



**ARDIDEN**

ASX/Media Announcement

25 November 2015

## EXCELLENT METALLURGICAL TEST RESULTS AND DRILLING UPDATE

*Metallurgical testing confirms low cost gravity and flotation beneficiation can achieve 96.8% purity for jumbo and large flake graphite.*

**ASX: ADV**

**Capital structure:**

Ordinary shares  
607.4m

Options (Unlisted)  
80.0m (various)

**Shareholders:**

Institutional 12%  
Board/Mgt 16%  
Retail 72%

Top 20: 40%

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**Key Points:**

- **Latest metallurgical testwork on Manitouwadge graphite has shown that low-cost gravity and flotation beneficiation delivers outstanding graphite purity grades of 96.8% graphitic carbon (“Cg”) for jumbo flake and 96.8% Cg for large flake graphite.**
- **These grades are at the upper end of global peer comparisons and improve the potential sale price for the raw product, while also decreasing the processing cost to further purify the graphite to >99.95%.**
- **Further assays received from surface sampling at the centre of the 5.6km Silver Birch EM anomaly, with graphite grades of up to 16.8% Cg.**
- **Diamond core drilling program progressing well, with the predominant goal of confirming graphite mineralisation at depth at the Silver Star (2.6km EM anomaly) and Silver Birch (5.6km EM anomaly) prospects:**
  - **1,216m of drilling has been completed to date, with 14 of the 15 holes intercepting graphite mineralisation.**
  - **Core is being logged and sent to Actlabs in Thunder Bay for assaying and further metallurgical work. Assays are pending.**
- **Results from the drill program and further assay and metallurgical test work will be used to assess and prioritise key targets for further drilling in early 2016, with the aim of defining a maiden JORC compliant resource on the most prospective part or parts of the project.**

Ardiden Limited (ASX: ADV) is pleased to provide an update on key metallurgical test work and an interim update on its current drill program as it advances the development of the 100%-owned **Manitouwadge Graphite Project** in Ontario, Canada.

## Metallurgical Test Work

The Company has received initial positive feedback from leading Canadian laboratory, Process Research ORTECH Inc (“PRO”) which was contracted to undertake further beneficiation test work on graphite sourced from a surface bulk sample at the Manitouwadge Project. The surface sample was sourced from the Thomas Lake prospect and had a head grade of 11.4% Cg.

PRO was successful in using low-cost flotation and gravity beneficiation (see flow sheet in Figure 1 below) to achieve graphite grades of 96.8% for the jumbo flake graphite and 96.8% for large flake graphite. These grades are at the top end when compared with global peers.

Importantly, this is a significant improvement on the initial metallurgical testwork conducted in May 2015. From a market perspective, the higher purity improves the potential sale price for raw product, and also provides a higher-grade starting point (and hence lower marginal processing cost) for further purification of the product to >99.95%, which the Company successfully achieved in July 2015 with the proven caustic bake method.

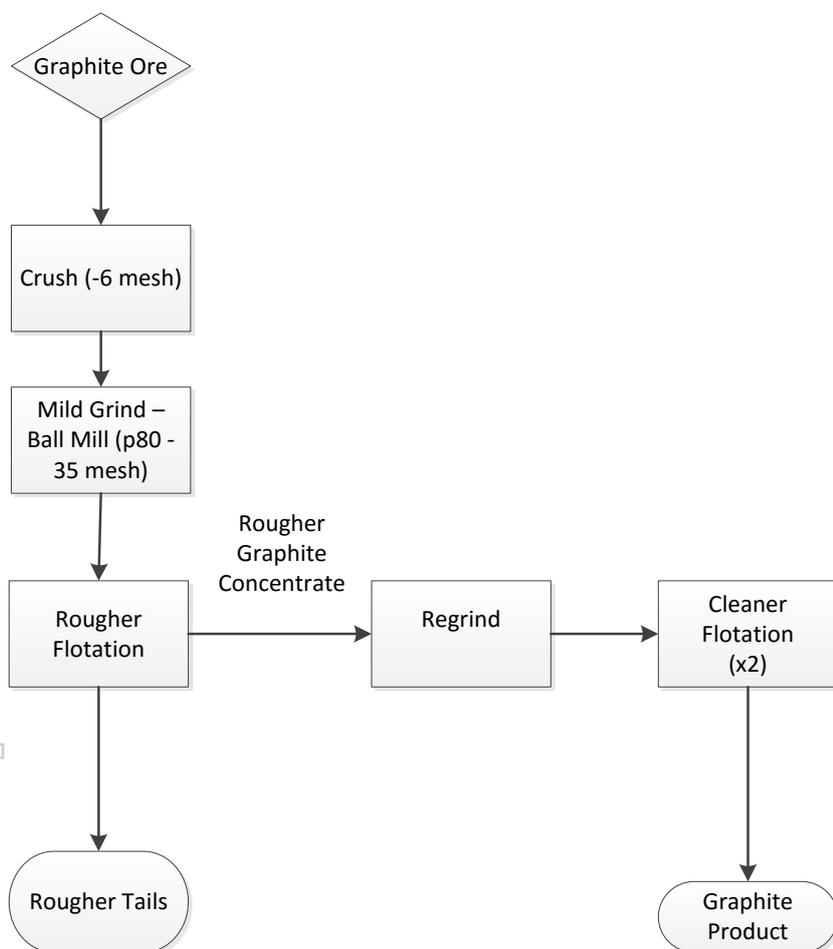


Figure 1: Process Flow Sheet used by Process Research Ortech Inc to test Manitouwadge graphite

The results and grades achieved for various flake sizes are set out in Table 1 below:

Size Fraction (Mesh)	Cum. Passing	Cum. Retained	C, Graphitic
	%	%	%
+30	97.95	2.05	97.40
-30 to +50	76.37	23.63	96.80
-50 to +70	52.74	47.26	96.80
-70 to +100	35.62	64.38	94.80
-100 to +140	23.46	76.54	95.20
-140 to +200	14.90	85.10	93.90
-200	0.00	100.00	77.60

Table 1: Screen analysis and C graphitic analysis

## Drilling Update

The diamond core drilling program is also progressing well at the Manitouwadge Project. The drill program is focussed on high-priority EM targets as confirmed by recent ground sampling.

- Favourable daily metreage rates have been achieved to date due to good weather conditions, short moves between holes and adequate pre-preparation including clearing a 1.6km access track along strike at Silver Star (achieved in two days). To date, 1,216m has been drilled and 14 of 15 holes have intercepted graphite mineralisation. Core is being logged and sent to Actlabs in Thunder Bay for assaying and further metallurgical test work.

Drilling has confirmed graphite continuity at depth at the new Thomas Lake and Silver Star prospects (see core sample from EM 12-05 at Silver Star below) and will move to the Silver Birch prospect later this week.



Figure 2: Graphite core from current drilling at Manitouwadge graphite project in Ontario, Canada (Hole EM 12-05 at Silver Star Prospect)

Silver Birch is a 5.6km long EM conductor where further ground sampling has resulted in grab sample assays of up to 16.8% Cg (NB: surface samples are not necessarily representative of graphite at depth). The locations of previous surface samples and newly assayed samples are shown in Figure 3 below.

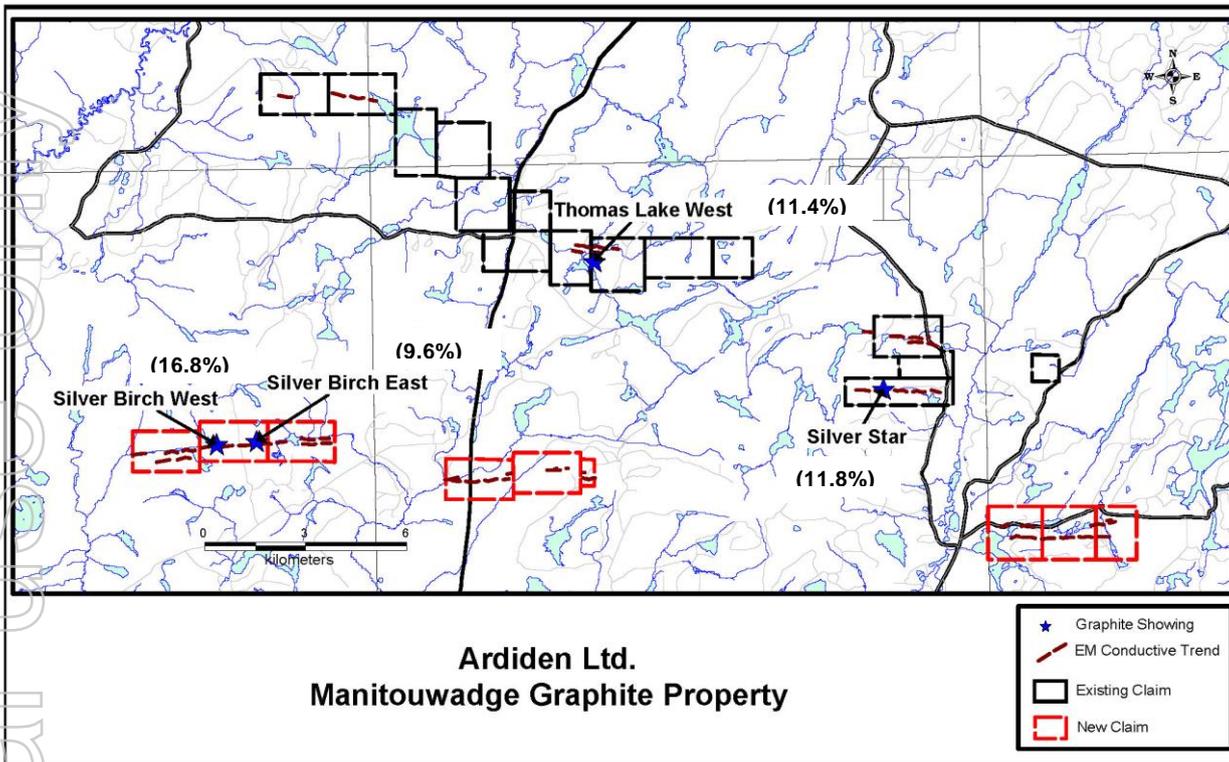


Figure 3: Manitowadge Graphite Project showing 19km of EM anomalies (in red) with graphite prospectivity and maximum grades from surface sampling achieved at each of the Thomas Lake, Silver Star and Silver Birch graphite showings. Surface samples are not necessarily representative.

The location of the Silver Birch samples (including newly received assays) is shown in Figure 4 below:

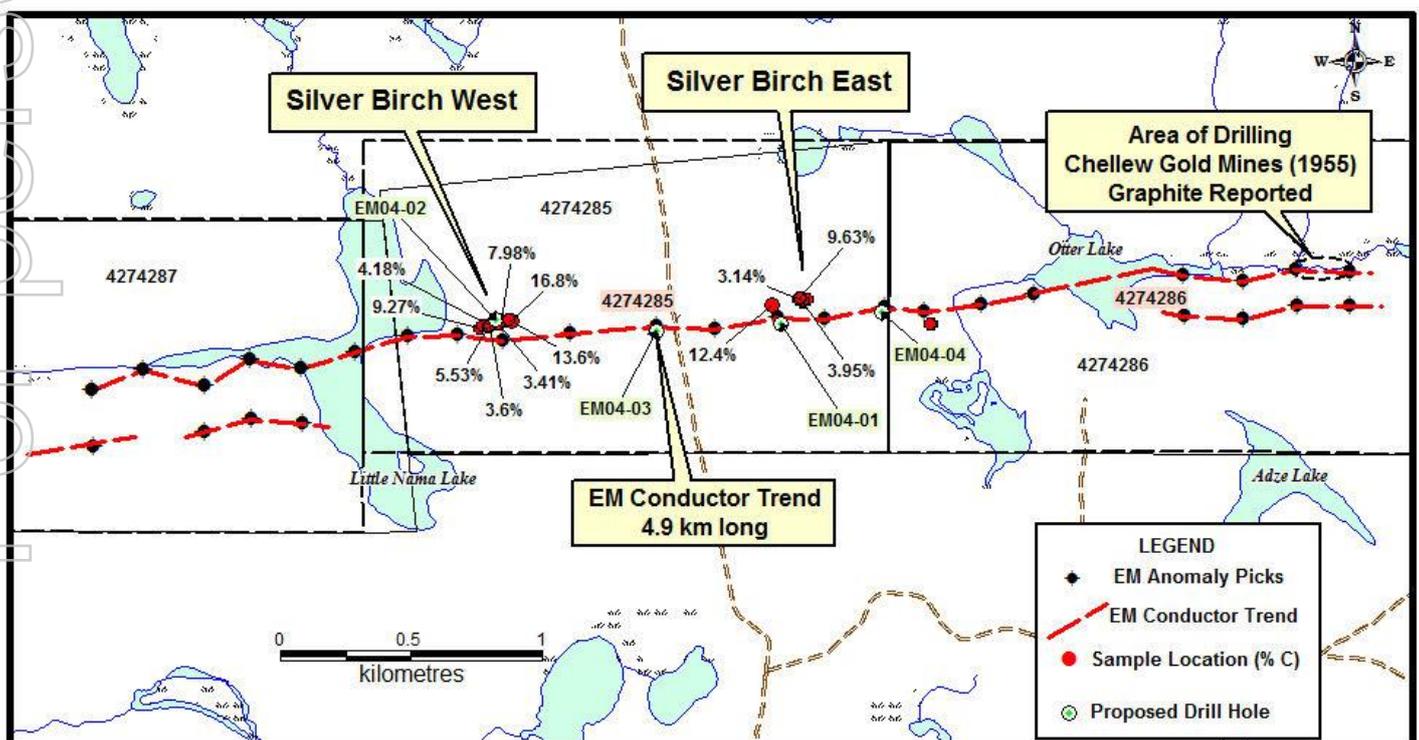


Figure 4: Locations of surface samples at Silver Birch prospect

The new drill program has been designed to target high-priority graphite targets identified as part of a recent geophysical review by CSA Global. The review enabled Ardiden to expand its mining claim package to 5,300Ha and triple the strike length of EM anomalies with graphite prospectivity to 19.3km.

The program comprises diamond drilling on newly identified areas where successful surface sampling has recently been conducted (see ASX announcement dated 8 October 2015), including Silver Star (2.6km EM strike length) and Silver Birch (5.6km EM strike length). Locations of completed holes are shown below.

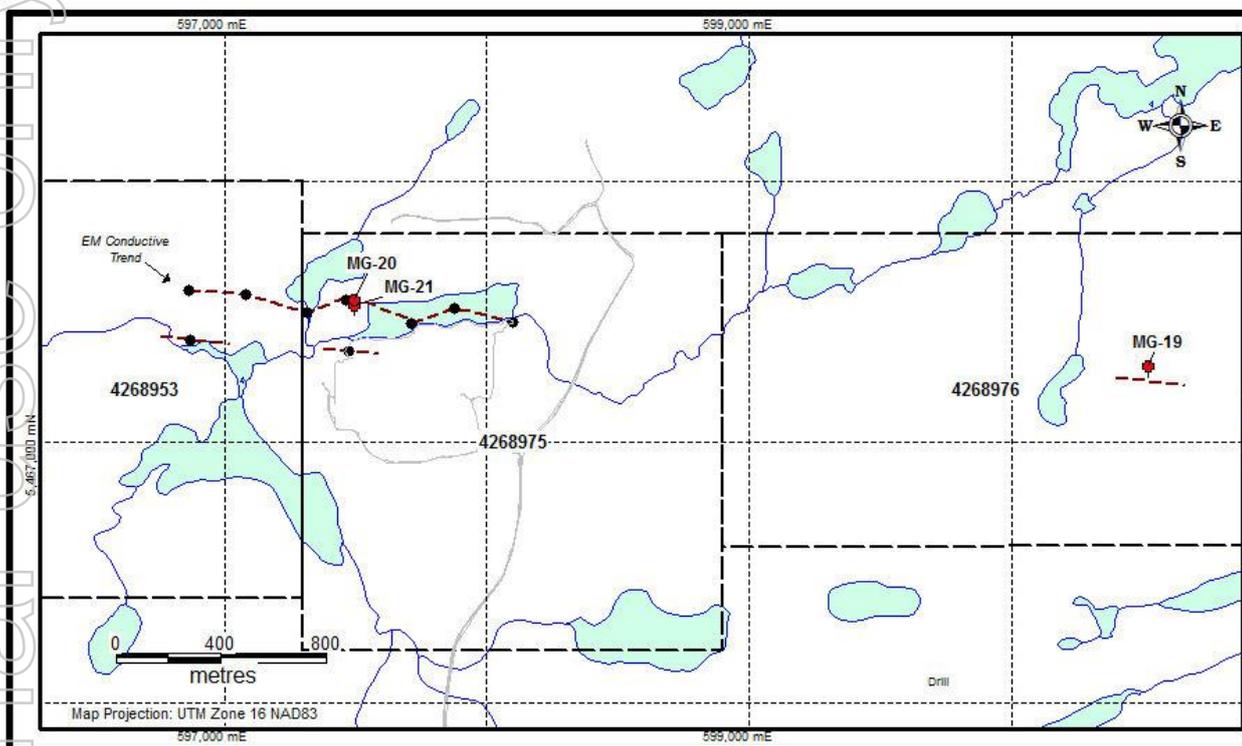


Figure 5: Locations of Thomas Lake area drill holes in current program

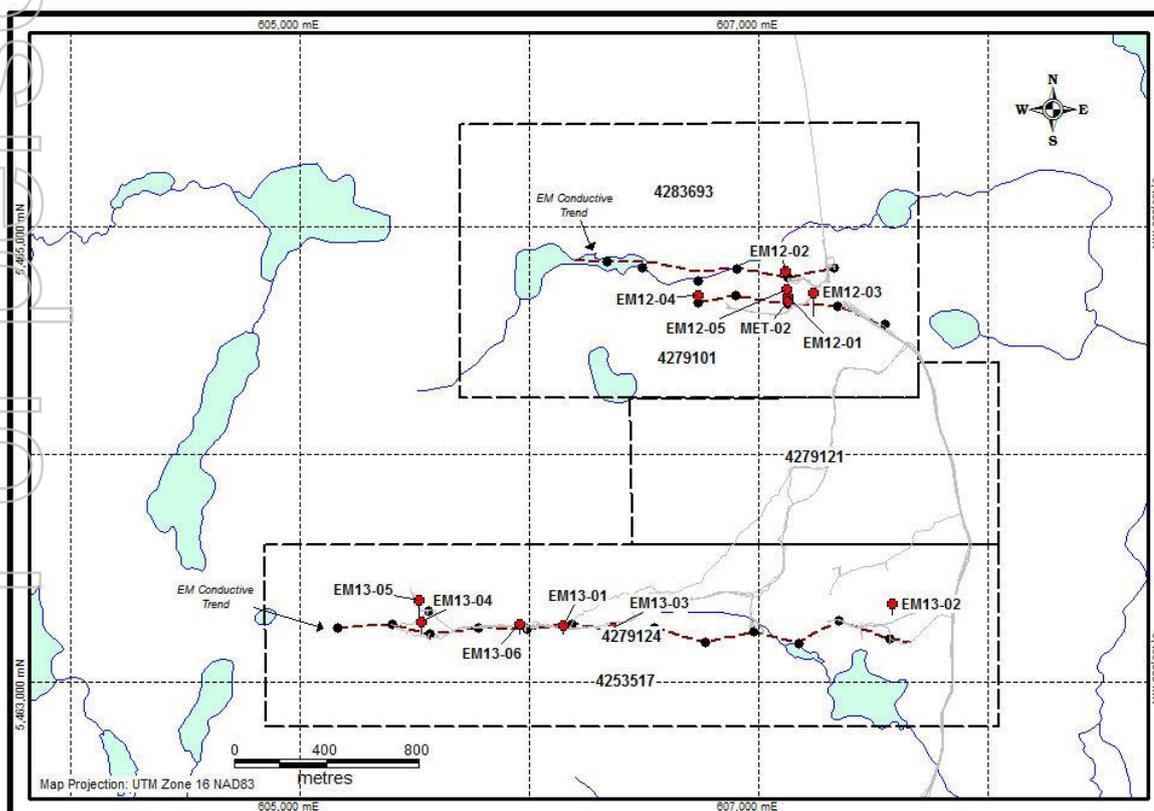


Figure 6: Locations of Silver Star area drill holes in current program

The key objectives of the drill program include confirming the continuation of graphite at depth based on EM work undertaken to date, undertaking assaying/beneficiation analysis and obtaining samples for analysis by potential users and customers of the product.

The program is expected to be completed by early December (although subject to extensions as required). Core is being sent to the Actlabs laboratory in Thunder Bay, Ontario for assaying and beneficiation test work. Assays are pending.

Further updates will be provided as they come to hand.

**Board of Directors  
Ardiden Limited**

**ENDS**

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**About the Manitouwadge Project**

The 5,300 Ha Manitouwadge Jumbo Flake Graphite Project is located in Ontario, Canada. The Project has a 19km strike length of EM anomalies with graphite prospectivity and is being subject to systematic exploration to determine areas that have potential to be a near-term development opportunity.

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 96.8% for jumbo flake and 96.8% for large flake. Testing using the proven caustic bake process was able to produce ultra-high purity (>99.95%) graphite. The graphite can also be processed into high value expandable graphite and produces a high quality graphene and graphene oxide.

*The information in this report has been reviewed by Mr Paul Nielsen who is a member of the Association of Professional Geoscientists of Ontario. Mr Nielsen 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". Mr Nielsen 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.

Appendix 1 – Graphite Grades and Co-ordinates from Surface samples

<b>Sample No</b>	<b>Easting</b>	<b>Northing</b>	<b>C%</b>
172508	606156	5463232	6.91%
172509	606158	5463231	6.69%
172513	587385	5461690	1.53%
172514	587373	5461683	3.95%
172515	587371	5461684	3.14%
172516	587354	5461693	9.63%
172517	607431	5464628	2.87%
172518	606158	5463240	10.30%
172519	605951	5463247	11.80%
172521	586133	5461574	9.27%
172522	586153	5461593	1.74%
172523	586174	5461588	5.53%
172524	586177	5461589	4.18%
172525	586179	5461590	3.60%
172526	586213	5461597	3.41%
172527	586253	5461612	13.60%
172528	597359	5461695	1.97%
147610	605514	5463343	6.91%
147612	587255	5461668	12.40%
147613	586261	5461610	16.80%
147614	586222	5461610	7.98%

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Appendix 2 – Drill Hole Details

Hole	Easting	Northing	Elevation	Length (m)	Azimuth	Dip
MG-21	597495	5467523	338	63	180	-45
MG-20	597497	5467543	338	70	180	-45
MG-19	600516	5467288	343	63	180	-45
EM13-01	606152	5463249	371	64	180	-45
EM13-02	607585	5463341	363	75	180	-45
EM13-03	606368	5463237	369	78	180	-45
EM13-04	605529	5463264	378	84	180	-45
EM13-05	605519	5463357	378	102	180	-45
EM13-06	605959	5463251	372	64	180	-45
EM12-01	607130	5464690	360	66	180	-45
EM12-02	607116	5464802	360	66	180	-45
EM12-05	607126	5464722	360	69	180	-45
EM12-03	607241	5464708	365	149	180	-45
MET-02	607130	5464671	362	102	0	-85
EM12-04	606739	5464699	364	73	180	-45

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# 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 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>Samples taken from the Silver Birch and Silver Star showings were grab samples on exposed outcrop observed to be mineralised in graphite.</li> <li>A bulk sample at the Thomas Lake West showing was obtained by cutting a series of 6–7 centimeter channel samples approximately 15 centimeters deep across the mineralised outcrop measuring about 1.5 by 1.5 metre area. .</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>Diamond wireline core drilling.</li> <li>Core size is BTW, core diameter is 40.7 millimeters</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>Sample intervals of core is measured and recorded along with descriptions in the completed drill log.</li> <li>Core within the mineralised zone tends to be massive and competent so loss in minimal and samples represents the true nature of the samples</li> </ul>
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>Samples represent half the core width, but are not logged to support appropriated Mineral Resource estimation at this early stage of exploration.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Sub-sampling techniques and sample preparation</i>	<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>• Core is split in half using a pressure hydraulic splitter with the remaining half retained in the core tray.</li> <li>• Mineralisation is massive and relatively uniform so assay samples closely represent the in situ material.</li> <li>• Samples taken average 1 meter intervals and are appropriate for the flake sized material being sampled</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<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>• Grab and core samples were analysed by Actlabs in Thunder Bay, Ontario Canada a SCC (Standards Council of Canada) accredited laboratory.</li> <li>• Metallurgical test work was carried out by Process Research ORTECH Inc. located in Mississauga, Ontario, Canada. Final assaying of processed materials was analysed by AGAT Laboratories located in Mississauga Ontario, Canada and is accredited by the following organizations; The Standards Council of Canada (SCC), The Canadian Association for Laboratory Accreditation (CALA) and QMI-SAI Global to the following standard ISO/IEC 17025:2005</li> </ul>
<i>Verification of sampling and assaying</i>	<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>• Drill logs and sample information is documented and stored digitally in field laptop units and backed up at the Stares Contracting exploration office located in Thunder Bay, Ontario</li> <li>• Holes have not been twinned at this early stage of exploration.</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Drill holes are located with handheld WAAS enabled handheld GPS units (+/- 3m accuracy) set for recording UTM NAD83 Zone 16 projection coordinates.</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>• Core samples of the graphite mineralised zone are taken at approximately 1 meter intervals and deemed appropriate to represent the in situ nature of the mineralization.</li> <li>• Compositing has not been applied at this early stage of exploration.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Flight lines are orientated perpendicular to stratigraphy in the areas of interest.</li> <li>Drill holes are designed to intercept the mineralised zone as close to true width as possible to avoid sampling bias.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Samples were bagged and tagged by contract personnel and transported directly to the respective accredited laboratories.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <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
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>All claims are in good standing and are 100% owned by Artiden. 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 style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Archean meta-sedimentary graphite</li> </ul>
Drill hole Information	<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</li> </ul>	<ul style="list-style-type: none"> <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> <li>Drill hole information including Easting and Northing of drill collars, elevation, dip and azimuth and down hole length and interception depth has been documented.</li> </ul>

Criteria	JORC Code explanation <i>why this is the case.</i>	Commentary
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>With only %C reported and homogeneity of the mineralised material sample intervals for the most part are kept at near the 1 meter interval.</li> <li>Weighted averaging are used when intervals are not uniform.</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>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').</i></li> </ul>	<ul style="list-style-type: none"> <li>Mineralised zones are steeply dipping and drilling is designed to intercept perpendicular to the zones as closely as possible.</li> <li>Drill dips are initially at -45 degrees so drill intercepts of steeply dipping mineralization represents close to 90% of true width.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>See body of the release for the locations of EM conductors relative to Arden claims.</li> <li>Drill cross section and plan maps will be generated once assay result have been received.</li> </ul>
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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> <li>Drill intercepts with very high grade will be noted as a Data subset to avoid misleading information.</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>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.</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>Further drilling of geophysical targets is planned following ground surveys to try and confirm the airborne EM targets.</li> </ul>