



# MONTEZUMA

## MINING COMPANY LTD

### Multiple Manganese Drilling Targets Identified by DDIP Survey at Woodie Woodie West

- ◆ Dipole-Dipole Induced Polarisation (DDIP) ground based geophysical program completed.
- ◆ High priority chargeability drill target identified in northern portion of tenement.
- ◆ Multiple second order chargeability and geological drill targets defined.
- ◆ Drilling to commence once statutory approvals and heritage clearances received.

Montezuma Mining Company Ltd ("Montezuma") is pleased to advise that a recent Dipole-Dipole Induced Polarisation (DDIP) ground based geophysical program undertaken at the Woodie Woodie West Manganese Project has identified a high priority target to be investigated. A drilling program will be completed as soon as practicable (see Figure 1).

DDIP has historically proven to be a successful exploration tool to identify manganese mineralisation in the Woodie Woodie corridor and has been successful in defining multiple targets at Woodie Woodie West.

Tenement E45/3548 lies immediately west of the world class high grade Woodie Woodie Manganese Mine in the East Pilbara region of Western Australia. Woodie Woodie has been producing manganese ore since the early 1950's from a series of deposits hosted within the Carawine Dolomite and Pinjin Chert Breccia. The mine produces ore with over 45% contained Mn and has produced in excess of 35Mt of ore to date.<sup>1</sup>

### ABOUT MONTEZUMA MINING

Listed in 2006, Montezuma Mining Company Ltd (ASX: MZM) is a diversified explorer primarily focused on manganese, copper and gold. The Company's primary objective is to achieve returns for shareholders through selected strategic acquisitions and targeted exploration.

Montezuma Mining has 100% interests in the Butcherbird Manganese/Copper Project in the Murchison region of Western Australia and the Mallee Project in the Yamarna Belt, Western Australia.

### DEC 2014 MARKET DATA

ASX code:	MZM
Share price:	\$0.14
Shares on issue:	70,464,350
Market capitalisation:	\$9.86m
Cash as at 30 Sept 2014:	\$8.88m

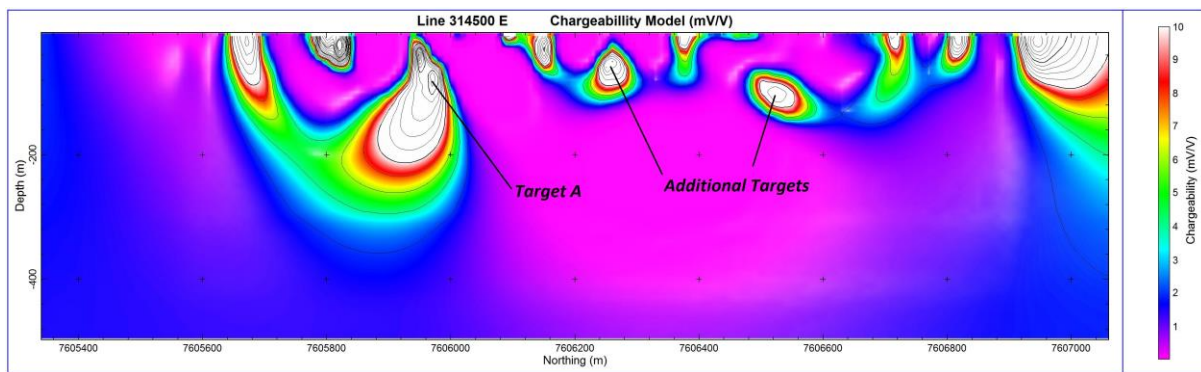
### BOARD AND MANAGEMENT

Chairman	Seamus Cornelius
Executive Director	Justin Brown
Non-Executive Director	John Ribbons
Chief Executive Officer	Mike Moore



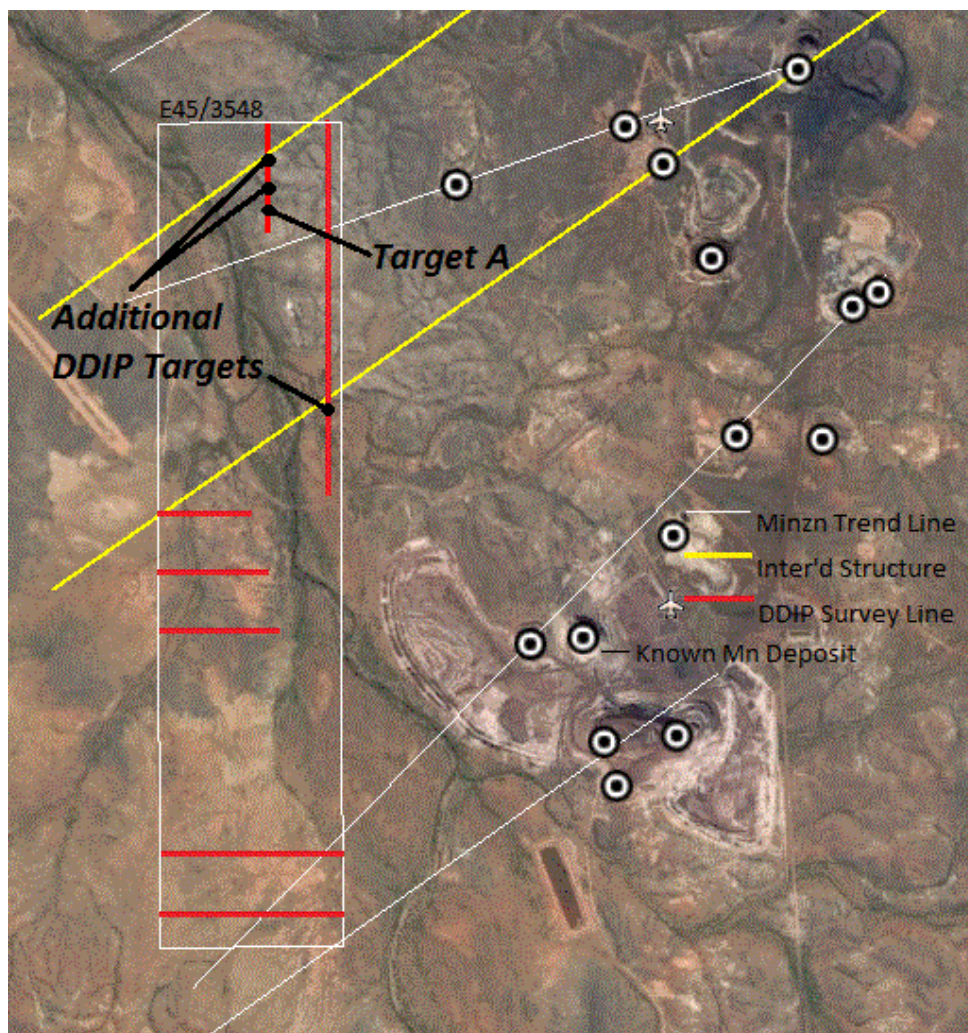
Company information, ASX announcements, investor presentations, corporate videos and other investor material on the Company's projects can be viewed at [www.montezuma.com.au](http://www.montezuma.com.au)

The Woodie Woodie West Project has been interpreted to have similar geology as that which hosts manganese mineralisation at the adjacent mine. To date the tenement has not been drill tested.



**Figure 1.** Chargeability model for the DDIP line identifying Target A.

Target A is a strong near surface DDIP chargeability anomaly with a peak chargeability value of in excess of 14 mV/V and is considered very high and potentially indicative of subsurface manganese mineralisation. The anomaly is in the northern central portion of the tenement and lies midway between an interpreted north-east structural trend and an interpreted north-east mineralisation trend. A known deposit of manganese mineralisation lies 1,300m to the east-north-east (see Figure 2).

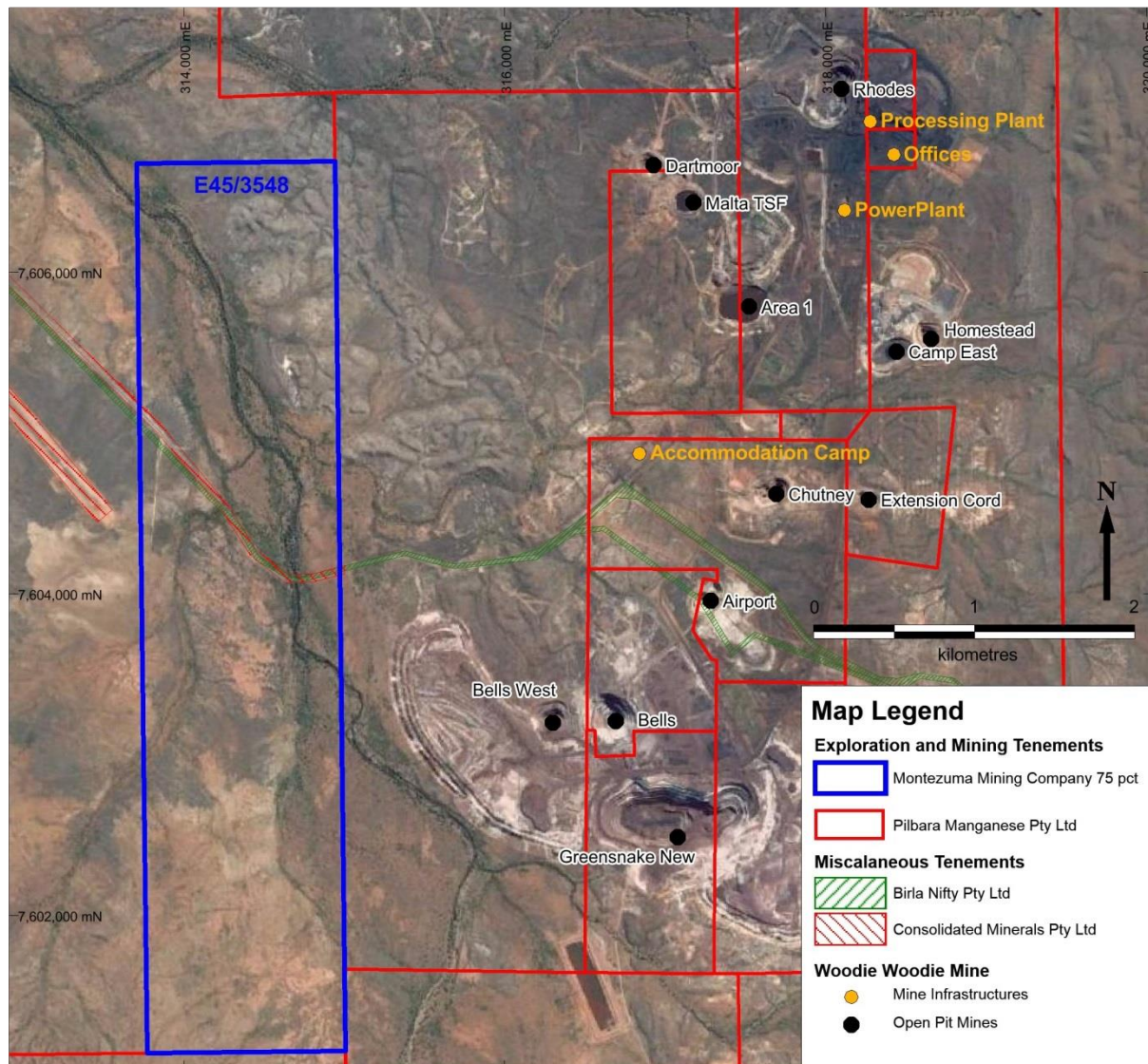


**Figure 2.** Tenement E45/3548 showing location of Target A in relation to interpreted trend lines.



A number of lower order chargeability anomalies have been identified along the 314500E traverse and are considered prospective and will be drill tested.

A reverse circulation (RC) drill program is currently being planned to test a number of targets generated by the recent DDIP program and will include Target A. Several geological targets will also be tested.



**Figure 3.** Woodie Woodie West tenement location and local infrastructure

<sup>1</sup>Jones, Sarah and McNaughton, Neal J. and Grguric, Ben 2013. Structural controls and timing of Fault Hosted manganese at Woodie Woodie, East Pilbara, Western Australia. Ore Geology Reviews. 50: pp. 52-82.

## FOR MORE INFORMATION...

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*The Information in this report that relates to exploration results is based on information compiled by Nat Cull, who is a member of the Australian Institute of Geologists. Mr Cull is a geologist who is a consultant to Montezuma Mining Company Ltd and 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 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Cull consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

## Appendix 1: JORC Code, 2012 Edition Geophysical results – Woodie Woodie West Project

### JORC Code, 2012 Edition – Table 1

#### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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 be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>No sampling is applicable to this announcement</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling is applicable to this announcement</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No sampling is applicable to this announcement</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling is applicable to this announcement</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>No sampling is applicable to this announcement</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No sampling is applicable to this announcement</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>No sampling is applicable to this announcement</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine</li> </ul>	<ul style="list-style-type: none"> <li>No sampling is applicable to this announcement</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>workings and other locations used in Mineral Resource estimation.</i></p> <ul style="list-style-type: none"> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>

## SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li>• <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Tenement E45/3548 is located in the East Pilbara region of Western Australia. Montezuma Mining Company Ltd has entered into an option agreement with Ucabs Pty Ltd ("UCABS"), whereby Montezuma may acquire 75% of UCABS's interest in the Woodie Woodie West Project.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No known exploration conducted by any other parties.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Precambrian rocks within the eastern Pilbara. Manganese mineralisation in this region consists predominantly of hydrothermally altered Carawine Dolomite.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>• 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: <ul style="list-style-type: none"> <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> </li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• No known drilling on E45/3548</li> </ul>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• 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').</li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>• Where comprehensive reporting of all Exploration Results is not</li> </ul>	<ul style="list-style-type: none"> <li>• No sampling is applicable to this announcement</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>• <i>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, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A total of 7,730m of Dipole Dipole Induced Polarisation geophysical test work was carried out over two north-south orientated lines and five east-west orientated lines on E45/3548. The two north-south lines identified four areas of interest, of which one is considered prospective in that it has returned a chargeability reading of 16mV/V. The top of the zone of interest has been interpreted to be less than 100m from surface. The remaining geophysical results have been interpreted to have identified deep Permian glacial till that has little prospectivity.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A Reverse Circulation drilling program is planned to test the four areas of interest identified by the DDIP geophysical program. It is too early, at this stage, to comment on possible extensions and step-out drilling. It is likely that a small number of geological targets will also be drilled during this relatively small campaign.</li> </ul>