5 December 2019

DRILLING CONFIRMS CONTINUITY OF THICK ZINC MINERALISATION IN FAULT COMPARTMENT 3 OUTSIDE OF EXISTING RESOURCES

HIGHLIGHTS:

- **Drill holes HZDD008, HZDD009 and HZDD010 extend Fault Compartment 3 ("FC-3") zinc mineralisation over an area of approximately 300m by 200m**
    - **McGregor and Shamrock resources appear to be part of a much larger mineralised system, along with the FC-3 drilling**
    - **Mineralised Corridor now extended over an area of ~1,400m by ~400m**
- **High-grade intercepts include:**
    - **2m @ 11.21% Zn + Pb (10.13% Zn, 1.08% Pb) from 402m to 404m (HZDD010);**
    - **2m @ 10.71% Zn + Pb (10.32% Zn, 0.39% Pb) from 460m to 462m (HZDD010);**
    - **4m @ 8.88% Zn + Pb (8.41% Zn, 0.47% Pb) from 374m to 378m (HZDD008);**
    - **6m @ 7.13% Zn + Pb (6.91% Zn, 0.22% Pb) from 342m to 348m (HZDD009).**
- **Very thick (>100m) mineralised zones in FC-3 confirms presence of major mineralised system, including 162m @ 2% Zn+Pb (1.8%Zn, 0.2%Pb) from 302m to 464m (HZDD010), consistent with that seen at McGregor and Shamrock**
- **Immediate resource growth potential confirmed**

ZMI Executive Director, Patrick Corr, commented:

"The latest FC-3 drilling, continues to augur very well for the immediate resource growth potential of the Kildare Zinc Project. High-grade zinc-lead mineralisation in FC-3 occurs in the same stratigraphic and structural locations as encountered at McGregor and Shamrock, and there are very thick zones of mineralisation consistent with that seen at McGregor and Shamrock.

Volumetrically, FC-3 has the capacity to host significant zinc-lead mineralisation. Perhaps most significantly though, is that FC-3 forms part of a much larger mineralised system, connecting the existing McGregor and Shamrock resources which presents a range of exploration and development advantages."

T +61 8 9287 4600 | E: patrick@zincofireland.com | A: Suite B9, 431 Roberts Road, Subiaco WA 6008

Overview

Zinc of Ireland NL (ASX: ZMI) (**"ZMI"** or the **"Company"**) is pleased to announce that its diamond drilling has continued to intersect thick zones of zinc mineralisation within Fault Compartment 3 (**"FC-3"**).

FC-3 has been confirmed as a significant mineralised system with each of drill holes HZDD008, HZDD009 and HZDD010 returning broad zones of zinc-lead mineralisation including a number of high-grade zones. This follows from the previous two drill holes in FC -3 (HZDD004 and HZDD005) also intersecting similar zones of zinc and lead mineralisation.

HIGH GRADE INTERSECTION SUMMARY

HZDD008

HZDD008 intersected the base of Waulstortian reef at approximately the centre of FC-3 and returned **8m @ 4.92% Zn + Pb (4.31% Zn, 0.61% Pb)** from 342m to 350m and **4m @ 8.88% Zn + Pb (8.41% Zn, 0.47% Pb)** from 374m at the base of Waulsortian Reef position.

HZDD009

HZDD009 intersected the base of Waulstortian reef in the eastern portion of FC-3 and returned **6m @ 7.13% Zn + Pb (6.91% Zn, 0.22% Pb)** from 342m to 348m and **5m @ 6.04% Zn + Pb (5.88% Zn, 0.16% Pb)** from 357m to 362m at the base of Waulsortian Reef position.

HZDD010

HZDD010 intersected the base of Waulstortian reef in the north western portion of FC-3 and returned **4m @ 6.66% Zn + Pb (6.35% Zn, 0.13% Pb)** from 349m to 353m and **7m @ 7.76% Zn + Pb (7.04% Zn, 0.72% Pb)** from 374m to 381m at the base of Waulsortian Reef position. Additional intersections of **2m @ 11.21% Zn + Pb (10.13% Zn, 1.08% Pb)** from 402m to 404m, **2m @ 8.6% Zn + Pb (7.96% Zn, 0.64% Pb)** from 453m to 455m and **2m @ 10.71% Zn+Pb (10.32% Zn, 0.39% Pb)** from 460m to 462m in the sub-reef position.

These results continue the Company's drilling success in FC-3, with the previous two drill holes returning high grade intersections within wider mineralised intervals as follows:

HZDD004

HZDD004 intersected **6m @ 12.5% Zn+Pb** (11.7% Zn, 0.8% Pb) from 401m downhole depth and **10m @ 9.1% Zn+Pb** (8.2% Zn, 0.9% Pb) from 418m downhole depth at the base of Waulsortian Reef position. The

high grade intersections were contained within a larger mineralised zone of **37m @ 6% Zn+Pb** (5.5% Zn, 0.5% Pb) from 391m.

HZDD005

HZDD005 intersected high-grade zinc mineralisation, returning **5m @ 15.07% Zn + Pb** (13.71% Zn, 1.36% Pb) from 391m to 396m and **2m @ 23.13% Zn + Pb** (17.63% Zn, 5.50%Pb) from 400m to 402m at the base of Waulsortian Reef position. These two high grade intersections lie within a broader interval of **20m @ 7.9% Zn + Pb** (6.9% Zn, 1.0% Pb) between 385m and 405m.

TECHNICAL DISCUSSION

Fault Compartment 3 Drilling

The results of these three holes and the Company's previous FC-3 drilling (HZDD004 and HZDD005) have expanded the newly discovered FC-3 zinc mineralisation over approximately 300m by 200m. The FC-3 drilling has been undertaken at a nominal spacing of approximately 80m.

The FC-3 mineralisation connects with the Shamrock Resource, and demonstrates the potential that a laterally extensive thick column of mineralisation may connect the currently defined McGregor and Shamrock Resources. See Figures 1 & 4.

These latest results also reinforce the observation that FC-3 hosts a volumetrically significant zone of zinc mineralisation, which gives FC-3 the potential to make a significant contribution to the current resource inventory which stands at of **9Mt @ 9.5% Zn + Pb** (based on a 5.5% ZnEq cut off).

Figure 1 summarises the drilling, with the drill holes colour-coded by total Zn + Pb percent-metres within each hole along with the current fault compartment interpretation. The current notional conceptual boundaries to the overall mineralised system, of which McGregor and Shamrock form sectors, are also shown as red dashed lines. It is evident that further drilling is reinforcing the interpretation that a regionally extensive zone of zinc-lead mineralisation has been identified within a fault complex that is over 1,400m long and 400m wide and up to 200m thick and is open in several directions.

Figures 2 and 3 show cross sections through FC-3 with views to the northeast and northwest respectively. The thick mineralised zones are clearly evident, along with an upper zone of mineralisation at the top of the Waulsortian Reef sequence. In Figure 2 it should be noted that historical hole HB-158 was extremely selectively sampled and does not represent the full sequence of mineralisation which has been identified in the recent ZMI drilling (HZDD series). The same issue exists in Figure 3, wherein historical holes HB-063 and HB-141 also only have very selective sampling. By way of example, only 10 samples were taken from

HB_166 including 1m @ **5% Zn, 1.2% Pb** (from 297m), 1m @ **13.8% Zn, 2.4% Pb** (from 347.6m) and 1m @ **30.8% Zn, 2.2% Pb** (from 430.8m), and the remaining 7 samples had Zn values of <5% Zn. Sampling and assaying of hole HZDD012 (refer to Figure 3) and HZDD011 is still to be completed.

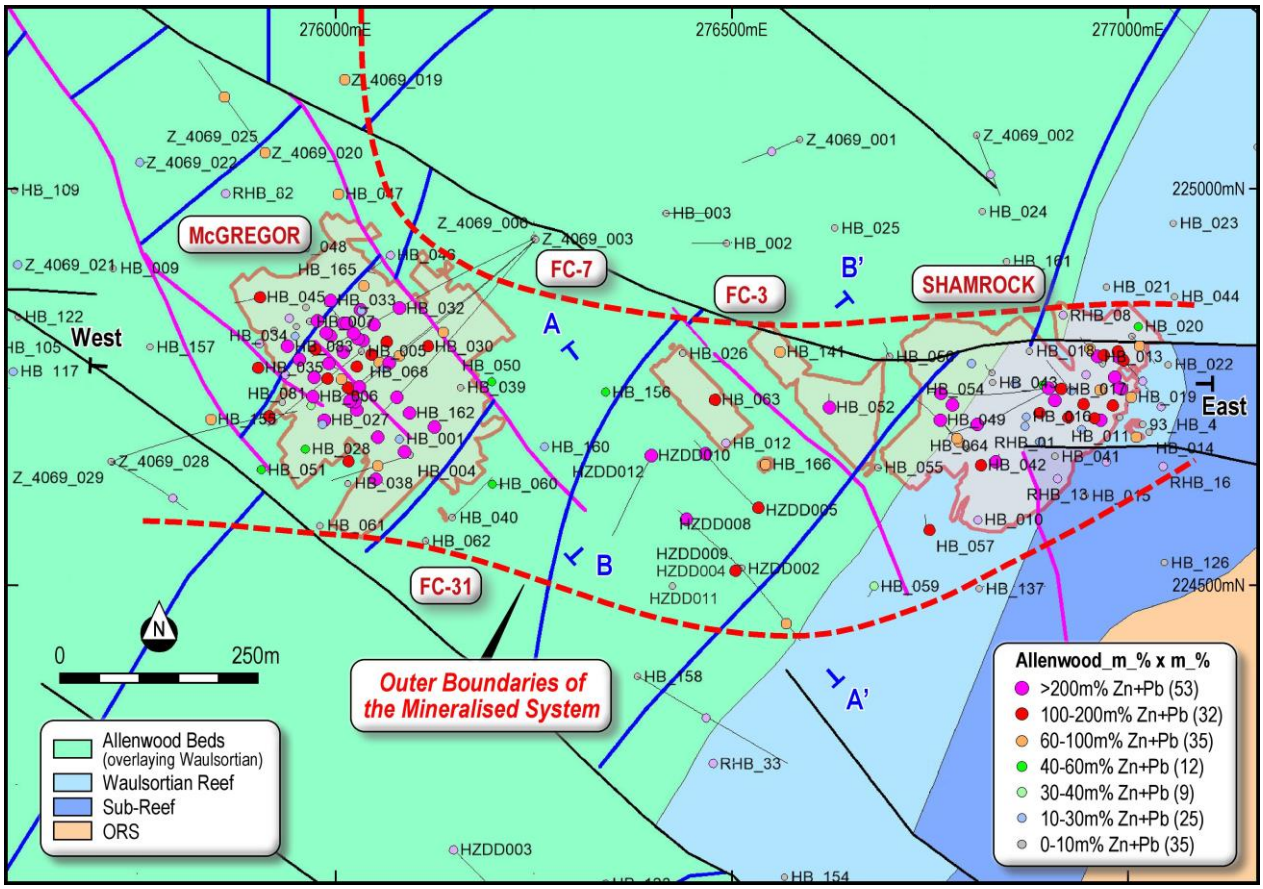


Figure 1: Plan view of reported holes and Fault Compartment 3 (FC-3) location on local geology (1:5,000) and only showing drill collars and traces from all drill holes that have intersected the Waulsortian base of reef position; blue lines are the base of reef projection of the normal fault within FC-3, black lines are transfer faults and magenta lines are accommodation structures; brown shading represents resource outline projected to surface.

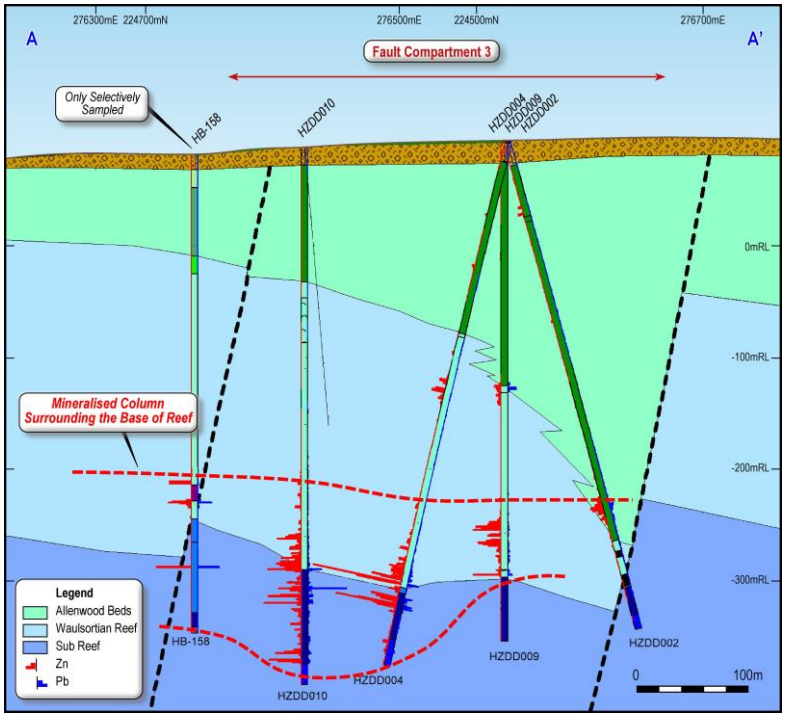


Figure 2: NW-SE cross section, looking NE, through historical hole HB_158 and ZMI holes HZDD002, HZDD004, HZDD009 and HZDD010. HB-158 was only selectively sampled.

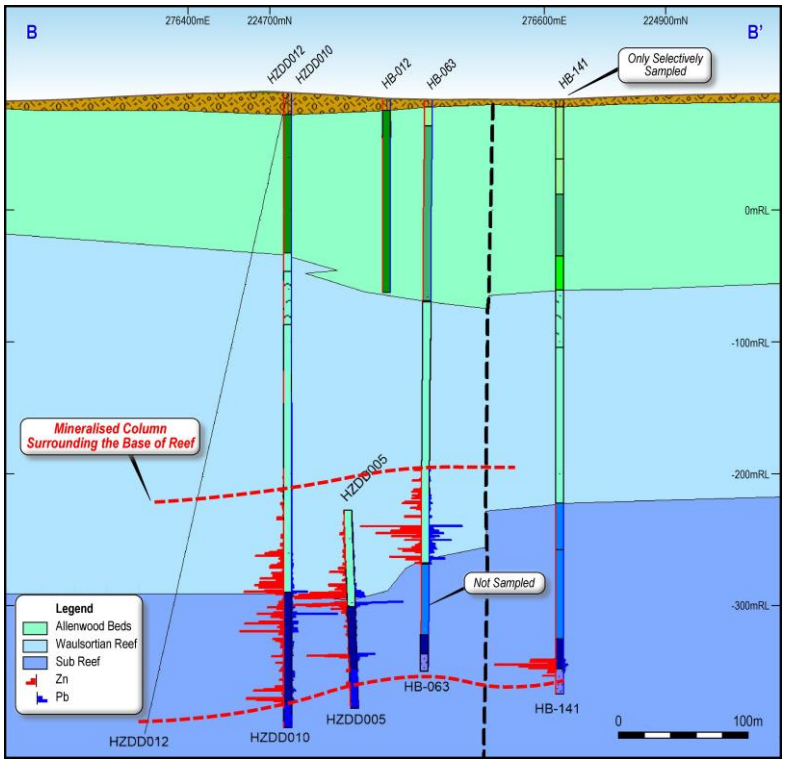


Figure 3: SW-NE cross section, looking NW, through historical holes HB_12, HB_063 and HB_141 and ZMI hole HZDD010. Sub-reef component of HB-063 was not sampled.

McGregor – Shamrock Mineralised System

In addition, the higher-grade intersections outlined above each occur with a much thicker overall mineralised sequence with vertical thicknesses ranging from 50m to over 160m. The existence of a major zinc-lead mineralised system has been confirmed. The average grades and thicknesses of the overall mineralised zones, measured from the start to the end of lead-zinc mineralisation within the host lithologies and which have been continuously sampled by ZMI technical staff) are as follows:

Hole ID	From (m)	To (m)	Interval (m)	Zn%	Pb%	Zn+Pb%
HZDD002	327	353	26*	1.77	0.29	2.06
HZDD004	359	432	73	3.21	0.29	3.50
HZDD005	345	445	100	1.98	0.32	2.30
HZDD008	331	390	59	2.39	0.16	2.55
HZDD009	336	389	53	2.42	0.19	2.61
HZDD010	302	464	162	1.78	0.22	2.00

* did not test base of reef in FC-3.

The broad zone of mineralisation in FC-3 is seen throughout the wider McGregor/Shamrock mineralised system, extending over approximately 1,400m east-west and 400m north-south. See Figure 4.

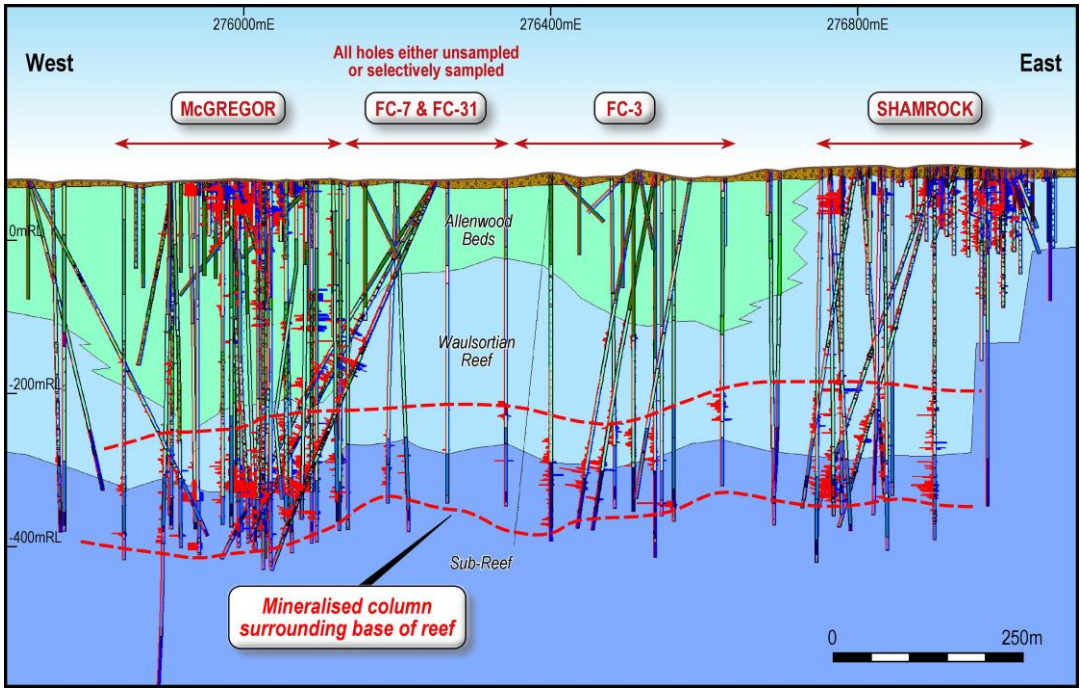


Figure 4: East-West Long Section looking north through McGregor, FC-3, and Shamrock.

Note that between McGregor and FC-3 is Fault Compartments FC-7 and FC-31, within which currently there are only historical drill holes that have been extremely selectively sampled. It is planned in the next phase of exploration to extend the current pattern of drilling and continuous sampling into Fault Compartments FC-7 and FC-31 in order to provide a full test of the overall mineralised system. The same issue exists between FC-3 and Shamrock where several historical holes were either only sporadically sampled or were unsampled in their entirety (refer to Figure 4).

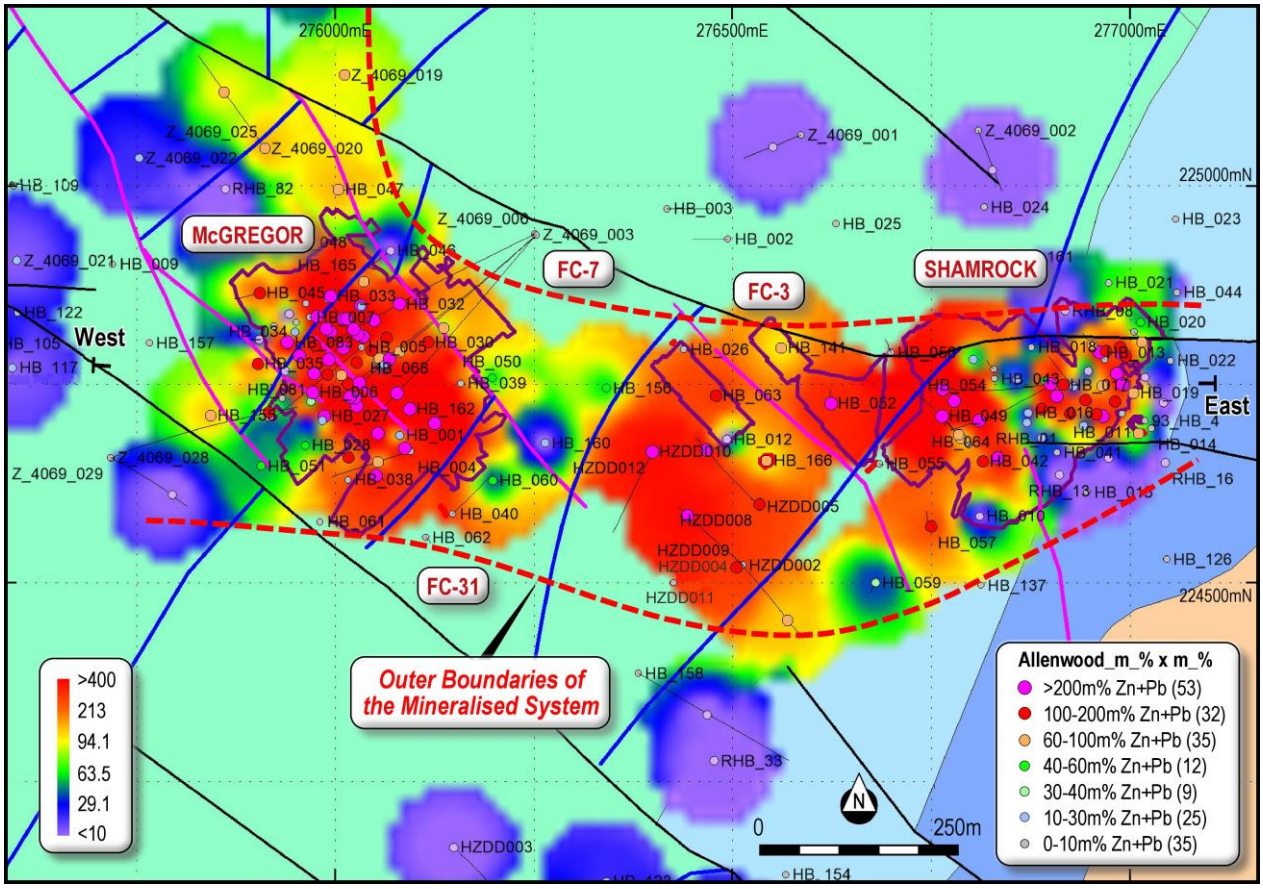


Figure 5: Metal Distribution Heatmap Plan showing McGregor, FC-3 and Shamrock.

Figure 5 is a metal distribution 'heat map' which demonstrates the large areal extent of mineralisation, the observation that the overall tenor of the mineralisation in FC-3 is similar to McGregor and Shamrock and confirms that FC-3 extends and 'joins up' the McGregor and Shamrock deposits as part of a much larger mineralised system. Note that the holes in FC-7 and FC-31 (between McGregor and FC-3) only contain historical holes with extremely selective sampling, which results in 'cold' zones in a heat map, due to incomplete sampling. The system is still open to the south and to the northwest.

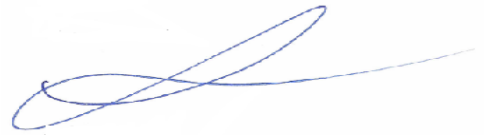
Looking Forward

The Company's drilling success in FC-3 has confirmed the presence of an additional and significant zone of mineralisation, which has the potential to make an important contribution to the current resource inventory in any future upgrade.

In addition, the fault compartments which are adjacent to McGregor, Shamrock and FC-3 (FC-7 and FC-31) all have considerable potential for additional zinc and lead mineralisation. As such, future drilling in these priority areas has the potential to make a further contribution to the resource inventory, and to potentially connect these mineralised zones.

This latest drilling success, together with the Company's establishment of the JORC resource of **9Mt @ 9.5% Zn+Pb** in July 2019, provides the platform for some forward thinking with respect to developing the Kildare Zinc Project. To this end, a project level de-risking program will be initiated in early 2020, which (in addition to the additional drilling noted above) is expected to include preliminary geotechnical and mining concept assessment, review of metallurgical information and processing/tailings management options, hydrogeology, environmental and permitting including baseline data gathering, and various other development and permitting initiatives.

Yours faithfully,



Patrick Corr
Executive Director
Zinc of Ireland NL

Investor Inquiries:
Patrick Corr
Tel: +61 459 209 093
Email: patrick@zincofireland.com

Competent Persons' Statements

The information in this report that relates to exploration results is based on information compiled by Mr. David Blaney, a Competent Person who is a Professional Geologist (P.Geo) with the Institute of Geologists of Ireland (IGI)*. Mr. Blaney is a principal of* BRG Ltd. *Mr. Blaney 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. Blaney consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.*

The information in this report that relates to the Mineral Resources is based on information compiled by Brian Wolfe, Senior Resource Consultant of International Resource Solutions Pty Ltd. Mr. Wolfe is a Member of the Australian Institute of Geoscientists and 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. Wolfe consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

The information in this document that relates to mineral resource estimates is extracted from the ASX announcement entitled "Updated Mineral Resource at Kildare Zinc Project" dated 30 July 2019 and is available to view on www.zincofireland.com. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which Competent Person's findings are presented here have not been materially modified from the original market announcement.

ZnEq Calculation:

In order to determine appropriate Pb and Zn prices for use in calculating a ZnEq cut off grade, the monthly average LME spot prices for Pb and Zn were assessed for the 5 years between June 2014 and June 2019, resulting in an average price of US$2,468 per tonne for Zn and US$2,047 per tonne for Pb. For the purposes of calculating a ZnEq cut off, these two prices were rounded to $2,500 per tonne for Zn and $2,000 per tonne for Pb, resulting in a 0.8 ratio between Pb and Zn. The recoveries from the metallurgical test work as announced 23 April 2019 have been used, and all elements included in the ZnEq formula calc (i.e. zinc and lead) have a reasonable potential to be recovered and sold.

The resultant ZnEq formula used in resource reporting is:
*ZnEq = (Zn% * Zn recovery) + (0.8* (Pb% * Pb recovery)).*
*ZnEq = (Zn% * 0.9639) + (0.8 * Pb% * 0.8644).*

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	• *Nature and quality of sampling (e.g. 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.*	• The Company is focused on exploring the Allenwood Graben Zn Project which is part of the larger Kildare group of prospecting licences. • Given the distinct lack of surface rock outcrop and the prevalent glacial till cover the Company specifically relies on exploration diamond drilling to determine the 3D geological, structural and mineralisation context of the Allenwood Graben. As such the Company endeavours at all times to extract the maximum amount of geological information from its drill core. • The Company's current set of procedures for processing diamond drill core would be considered 'industry best practice'.
Drilling techniques	• *Drill type (egg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (egg 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.).*	• Commonly tri-coning occurs through the overburden (glacial till) to depths of approximately 20m or when solid rock is encountered. • Diamond drill core diameter may be PQ3/HQ3/NQ3/BQ3. • Hex or full hole locking couplings are used on an as needs basis to promote hole stabilisation and reduce hole deviation as appropriate. • The core was orientated at the drill site using a

Criteria	JORC Code explanation	Commentary
		Reflex ACT III tool.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Drill core has been logged for recovery by length of run, RQD and recovery per sample interval. • Triple tube coring has been used on an as needs basis to date. • There does not appear to be a relationship between core recovery and grade and assessment remains ongoing on a regular basis. • Sample recovery is maximised by drilling shorter length runs within zones of poor rock quality.
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• Drill holes have been logged by a competent geologist in Ireland. The current logging procedures would be sufficient to meet the requirements for a mineral resource estimate. • Mineralisation/alteration/brecciation types, intensities, amounts and interpreted lithologies have been completed using a standardised logging template and ZMI's stratigraphic coding and nomenclature that has been defined so as to be relevant to the local geology and the styles of alteration, structure and mineralisation encountered. • Core photography (wet & dry) is routine.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Sampling has occurred within lithological/mineralised domains as and where appropriate. The Company marks up the core in regular sample intervals i.e. 2m intervals NQ and 1.5m intervals HQ3 (maximum sample size) and uses industry standard core cutting machines to cut the core into two halves with the right-hand side of the core downhole being sampled consistently. The remaining half-core is retained for reference and the selection of bulk density samples. • The Company's sample preparation process would be considered "industry best practise" for this mineralisation style.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *Nature of quality control procedures adopted*	• Samples are prepared by ALS Loughrea, Co Galway by jaw crushing to a nominal 70% passing 2mm with a representative 250g sample then split using a rotary splitter. The split sample is pulverised to 85% passing 75um in a LM-2. • (ALS Code: ME-ICPORE) Ore grade analysis for base metals and associated elements by ICP-AES, 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),

Criteria	JORC Code explanation	Commentary
	(egg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Ca (0.01/50.0), Cd (0.001/10.0), Co (0.001/20.0), Cu (0.001/40.0), 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 (0.005/30.0), S (0.05/50.0), Sb (0.005/100.0), Tl (0.005/1.0), Zn (0.002/100.0). • The Company inserts appropriate certified reference material on a 1/20 basis. Field duplicates are taken on a 1/20 basis following the crushing stage and pulp replicates are taken on a 1/13 basis from the LM-2 bowl. • The laboratory (ALS Loughrea) also carries out its own comprehensive internal QAQC on all jobs submitted by the Company. • The Company QAQC data is reviewed by the responsible Geologist on a reported job basis and only after approval of said report is the data given the appropriate priority ranking within the acQuire database. • Nominal 30cm billets of half core are selected for bulk density determination either by standard weight in air/weight in water (non-porous rock) or by the wax coating method depending on the quality of the sample. Sample spacing is on a nominal 10m downhole basis for non-mineralised intervals and on a nominal 3m downhole basis within mineralised zones. • At present, approximately 17% of total analyses are related to the Company's QAQC programme. • Metallurgical testwork samples have been assayed at the Wheal Jane Laboratory, Cornwall, UK.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• All Company drill hole data is regularly validated upon its introduction into the acQuire database. The database Manager will report any potential sample overlaps, non-valid coding etc. to the responsible Geologist for appraisal. Until such a time as the responsible Geologist provides the correct information, said data resides within the database but is given a different 'priority level' and cannot be used as part of the final, validated database that would be used for a mineral resource estimate. • The Company has not specifically 'twinned' any historic (i.e. pre-ZMI) RC drill holes. • The Company has not specifically 'twinned' any historic (i.e. pre-ZMI) diamond drill holes and has not 'twinned' any of its own diamond drill holes. There may be some ZMI drill holes that would be considered as having been drilled 'near' to some historic drill holes. • The Company has on site a written set of

Criteria	JORC Code explanation	Commentary
		procedures dealing with all aspects of the 'Exploration Programme' e.g. dealing with zones of core loss in drill core through to data flow 'sign off' requirements, all of which have been specifically designed to be used with the acQuire database management system.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Proposed drill hole collar surveys are determined by hand-held GPS in Irish Grid 65. • Final drill hole collars have been surveyed either by handheld GPS or by a differential GPS: Trimble GPS6000 (RTK GPS accurate to 5mm) • Downhole surveys are determined by Reflex EZ-TRAC. • The principal area of exploration drilling would be considered relatively flat with no significant topographic constraints.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Drill spacing is currently appropriate to the level of exploration being conducted by the Company and have been designed to provide the maximum amount of geological, grade continuity and structural information.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Base metal mineralisation at the 'base of reef' i.e. Waulsortian Limestone lower contact is known to be sub-horizontal based on the results of historic drilling.
Sample security	• *The measures taken to ensure sample security.*	• Samples are prepared and stored at the Company's secure Grangeclare West core shed facility until such a time as they are transported to the ALS Loughrea facility by Company representatives.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• An on-site audit of site-based activities was undertaken by the resource estimation consultant as part of the site visit activities prior to the development of the resource model.

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	• *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.* • *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.*	• The Kildare Project is comprised of 7 Prospecting Licenses, namely PL890, PL3846, PL3866, PL4069, PL4070, PL4072 and PL4073 all of which are in 'good standing'. • All tenements are 100% owned by Raptor Resources, a 100% owned subsidiary of Zinc of Ireland NL. • No historical, wilderness or national parks are known to infringe significantly on the tenure.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Historical exploration is outlined in GXN Announcement dated 17th March 2016 and associated annexes. • Also, please see asx.com.au, under 'ZMI'.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Kildare Project is situated approximately 2km NW of the Lower Palaeozoic Kildare Inlier on a northeast-southwest trending fault. Local geology consists of calcareous sediments conformably overlying Carboniferous Waulsortian Mudbank. This mudbank overlies a thick succession of carbonates and limestones above Palaeozoic basement rocks. • The area is considered prospective for breccia-hosted Fe-Zn-Pb deposits similar to Irish-Type mineralisation.

Drill hole Information	• *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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.*
		• For a detailed list of all drill holes related to the McGregor-Shamrock MRE, please see ZMI press release dated 31.07.19, specifically Appendix A.
		• **HZDD002**: 276505mE, 224520mN, 93mRL, -75 dip, 135 azimuth, total depth 450m.
		• **HZDD004**: 276505mE, 224520mN, 91mRL, -75 dip, 315 azimuth, total depth 480m.
		• **HZDD005**: 276534mE, 224599mN, 90mRL, -75 dip, 315 azimuth, total depth 482.5.
		• **HZDD008**: 276,534mE, 224,599mN, 99mRL, -90 dip, n/a azimuth, total depth 504m.
		• **HZDD009**: 276,505mE, 224,520mN, 93mRL, -90 dip, n/a azimuth, total depth 446.7m.
		• **HZDD010**: 276,399mE, 224,665mN, 0mRL, -90 dip, n/a azimuth, total depth 482.7.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (egg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Future reporting of mineralised intervals will incorporate the appropriate information.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (egg 'down hole length, true width not known').*	• The Company will endeavour to provide the requisite information on intercept lengths and mineralisation lengths relationships on an as required basis as exploration drilling results are returned.
Diagrams	• *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.*	• The Company regularly observes this requirement.
Balanced reporting	• *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.*	• The Company regularly observes this requirement.
Other substantive exploration data	• *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.*	• The Company regularly observes this requirement.
Further work	• *The nature and scale of planned further work (egg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• The Company regularly observes this requirement and acknowledges that it will inform the market to the best of its abilities providing that the information is not

Criteria	JORC Code explanation	Commentary
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	commercially sensitive.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The Company stores all its exploration data within the acQuire relational database; data are only accepted as Priority 1 following a rigorous validation process and only the Database Manager can make changes to the dataset. • On a day to day basis all data derived from drill core is entered into specifically validated (i.e. drop down menu is locked) excel spreadsheet templates (e.g. alteration, brecciation, bulk density, collar, geotech, lithology, mineralisation, plan, drill plod, sample, structure, survey, core photos etc.) which are present on the Toughbook laptops that are used for this specific purpose; on a daily basis these templates are uploaded onto the server and following validation, into acQuire.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Mr Brian Wolfe visited ZMI's Grangeclare West Core Processing Facility on the 12th & 13th February 2019 so as to participate in the Company's Technical Session and also to review all data collection procedures together with a discussion relating to the Company's standard QAQC practices. He also witnessed drilling operations and independently checked a representative number of ZMI drill collars using a hand held GPS unit.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of*	• Approximately 68,000m of diamond drilling has been completed within the Allenwood Graben to date; all of which has been competently logged for lithology. The majority of that drilling has been completed within the McGregor-Shamrock area. • Given that there is no outcrop within the project area all geological interpretations have been defined by diamond drill core. • For the purposes of geological modelling, the lithologies of the Allenwood Graben have been

Criteria	JORC Code explanation	Commentary
	grade and geology.	summarised into the following units: *Overburden, 'Carbonate-dominated' upper mineralisation, Above Waulsortian, Waulsortian, Below Waulsortian, Basement.* • A multi-disciplinary approach has been adopted in the development of a comprehensive model of the Allenwood Graben and geological, structural, alteration and geochemical information has been compiled from an extensive re-logging and re-analysis programme using a number of specialist consultants and ZMI technical staff. • As a result of the above, a combined 3D lithological and structural model has been developed for the Allenwood Graben and has been used to control block model development and grade estimation during resource estimation.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The base metal mineralisation at Kildare is both structurally and stratigraphically-controlled. • Within the McGregor-Shamrock region mineralisation has been traced for over 1km east-west, 500m north-south and over 500m depth. The style consists of numerous fault-controlled zones.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation*	• The probabilistic approach (indicator kriging) in order to define volumes in which to carry out Ordinary Kriging is considered to be the most appropriate estimation approach at this stage of the project development. • No alternative estimation method (such as nearest neighbour or inverse distance weighting) have been carried out as part of this resource estimate as the methods are not considered to be appropriate for the style of mineralisation. • The style of mineralisation at Kildare consist of sphalerite (zinc) and galena (lead) with very low levels of potentially deleterious elements. Other than lead and zinc there are no other by-product minerals. • As any potentially deleterious elements are only present at very low levels, additional estimates of these elements has not been carried out to date. • Recent metallurgical testwork has been carried out on representative freshly drilled diamond core and the results have been used in calculating a zinc equivalent cut off. • A parent block cell size of 10m x 10m x 10m with sub-blocking to 2.5m x 2.5m x 2.5m has been adopted to replicate the various lithostratigraphic surfaces, fault boundaries and probability shells that have been used to both build the block model frameworks but also for

Criteria	JORC Code explanation	Commentary
	between variables. • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	grade estimation. • Correlation studies were carried out between zinc grade and density in order to build correlation algorithms for use in density assignment. • The univariate statistics for lead and zinc exhibit low coefficients of variation (standard deviation divided by the mean) indicating that outlier grades do to exist at Kildare. As such the data was not cut before grade estimation. Following grade estimation, declustered statistical analysis was undertaken to ensure that the block model match the source data. • Validation after grade estimation has consisted of both visual and statistical methods. • During grade estimation both the structural framework and the key lithostratigraphic units were sued as controls during grade estimation.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Dry bulk densities were collected and measured by both ZMI technical staff, ZMI's consultants and ALS (Ireland). The dry bulk density data has been correlated with both the lithostratigraphic logging and the analytical data.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• *Although it is premature for the Kildare project to adopt a detailed NSR approach when reporting resources, a review of likely cut off grades, based on both current operations and historical operations within the Irish Lead-Zinc belt and other operations worldwide, suggests that a range of cut offs from 5% ZnEq to 6% ZnEq are appropriate for the project at the current level of definition.* • *A long term metal price (5 year LME average spot process from June 2014 to June 2019) were used to establish product prices for use in cut off grade calculations and to establish the price ratio between zinc and lead (0.8).* • *The results of the metallurgical testwork were also taken into account. A recovery of 96.39% for zinc and 86.44% for lead has been sued and is supported by the metallurgical testwork results.*
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be*	• *The metallurgical testwork was carried out at a coarse grind size of p80 -150 microns, using a standard differential flotation process and a standard reagent regime. Very encouraging concentrates were produced. An overall 96.4% recovery of Zn to the Zn concentrate was achieved, with a 56% Zn grade in the concentrate and with minimal Pb (<0.5%). The Pb concentrate achieved 86.4% recovery with a 62% Pb concentrate grade and minimal Zn (<3%).*

Criteria	JORC Code explanation	Commentary
	rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	*Similarly, minimal levels of deleterious elements occur in either concentrate. Refer to the ZMI ASX announcement on the 23rd April 2019 for further details.* • *In order to determine appropriate Pb and Zn prices for use in calculating a ZnEq cut-off grade, the monthly average LME spot prices for Pb and Zn were assessed for the 5 years between June 2014 and June 2019, resulting in an average price of US$2,468 per tonne for Zn and US$2,047 per tonne for Pb. For the purposes of calculating a ZnEq cut off, these two prices were rounded to $2,500 per tonne for Zn and $2,000 per tonne for Pb, resulting in a 0.8 ratio between Pb and Zn.* • *The resultant ZnEq formula used in resource reporting is:* *ZnEq = (Zn% * Zn recovery) + (0.8* (Pb% * Pb recovery)).* *ZnEq = (Zn% * 0.9639) + (0.8 * Pb% * 0.8644)*
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• ZMI maintains an active ESIA programme with the express purpose of earning and retaining the social licence to operate. • The project is at an early stage of development, however, the framework for environmental base line studies has been developed and is being put into action by ZMI management and their consultants. • The region has a long history of mining of lead-zinc mineralisation and ZMI is well aware of the steps required to develop and permit a mining operation in Ireland.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• The Company routinely collects approximately 30cm billets of half core for determination of bulk density; 1 sample every 10m when within unmineralised country rock and 1 sample every 3m within mineralised areas. • Bulk density samples that exhibit open space and/or clear porosity are sent to ALS Loughrea for bulk density determination by wax coating followed by the water immersion method (ALS Loughrea code: OA-GRA09a). • Bulk density samples that are clearly non-porous are determined internally at the Company's Core Processing Facility using the water immersion method. • A series of density regression models were

Criteria	JORC Code explanation	Commentary
		developed for each key stratigraphic unit, for both the McGregor and Shamrock block models. • The base case densities for each key unit (taken from density samples with dry bulk densities determined both by ZMI technical staff and ALS Ireland) were adjusted for the level of mineralisation using regression formulas, as summarised in Table 4, 'Updated Mineral Resource at Kildare Zinc Project' ZMI Press Release 31.08.2019. • As an example, a 11% Zn grade at McGregor would have a bulk density of **3.37** ((11*0.0361) + 2.9746).
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• There has been no extrapolation of the mineralisation in the model beyond the parameters derived by the geostatistical modelling. • On average the McGregor and Shamrock zones have been effectively drilled on a nominal 60m spacing. • The resource estimate is considered to be an Inferred Resource under the JORC 2012 guidelines.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The resource estimate has been reviewed in detail internally by ZMI technical staff. No external audit of the independent resource estimate has been carried out to date.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures*	• As an Inferred Resource, the current resource estimate is considered as a global estimate. It is recognised that additional infill drilling will be required to develop more robust local estimates, that are required to promote mineralisation to higher JORC resource categories for use in feasibility level studies.

Criteria	JORC Code explanation	Commentary
	used. • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	