

#### ASX: ADV

#### **Capital structure:**

Ordinary shares 433.5m

Options (Unlisted) 68.5m (various)

#### Shareholders:

Institutional 13% Board/Mgt 19% Retail 68%

Top 20: 56%

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# MULTIPLE NEW GRAPHITE TARGETS IDENTIFIED WITH EM REVIEW

Geophysical review has identified multiple new highly prospective targets at the Manitouwadge Graphite Project

#### **Key Points:**

- Ardiden has undertaken a detailed geophysical review of Electromagnetic ("EM") data on its Manitouwadge Jumbo Flake Graphite Project in Ontario, Canada.
  - The review has identified a number of new EM anomalies with lengths of up to 2,600m long, including a newly identified region immediately north of the area that was subject to the maiden drill program earlier in 2015 where significant jumbo flake graphite was intersected.
- A team has been mobilised to site to undertake a mapping and sampling program on the newly identified areas.
- An application for a work program aimed at targeting potential graphite zones identified with the EM data review will be lodged shortly.

Ardiden Limited (ASX: ADV) is pleased to advise that it has received a detailed geophysical review for its 100%-owned **Manitouwadge Jumbo Flake Graphite Project** in Ontario, Canada. The review of Ontario Geological Survey ("OGS") open file helicopter frequency domain electromagnetic data ("DIGHEM<sup>IV</sup>") by CSA Global (Johnson, 2015) has identified multiple new areas of potential graphite prospectivity on its existing tenement package (Figure 1). Locations are shown in UTM coordinates for NAD83 Zone 16.

The review has identified an untested area immediately to the north of a previous ground EM survey and Ardiden's March 2015 drill program that shows excellent conductivity. In addition, conductors of up to 2.6kms in length have been identified on 2 of Ardiden's tenements to the South East that will be subject to a sampling program in September ahead of a planned drill program in 4Q 2015. Drill core from the earlier program indicated that up to 80% of the graphite was jumbo and large flake in size (see ASX announcement dated 2 June 2015).

All areas are located approximately 25kms north/ north east of the town of Manitouwadge and have good access via a series of main and logging roads. A rail line and station is approximately 10kms to the north of the claim areas and a disused rail access way runs through the property.



Figure 1: Airborne EM target areas relative to Ardiden's claims at the Manitouwadge project.

The areas identified in Target EM11 are just to the north of the area that was drilled in March 2015 (see Figure 2 below).



Figure 2: Target EM11 - DIGHEM vertical coaxial 900 Hz image with OGS conductor picks, drill hole collars and outline of a previous ground electromagnetic survey. Solid circles are "dike"-like conductors and open circles are "surficial", as defined by the OGS.

The main part of the EM12 target is a complex, broad >800m long zone at the eastern end of a 3km trend (Figure 3). The response within this zone strongly resembles the response of the mineralised zone tested by MG-07 and MG-09.



Figure 3: Target EM12 image of 900Hz vertical coaxial in-phase response with OGS anomaly picks

The >2.6 km long EM13 anomaly consists of two continuous zones; one 480m in length and the other 1770m long (Figure 3). The character of the DIGHEM responses, particularly within the longer western zone, also resembles that observed in the mineralised zone tested by MG-07 and MG-09.



Figure 4: Target EM13 image of 900Hz vertical coaxial in-phase response with OGS anomaly picks

A team has been mobilised to site to undertake a sampling program on the newly identified areas. A work plan application is currently being prepared for submission to local authorities in advance of a planned 4Q 2015 drill program. A review of other areas of priority on Ardiden's tenements is ongoing.

Further updates will be provided as the program develops.

Board of Directors Ardiden Limited

#### ENDS

#### About the Manitouwadge Project

Located in an established mining province in Ontario, Canada, the Manitouwadge Jumbo Flake Graphite Project has been confirmed as an attractive near-term development opportunity following a highly successful recent diamond drilling program (see Ardiden ASX Announcement – 14 April 2015, including JORC 2012 Table 1).

Metallurgical testwork has indicated that up to 80% of the graphite is high value jumbo or large flake graphite. Testwork has also indicated that simple, low cost gravity and flotation beneficiation techniques can result in graphite purity levels of up to 95.6% for jumbo flake and 94% for large flake. Testing using the proven caustic bake process was able to produce ultra-high purity (>99.95%) graphite.

The information in this report has been reviewed by Dr Dennis Arne who is a Registered Professional Geoscientist of the Australian Institute of Geoscientists (#10064), and a Professional Geoscientist registered in the province of British Columbia, Canada (#34686). Dr Arne is a Principal Consultant to CSA Global, has more than five years relevant exploration experience, and qualifies as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Arne consents to the inclusion of the information in this report in the form and context in which it appears.

#### Forward-Looking Statement

This announcement may contain some references to forecasts, estimates, assumptions and other forward-looking statements. Although the company believes that its expectations, estimates and forecast outcomes are based on reasonable assumptions, it can give no assurance that they will be achieved. They may be affected by a variety of variables and changes in underlying assumptions that are subject to risk factors associated with the nature of the business, which could cause actual results to differ materially from those expressed herein. All references to dollars (\$) and cents in this presentation are to Australian currency, unless otherwise stated. Investors should make and rely upon their own enquires and assessments before deciding to acquire or deal in the Company's securities.

# JORC Code, 2012 Edition – Table 1

### **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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>	Not applicable
Drilling techniques	<ul> <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>	Not applicable
Drill sample recovery	<ul> <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>	Not applicable
Logging	<ul> <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>	Not applicable
Sub-sampling techniques and	<ul> <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</li> </ul>	Not applicable.

Criteria	JORC Code explanation	Commentary
sample preparation	<ul> <li>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>	
<i>Quality of assay data and laboratory tests</i>	<ul> <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>	Not applicable
<i>Verification of sampling and assaying</i>	<ul> <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>	Not applicable
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	UTM NAD83 Zone 16
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	100m line spacing
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Flight lines are orientated perpendicular to stratigraphy in the areas of interest.</li> </ul>
Sample security	I ne measures taken to ensure sample security.	

Criteria	JORC Code explanation	Commentary
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>The DIGHEM data have been reviewed and interpreted by a qualified geophysicist, Mr. Dave Johnson.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>All claims are in good standing and are 100% owned by Ardiden. These include claims 4268977, 4268978, 4268979, 4268934, 4268933, 4268952, 4268932, 4268953, 4268975, 4268976,4268935, 4279101, 4279121, 4279124, and 4279125.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	• The previous ground horizontal EM survey was carried out by Rare Earth Minerals Inc. and reported by Felix, 2012, Technical report on the Manitouwadge graphite exploration property at Manitouwadge, Ontario, Canada. 35 p.
Geology	Deposit type, geological setting and style of mineralisation.	Meta-sedimentary graphite
Drill hole Information	<ul> <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> <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> <li>An assessment of the helicopter EM data has indicated a general correlation between electromagnetic conductance and the presence of graphite mineralization in bedrock, as described by Johnson, 2015, Ranking of airborne electromagnetic targets, Manitouwadge graphite project, Ontario, Canada, 25 p.</li> </ul>
Data aggregation	<ul> <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</li> </ul>	Not applicable
methods	<ul> <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> </ul>	

Criteria	JORC Code explanation	Commentary
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship between mineralisation widths and intercept lengths	<ul> <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>	Not applicable
Diagrams	<ul> <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>	See body of the release for the locations of EM conductors relative to Ardiden claims.
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>The EM data shown in this release is only a small part of a much larger dataset compiled by the Ontario Geological Survey in 2002 and released as Geophysical Data Set 1205 - Revised.</li> </ul>
<i>Other substantive exploration data</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.	• Emphasis has been placed on determining grain size characteristics of graphite flakes and beneficiation testing, as per Item 49 of the 2012 edition of the JORC Code. The results of these tests have previously been reported.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further drilling of geophysical targets is planned following ground surveys to try and confirm the airborne EM targets.</li> </ul>