# **ASX Announcement**



## STEP-OUT DRILLING EXTENDS THICK & HIGH-GRADE MINERALISATION AT PIAN BRACCA SOUTH

#### HIGHLIGHTS

- Step-out hole PBD44 intersected thick high-grade mineralisation making a significant 80m extension to the southeast of the newly discovered Pian Bracca South zone returning:
  - 10.0m at 8.8% Zn and 4.2% Pb (12.9% Zn+Pb) and 53g/t Ag from 32.4m (PBD44), including:
    - 3.8m at 21.5% Zn and 10.8% Pb (32.2% Zn+Pb) and 135g/t Ag from 36.1m
- Step-out hole PBD40 intersected mineralisation confirming a significant 100m extension to the west of the same Pian Bracca South zone, returning two intervals of significant mineralisation:
  - o 2.6m at 7.9% Zn and 2.1% Pb (10.0% Zn+Pb) and 13g/t Ag from 108.8m (PBD40), and;
  - 0.7m at 36.1% Zn and 6.6% Pb (42.7% Zn+Pb) and 55g/t Ag from 133.3m (PBD40), with the highgrade mineralisation at the end of the hole (from 134m) truncated due to glacial erosion.
- PBD43 has also intersected two intervals of mineralisation, with the most significant and lower interval returning:
  - o 5.1m at 11.8% Zn and 4.9% Pb (16.7% Zn+Pb) and 34g/t Ag from 105.5m (PBD43)
- A dual rig drill program is active at the Pian Bracca South and Ponente areas, both being adjacent to the established Zorzone Mineral Resource estimate, with strong near-term news-flow expected.

**Alta Zinc Limited (Alta or the Company) (ASX: AZI)** is pleased to announce the results of drill holes PBD40, PBD43 and PBD44. All holes were drilled in the new Pian Bracca South area and returned multiple intersections of zinc, lead and silver mineralisation extending the known mineralisation both in the east and west of this new target zone. The results represent significant step outs of mineralisation, 100m on the western side and 80m in the east which significantly add to the footprint of drilled mineralisation.

#### Geraint Harris, MD of Alta Zinc commented:

"Our geology teams have successfully followed up on initial drill-hits and as a result have significantly extended the known mineralisation with holes on either end of the new Pian Bracca South corridor. This zone has now emerged as a wide open stand-out target, and will be drilled in parallel to our other new drilling area at Ponente, 1km to the northwest. This significant broadening of our exploration footprint highlights the many prospective new target areas which can immediately add to the current Zorzone Mineral Resource estimate and also those that are yet to be uncovered within the Gorno Zinc District."

The Pian Bracca mineralisation style and rock sequence intersected in PBD44 is very distinct and matches intersections drilled in Pian Bracca Central (drill holes PBD06 to PBD09, see Figure 3) and the recently reported hole PBD36. Mapping, interpretation and modelling has been progressing to better understand the orientation and controls on this mineralisation and how this may lead to the potential discovery of extensions and repeats of similar mineralisation in the largely untested area stretching >2km east of and >1.5km south of PBD44, and where there is direct evidence of the same host rock and of the Pian Bracca Thrust structure.

Figure 1 shows the location and assay results of the recent drilling, as well as the position of drilled mineralisation in the Pian Bracca Central corridor relative to the new mineralisation in the Pian Bracca South area. It also illustrates the additional drilling planned, and the position of the section lines corresponding to Figures 2, 3 and 4.

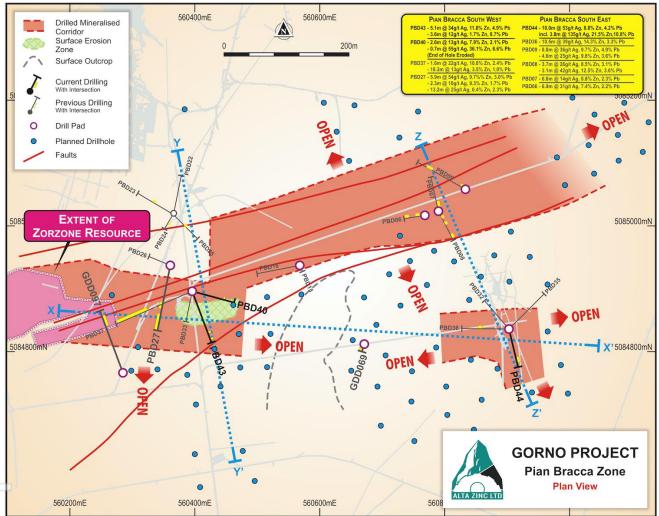
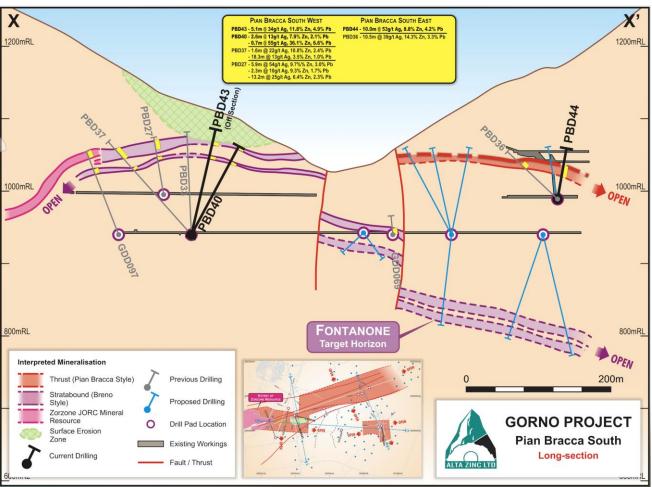


Figure 1: Plan view of holes PBD40, PBD43 & PBD44 located in the new Pian Bracca South Corridor

Figure 2 is an east-west long-section through the Pian Bracca South area. This shows in the east that hole PBD44 significantly extends the known Thrust-style mineralisation. This opens up the exploration prospectivity to the south and east, and is in addition to the Fontanone mineralised lens located below, which was intersected in the limited historical exploration but has not yet been drilled by Alta. This Fontanone mineralised horizon is historically unmined and within easy reach via short holes from the 940m RL, therefore it is a highly prospective target for efficient future drilling.

To the west, Figure 2 shows that PBD40 and PBD43 have extended the known mineralisation by 100m from the nearest previously reported hole PBD27. Hole PB40 ended with 0.7m at 36.1% Zn and 6.6% Pb, or 42.7% Zn+Pb and 55g/t Ag from 133.3m, however this mineralisation is truncated by the trough of surface (glacial) erosion that has partially removed the apparent high-grade upper mineralised layer. Fortunately, this erosion zone is now known to be very limited in extent and it does not affect hole PBD43.



#### Figure 2: East-west section illustrating how drill holes PBD40 & PBD43 demonstrate mineral continuity east of the Zorzone Mineral Resource area & how PBD44 has further extended a significant step-out of Pian Bracca-style mineralisation from hole PBD36 to the south-east

Figure 3 is a north-south section that demonstrates the extension of the largely high-grade and thick mineralisation intersected in Pian Bracca Central (holes PBD06 to PBD09) to drill hole PBD44, with the intervening ground yet to be drilled. Pian Bracca South is a completely new area of exploration which remains open to the south and east, where historical evidence exists of the same Thrust-style formation extending at least 2.0km east and 1.5km south from drill hole PBD44.

Figure 4 is another north-south cross-section which clearly shows the dramatic increase in mineralisation grade and thickness across the bounding faults that separate the western end of the Pian Bracca Central corridor from the new Pian Bracca South area.

Figure 5 shows the respective areas of recent and current drilling activity relative to the position of the Zorzone Mineral Resource.

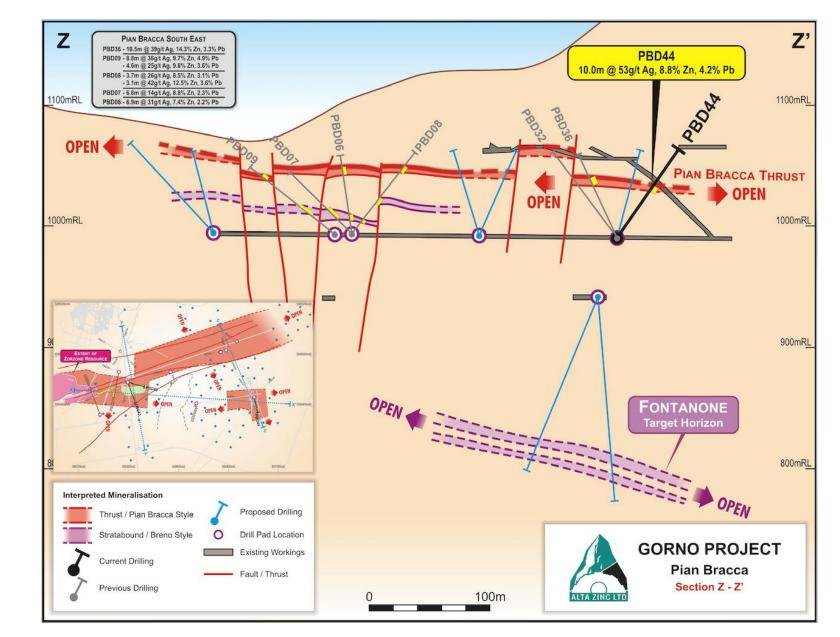


Figure 3: North-south section (looking east) showing drill hole PBD44, which has intersected & extended similar high-grade & thick mineralisation to that seen in drill hole PBD36

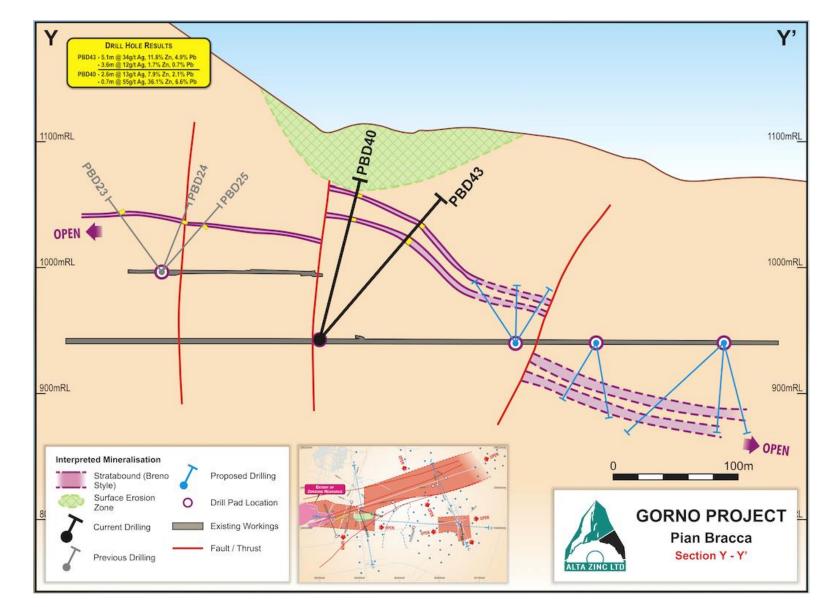


Figure 4: North-south section (looking east) showing the strong continuity of the twin lenses of mineralisation in holes PBD40 & PBD43, which will also be further drill-tested where there is evidence of extension to the south

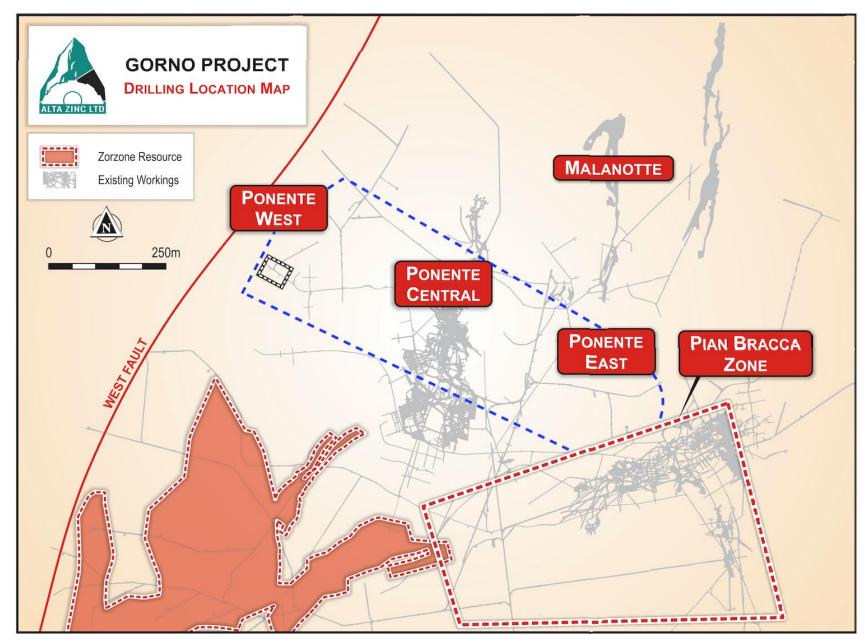


Figure 5: Location map showing the two drilling areas, Pian Bracca Central & South (red) & Ponente (blue)

Table 1 contains highlighted mineral intervals from the reported drill holes. The selection criterion for the highlighted intervals is where grade is greater than 0.5% Zn and the interval contains a maximum of two consecutive samples with grades less than or equal to 0.5% Zn. The attitude of the mineralisation is thought to be generally dipping to the south-east at approximately 5-10 degrees. Some intersections may be biased and true width for these intersections will be confirmed once collar surveys, hole deviation surveys and geological modelling is finalised. Sections provided in the text show reasonably accurate depictions of the attitude of the mineralised horizons, and the angles of intersections for the drill holes.

Hole ID	From	То	Intercept	Ag	Zn	Pb	Pb+Zn
	m	m	m	g/t	%	%	%
PBD40	108.8	111.4	2.6	13	7.9	2.1	10.0
PBD40	133.3	134.0	0.7	55	36.1	6.6	42.7
PBD43	105.5	110.6	5.1	34	11.8	4.9	16.7
PBD43	122.0	125.6	3.6	12	1.7	0.7	2.5
PBD44	32.4	42.4	10.0	53	8.8	4.2	12.9
PBD44 incl.	36.1	39.9	3.8	135	21.5	10.8	32.2

#### Table 1: Highlighted drill results (down hole thickness)

Alta is now drilling in two separate new areas of the Gorno Zinc District that are adjacent and in addition to the Zorzone Mineral Resource estimate (see Figure 5). These areas, Pian Bracca South and Ponente (1km to the NW of Pian Bracca South), host very similar mineralisation styles to that drilled in the Pian Bracca Central corridor. Ponente drilling will progress from west to east towards Pian Bracca with the strategy to define a broader horizon of mineralisation than has been drill-tested so far, with the initial program designed as a 1,000m campaign of some 25 short, efficient drill holes. First results from Ponente are expected from the end of March and will be reported in addition to the ongoing results from Pian Bracca South.

Authorised for ASX release by the Alta Zinc Board.

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

#### Table 2: Location of drill hole collar (UTM-WGS84)

	Easting	Northing	Elevation	Azimuth (TN)	Dip
Hole ID	m	m	m	degree	degree
PBD40	560393	5084897	942	106	61
PBD43	560393	5084897	942	159	49
PBD44	560896	5084835	992	165	54

#### **Competent Person 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.

#### Table 3: Assay results of holes

10	From (m)	<b>T</b> o (m)		Ag	Zn	Pb
ID	From (m)	To (m)	Length (m)	g/t	%	%
PBD40	107.0	108.0	1.0	1	0.0	0.0
PBD40	108.0	108.8	0.8	1	0.0	0.0
PBD40	108.8	109.6	0.8	13	3.3	1.8
PBD40	109.6	110.6	1.0	8	4.5	1.1
PBD40	110.6	111.4	0.8	21	16.9	3.7
PBD40	111.4	112.2	0.8	1	0.1	0.1
PBD40	112.2	113.0	0.8	1	0.0	0.0
PBD40	113.0	114.0	1.0	1	0.0	0.0
PBD40	131.3	132.3	1.0	1	0.0	0.0
PBD40	132.3	133.3	1.0	1	0.0	0.0
PBD40	133.3	134.0	0.7	55	36.1	6.6
PBD40	134.0	134.7	0.7	1	0.1	0.0
PBD40	134.7	135.5	0.8	1	0.1	0.0
PBD40	135.5	136.5	1.0	1	0.2	0.0
PBD40	136.5	137.5	1.0	1	0.0	0.0
PBD43	102.7	103.8	1.1	1	0.0	0.0
PBD43	103.8	104.7	1.0	1	0.0	0.0
PBD43	104.7	105.5	0.8	1	0.0	0.0
PBD43	105.5	106.2	0.7	9	1.7	1.3
PBD43	106.2	107.0	0.8	1	0.6	0.1
PBD43	107.0	107.7	0.7	1	0.3	0.3
PBD43	107.7	108.9	1.2	28	36.2	5.0
PBD43	108.9	109.8	0.9	146	18.1	20.0
PBD43	109.8	110.6	0.8	2	0.5	0.4
PBD43	110.6	111.4	0.8	1	0.0	0.0
PBD43	111.4	112.4	1.0	1	0.0	0.0
PBD43	112.4	113.4	1.0	1	0.0	0.0
PBD43	118.5	119.6	1.1	1	0.0	0.0
PBD43	119.6	120.5	0.9	1	0.0	0.0
PBD43	120.5	120.5	0.7	1	0.1	0.0
PBD43	120.5	122.0	0.8	1	0.2	0.0
PBD43	122.0	122.0	0.7	6	0.2	0.1
PBD43	122.0	122.7	0.7	39	4.0	2.1
PBD43 PBD43	122.7	123.4	0.7	5	0.7	0.4
PBD43 PBD43	123.4	124.1	0.7	9	2.6	0.4
PBD43	124.8	125.6	0.8	2	0.6	0.2
PBD43	125.6	126.6	1.0	1	0.1	0.1
PBD43	126.6	127.6	1.0	1	0.0	0.1

	- ( )			Ag	Zn	Pb
ID	From (m)	To (m)	Length (m)	g/t	%	%
PBD43	127.6	128.6	1.0	1	0.1	0.0
PBD43	128.6	129.6	1.0	1	0.1	0.0
PBD43	129.6	130.6	1.0	1	0.1	0.0
PBD43	130.6	131.6	1.0	1	0.0	0.0
PBD44	23.6	24.7	1.0	1	0.0	0.0
PBD44	24.7	25.7	1.0	1	0.0	0.0
PBD44	25.7	26.4	0.7	9	1.2	0.2
PBD44	26.4	27.1	0.7	1	0.1	0.0
PBD44	27.1	27.8	0.7	7	0.8	0.2
PBD44	27.8	28.5	0.7	1	0.0	0.0
PBD44	28.5	29.5	1.0	1	0.0	0.0
PBD44	29.5	30.4	0.9	1	0.0	0.0
PBD44	30.4	31.4	1.0	1	0.0	0.0
PBD44	31.4	32.4	1.0	1	0.0	0.0
PBD44	32.4	33.4	1.0	1	1.1	0.0
PBD44	33.4	34.4	1.0	1	2.5	0.0
PBD44	34.4	35.4	1.0	1	0.1	0.0
PBD44	35.4	36.1	0.7	1	0.1	0.2
PBD44	36.1	37.0	0.9	172	25.4	16.0
PBD44	37.0	37.8	0.8	275	20.9	20.0
PBD44	37.8	38.7	1.0	106	34.8	7.7
PBD44	38.7	39.9	1.1	31	7.2	2.7
PBD44	39.9	40.8	0.9	3	0.7	0.2
PBD44	40.8	41.7	0.9	3	0.3	0.1
PBD44	41.7	42.4	0.8	15	1.5	0.3
PBD44	42.4	43.3	0.9	3	0.3	0.1
PBD44	43.3	44.0	0.7	1	0.0	0.0
PBD44	44.0	45.1	1.1	1	0.0	0.0
PBD44	45.1	45.8	0.7	2	0.0	0.0
PBD44	45.8	46.8	1.0	1	0.0	0.0
PBD44	46.8	47.6	0.8	1	0.0	0.0
PBD44	47.6	48.3	0.7	1	0.0	0.0
PBD44	48.3	49.0	0.7	1	0.0	0.0
PBD44	49.0	50.0	1.0	1	0.0	0.0
PBD44	50.0	51.0	1.0	1	0.0	0.0
PBD44	51.0	52.0	1.0	1	0.0	0.0
PBD44	52.0	53.0	1.0	1	0.0	0.0
PBD44	53.0	53.9	0.9	1	0.0	0.0
PBD44	53.9	54.9	1.0	1	0.2	0.0

ID	From (m)	To (m)	Length (m)	Ag	Zn	Pb
	From (m)	10 (11)	Length (III)	g/t	%	%
PBD44	54.9	55.6	0.7	1	0.1	0.0
PBD44	55.6	56.6	1.0	1	0.1	0.0
PBD44	56.6	57.6	1.0	1	0.2	0.0
PBD44	57.6	58.3	0.7	1	0.0	0.0
PBD44	58.3	59.0	0.7	3	0.7	0.2
PBD44	59.0	60.1	1.1	13	0.9	0.3
PBD44	60.1	61.0	0.9	1	0.0	0.0
PBD44	61.0	62.0	1.0	38	1.9	0.6
PBD44	62.0	62.7	0.7	36	2.1	0.8
PBD44	62.7	63.5	0.8	4	0.2	0.1

## JORC Code, 2012 Edition – Table 4 Pian Bracca exploration drilling

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (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.</li> </ul>	<ul> <li>NQ diamond half core (drilled by Sandvik 130) and BQ Diamond whole core (drilled by Diamec 230), typically weighing around 2-3 kg, were submitted to the ALS facility in Rosia Montana, Romania for industry standard analytical analysis.</li> <li>The half or whole core and weight of the sample provide sufficient representivity.</li> <li>No calibration of any equipment was required as all samples were sent for assay by commercial laboratory.</li> <li>Mineralised core is visually identified, and then sampled in geological intervals using 0.7-1.3m intervals to obtain 2-3 kg samples.</li> </ul>
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).	<ul> <li>Drill Type are Sandvik 130 and Diamec 230 drill rigs.</li> <li>Core not oriented, but a Televiewer system is used to define azimuth, inclination and structures of each drill hole.</li> <li>Coring bit used in campaign: NQ and BQ diamond core.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximize sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to</li> </ul>	<ul> <li>All core was logged for geology and RQD with recovery in the mineralised and sampled zone greater than 90%.</li> <li>NQ diameters and sampling of half core ensured the representative nature of the samples.</li> <li>There is no observed relationship between sample recovery and grade, and with little to no loss of material there is considered to be little to no sample</li> </ul>

Criteria	JORC Code explanation	Commentary
	preferential loss/gain of fine/coarse material.	bias.
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All holes have been geologically logged on geological intervals with recordin of lithology, grain size and distribution, sorting, roundness, alteration veining, structure, oxidation state, colour and geotechnical data noted an stored in the database. All holes were logged to a level of detail sufficient t support future mineral resource estimation, scoping studies, an metallurgical investigations.</li> <li>Oxidation, colour, alteration, roundness, sorting, sphericity, alteration an mineralisation are logged qualitatively. All other values are logge quantitatively. All holes have been photographed both wet and dry, an these photos stored in a database.</li> <li>All holes have been logged over their entire length (100%) including an mineralised intersections.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>NQ drill core was cut in half, for BQ the whole core is sampled.</li> <li>Not applicable.</li> <li>Mineralised core is visually identified, and then sampled in geological intervals using 0.7-1.3m intervals, the core is then half cut and half the core is wholly sampled for that interval then inserted into pre numbered calicol bags along with QA/QC samples. The sample preparation technique i deemed appropriate.</li> <li>Quality control procedures include following AZI standard procedures when sampling, sampling on geological intervals, and reviews of sampling techniques in the field.</li> <li>Field Duplicate samples are taken just for NQ core at a rate of 1 in 20 and consist of ¼ core taken from the reserved ½ core.</li> <li>The expected sample weight for 1m of half NQ core or whole BQ core is 2.4kg This sample weight should be sufficient to appropriately describe base metamineralisation grades from mineral particle sizes up to 5mm.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors</li> </ul>	<ul> <li>The digest method and analysis techniques are deemed appropriate for the samples. Four acid digestions are able to dissolve most minerals; however although the term "near-total" is used, depending on the sample matrix, al elements may not be quantitatively extracted. The intended analysis techniques are ICP-AES (Atomic Emission Spectroscopy) and ICP-AAS (Atomic Absorption Spectroscopy) typically used to quantify higher grade base meta</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>mineralisation.</li> <li>No geophysical tools, spectrometers or XRF instruments have been used.</li> <li>QA/QC samples (duplicates, blanks and standards) are inserted in the samp series at a rate of better than 3 in 20. These check samples are tracked an reported on for each batch. When issues are noted the laboratory is informed and an investigation begins defining the nature of the discrepancy, a suitable explanation, and whether further check assays are required. The laborator completes its own QA/QC procedures and these are also tracked an reported on by AZI.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>There has been no independent logging of the mineralised interval; however it has been logged by several company personnel and verified by senior statusing core photography.</li> <li>None of the reported holes are twinned holes.</li> <li>All geological, sampling, and spatial data that are generated and captured in the field are immediately entered into a field notebook on standard Excert templates. These templates are then validated each night in Micromine. The information is then sent to Alta's in-house database manager for further validation. No adjustment was necessary.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Collar locations are designed using data acquired from surveying existing infrastructure using a total station. Once completed, drill holes are surveyed using a total station, and logged with a Televiewer system to define azimutily inclination and structures of the drill hole.</li> <li>The grid system used at Gorno is WGS_1984_UTM_Zone_32N. Easting an Northing are stated in metres.</li> <li>The topographic surface of the area is based on 1:10000 scale topograph maps issued by Regione Lombardia, derived from restitution of orthophot mosaics with an accuracy of ±2m horizontal and ±5-10m vertical.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Results from all drill holes are being reported. All samples were collected a from 0.7 to 1.3m intervals down hole.</li> <li>No Mineral Resource or Ore Reserve are being reported.</li> <li>Sample composites were not employed.</li> </ul>

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Reported holes were drilled at an average declination and azimuth as stated in the accompanying report.</li> <li>The attitude of the mineralisation is thought to be generally dipping to the south-east at approximately 5-10 degrees following a low angle fault direction. Some intersections may be biased. True width for these intersections will be confirmed once collar surveys, hole deviation surveys, and geological modelling is finalized. Sections provided in the text show fairly accurate depictions of the attitude of the mineralised horizons, and angle of intersections of the drill holes.</li> </ul>
Sample security	• The measures taken to ensure sample security.	• Samples were dispatched from the Exploration Site using a single reputable contracted courier service to deliver samples directly to the assay laboratory where further sample preparation and assay occurs.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Reviews of sampling techniques and material sampled are undertaken regularly to ensure any change in geological conditions is adequately accounted for in sample preparation. Reviews of assay results and QA/QC results occur for each batch 1 in 10 checks on all compiled and entered data are completed by Alta Zinc.

## JORC Code, 2012 Edition – Table 5 Gorno Historical Exploration Drilling Results

#### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Samplin techniqu		

Criteria	JORC Code explanation	Commentary
	<ul> <li>measurement tools or systems used</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>Diamond Core holes:         <ul> <li>AQ diamond core</li> <li>Non oriented core</li> <li>Coring bit used</li> <li>Unknown rig type</li> </ul> </li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximize sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred</li> <li>due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Assessment of core recoveries: Unknown not detailed in reports.</li> <li>Measures to maximize sample recovery: Unknown not detailed in reports</li> <li>Not enough information is currently available to establish if a bias exist between sample recovery and grade. However twin holes twinning historical holes show good correlation with historical results.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximize sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred</li> <li>due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Assessment of core recoveries: Unknown not detailed in reports.</li> <li>Measures to maximize sample recovery: Unknown not detailed in reports</li> <li>Not enough information is currently available to establish if a bias exist between sample recovery and grade. However twin holes twinning historical holes show good correlation with historical results.</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging Sub-sampling techniques and sample preparation	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>All holes were geologically logged on geological intervals. Information pertaining to colour, grainsize, lithology and alteration were manually logged on paper. The level of detail logged would be sufficient to support Mineral Resource estimation.</li> <li>All of the logging was qualitative (subjective opinion) in nature.</li> <li>All holes were logged over their entire length, except where recovery was zero (which was rare, and noted in the logs as no recovery). No known core photographs exist</li> <li>Whether the core was cut or how much core was assayed was not detailed in the reports.</li> <li>Non-Core, not applicable.</li> <li>Sample preparation techniques are not detailed in reports.</li> <li>Quality control procedures not documented in reports.</li> <li>Measures taken to ensure representative nature of samples not detailed in reports.</li> <li>It is not known whether sample sizes appropriate to the grain size we collected.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory</li> <li>checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>The nature, quality, and appropriateness of assaying techniques is unknow</li> <li>No geophysical or other tools were used.</li> <li>Quality Control procedures implemented are unknown.</li> </ul>

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Significant intersections, drill hole locations, and mineralisation in view have been checked by Energia Minerals personnel and consultants in Jun 2012 and March 2010.</li> <li>No historical twin holes are known to have been drilled.</li> <li>All data has been compiled from hand-written reports and entered int Excel templates. These templates are then validated in Micromine. This information is then sent to Energia's in house database manager for further validation. If corrections need to be made they are corrected the followin day by the person responsible for generating the data. Once complete an validated the data is then compiled into a SQL database server.</li> <li>No adjustment of assay data is known to have be applied.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Collar locations for all holes were digitized from hand drawn maps, and cross checked against multiple maps.</li> <li>The grid system used at Gorno is WGS_1984_UTM_Zone_32N. Easting and Northing are stated in metres.</li> <li>Topographic control is from control points noted on both hand drawn maps, and from RL's noted on geological logs.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill hole orientation and spacing is non-uniform with multiple holes often being drilled from a single exploration adit.</li> <li>The data spacing and distribution is currently insufficient to establish an appropriate degree of geological and grade continuity appropriate for classification of Mineral Resources in the Colonna Fontanone area.</li> <li>Some holes have been sample composited physically (these are a minority of holes and no justification was given in the geological logs). In general all holes are reported on a 1m assay interval. Mathematical compositing has not been applied to any data except for that compiled for reporting in ASX releases to describe intersections.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The attitude of the mineralisation is thought to be generally dipping to the south at approximately 30 degrees. However, the level of confidence in this is low, and the multiple orientations of drilling suggest that some intersections may be biased.</li> <li>Sampling bias due to drilling orientation and mineralised structure orientation is probable and with information currently at hand is unquantifiable. The current interpretation shown illustrates the most</li> </ul>

Criteria	JORC Code explanation	Commentary
		probable geometry.
Sample security	• The measures taken to ensure sample security.	Measures taken to ensure sample security are unknown.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>No audits or reviews of sampling techniques or data are known to exist. 1 in 10 checks on all compiled and entered data have been completed by Energia Minerals.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Gorno Lead Zinc Mineral District is located in the north of Italy, in the Lombardy Province. The Gorno Project is made up four (4) grantee exploration permits and one (1) Mining Licence. These leases are 100% owned and operated by Energia Italia, a 100% owned subsidiary of Alta Zinc Ltd. A permits are valid at the time of this report.</li> <li>All tenements are in good standing and no impediments to operating ar currently known to exist.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>A significant amount of work was undertaken by ENI subsidiaries in th region, notably SAMIM, an Italian state-owned company and part of the EN group. Drilling works completed in the period between 1964-1980 have bee compiled and digitised by Alta Zinc. A significant amount of work has bee completed in the Gorno Mineral District including the development of mor than 230km of exploration drives, detailed mapping, and the mining an production of over 800,000 tonnes of high-grade zinc concentrate. Large scal mining operations ceased at the Gorno Mineral District in 1978, and th project closed in 1980.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	• The Gorno Mineral District is an Alpine Type Lead-Zinc deposit (similar to Mississippi Valley Type Lead Zinc deposits). The mineralisation is broadly

Criteria	JORC Code explanation	Commentary
		generally simple mineralogy of low iron sphalerite, galena, pyrite, and minor silver. Mineralisation is hosted by the Metallifero Formation which consists of predominantly limestones with interbedded shales in the higher parts of the sequence. 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.
Drill hole	A summary of all information material to the understanding of	Information material to the understanding of the exploration results is
Information	<ul> <li>the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>provided in the text of the release.</li> <li>No information has been excluded.</li> </ul>
Data aggregation methods	<ul> <li>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.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	<ul> <li>Not applicable.</li> <li>Not applicable.</li> <li>No metal equivalents are used.</li> </ul>
	• The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill</li> </ul>	<ul> <li>All drill holes are variable orientated. Little confidence has been established in the orientation of the mineralisation at this stage other than a general dip and strike.</li> <li>The mineralisation is currently thought to be roughly tabular and dipping to</li> </ul>

Criteria	JORC Code explanation	Commentary
widths and intercept lengths	<ul> <li>hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul><li>the south-south west at an angle of approximately 5 degrees.</li><li>True widths of intercepts are not known at this stage.</li></ul>
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.	Please refer to the Figures for these data.
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 results reported in the above text are comprehensively reported in a balanced manner.
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.	Not applicable
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Future works at Gorno will test the continuity of mineralisation at Pian Bracca (including Pian Bracca down-plunge), the Ponente area, Colonna Fontanone, and regional exploration works.</li> <li>Please refer to the Figures for areas that are open to extensions.</li> </ul>