ASX Announcement

18 May 2020

ALTA ZINC LTD

GORNO DEMONSTRATES SIMPLE METALLURGY & HIGH QUALITY CONCENTRATE SPECIFICATIONS

HIGHLIGHTS

- **Flotation recoveries of 96.0% for zinc and 74.2% for lead, to concentrate, demonstrating simple metallurgy.**
- **Exceptionally clean and high-quality lead and zinc concentrate produced; with a zinc concentrate grade of 63.3% Zn (1.66% Si and 0.62% Fe) and a lead concentrate grade of 75.8% Pb with 810g/t Ag contained.**
- **Simple processing flowsheet, simple comminution circuit (low bond work index of 11.65 kWh/t) and excellent metal liberation at a coarse P80 grind size of 120 microns.**
- **Testwork has been conducted to a pre-feasibility study level and there is significant opportunity to further maximise commercial returns and optimise the processing plant flowsheet.**

Alta Zinc Limited (Alta or the Company) (ASX: AZI) is very pleased to announce the summary of results from the metallurgical testing program conducted at the Gorno Project. This testwork was performed by Alta on representative samples of zinc and lead mineralisation collected from the area of the JORC compliant Mineral Resource Estimate.

The testwork is extensive and at the pre-feasibility study level. The results show very high metallurgical recoveries at 96.0% for zinc, 74.2% for lead and 59.1% for silver can be achieved. The simple crush, grind, flotation processing route envisaged is similar to that used with success historically at Gorno and is typical for many Mississippi Valley type deposits. The zinc concentrate grade is 63.3% Zn with exceptionally low iron and silica values. The lead concentrate grade is 75.8% Pb with 810g/t Ag contained and also has exceptionally low levels of contaminants.

Alta has conducted a preliminary independent concentrate marketing study which confirms that these concentrates will be amongst the highest grade and cleanest concentrates available globally. As such they are likely to be highly sought after by European and worldwide smelters looking to improve the blend of their feedstock from the growing international supply of complex concentrates.

Geraint Harris, MD of Alta Zinc commented:

"These results demonstrate the outstanding advantages that Gorno provides with our successful exploration campaign confirming the growth potential of our current resource, coupled with world-class metallurgy in the heart of the European market. The results are in line with the well-known historical processing performance and concentrate quality from Gorno, resulting in a processing flow sheet that looks like an updated version of what was historically built at Gorno.

There is opportunity to further improve the metal recoveries, maximise the commercial benefits of our concentrates and confirm the response of the historically processed Breno and Thrust style mineralisation for the current flowsheet".

Testwork was conducted on both sulphide and oxide mineralisation, separately and when blended, with acceptable metallurgical performance in all cases. To understand the effects of plant feed variability, testwork was also conducted on a blend of sulphide mineralisation with a conservative 15% oxide mineralisation added. However, minimal oxide mineralisation is expected to be mined, therefore the focus of this testwork and future testwork is the sulphide mineralisation.

The testwork program determined key parameters in regards to the following:

1. Grinding performance.
2. Mineralogical examination of the samples.
3. 50 flotation tests and 8 locked cycle tests, including a pilot plant campaign fed with mineral from two ore blends to further develop the flotation flowsheet and reagent schemes.
4. Bulk ore sorting testwork utilising XRT (x-ray transmission) to understand the optionality of pre-concentrating the ore.

The material for the metallurgical testing was comprised of representative samples from five geographically spaced diamond drill cores and a 120 tonne bulk sample. All samples were sourced from within the vicinity of the JORC compliant Mineral Resource Estimate, within the limestone hosted and stratabound Black Shales mineral horizon. In all the respects the Black Shales mineralisation is very similar to the stratabound Breno and Thrust mineralisation currently being drilled and sampled at Pian Bracca and Ponente. Indeed, the Thrust and stratabound mineralision was historically processed at Gorno during its long operating history. See Figure 1.

The Bond Ball Mill Work testing of the sulphide mineralisation returned an average value of 11.65kWh/t, identifying the samples as being relatively soft and amenable to a simple comminution circuit design. The metallurgical performance was achieved at a relatively coarse primary grind of P80 of 120 micron without the need of a zinc concentrate regrind circuit prior to the cleaner flotation stage.

The testwork on grinding, flotation, mineralogical examination and pilot plant campaign was performed under the supervision of Grinding Solutions Limited (GSL) in Cornwall (United Kingdom). Additional flotation tests, which included optimisation and locked cycles tests, were conducted at the ALS Metallurgy laboratory in Adelaide, South Australia under the supervision of RFB Consulting.

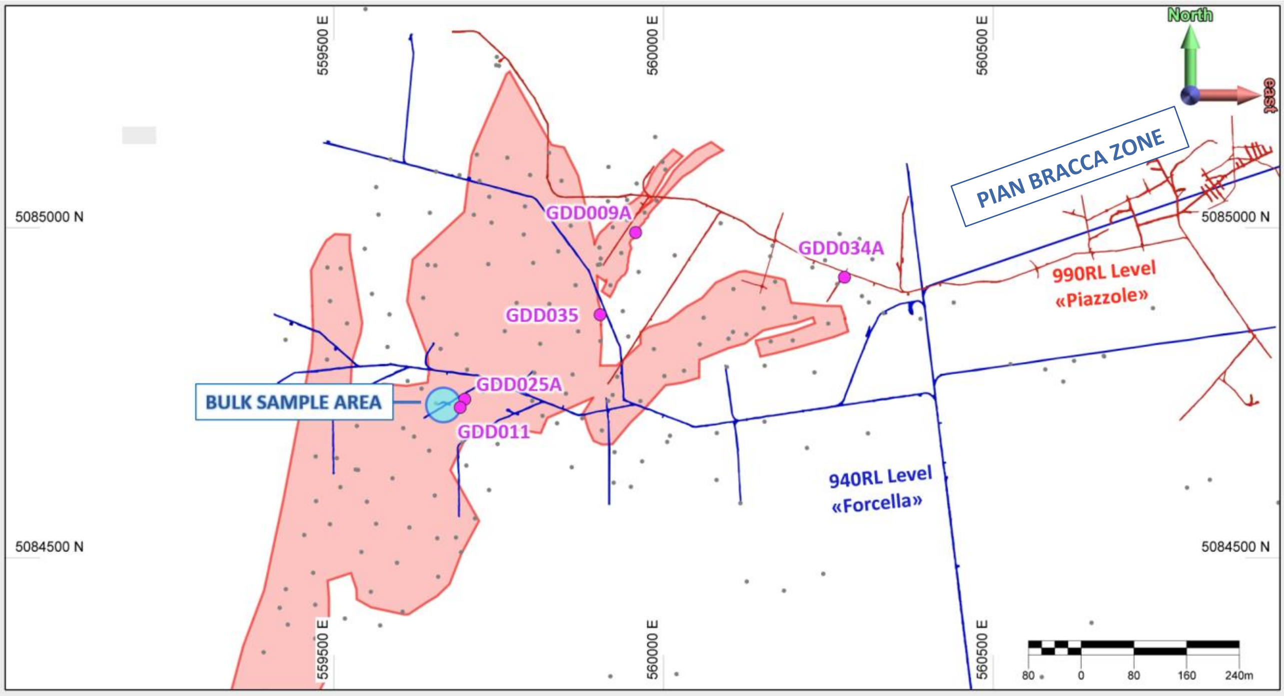

Figure 1: Locations of metallurgical samples, from diamond drill core and the 120 tonne bulk sample

Grinding

Bond Ball Mill Work Index testing on the sulphide mineralisation tested returned an average value of 11.65kWh/t, identifying the samples as relatively soft and amenable to a simple comminution circuit design with little variation between samples. A conventional ball mill is most suitable, as opposed to a SAG mill, due to ore's relative softness.

Core Sample	Bond Ball Mill Work Index kWhr/t	Feed Size microns	Product Size microns	Test Aperture microns	Grams/rev
GDD09A	10.26	2583	107	150	2.27
GDD025A	11.75	2489	105	150	1.91
GDD034A	13.41	2698	99.5	150	1.54
Average	**11.81**				

Table 1: Results of comminution work index testing on the core samples

Flotation

Mineralogical analysis showed that the sulphide samples were dominated by sphalerite with minor galena, pyrite and traces of bournonite and tetrahedrite. The primary gangue phases were calcite and altered micas/clays "phengite", which are associated largely with the Black Shales horizon at Gorno. The oxide sample from GDD035 was dominated by smithsonite with minor cerussite and traces of sphalerite and galena. The primary gangue was again calcite, with minor phengite and silicate gangue.

The liberation analysis indicated excellent liberation of sphalerite in both the oxide and sulphide dominated ore types, however liberation of galena in the <150 µm fractions was only considered reasonable with re-grinding required prior to cleaner flotation.

A comprehensive testwork program was conducted using both lab scale and pilot plant equipment, the flotation testwork programmes were as follow:

1. Initial sighter tests on core samples for flowsheet development
2. A 5-day Pilot Plant campaign, treating approximately 5 metric tonnes of feed with the parameters based on the initial laboratory work
3. Flotation locked cycle work on a pilot plant feed
    - Locked cycle tests on a pre-concentrated sample from the ore sorter
    - Further optimisation tests in Adelaide on ore sorter ejects (upgraded ore)

Each stage resulted in further developing the flowsheet and reagent scheme that will be used for the plant design as well as identifying areas for further improvement. Table 2 summarises the locked cycle and pilot plant results.

Test Run	Test Description	Sample Used	Feed Grades			Primary Grind p80 (µm)	Conc. Type	Concentrate Grades			Recovery (wrt feed)		
			g/t Ag	% Zn	% Pb			g/t Ag	% Zn	% Pb	g/t Ag	% Zn	% Pb
1	Locked Cycle	Pilot Plant Feed (Bulk Sample)	29	8.1	2.3	80	PbS	522	4.4	47.2	66	1.5	76.0
							ZnS	44	56.4	0.4	25	90.7	3.1
2	Pilot Plant Campaign	Pilot Plant Feed (Bulk Sample)	22	7.3	1.9	80	PbS	455	4.1	47.3	60	1.6	71.2
							ZnS	39	53.7	1.1	22	91.1	7.0
3	Locked Cycle	Pilot Plant Feed (Bulk Sample)	29	8.1	2.3	80	PbS	720	5.6	64.3	61	1.6	71.8
							ZnS	57	63.6	1.0	23	90.2	5.2
4	Locked Cycle	Ore Sorter Enriched Feed	43	12.3	3.7	80	PbS	686	5.3	68.7	46	1.3	71.6
							ZnS	58	62.9	1.2	25	95.9	8.3
5	**Locked Cycle**	**Ore Sorter Enriched Feed**	**45**	**12.3**	**3.4**	**120**	**PbS**	**810**	**3.7**	**75.8**	**59**	**1.0**	**74.2**
							ZnS	**58**	**63.3**	**1.0**	**24**	**96.0**	**5.7**
							PbO	**110**	**3.0**	**14.5**	**4**	**0.4**	**7.1**
6	Locked Cycle	Ore Sorter Enriched Feed/ 15% Oxide Blend	63	15.4	4.7	120	PbS	780	6.9	66.2	53	1.9	59.8
							ZnS	54	59.8	0.9	14	64.5	3.0
							PbO	300	2.2	29.5	14	0.4	18.2
							ZnO	26	25.7	0.5	4	16.9	1.1
7	Locked Cycle	Ore Sorter Enriched Feed/ 15% Oxide Blend	64	15.4	4.6	120	PbS	880	2.9	78.6	50	0.7	60.8
							ZnS	66	62.7	0.6	17	64.5	1.9
							PbO	500	2.4	52.9	18	0.4	26.8
							ZnO	28	22.6	1.1	3	10.0	1.6
8	Locked Cycle	Ore Sorter Enriched Feed/ 15% Oxide Blend	65	15.6	4.8	120	PbS	940	2.4	79.5	44	0.5	50.5
							ZnS	66	63.5	1.8	18	66.0	6.3
							PbO	430	2.9	43.2	21	0.6	28.8
							ZnO	41	34.3	1.0	5	17.0	1.6

Table 2: Summary of results from the flotation testing

The testwork has demonstrated that the lead and zinc minerals can be readily separated with high metal recoveries into clean and high-grade sulphide concentrates. These results can be achieved at a relatively coarse primary grind of P80 at 120 micron without the need of a zinc concentrate regrind circuit. This equates to a simpler flowsheet and lower power consumption. A significant body of metallurgical work has been conducted by Alta to a pre-feasibility level in most areas and beyond that in several areas. In total, the current testwork program has comprised in-excess of 50 flotation tests, including 8 locked cycle tests. Test run 5 (see Table 2) forms the basis of current metallurgical performance assumptions.

The results also demonstrate that high recoveries can be achieved for the anticipated ROM ore at a range of feed grades, both with and without ore sorting. This will allow greater optionality when designing the extraction sequence, conducting mine planning and determining the definitive and optimal process plant flowsheet.

Concentrate Quality

Elemental analysis was conducted on two representative concentrate composites samples from a locked cycle flotation test. Both the lead and zinc concentrate are shown to be of high grade and high quality/purity. Table 3 below give results of the major elements which will influence the marketability of the lead and zinc concentrates.

The resultant concentrates are of very high grade of zinc and lead, which will make treatment and transport economics more favourable, and also show very low concentrations of iron, silica and manganese elements which are disadvantageous to most smelters. Both concentrates also demonstrate low levels of deleterious elements.

Element	ZnS Concentrate	Typical Smelter Criteria (ZnS)	PbS Concentrate	Typical Smelter Criteria (PbS)
Ag(ppm)	59	>93.3 paid	739	>93.3 paid
As(%)	0.02	Low level	0.09	Low level
Fe(%)	0.62	<2% v low impurity	2.00	NA
Mg(%)	0.15	Low level	0.04	Low level
Pb(%)	0.76	NA	75.80	>60% high grade
Si(%)	1.66	<2% v low impurity	0.55	NA

Table 3: Concentrate elemental analysis summary & key smelter criteria comparison

An independent report was commissioned by Alta in Q2 2020 to examine the concentrate markets and the marketability of Gorno concentrates. The report indicates that there is a ready European (and worldwide) market for the quantity and quality of the concentrate specifications provided by the testwork results. Since the permanent closure, due to the depletion of ore, of significant mines such as Lisheen (Ireland) and others globally the market has had a structural undersupply of concentrates of the quality that Gorno could produce. The new sources of market supply are increasingly comprised of complex concentrates that frequently contain higher levels of deleterious elements, which present difficulties to smelters from both a processing and environmental management perspective A strong market opportunity therefore exists to supply clean concentrates that would allow smelters to blend with the predominant supply of complex concentrates.

Mineral Processing Flowsheet

Based on the testwork and engineering studies carried out to date a flowsheet has been developed for the sulphide mineralisation as shown in Figure 2.

The circuit will be very similar to the circuit used in the historical Gorno plant that closed in 1980, with crushing, grinding and several stages of flotation and a lead regrind circuit. The simplicity of the flowsheet reflects the relatively straight forward metallurgy and the amenability to liberation and separation of the Gorno mineralisation, as shown by the testwork.

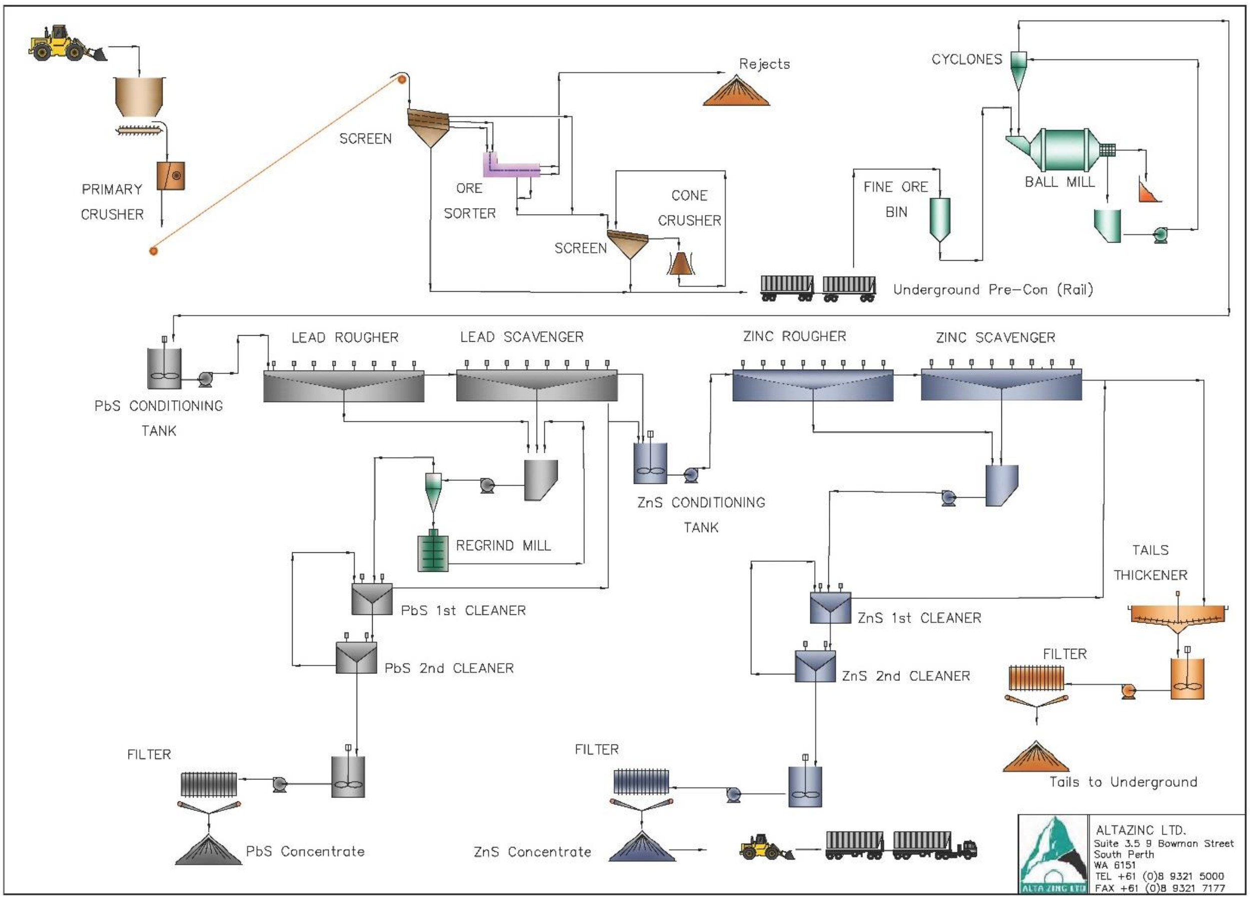

Figure 2: Gorno mineral processing flowsheet proposed schematic

Ore Sorting

Testwork using XRT (x-ray transmission) technology to enrich run-of-mine (ROM) material was undertaken by TOMRA Outotec and Steinert with outstanding results. The purpose was to understand if the ROM material can be upgraded by crushing the material and then separating the metal-bearing ore from the waste rock prior to it being fed to the processing plant. When effective this has several advantages:

1. The size of the processing plant can be reduced, as the original feed of metal from the mine is contained in a smaller volume of rock (at a higher grade). This reduces plant's surface footprint and also the capital cost estimate.
2. The mass of rock being treated by the plant is reduced whilst treating a similar amount of metal, leading to reduced total operating costs as fewer overall tonnes are processed, resulting in lower power, water, consumables and reagent usage.
3. The mass of tailings produced by the processing plant is reduced as there is a reduced quantity of material being ground-up and subjected to floatation. The material rejected by the ore sorter is generally inert waste rock which can be handled and stored much like any crushed aggregate.

The ore sorters tested use x-rays to determine the particle density and use this parameter as a basis for sorting mineralised ore from waste rock. As lead and zinc sulphide mineralisation is more dense than the surrounding waste rock, the ore sorter can detect the higher grade particles and upgrade the feed by either ejecting the ore or the waste from the feed stream using powerful directed air jets. This type of technology is common in mineral processing and has been globally used for decades on suitable feed stock.

Ore sorters have best performance when presented with a sized feed. Optimum performance occurs when the ratio of the largest particle to the smallest particle (the size range ratio or SRR) is no more than 3. A minimum particle size of 10mm is able to be processed, with all finer material not processed in the ore sorter.

The sample was created by taking a portion of the crushed -70mm bulk sulphide sample and diluting it with 15% of -70mm waste limestone, to simulate what would be expected from run-of-mine material, and screened into three size fractions. Sub-samples of the two coarser size fractions (-70+30mm with a SRR of 2.3 and -30+1 mm with a SRR of 3.0) were selected for the ore sorting testwork.

The tests conducted by Tomra and Steinert both demonstrated that XRT techniques were very compatible with the Gorno ore tested and will result in a high rejection of barren and low-grade material with minimal metal loss.

Table 4 shows a summary of the Tomra testwork results from the -30+10 mm and -70+30 mm fractions The best results were achieved in tests 3 and 8 which produced combined metal recoveries of 94.1% for zinc, 93.5% for lead and 92.8% for silver with a rejection of approximately 55%.

Test	Sample Size Range	Throughput	Feed Grade			High-grade Ore				Waste				Recovery		
	mm	tph	% Pb	% Zn	g/t Ag	Wt%	% Pb	% Zn	g/t Ag	Wt%	% Pb	% Zn	g/t Ag	Pb	Zn	Ag
1	10-30mm	30	1.7	5.5	22	58	2.8	9.2	36	42	0.2	0.5	2	96	97	96
2	10-30mm	30	1.9	5.9	24	52	3.4	11.0	44	48	0.5	0.2	2	96	96	96
3	10-30mm	30	2.0	7.0	27	42	4.5	15.5	59	58	0.2	0.8	4	93	94	92
4	10-30mm	30	1.7	5.9	22	33	4.7	16.3	59	67	0.3	0.9	4	90	90	88
Average for 10-30mm			**1.8**	**6.1**	**24**	**46**	**3.7**	**12.4**	**48**	**54**	**0.3**	**0.6**	**3**	**94**	**94**	**93**
5	30-70mm	50	1.6	5.8	20	50	3.0	11.2	38	50	0.2	0.5	2	95	96	95
6	30-70mm	50	1.2	4.2	15	38	2.9	10.3	36	62	0.1	0.4	2	94	95	92
7	30-70mm	50	1.9	6.2	23	54	3.3	11.1	41	46	0.2	0.6	3	95	96	94
8	30-70mm	50	1.5	5.4	20	37	3.8	13.6	50	63	0.2	0.5	2	94	94	94
Average for 30-70mm			1.5	5.4	20	45	3.2	11.5	41	**55**	**0.2**	**0.5**	**2**	**94**	**95**	**94**

Table 4: Summary results of the Tomra ore sorting testwork

The ore sorting testwork on the bulk sample tested demonstrates that at least 50% of ROM feed can be rejected with minimal loss of metal. Hence, Gorno mineralisation is clearly very responsive to ore sorting.

The metallurgy of Gorno is clearly very amenable to simple floatation technology on its own to produce commercially saleable concentrates. However, the success of ore sorting on Gorno mineralisation makes it very worthy for consideration as a technology to further augment what is a straightforward flowsheet design.

Processing Recommendations

Although the processing route appears to be substantially fixed for the sulphide mineralisation in the Black Shales horizon, further refinements and optimisation will be possible as the exploration of Gorno progresses. Future test work programmes will be undertaken to confirm the treatment of the stratabound Breno and the Thrust mineralisation, such as at the recently sampled mineralisation at Pian Bracca and Ponente. However, it is noted that these mineralisation styles were the principle feedstock for the Gorno processing plant throughout its operating history and so the Company assesses little risk in this regard.

At the same time test work will be conducted to further examine the optimal recovery of metal versus concentrate grade to gain the optimum commercially valuable smelter feed. Further work will also be carried out to maximise the payable content of metals, particularly silver in the concentrates.

The potential use of ore sorting will also be investigated in more detail, as this technology has the potential to significantly reduce future operating and capital costs and testwork has shown that the mineralisation is very responsive to XRT pre-concentration.

Gorno Italian Operations

The Coronavirus situation has significantly improved in Italy and particularly in Bergamo province. As such, industry and many businesses are returning to normal operation and our staff have safely returned to the Gorno project site to continue work. Our drilling contractor, Edilmac, is ready and waiting to return to drilling at Gorno and we expect that to re-commence during the month of June.

Alta are also very pleased that throughout the lock-down period both the Regional and National Regulators have continued to work remotely on our Mining Licence renewal and have continued to be responsive, despite the challenging circumstances.

At site there are drill samples waiting to be dispatched to the laboratory and therefore, despite the break in site-based work, Alta will be able to keep shareholders updated with further news as those results become available.

Authorised for ASX release by Mr Geraint Harris (Managing Director).

For further information, please contact:

Geraint Harris
Managing Director
Alta Zinc Limited
info@altazinc.com

For other enquiries contact:
Adam Miethke
Discovery Capital Partners
info@discoverycapital.com.au

Competent Persons Statement

Information in this release that relates to Exploration Results is based on information prepared or reviewed by Dr Marcello de Angelis, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Dr de Angelis is a Director of Energia Minerals (Italia) Srl and Strategic Minerals Italia Srl (controlled entities of Alta Zinc Limited) and a consultant of Alta Zinc Limited. Dr de Angelis has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being 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". Dr de Angelis consents to the inclusion in this release of the matters based on their information in the form and context in which it appears.

The information in this release that relates to metallurgy and metallurgical test work has been reviewed by Mr Sergio Di Giovanni, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and a consultant to Alta Zinc Limited. Mr Di Giovanni has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 edition of the "Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Di Giovanni consents to the inclusion in this report of the contained technical information in the form and context as it appears.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.*	• This announcement reports on metallurgical testwork results on material sourced from diamond drill holes GDD009A, GDD025A, GDD34A, GDD35, drilled over the period of Jun 2015 and Dec 2015, and a bulk mineral sample collected underground from the 940RL (Forcella level) in February 2016. The testwork programmes were developed and managed by Energia Minerals (Italia) Srl (Energia), Grinding Solutions Ltd (GSL) and RFB Consulting Ltd as part of the ongoing metallurgical testwork programme. • Diamond drilling samples were collected from either T2-66 size core or NQ size core (approx. same diameter of 47.6 and 51.7mm respectively). Half core samples or quarter core samples was used in the metallurgical testing. Diamond holes used for metallurgical testwork were twin holes to holes drilled for Dec 2017 Mineral Resource estimate • Samples from diamond drill holes were used for comminution, mineralogy and sighter flotation tests. Flotation tests were conducted separately on GDD009A, GDD025A and GDD035 allowing the separate determination of flotation response. GDD009A, GDD025A and GDD035 were representative of sulphide mineralisation and GDD035 was representative of oxide mineralisation. • The site selected for the 120-tonne bulk mineral sample approximated the centre of strike length of observed mineralisation intersected on that level. The drive, developed to obtain the bulk sample, followed the pathway of the NQ drill-hole, GDD011, drilled in August 2015. This hole had an intersection of 6.0m at 8.1% Zn, 2.0% Pb, and passed from the footwall to the hangingwall, from Breno through Metallifero limestone and Black Shales into the Gorno then Valsabbia rock types, providing a good example of the different rock and mineralisation types. The development closely matched the mineralisation seen in GDD011. Methods employed to ensure sample representativity not documented. • The 120t bulk mineral sample was used for ore sorting, pilot plant and bench scale flotation testwork. • A 20kg channel sample representing oxidized mineralisation was also obtained from the 940 RL drive wall for variability flotation testwork undertaken at ALS Adelaide under the supervision of RFB Consulting Ltd. This sample was composited with Oresorter "ejects" to represent 15% dilution from oxide mineralisation in

Criteria	JORC Code explanation	Commentary
		flotation feed samples. Methods employed to ensure sample representativity not documented.
Drilling techniques	• *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).*	• See ASX Announcement on 8 December 2017 for drilling techniques. • Sampling method for the bulk sample described under sampling techniques
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.*	• See ASX Announcement on 8 December 2017 for drill sample recovery. • Not applicable for bulk sample.
Loggings	• *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.*	• See ASX Announcement on 8 December 2017 for drill core logging. • Bulk sample -Each bulka bag was labeled, and each bag logged by an experienced geologist and uploaded into an Excel spreadsheet. Logging included size fraction and sample mass per bag. The geological logging was qualitative (subjective opinion) in nature. The logging technique is considered adequate for the intended metallurgical testwork.
Sub-sampling techniques & 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.*	• All Energia core is half cut using a Diamonte table diamond saw, typically producing samples for assay lab submission of approximately 2.5kg weight. • The Bulk sample was blended, and a selected tonnage (26t) was crushed to -70mm. 18t of the crushed sample was blended with barren limestone waste rock (3.2t) to generate a sample to represent 15% waste dilution. This was screened into 3 size fractions: -70+30mm, -30+10mm and -10mm before being bagged in 1 tonne bulka bags. • Undiluted crushed sample was dispatched to GSL (4.6t) and ALS (50kg) for bench flotation and pilot testwork.

Criteria	JORC Code explanation	Commentary
	• *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.*	• Diluted screened samples (-70+30mm and -30+10mm) were sent to TOMRA and Steinert for ore-sorting tests in mid-2016. TOMRA ore-sorter ejects product was then forwarded to GSL and ALS for flotation testing. • Diluted screened samples (-30+10mm and -10mm size fractions), were submitted to GLS and ALS Adelaide for flotation testwork. • The remainder of the crushed undiluted sample sample (7t) was either stored onsite (3.5t) or submitted for bench scale testwork and pilot plant trial (4.6t). • The diamond drill core and bulk samples were collected and prepared under the supervision of experienced Energia geologists. • The sample preparation technique is considered adequate for the intended metallurgical testwork. • Quality control procedures adopted for all sub-sampling stages to maximise representativity of samples not specified.
Quality of assay data & 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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	With regards to the metallurgical samples being reported: • Analysis for the ore sorting and flotation testwork was deemed appropriate for the detailed testwork as it was undertaken in an accredited laboratory environment. The assay methods were standard ALS Limited or Grinding Solutions Ltd (Wheel Jane Services Limited) procedures. • The primary laboratories have used a four acid digestion process that is able to dissolve most minerals; however, although the term "near-total" is used, depending on the sample matrix, all elements may not be quantitatively extracted. The analysis techniques employed are ICP-AES (Atomic Emission Spectroscopy), with ICP-AAS (Atomic Absorption Spectroscopy typically used to quantify higher grade base metal mineralisation. The digestion method and analysis techniques are deemed appropriate for the nature of the mineralisation. • Standard wet chemical analyses were used for grade determination. There was no reliance on determination of analysis by geophysical tools. • Certified lab were used for analysis. The metallurgical testwork was supervised by qualified metallurgist deemed appropriate by Energia. No external checks were carried out/reported. Insertion of QA/QC Duplicates and blanks checks carried out periodically.
Verification of sampling & assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.*	• The diamond drill core and bulk samples were collected under the supervision of experienced Energia geologists. • The core samples used where from twinned holes used for Mineral Resource drilling.

Criteria	JORC Code explanation	Commentary
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• The metallurgical testwork was supervised by suitably qualified personnel under laboratory conditions. All data entry was under the control of an experienced metallurgist and laboratory operators, who were responsible for data management, storage and security. • No adjustment to any primary assay data collected is known to have been applied.
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.*	• With regards to metallurgical results being reported, metallurgical domain composites are created from a group of holes or a mined bulk sample representing a region of the deposit thus may not be attributed to a single point in space.
Data spacing & distributions	• *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.*	• No Exploration Results, Mineral Resource or Ore Reserves are reported in this announcement.
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.*	• See ASX Announcement on 8 December 2017 regarding drilling orientation and geological structure. • Samples were taken with consideration of stratigraphy and alteration.
Sample security	• *The measures taken to ensure sample security*	• See ASX Announcement on 8 December 2017. • Samples from the Exploration Site are dispatched using a single reputable contracted courier service to deliver samples directly to the analytical laboratory where further sample preparation and analysis occurs. • Bulk metallurgical samples were securely cable tied closed in impermeable bulka bags for transport to laboratory. • An inventory of samples was taken by the site laboratory technician on receipt of the samples to ensure all were accounted for.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews are known to have occurred at the time or reporting.

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 Gorno Lead Zinc Mineral District is located in the north of Italy, in the Lombardy Province. The Gorno Project is made up four granted exploration permits and one Mining Licence. These leases are 100% owned and operated by Energia Italia, a 100% owned subsidiary of Alta Zinc Ltd. All permits are valid at the time of this report. • All tenements are in good standing and no impediments to operating are currently known to exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• A significant amount of work was undertaken by ENI subsidiaries in the region, notably SAMIM, an Italian state-owned company and part of the ENI group. Drilling works completed in the period between 1964-1980 have been compiled and digitised by Energia. A significant amount of work has been completed in the Gorno Mineral District including the development of more than 230km of exploration drives, detailed mapping, and the mining and production of over 800,000 tonnes of high-grade zinc concentrate. Large scale mining operations at the Gorno Mineral District operated from 1888 to 1978 and the project closed in 1980.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Gorno deposit is an Alpine Type Lead-Zinc deposit (similar to Mississppi Valley Type Lead Zinc deposits) and broadly stratabound with some breccia bodies and veining also occurring. It displays generally simple mineralogy of low iron sphalerite, galena, pyrite, and minor silver. Gorno lies in a part of the Italian Southern Alps named "Lombard Basin", formed by a strong subsidence occurring in the Permian-Triassic which allowed the subsequent accumulation of a thick sedimentary pile. The sedimentary sequence is constrained laterally by the Luganese Platform to the west and by the Atesina Platform to the east. The lithotypes in the southern portion of the basin are predominantly Triassic in age. The geological sequences of importance in relation to mineralisation, from oldest to youngest are as follows: ○ Breno Formation: a back-reef limestone composed by light grey calcareous beds, 10 to 170m thick. The facies indicate a palaeogeographical evolution from back reef to shelf environment, in low energy water to alternating peri-tidal cycles. ○ Metalliferous Limestone: composed of dark grey to black limestone

Criteria	JORC Code explanation	Commentary
		deposited in stromatolitic tidal flats, with siliceous intercalations present in the upper part. The dark colour suggests a stagnant anaerobic depositional environment with bituminous beds generally present at the footwall of the Metallifero. This formation represents a transitional phase between the underlying shelf environment and the upper sequence typified by a peri-continental and detrital sedimentation. Three tuffaceous levels are present in the Metallifero stratigraphical column. The pyroclastic tuffs are submarine volcanic phases which intervened during the deposition of the limestones, and effectively represent a control for the mineralized horizons, in that they are always found at the foot wall (Tuff 1) and at the hanging wall (Tuff 2) of the productive mineralised horizons. ○ Gorno Formation: alternating thinly bedded, black limestone and laminated marl deposited in protected lagoon environment with a thickness of 0-350 metres. A thin tongue, intercalated between the Metalliferous Limestone and the Val Sabbia Sandstone, is often mineralised and is referred to as the mineralised "black shales" of the Gorno deposits. ○ Val Sabbia Sandstone: present along the southern Lombard Basin border and is composed of alternating tuffaceous sandstone and green and\or red silt-mudstone. These were possibly derived from the erosion of continental sediments present to the south. The thickness varies between 0 and 400 metres. ○ San Giovanni Bianco Formation: composed of a thick alternation of marl, sandstone, siltstone and mudstone which transitions at the top of the unit to cellular limestone and evaporitic vuggy dolomite, estimated thickness to be in the order of 150 metres. • Structure in the basin is typified by E-W trending belts which can be subdivided in five sectors: ○ Orobic Anticline, in the northern part, which includes Palaeozoic successions; ○ Valtorta-Valcanale Line, oriented E-W and separating the Orobic Anticline to the north from the Pb-Zn mineralised belt in the south. The line is responsible for many of the allochthonous units; ○ Camuno Autochthonous, including the sedimentary cover, which is covered in the central-western part by various overthrusts and outcrops only in the east; ○ Para-autochthonous and allochthonous units, present over a large area to the south of the Valtorta-Valcanale Line and formed by the double or triple

Criteria	JORC Code explanation	Commentary
		superimposition of the Triassic carbonate formations; ○ Fold and fold-fault zone, which constitutes the southern sector near the Po plains and includes Jurassic-Cretaceous formations. • Mineralisation in the Gorno district occurs within the Camuno Autochthonous Zone, and the para-autochthonous, and allocthounous units. The geometry of the mineralised bodies is mainly stratabound with common characteristics in the majority of the Gorno deposits. The prevailing distribution trend is N-S and the shape, represented by tabular "columns", which can be longitudinally developed for more than 2000 metres, with widths from 50 to 100 metres and thickness between 3 and 20 metres.
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.*	• Not applicable – metallurgical test results only in this release.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. 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.*	• No data aggregation was undertaken. • All results reported are assays on feed samples for metallurgical testwork and assays on the products after testing • No metal equivalent has been reported.
Relationship between mineralisation	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill*	• Not applicable – metallurgical test results only in this release.

Criteria	JORC Code explanation	Commentary
widths and intercept lengths	*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 (e.g. 'down hole length, true width not known').*	
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.*	• Metallurgical test results only in this release. Which do not require maps and diagrams.
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.*	• No exploration results are provided in this announcement – metallurgical test results only in this release. • For other results, details are provided in public announcements released to the ASX.
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.*	• For other results, details are provided in public announcements released to the ASX.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further drilling will be undertaken to add to the Mineral Resource estimate and additional metallurgical testing will be conducted as part of the ongoing work and metallurgical studies. • Additional testwork recommended includes: ○ Comminution testwork on each of the major domains to be processed. ○ Bench scale and confirmatory locked cycle testing on the major domains that will be processed together with sufficient variability. tests to ensure a robust algorithm for predicting recovery and grades for the value metals of interest. ○ Full concentrate assay analysis from select flotation tests to enable any deleterious or penalty elements to be identified from all major domains to be mined. ○ Thickening and filtration testwork or appropriate benchmarking. • No exploration results are being reported. For other results (possible extensions, future drilling areas, geological interpretations and future drilling areas) details are provided in public announcements released to the ASX.

Section 4 Estimation and Reporting of Ore Reserves

Since no Ore Reserves are reported, this section is provided in part only, in order to provide further details of the metallurgical testwork in a manner that is consistent with the prevailing JORC Code 2012 reporting format.

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

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	• *Nature and quality of sampling (e.g. cut channels, random The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*	• The company is conducting a series of metallurgical tests to determine the effectiveness of extracting metals from Gorno primary material by flotation, targeting separate concentrates. The proposed metallurgical process is considered to be a standard practice for the type of mineralisation found at Gorno. • The metallurgical process is well tested technology. It consists of Crushing, Ore sorting, grinding and differential Sulphide flotation which should produce two saleable concentrates, Pb concentrate and Zn concentrate. Large scale mining operations at the Gorno Mineral District between 1888 in and 1980 used the proposed metallurgical process. • Mined ore will be crushed and pre-concentrated underground with the enriched ore transported to the surface for further processing via flotation to produce zinc (Zn) and lead (Pb) concentrates. • Approximately 60% of the mined ore is forwarded to the flotation plant following the pre-concentrating process. The remainder is classified as waste. • Metallurgical testing of the ore has been undertaken on underground samples. • The samples comprised of four core samples three representing sulphide mineralisation and one representing oxide mineralisation and a one bulk sample. The majority of the available testwork was based on the bulk sample. • Further testwork on additional samples recommended to cover all lithologies and metallurgical domains. • An average metallurgical recovery of 90.4% for Zn into Zn concentrate was used in the 2019 P1 PFS and is based on the metallurgical testwork carried out on the sulphide mineralarisation. • An average metallurgical recovery of 73.4% for Pb into Pb concentrate was used in the 2019 P1 PFS and is based on the metallurgical testwork carried out on sulphide mineralarisation. • Testwork to-date on the sulphide mineralisation and using the proposed ore sorting equipment indicates approximately 94-96% Zn recovery following ore sorting and 94-96% Zn recovery following flotation (0verall Zn recovery of 88-92%) and approximately 94-96% Pb recovery following ore sorting and 71-76% Pb recovery following flotation (0verall Pb recovery of 67-73%). • No deleterious elements are expected based on testwork to-date.

Criteria	JORC Code explanation	Commentary
	• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• The dominant mineralisation type is expected to be sulphide mineralisation in limestone. • Not applicable.