

## AIRBORNE MAGNETIC AND GRAVITY SURVEYS COMPLETED TEN HIGH PRIORITY TARGETS IDENTIFIED

**Constellation Resources Limited** ("the Company" or "Constellation") is pleased to announce that the Company has completed both a detailed high-resolution airborne magnetic survey and a semi-regional gravity survey over tenements E28/2403 (70% Constellation, 30% Enterprise Metals Limited (ASX: ENT)) and E28/2738 in the Fraser Range. The processing and interpretation of these surveys has led to the identification of ten high priority drill targets across the tenements, on which the Company intends to commence an air-core drilling program in the next quarter.

The completion of these initial geophysical programs represents the early stages of a systematic exploration approach to target nickel sulphides across the Company's northern landholdings. The datasets obtained from the surveys will assist in identifying the presence of potential mafic intrusions (host of nickel-copper-cobalt mineralisation in the Fraser Range) that may be concealed under cover.

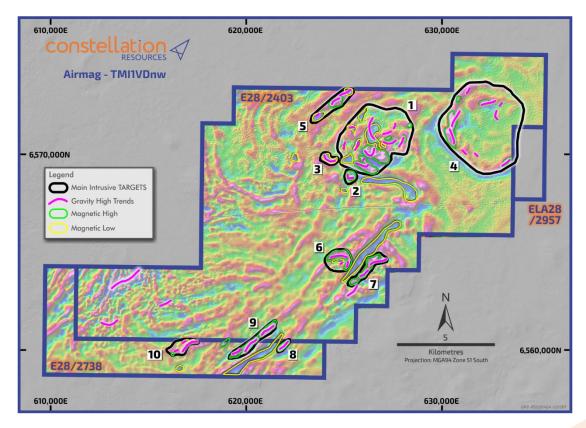


Figure 1: E28/2403, E28/2738 & ELA 28/2957 drill targets over new magnetic data

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## **HIGH PRIORITY TARGETS IDENTIFIED**

Geophysical datasets from both the detailed high-resolution airborne magnetic survey and semi-regional gravity survey over tenements E28/2403 and E28/2738 have now been processed and interpreted by Peter Muccilli of Unearthed Geological Consulting and Russell Mortimer of Southern Geoscience Consultants. The processing and interpretation of the datasets has led to the identification of ten high priority drill targets across the two tenements.

Each target has been identified as a potential mafic intrusion that is concealed under cover (Figures 1 and 2) and exhibits a circular or ellipsoidal morphology that appears to warp the older stratigraphy around it. In addition, there are correlating gravity highs that could indicate more mafic-ultramafic (denser) compositions.

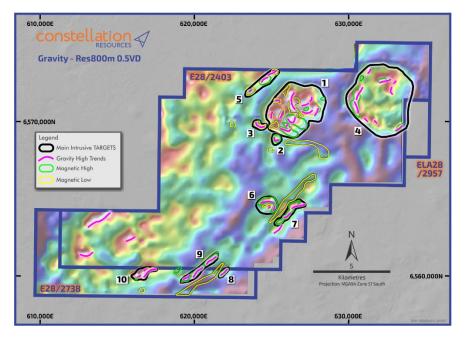


Figure 2: E28/2403 and E28/2738 drill targets over new gravity data

## **FUTURE WORK PROGRAMS**

The Company's exploration focus is now on progressively air-core drill testing the selected targets. The initial drilling program will test the targets located north of the Trans-line Railway (Targets 1-5 in Figure 1 and 2). Drill hole positioning will be optimised by localised 3D inversion modelling of the magnetic/gravity data and joint compilation of the inversion outcomes.

The key aim of the drilling program is to confirm the presence of mafic intrusions, in particular, the intrusions with favourable litho-geochemical characteristics. If the drill program is successful in confirming a prospective intrusion, more detailed geophysical and drill programs will be undertaken, to determine if there are any economic concentrations of nickel sulphides hosted within the intrusion. The Company is in the process of selecting an appropriate drilling contractor and obtaining all necessary government approvals.



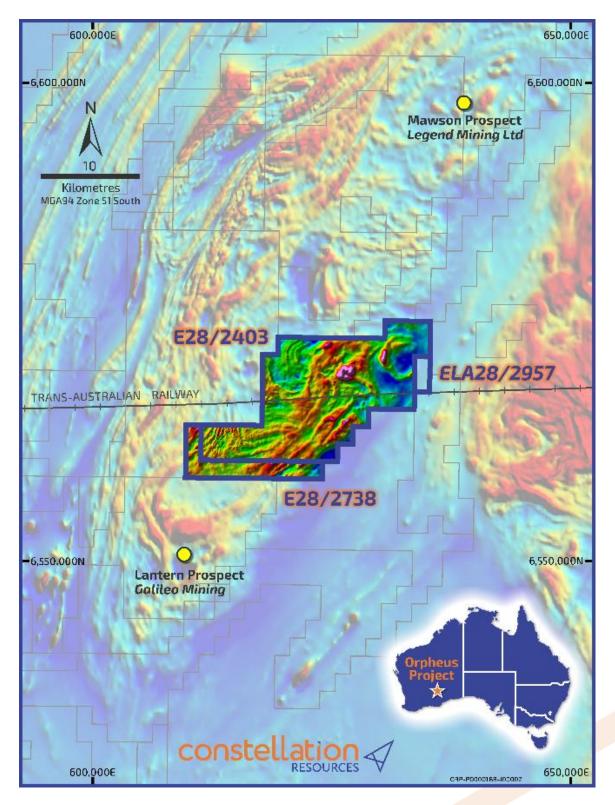


Figure 3: Location of Constellation's E28/2403, E28/2738 & ELA 28/2957 tenements



## **ABOUT THE FRASER RANGE TENEMENTS**

In the Fraser Range, certain mafic intrusion suites are prospective to host nickel-copper sulphide mineralisation. The region is currently experiencing high levels of exploration activity for nickel following the Nova, Silver Knight and Mawson (formerly Area D) discoveries.

The Company's tenements are located on the eastern margin of the northern Fraser Range gravity high and sit in between Legend Mining Limited's (ASX: LEG) Mawson discovery and Galileo Mining Limited's (ASX: GAL) Lantern Prospect. The tenements form part of the Company's Orpheus Project which includes a 70% interest in E28/2403 by way of a joint venture with Enterprise Metals Limited ("Enterprise") (ASX: ENT) and a 100% interest in E28/2738. Pursuant to the joint venture agreement between the Company and Enterprise, the Company is responsible for sole funding all joint venture activities on the tenements, which form part of the joint venture, up to completion of a bankable feasibility study.

Based on the processing and interpretation of the recent geophysical survey results, the Company has a made an application to the Department of Mines, Industry Regulation and Safety to acquire a further 6km<sup>2</sup> of prospective ground adjacent to E28/2403. As at the date of this announcement, the Company holds a 100% interest in application ELA28/2957.



### **COMPETENT PERSONS STATEMENT**

The information in this report that relates to Exploration Results is based on information compiled by Peter Muccilli of Unearthed Geological Consulting, who is a consultant to Constellation Resources Limited. Mr Muccilli is a Member of the Australian Institute of Mining and Metallurgy. Mr Muccilli has sufficient experience that is relevant to the styles of mineralisation and types of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr Muccilli consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### FORWARD LOOKING STATEMENTS

Statements regarding plans with respect to Constellation's project are forward-looking statements. There can be no assurance that the Company's plans for development of its projects will proceed as currently expected. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of the Company, which could cause actual results to differ materially from such statements. The Company makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of that announcement.

This ASX Announcement has been approved in accordance with the Company's published continuous disclosure policy and authorised for release by the Company's Managing Director, Peter Woodman.



# **Appendix 1: JORC Code, 2012 Edition – Table 1 Fraser Range**

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	No samples taken.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	<b>Magnetic survey</b> locations were measured with a Novatel L1/L2 OEM 719 DGPS receiver and altitude measurements were measured with a Renishaw ILM-500-R laser altimeter and an additional barometric sensor.
		<b>Gravity survey</b> locations were measured with the Hi Target V100 GNSS DGPS system and post processed to achieve 5cm vertical and horizontal accuracy. GPS control points were established using the AUSPOS processing system.
		Approximately 6.5% of the gravity survey was repeated to provide a statistical analysis of the accuracy of the observed gravity data and GPS elevations.
	Aspects of the determination of mineralisation that are	MAGNETIC SURVEY
	Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple	An airborne survey was conducted on 50m line spacing and 30m sensor height by MAGSPEC Airborne Surveys using a Cessna 210.
	(eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay). In other cases more explanation may	The magnetic data was collected using a Geometrics GR823 caesium vapour tail sensor
	be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or	GRAVITY SURVEY
	mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	A ground-based gravity survey was conducted on a 400m x 400m grid, with 200m x 200m infill over areas of interest. The gravity survey was completed by Atlas Geophysics Pty Ltd using Scintrex CG5 gravity meters with accuracies better than 0.01 mGal.
		Position and elevation data were acquired with the Hi Target V100 GNSS DGPS system operating in a post-processed mode to give horizontal and vertical accuracies better than 5cm.GPS control points were established using the AUSPOS processing system.
		Approximately 6.5% of the survey was repeated to provide a statistical analysis of the accuracy of the observed gravity data and GPS elevations.
Drilling	Drill type (eg core, reverse circulation, open-hole hammer,	No drilling results reported.
techniques	rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails,	

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Criteria	JORC Code explanation	Commentary
	face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	No drilling results reported.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	No drilling results reported.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No drilling results reported.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	No drilling results reported.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	No drilling results reported.
	The total length and percentage of the relevant intersections logged.	No drilling results reported.
Sub- sampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	No drilling results reported.
and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	No drilling results reported.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	No drilling results reported.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	No drilling results reported.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	No drilling results reported.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	No drilling results reported.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	No drilling results reported.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Magspec flew a compensation box prior to survey to remove manoeuvre effects and heading errors from the magnetometer readings Altimeters were also calibrated prior to survey. Atlas Geophysics acquired routine repeat reading throughout the survey (6.5% of survey), which was statistically analysed. Repeat gravity readings were within +/- 0.05mGal (SD = 0.02 mGal and elevations within +/- 7.7cm (SD = 3cm). Data was sent to an independent geophysical consultant (Russell Mortimer) on a

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Criteria	JORC Code explanation	Commentary
		regular basis for QA/QC.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	No drilling results reported.
Verification of sampling	The verification of significant intersections by either independent or alternative company personnel.	No drilling results reported.
and assaying	The use of twinned holes.	No drilling results reported.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	No drilling results reported.
	Discuss any adjustment to assay data.	No drilling results reported.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	<b>Magnetic survey</b> locations were measured with a Novatel L1/L2 OEM 719 DGPS receiver and altitude measurements were measured with a Renishaw ILM-500-R laser altimeter and an additional barometric sensor.
		<b>Gravity survey</b> locations were measured with the Hi Target V100 GNSS DGPS system and post processed to achieve 5cm vertical and horizontal accuracy. GPS control points were established using the AUSPOS processing system.
	Specification of the grid system used.	Sample locations were collected and reported using the WGS84_UTM grid system.
	Quality and adequacy of topographic control.	<b>Magnetic survey</b> altitude measurements were measured with a Renishaw ILM-500-R laser altimeter and an additional barometric sensor.
		Gravity Survey locations were measured with the Hi Target V100 GNSS DGPS system and post processed to achieve 5cm vertical and horizontal accuracy. Final data locations were transformed into the GDA94/MGA51 grid projection, with elevations delivered in both GDA94 Ellipsoid and AHD heights. GNSS control was established using AUSPOS and multiple submissions of static GNSS data collected over the course of the survey. Gravity control was established using multiple ABA ties to existing Atlas control stations already tied to the Australian Fundamental Gravity Network.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	No drilling results reported.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	No drilling results reported.
	Whether sample compositing has been applied.	No drilling results reported.



Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The location within the Fraser Range province where the magnetic and gravity surveys were undertaken includes an area with SW-NE magnetic grain, 3D and cross-cutting magnetic bodies, and N-S faults. The survey grids are unbiased.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No drilling results reported.
Sample security	The measures taken to ensure sample security.	All magnetic and gravity data is digitally stored by the contractor and geophysical consultant.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Magnetic and Gravity data has been independently checked by geophysical consultant Russell Mortimer.

## **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement	Type, reference name/number, location and ownership including agreements or material issues with third parties	The exploration results in this report relate to Exploration Licences E28/2403, E28/2738 and ELA28/2957.
and land tenure status	such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	E28/2403 forms part of a joint venture between Constellation Resources Limited (70%) and Enterprise Metals Limited (30%, ASX:ENT).
		Under the terms of the JV agreement, Constellation Resources is required to sole fund all activities on these tenements until completion of a Bankable Feasibility Study.
		E28/2738 and ELA 28/2957 are 100% owned by Constellation Resources.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to	Tenure in the form of Exploration Licences with standard 5-year expiry dates which may be renewed.
	operate in the area.	There are no known impediments to obtaining a licence to operate in this area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous regional exploration on E28/2403, E28/2738 was undertaken by various companies and included, geophysical surveys, geochemical surveys and limited drilling. Historical geophysical surveys included an airborne electromagnetic survey. Geochemical surveys included soil sampling.
		WAMEX Open file search of historic drilling indicate two RC holes were completed in the area. Both holes are located outside the targeted areas outlined in today's release.
Geology	Deposit type, geological setting and style of mineralisation.	The targeted deposit types and styles of mineralisation are nickel- copper-cobalt (Ni-Cu-Co) magmatic sulphide systems such as the Nova-Bollinger deposit and Tropicana style gold mineralisation.

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Criteria	JORC Code explanation	Commentary
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	No drilling results reported.
	<ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	No drilling results reported.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	No drilling results reported.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	No drilling results reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used.
Relationship between mineralisati on widths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	No drilling results reported.
and intercept lengths	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	No drilling results reported.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Appropriate diagrams are included in the main body of this report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Reporting of the magnetic and gravity results is considered balanced.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater,	No additional meaningful and material exploration data has been excluded from this report.



Criteria	JORC Code explanation	Commentary
	geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further regional exploration related work planned for the Orpheus Project includes ongoing review of the historical exploration datasets and systematic follow-up geological mapping, rock sampling and geophysical surveys e.g. ground based EM surveys, over identified prospects and exploration targets. Drill testing (air core and/or RC percussion and/or diamond drilling) will be undertaken on priority targets identified.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	These diagrams are included in the main body of this report.