

30<sup>th</sup> January 2014**ASX CODE: IFE****DIRECTORS****Robert Mencel**

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**PRINCIPAL OFFICE**307 Pulteney Street  
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SUCCESS AT WILCHERRY HILL**

The Directors of IronClad Mining Limited (ASX: IFE) release the attached updated JORC Code, 2012 Edition information to replace the JORC information released 28<sup>th</sup> January 2014 within the ASX announcement entitled 'More Manganese exploration success at Wilcherry Hill'.

**JORC COMPLIANCE – CONSENT OF COMPETENT PERSON**

The information in this announcement that relates to exploration results is based on information compiled by Chris Mroczeck, who is a Member of The Australasian Institute of Mining and Metallurgy and who has more than five years' experience in the field of activity being reported on and is the Chief Geologist of the Company.

Mr. Mroczeck has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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'. Mr. Mroczeck consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**DISCLAIMER**

This report contains certain forward-looking statements. The words 'anticipate', 'believe', 'expect', 'project', 'forecast', 'estimate', 'likely', 'intend', 'should', 'could', 'may', 'target', 'plan' and other similar expressions are intended to identify forward-looking statements. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements.

Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of IronClad, and its officers, employees, agents and associates, that may cause actual results to differ materially from those expressed or implied in such statements.

Actual results, performance or outcomes may differ materially from any projections and forward-looking statements and the assumptions on which those assumptions are based.

You should not place undue reliance on forward-looking statements and neither IronClad nor any of its directors, employees, servants or agents assumes any obligation to update such information.

**- ENDS -****CONTACT:****IRONCLAD**

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## Appendices: Supporting Information

### JORC Code, 2012 Edition – Table A1

#### 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>Industry standard reverse circulation drilling of 7 holes was undertaken to investigate the Hercules East Mn Prospect. Reverse circulation drilling was used to obtain downhole samples of drill cuttings at 1m intervals in each hole.</li> <li>The drillhole location is picked up by handheld GPS. Sampling is carried out following industry standard and applying QA-QC procedures as per industry best practice.</li> <li>From the 1m bulk sample of drill cuttings, approximately 2 - 3kg was split and submitted for XRF analysis for the elements of interest</li> <li>Elements of interest are manganese and iron – sampling technique described above is considered appropriate for these bulk commodities</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>The reverse circulation drilling program comprised 7 drillholes for 666m RC face sampling bit diameter used was 5 ½ inch</li> <li>Drill rods were 6m in length</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 quantitative assessment was made of drill chip recoveries during drilling.</li> <li>Qualitative assessments of drill chip recovery based on visual inspection of 1m sample quantity were made by the onsite geologist. 90% of intervals samples were assessed at &gt;95% recovery</li> <li>After each metre interval the driller pauses to ensure the sample stream is cleared and cyclone cleaned, and after each rod (6m) the hole is cleared before sample collection recommended</li> <li>No relationship is evident from assessment of qualitative recovery and reported manganese / iron grades.</li> <li>Good design on the drill rig used prevented large volumes of fines and dust</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>	<p>loss when drilling into dry ground, minimising the potential for bias.</p> <ul style="list-style-type: none"> <li>• All RC cuttings were geologically logged at 1m intervals and representative cuttings placed in chip trays and retained as a permanent record.</li> <li>• All logging is done following standard IFE procedures. Information is digitally logged directly into spreadsheets on site then uploaded into a master database after verification.</li> <li>• All chip trays have been photographed.</li> <li>• Observations of manganese and iron mineralisation were recorded at the time of drilling.</li> <li>• All holes were logged from start to finish</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 <i>in situ</i> 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>• Each 1m bulk sample was split through a 1 in 8 hydraulically operated riffle splitter mounted under the cyclone of the drill rig. Sampling was dry</li> <li>• The 2 – 3kg subsample was submitted to Amdel - Bureau Veritas Laboratory in Whyalla, South Australia for analysis.</li> <li>• Nominal one in ten (10%) of all samples submitted by the Ironclad are field duplicates</li> <li>• Each sample submitted is crushed to a nominal 4mm then milled in a pulveriser to 90% passing 106µm.</li> <li>• An analytical pulp of 250g is taken and the residue retained.</li> <li>• A 0.66g subsample of the analytical pulp is fused with 7.2g of lithium metaborate to form a 40mm glass disc which is then presented to an XRF for the determination of elements of interest.</li> <li>• Sample sizes are considered to be appropriate for the material sampled.</li> <li>• The assay method has been specifically chosen for each element based on advice from Amdel - Bureau Veritas.</li> <li>• Total analysis was carried out using XRF for a routine suite of 11 elements and a gravimetric method was used to analyse LOI (loss on ignition). The components analysed by XRF Al2O3, CaO, Fe, K2O, MgO, Mn, Na2O, P, S, SiO2, TiO2.</li> <li>• No hand held tools were used</li> <li>• Nominal one in twenty (5%) of all samples submitted by Ironclad are reference standards</li> </ul>
Quality of assay data and laboratory tests		

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• Nominal one in twenty of all samples are analysed in duplicate by the laboratory</li> <li>• Blanks and reference materials are randomly inserted by the laboratory into every rack of samples.</li> <li>• Laboratory used has adopted the ISO 9001 Quality Management Systems. NATA (ISO17025) certified reports are available.</li> <li>• Levels of accuracy and precision are within control limits</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>• Ironclad's Chief Geologist has confirmed the mineralisation through visual inspection on site and matching the assay data with logged intervals and drill chip photography.</li> <li>• No twinned holes have been drilled.</li> <li>• All Information is digitally logged directly into spreadsheet on site then uploaded into a master database after verification by the database manager</li> <li>• Each sample bag is labelled with unique sample number assigned at point of sampling in field.</li> <li>• Sample number is used to match assay's from laboratory to in-house database containing drillhole coordinate data, geological log and sample description.</li> <li>• No assay data has been adjusted.</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 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>• All holes were surveyed by handheld GPS to <math>\pm 3\text{m}</math> accuracy. Surveying with differential GPS to <math>\pm 0.5\text{m}</math> accuracy will be completed at later stage if warranted by ongoing project prospectivity</li> <li>• All survey information is in Datum MGA 94 Map Projection UTM ZONE 53 South</li> <li>• Downhole surveys were carried for all holes using a Ranger digital single shot camera. Shots were taken inside the stainless steel lead drill rod.</li> <li>• Topographic data is accurate to 0.5m using data collected from magnetic and gravity surveys.</li> <li>• Samples were collected at 1m intervals downhole for each drillhole.</li> <li>• Drillhole grid spacing was nominal 50m x 50m. Drill pads are sited to minimise environmental damage therefore actual spacing may vary.</li> <li>• Drillhole data distribution and spacing is not considered sufficient to applied.</li> </ul>
Data spacing and distribution		

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Whether sample compositing has been applied.</li> </ul>	<p>establish geological and grade continuity to support the definition of Mineral Resource for a bulk commodity mineral (Mn) in a banded iron formation.</p> <ul style="list-style-type: none"> <li>2-3 m composting of the 1m drill samples was undertaken outside of the mineralised zones prior to assaying. 20 composites were submitted representing 8% of the total metres drilled</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<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>Drillholes were sited on three east -west orientated lines. Drill direction was across the interpreted strike of the rock units. At this early stage of exploration, the drilling orientation is testing the mineralisation trend and structure</li> <li>Orientation of the rock units, major structures and prospective mineralised zones is interpreted to strike to the North and dip to the west. No introduced sampling bias is apparent at this stage</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Sampling conducted by Ironclad staff. Samples delivered to Laboratory by Ironclad staff</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> <li>No audits or reviews have been undertaken at this time</li> </ul>	

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<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>Exploration Licence EL 5164. Licensee is Trafford Resources Ltd. Ironclad Mining Ltd has joint venture agreements in place with Trafford that give it rights to the iron and manganese.</li> <li>The tenement is in good standing and currently expires 12/11/2014</li> <li>The tenement is located on Pastoral land</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties</li> </ul>	<ul style="list-style-type: none"> <li>Extensive historical exploration has been conducted in the region for base metals, precious metals and uranium. Apart from exploration by Ironclad since 2008, no exploration had been conducted by past explorers at the site of this drilling for manganese.</li> <li>Open file reports on past exploration are available from the South Australian Dept. for Manufacturing, Innovation, Trade, Resources and Energy</li> </ul>

Criteria	JORC Code explanation	Commentary
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>The iron and manganese mineralisation explored for occurs within Banded Iron Formation (BIF) rocks of the Palaeoproterozoic Hutchison Group metasediments.</li> <li>The Hercules East Mn Prospect is still considered at this stage to represent a BIF target. The manganese rich zones characterise the BIF sequence in this area. XRD analysis confirmed the principal manganese mineral as pyrolusite (<math>MnO_2</math>) (IFE ASX Release 30 October 2013). Rhodochrosite was observed at depth in the fresh rock during this current drilling</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:</li> </ul>	<ul style="list-style-type: none"> <li>Drillhole collar information is listed in Table A2 below. In summary:           <ul style="list-style-type: none"> <li>6 holes were drilled at an angle of -60 degrees to the east (090deg)</li> <li>1 hole was drilled at an angle of -60 degrees to the west (270deg) to confirm assumptions made on the west dip of the rock units.</li> </ul> </li> </ul>
Data aggregation methods	<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> <p>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.</p>	<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>The results consist of weighted average by sample length constrained by application of grade cut offs and minimum downhole widths.</li> <li>Weighted average technique by sample length was used to define the significant intercepts in order to give a balance representation of the mineralisation.</li> <li>Assay results are listed below in Tables A3 and A4</li> <li>Table A3 lists manganese intercepts using a cut off of 10% Mn and minimum 3m downhole width</li> <li>Table A4 lists iron intercepts using a cut off of 25% Fe and minimum 3m downhole width.</li> <li>The cut off criteria used are regarded as significant from an exploration perspective in delineating potential zones of Mn and Fe rich banded iron formation mineralisation with the potential to be upgraded via</li> </ul>

Criteria	JORC Code explanation	Commentary
		beneficiation processes.
Relationship between mineralisation widths and intercept lengths	<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 metal equivalents have been used</li> <li>Geometry of the high grade manganese mineralisation in relation to the interpreted ≈ 45 degree west dipping, north striking, banded iron formation unit is at present unknown. Supergene enrichment is thought to play a role in the distribution of the manganese mineralisation.</li> <li>Downhole lengths are reported in Table A3 &amp; A4 are not true widths.</li> </ul>
Diagrams	<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>Figure A1 below shows the locations of all drillholes</li> <li>Figure A1 below shows the locations of all drillholes</li> </ul>
Balanced reporting	<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>Summary assay results presented in the body of the text and full results in Tables A3 and A4 below are considered to represent the the significant intercepts of the Mn &amp; Fe mineralisation encountered in the holes. Intervals not quoted are below the cut-off criteria.</li> </ul>
Other substantive exploration data	<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>All relevant data collected so far have been reported.</li> <li>Continuous disclosures of Exploration Results are found in periodic releases and Quarterly reports to the ASX.</li> <li>Refer: IFE ASX Release 30 October 2013</li> </ul>
Further work	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Further drilling will be planned once results from this phase of drilling have been interpreted.</li> <li>No diagrams showing possible extensions, interpretations and future drilling areas have been included at this time.</li> </ul>