

## Phase 3 Update: More Massive Sulphides at Kildare

*Thick zone of massive sulphides intersected at McGregor*

### Key Points:

- Massive sulphides intersected in Base of Reef target at McGregor
- All holes completed so far at McGregor in Phase 3 have intersected zinc mineralisation in massive sulphides
- Additional samples dispatched for assay; initial Phase 3 assays imminent
- Holes 5 and 6 now underway

European base metals explorer Zinc of Ireland NL (ASX: ZMI – “ZMI” or “the Company”) is pleased to provide a further update on the ongoing Phase 3 drilling program at its 100%-owned **Kildare Zinc Project** in Ireland, where the first four holes have now been completed, two more are currently in progress and first assays are expected shortly.

The Phase 3 program is designed to test extensions to zinc-lead mineralisation at the *McGregor Prospect* (Figure 1), which hosts the majority of the Kildare Inferred JORC Resource comprising **5.2Mt @ 8.6% Zn+Pb**, and to follow-up the recent discovery at the *Celtic Tiger Prospect* along the western margin of the Allenwood Graben, approximately 1km west of McGregor (Figure 1).

Two drilling rigs are in operation.

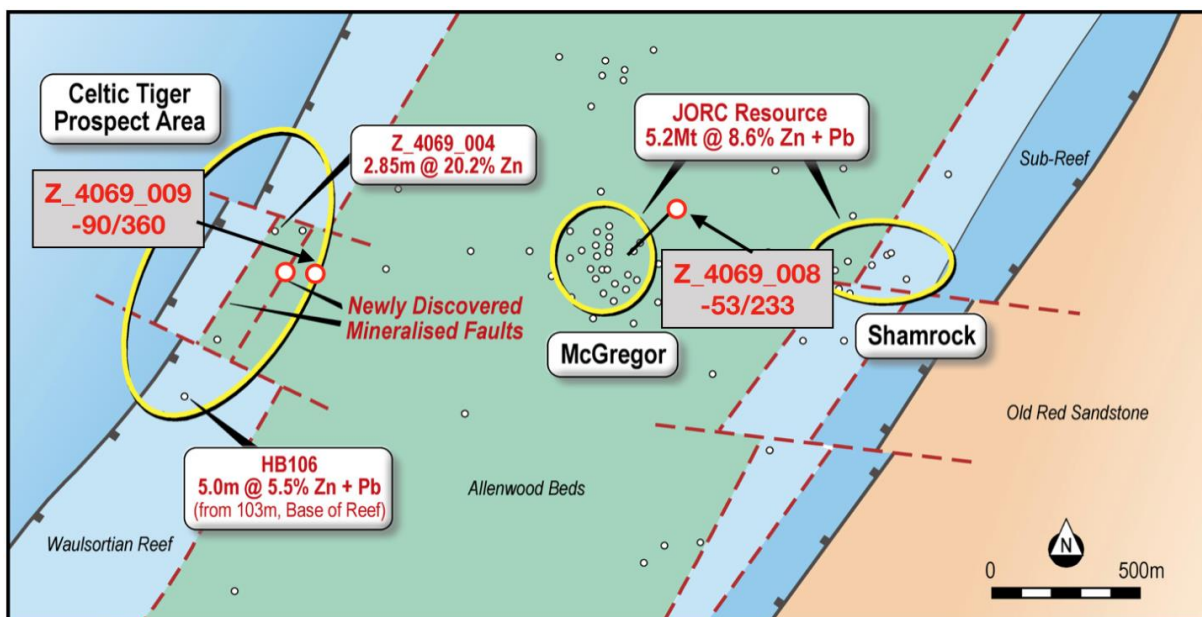


Figure1: Geological plan showing Kildare Phase 3 Prospects and drill hole locations within and along the margins of the Allenwood Graben (Note: Drill holes shown are deeper than 200m).

The second drill hole at the McGregor Prospect, Z\_4069\_008, has intersected zinc mineralisation in the form of sphalerite (ZnS) in zones of massive sulphides, breccias and fault mineralisation in the Base-of-Reef target (Figure 2). Sample preparation is ongoing, and a second batch of samples has been dispatched to the Lab for assay.

**Table 1: Collar locations and survey details for Z\_4069\_008 at McGregor.**

Hole ID	Easting	Northing	Elevation	Azimuth	Dip	Total Depth
Z_4069_008	276253	224938	78	233	-53	575.1

The Company is encouraged by the Phase 3 drilling at McGregor, where both holes have intersected massive sulphides, breccias and fault mineralization (see also ASX announcement dated 21 September 2017 in relation to Z\_4069\_006).



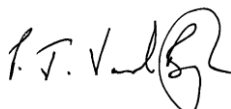
*Figure 2: Massive sulphides in Z\_4069\_008 at the McGregor Prospect. From 497.0m to 500.7m down-hole (visual estimate, sphalerite, tan, 9%, galena 1-2%, marcasite, greenish, 25%); 502.40 to 509.05 (visual estimates, sphalerite, 9%, galena 2-4%, marcasite, 15-18%) and 509.05 to 511.90 (visual estimates, sphalerite, 4%, galena 2%, marcasite, 50%).*

The positive observations from the Phase 3 program at McGregor build on the spectacular intercept of **23.25m @ 13.5% Pb+Zn** including **7.69m @ 18.2% Zn+Pb** (true thicknesses) encountered in hole Z\_4069\_003 of the Phase 2 drilling program, which was drilled after the calculation of the Company's maiden Inferred JORC Resource comprising **5.2Mt @ 8.6% Zn+Pb** (see ASX announcement dated 23 June 2017).

ZMI anticipates receiving assay results for McGregor samples in the next week or so. The results will be incorporated into planning additional holes required to achieve the objective of increasing the Company's current Inferred JORC Resource.

ZMI looks forward to providing additional updates to shareholders as the Phase 3 drilling program continues.

Yours faithfully,



**Peter van der Borgh**  
Managing Director  
Zinc of Ireland NL

**Investor Inquiries:**

Peter van der Borgh  
Zinc of Ireland NL  
Tel: +44 7881 027 036  
Email: [peter@zincofireland.com](mailto:peter@zincofireland.com)

**Media Inquiries:**

Nicholas Read  
Read Corporate  
Tel: +61-8 9388 1474  
Email: [nicholas@readcorporate.com.au](mailto:nicholas@readcorporate.com.au)

**Competent Person Statement**

*The information in this document is based on information compiled by Mr Peter van der Borgh, BSc (Hons, 1<sup>st</sup> Class), a Competent Person who is a Fellow of the Geological Society of London. Mr van der Borgh is a director and shareholder of Zinc of Ireland NL. Mr van der Borgh has sufficient experience, which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which has been 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 van der Borgh consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

**Disclaimer**

*Certain statements contained in this announcement, including information as to the future financial or operating performance of ZMI and its projects, are forward-looking statements that:*

- *may include, among other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;*
- *are necessarily based upon a number of estimates and assumptions that, while considered reasonable by ZMI, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and,*
- *involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.*

## ADDITIONAL INFORMATION

### JORC CODE, 2012 EDITION – TABLE 1

The following sections are provided for compliance with requirements for the reporting of exploration results under the JORC Code, 2012 Edition.

#### Section 1 Sampling Techniques and Data

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

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>Sampling is by half core (generally NQ diameter) of mineralised sections only. The entirety of the drill hole has not been sampled and additional samples, if collected, may be reported at a later time.</li> <li>Sampling is based on the observations of the site geologist, including visual mineralisation, degrees of brecciation and faulting, veining, and alteration. Sampling typically extends beyond the zones of interest.</li> <li>The visual core samples presented in this report are selected as examples to show those aspects of the core mentioned within, namely massive sulphide, brecciated and faulted. Reference to visual %'s are estimates only, and specific to the samples depicted.</li> <li>N/A</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 drilling, PQ, HQ and NQ sized.</li> <li>Upper portions of the drill holes were triple tubed or tri-coned to increase hole stability.</li> <li>The core was orientated topside using a Reflex ACT tool. Vertical holes are not orientated.</li> </ul>

Criteria	JORC Code explanation	Commentary
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>Drill core had recovery lengths and RQD estimated.</li> <li>Triple tubing was used to stabilise the hole.</li> <li>There does not appear to be a relationship between recovery and grade.</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>Drill holes are logged by a competent representative geologist in Ireland. The detailed logging is ongoing and should support addition into a mineral resource estimate at a later date.</li> <li>Where possible, a visual estimate of mineral types and amounts and interpreted lithology is completed using a standardised logging template.</li> <li>Photography of mineralised zones is completed prior to sample prep.</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>Core has been sampled by cutting in half before lab preparation.</li> <li>The sample preparation is considered "industry standard" for this sample type.</li> <li>A representative selection of submitted samples comprised duplicates, blanks and standards which were unbeknownst to the assaying laboratory. The laboratory also conducted internal QAQC checks.</li> <li>Field duplicates, blanks and standards for the submitted assays are required to pass internal and ZMI QAQC checks and standards.</li> </ul>



Criteria	JORC Code explanation	Commentary
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>Samples are assayed by a multi element oxidising digestion with an inductively coupled plasma atomic emission spectroscopy finish (ICP-AES). A selection of samples also have specific gravity (S.G.) measured.</li> <li>Samples have been submitted for the same procedure as previous comprising ore grade analysis for base metals and associated elements by ICPAES, following a strong oxidizing acid digestion. Elements (low reporting limit/upper limit) –units are % unless indicated otherwise: Ag (1/1500 ppm (µg/g)), As (0.005/30.0), Bi (0.005/30.00), Ca (0.01/50.0), Cd (0.001/10.0), Co (0.001/20.0), Cu (0.005/40.0), Fe (0.01/100.0), Hg (8/10000 ppm (µg/g)), Mg (0.01/50.0), Mn (0.005/50.0), Mo (0.001/10.0), Ni (0.001/30.0), P (0.01/20.0), Pb (0.01/30.0), S (0.05/50.0), Sb (0.005/100.0), Ti (0.005/1.0), Zn (0.01/100.0).</li> <li>Field duplicates, blanks and standards for the submitted assays have all surpassed internal and ZMI QAQC standards.</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>Drill core is typically inspected by several contract and ZMI geologists. Such interaction forms the basis of continuous development of models, discussion of new concepts, and planning all of which are paramount in the exploration process.</li> <li>Holes were not twinned.</li> <li>Information from the drill logs is regularly updated into the drill hole database using appropriate validation protocols.</li> <li>N/A</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>Initial surveys are by hand-held GPS in Irish Grid 65.</li> <li>Collars have been surveyed either by handheld GPS or by a differential GPS: Trimble GPS6000 (RTK GPS accurate to 5mm)</li> <li>Downhole surveys are by Relfex EZ-TRAC and are displayed in Appendix 2.</li> <li>Location of the collar and downhole information is considered appropriate for this stage of exploration.</li> </ul>
Data spacing and distribution	<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> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drill collars are not at a standard data spacing but are placed to intersect maximum metal grades (see plan view maps above).</li> <li>Data spacing for the results contained in this report are not appropriate for resource estimation alone.</li> <li>N/A</li> </ul>

Criteria	JORC Code explanation	Commentary
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>Previously reported assay results at McGregor have been in true thicknesses. It is anticipated that the assays results from these samples will also be reported as true thicknesses to alleviate any undue bias.</li> <li>As and when the actual orientation of mineralisation at Celtic Tiger is understood, true thicknesses would be reported there also.</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 under the custody of company representatives in-country until delivery to the lab.</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>No audits or reviews have taken place.</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>The Kildare Project is comprised of 7 tenements namely PL3846, PL3866, PL4069, PL4070, PL4072 and PL4073, PL890.</li> <li>All tenements are 100% owned by Raptor Resources, a subsidiary of Zinc of Ireland NL.</li> <li>No historical, wilderness or national parks are known to infringe significantly on the tenure.</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>Historical exploration is outlined in GXN Announcement dated 17<sup>th</sup> March 2016 and associated annexes.</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>The Kildare Project is situated approximately 2km NW of the Lower Paleozoic Kildare Inlier on a northeast-southwest trending reverse fault. Local geology consists of sediments conformably overlying Carboniferous Waulsortian Mudbank. This mudbank overlies a thick succession of carbonates and limestones atop basement volcanics.</li> <li>The area is considered prospective for breccia-hosted Fe-Zn-Pb deposits (a Mississippi Valley-type mineralisation style).</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 why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Z_4069_006: 275,253mE, 224,938mN, 78mAOD, -58.5° dip, 230° azimuth, total depth 583.5m.</li> <li>Z_4069_008: 276,253mE, 224,938mN, 78mAOD, -53° dip, 233° azimuth, total depth 575.1m.</li> </ul>



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<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 Assay results have been reported in the current program and drilling is ongoing.</li> <li>The visual samples depicted in this report are type examples of various styles of mineralisation mentioned in this report. The visual estimates relate only to the samples as shown.</li> <li>Ranges are used in this instance.</li> </ul>
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 assay results have been reported.</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>No assay results are reported. Geological observations and interpretations are ongoing under the direction of the Company's contract geologists and ZMI. Sections and other maps will accompany the reporting of assay results and other findings in due course.</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>This document is considered to be a balanced report with a suitable cautionary note.</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>Samples are being prepared and analysed by ALS Loughrea, Co Galway. All previous assay results received from this laboratory have passed ZMI's industry standard QAQC parameters.</li> </ul>

Criteria	JORC Code explanation	Commentary
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>As outlined in this report</li> </ul>