization.

The Company then completed four diamond core extensions or "tails" to holes PLRC003, PLRC001, PLRC005 and PLRC006 for a total of 708.8m of diamond coring. (refer Appendix A for drill hole collar attributes)

Hole No.	RC Comments	Diamond Core Comments
PLRC001	Hole terminated at 250m in gabbronorite.	DC tail to 480m. Minor sulphides. Detailed geological logging completed & assays awaited.
PLRC002	Hole terminated in gabbro-norite at 252m. Disseminated nickel and copper sulphides associated with olivine gabbronorite and gabbronorite.	Not extended at this stage
PLRC003	Hole terminated in olivine gabbronorite at 270m. Iron sulphides and nickel and copper sulphides associated with olivine gabbronorite.	DC tail completed at 450m depth. Splashy nickel and copper sulphides from 270m to 300m. Detailed geological logging completed & assays awaited.
PLRC004	Hole terminated in unmineralized gabbronorite at 300m. No significant assays in 4 metre composite samples.	Not extended at this stage
PLRC005	Hole terminated in unmineralized gabbronorite at 300m. No significant assays in 4 metre composite samples.	DC tail completed at 450.1m in gabbronorite. No obvious economic sulphides. Detailed geological logging in progress
PLRC006	Hole terminated in unmineralized gabbronorite at 300m. No significant assays in 4 metre composite samples.	DC tail completed at 448.1m in gabbronorite. No obvious economic sulphides. Detailed geological logging in progress

Four metre composite laboratory assays for the RC component of all holes have now been received. A summary of the 4 metre RC composite assay results is shown in Table 1 below.

Table 1. Summary of Assays from all 4 Metre Composite Samples from RC pre-collars
All results in ppm, Averages rounded to nearest 1ppm.

Hole ID	From	То	Av Ni	Min Ni	Max Ni	Av Cu	Min Cu	Max Cu	Av Co	Min Co	Max Co
PLRC001	0	250	49	11	145	44	23	59	16.9	8	53
PLRC002	0	252	720	68	2,910	100	22	822	72.6	6	162
PLRC003	0	270	518	24	3,330	200	27	1,340	34.1	7	157
PLRC004	0	300	49	20	75	58	38	83	18.5	10	30
PLRC005	0	300	38	10	76	48	23	69	18.3	10	62
PLRC006	0	300	53	11	116	43	16	61	13.6	5	27

*Refer Appendix B and JORC Table 1 for sampling & analytical methods for 4m composite samples* 

## Petrography of Selected RC Chip Samples

Thin sections of five RC chip samples and polished mounts of nine RC chip samples with visible sulfides were examined petrographically by a consultant. The aim was to determine the:

- rock type and protolith (the original un-metamorphosed rock) of the samples,
- nature of the sulphide assemblages, and
- the implications for possible magmatic Ni-Cu mineralization.

#### Petrographic Summary and Implications

It was concluded that the chip samples are all mafic granulites derived from norite, gabbronorite and olivine-bearing gabbronorite protoliths, and that these drill chip samples were originally **cumulate mafic rocks in a layered mafic complex**.

All samples carried sulphides that appear to be primary sulfides in terms of their mineralogy, with the typical assemblage being pyrrhotite with subordinate chalcopyrite and pentlandite.

Some examples of photomicrographs from sample No. 18 (hole PLRC004) and sample No. 30 (hole PLRC003) are shown in Plates 1 and 2 overleaf.

In sample No. 18, sulphides occasionally occur as ovoid or sub-spherical inclusions in pyroxenes, away from fractures, showing a pyrrhotite-chalcopyrite assemblage with very minor or no pentlandite. It is suggested that these are sulphide melt inclusions, trapped during magmatic growth of the host silicate, and they prove that the magma was sulphide-saturated at that stage of its evolution.

The olivine gabbronorite sample no. 30 contains sulphide spots and grains with more pentlandite than those in the norites and gabbronorites, which supports the argument that it crystallized from a slightly more primitive, and therefore more Mg- and Ni-rich parent magma.

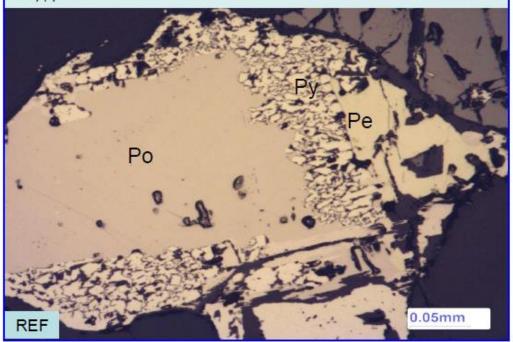
The presence of magmatic sulphides in the Plato rocks suggests that further exploration should be directed at locating more primitive, relatively olivine-rich, feeder-type sills and conduit rocks, such as the picritic sills that host the giant Norils'k Ni-Cu deposits.

SAMPLE NUMBER

#### Plate 1. Pyrrhotite (Po), Pentlandite (Pe) & Pyrite (Py)

SAMPLE NUMBER Sample 18 PLRC004 127-128m

Chip 1 – Pyrrhotite bleb with marginal pentlandite, and pyrrhotite being replaced by tatty pyrite



## Plate 2.

Sample 30 PLRC003 260-261m

(Both images) - Pyrrhotite (pinkish) with yellow chalcopyrite and white pentlandite

## Forward Work Program

An external geophysical consultant is processing and interpreting the DHEM and GEM data.

Access to the East Plato area is being planned in readiness for further GEM surveying of this target.

Drill core results (in particular completion of logging, and assays from PLRCD001 and PLORCD003) and the GEM interpretation will guide the next phase of drill planning at Plato.

In view of the strong encouragement to date at Plato, planning of work programs for other high priority nickel-copper targets within Enterprise's 100% Fraser Range Project tenure has also commenced.

Ryan

Dermot Ryan Managing Director

#### **Competent Persons statement**

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Dermot Ryan, who is an employee of the Company. Mr Ryan is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ryan consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

#### **APPENDIX A**

#### Plato Prospect, Drill Collar Attributes

Hole Name	GDA East	GDA North	RL (m)	Dip (deg)	Azimuth (deg)	RC (m)	DC (m)	Depth (m)
PLRCD001	490846	6434158	310	-70	270	250	230.6	480.6
PLRC002	490652	6434153	310	-70	270	252	0	252
PLRCD003	490454	6434150	312	-70	270	270	180	450
PLRC004	490249	6434146	312	-70	270	300	0	300
PLRCD005	490052	6434157	312	-70	270	300	150.1	450.1
PLRCD006	491246	6434158	312	-70	270	300	148.1	448.1
Total						1,672	708.8	2,380.8

Grid system is GDA94(MGA), zone 51 Note: "D" denotes diamond tail on RC Pre-collar

#### APPENDIX B

#### **RC Precollar Holes - Analytical Methods for 4m Composite Samples**

Assay Method	AR2510	AR2510	AR2510
Elements	Со	Cu	Ni
Units	ppm	ppm	ppm
Lower Detection Limit	1	1	1
Upper detection Limit	10000	10000	10000

\*25 gram aqua regia digest followed by ICP-OES on 31 elements

## JORC Code, 2012 Edition – Table 1 report

# **Section 1 Sampling Techniques and Data** (Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
Drillingtechnique	<ul> <li>Initially 6 Reverse Circulation (RC) drill holes with face sampling hammer bit.at the Plato prospect.</li> <li>Subsequently, 4 NQ diamond core tails drilled.</li> </ul>
Drill sample recovery	· RC recoveries were logged visually as a volume percentage.
	• Each RC sample was split into 10% (for laboratory analysis) and 90% into a large green plastic bag through a triple tier splitter.
	· Not applicable as whole sample obtained.
	NQ diamond core recoveries were 100%
Logging	• RC chip samples & diamond core has been geologically logged to a level of detail deemed appropriate for mineral exploration.
	<ul> <li>RC &amp; DC drill logs record lithology, mineralogy, mineralisation, weathering, colour and other appropriate features.</li> </ul>
	· All RC& DClogging is quantitative.
	· 6 RC drill holes reported were logged in full
	· Selected core from diamond drill holes is being logged in detail and sampled.
Sub-sampling techniques	Diamond core was marked up for half core sawing
and sample preparation	· RC samples were cyclone split. Samples were collected mostly dry.
	• The sample preparation of RC samples follows industry best practice. All samples will be pulverized to a minimum of 85% passing 75 microns.
	· RC samples are collected at 1m intervals from a cyclone and split into 10% and 90% representative samples.
	<ul> <li>4m Samples of equal volume are composited from 1 metre 90% green bag samples using a spear. In house blank and duplicate samples are inserted as 1 in 20 samples to be analysed with each batch of samples.</li> </ul>
	· Samples sizes are appropriate to the size of the RC chips.
	• All RC and DC samples were sent to Minanalytical Laboratory for geochemical analysis.
Quality of assay data and aboratory tests	• The analytical technique use mixed acid digest on 4m RC composite samples and 4 acid digest on 1 metre RC samples and DC samples.
	<ul> <li>For RC samples, 1 in 20 samples was a Company duplicate. As the program is reconnaissance in nature, no Company standards were used. The Company has relied upon Minanalytical Laboratory for standards and QA/QC.</li> </ul>
Verification of sampling and assaying	<ul> <li>The sampling techniques were reviewed in the field by the Managing Director.</li> <li>Significant intersections of the RC chips and diamond core were visually verified by the Managing Director and an independent technical consultant.</li> </ul>
	· There have been no been twinned holes to date.
	· Primary sampling and logging data was collected by Excel templates using flat files.
	No Adjustments or Calibrations were made to the assay data reported.
Location of data points	Drillhole collars were located by GPS. Elevation values were in AHD. Expected accuracy is +/- 3m for northing and easting and +/-10m for elevation coordinates.
	• The grid system is GDA94(MGA), zone 51
	• The GPS is +/- 5m. A digital terrain model has been derived from data collected during the airborne magnetic survey of the whole tenement.

Criteria	Commentary
Data spacing and distribution	<ul> <li>The nominal drill hole spacing is 200m on northings at Plato prospect.</li> <li>There is insufficient data to establish geological and grade continuity at this stage.</li> <li>Mineralised intervals have been analysed at 1 metre, and non-mineralised samples were composited at 4 metre intervals for analysis.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>There is no outcrop on which to base geological control.</li> <li>Drill intersections are not true widths.</li> </ul>
Sample security	<ul> <li>Chain of custody is managed by Toll Ipec and then Minanalyical Laboratory. Samples are stored at drill site and then delivered by Enterprise personnel to Toll Ipec for transport to the Perth laboratory.</li> </ul>
Audits or reviews	· No audits or reviews have been set up at this stage.

# Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	<ul> <li>The drilling is located wholly within Exploration Licence E63/1281. The tenement is 100% owned by Enterprise Metals Ltd</li> <li>The tenement is granted and in good standing with no known impediments to exploration.</li> </ul>
Exploration done by other parties	No known exploration by other parties on Plato Prospect.
Geology	<ul> <li>Plato occurs within the Albany-Fraser Orogen which consists of gneiss, mafic rocks including gabbro with significant garnet in the metamorphic rocks.</li> <li>Further geological logging and assaying is required to fully assess the geology and style of mineralisation.</li> <li>Mineralogy and petrology studies are in progress.</li> </ul>
Drill hole Information	Refer to Appendix A for all drill hole locations.
Data aggregation methods	<ul> <li>Where assays were composited for summary purposes, all assays were weighted by equal interval (1 m or 4m)</li> <li>No use of metal equivalents has been used inthis report</li> </ul>
Relationship between mineralization widths and intercept lengths	<ul> <li>The geometry of mineralisation is not known at this early stage. Intercepts are of holes drilled at -70 dip. These are not true thicknesses.</li> <li>Downhole lengths only are reported. These are not true widths.</li> </ul>
Diagrams	• Schematic cross section only at this early stage of exploration has been previously reported.
Balanced reporting	<ul> <li>All significant results are reported.</li> <li>All 1 metre and 4 metre assay results have been reported for elements relevant to magmatic nickel sulphide search.</li> </ul>
Other substantive exploration data	<ul> <li>Previous exploration results at Plato reported in ENT:ASX releases dated:</li> <li>30/5/2014, 19/5/2014, 6/05/2014, 2/05/2014, 1/05/2014, 30/04/2014, 28/04/2014, 21/06/2013, 19/03/2013, 20/11/2012, 17/09/2012</li> </ul>
Further work	<ul> <li>At this stage, geology and mineralisation at Plato are not well understood, but examination of drill core, sulphides and further geochemistry are planned.</li> <li>DHEM and GEM data is being processed and interpreted.</li> <li>Other Fraser Range geochemical/geophysical targets are being reviewed in light of the encouraging results from Plato and the improved understanding of the geological environment.</li> </ul>