ASX ANNOUNCEMENT & MEDIA RELEASE 11 June 2019

ALTO INCREASES TOTAL MINERAL RESOURCE ESTIMATE TO 290,000oz SANDSTONE GOLD PROJECT

INCLUDES MAIDEN ESTIMATE OF 29,000oz AT HAVILAH AND LADYBIRD

Sandstone Gold Project

Located in a world class gold field in WA

Current resource is 5.4Mt 290,000oz @ 1.7 g/t Au

Multiple targets

Significant landholding of over 800km² within a major gold district

Capital Structure
Issued Shares: 270m
Share Price: $0.032
Market Cap: $8.7m

Directors
Non- Executive Chairman
Terry Wheeler

Non-Executive Director
Matthew Bowles

Non-Executive Director
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Company Secretary & CFO
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HIGHLIGHTS

- **Sandstone Gold Project global Indicated and Inferred (JORC 2012) Mineral Resource estimate is now 5.4Mt @ 1.7g/t Au for 290,000 oz**
- **Total maiden Inferred Mineral Resource estimate (JORC 2012) for Havilah & Ladybird deposits is 0.5Mt @ 1.8 g/t Au for 29,000 ounces.**
  - The Havilah deposit has an Inferred Mineral Resource of 371,000 tonnes @ 1.70g/t gold for 20,300 ounces.
  - The Ladybird deposit has an Inferred Mineral Resource of 136,000 tonnes @ 1.91g/t gold for 8,400 ounces.
- **All known deposits remain open along strike and at depth**
- **Significant potential to extend the mineralisation down-plunge and to discover repeat lodes**
- **10,000 metre RC drilling program underway to test strike and depth extensions at Vanguard Camp, Indomitable Camp, Lord Nelson and Havilah**
- **Alto's Sandstone Gold Project covers over 800km² in a major gold district with excellent surrounding infrastructure**
- **Alto is well funded, recently securing $2.0m and a further commitment of $600,000[1], to fund drilling, exploration and working capital**

Alto Metals Limited (ASX: AME, "Alto" or "the Company") is pleased to announce an update to the independent Mineral Resource estimate for the 100% owned Sandstone Gold Project in Western Australia which includes maiden resource estimates for the Havilah and Ladybird deposits.

Alto's Chairman Terry Wheeler commented**:**

The Company is pleased to report this maiden independent gold resource estimate for Havilah and Ladybird.

We view this as an interim resource upgrade, with scope to delineate significantly more gold ounces at the Sandstone Gold Project, both near surface and at depth. We now have a greater geological understanding of the structural controls and further exploration drilling shall be targeting resource expansion.

With the 10,000 metre RC drilling program underway, we anticipate strong news flow over the next few months and a further upgrade to the resource estimate later in the year"

[1] Subject to shareholder approval

Resource Upgrade – Sandstone Gold Project

Alto Metals Limited is pleased to report a resource upgrade for the Sandstone Gold Project, Western Australia.

The upgraded Mineral Resource contains the maiden Mineral Resource estimate for the Havilah and Ladybird deposits in compliance with the JORC (2012) reporting standard. The resources have undergone extensive work and interpretation by Alto's geologists and resource consultant Dr Spero Carras of Carras Mining Pty Ltd.

The Mineral Resource estimates for the previously reported deposits at the Sandstone Gold Project have not been updated from the previous estimates and are included in the global resource estimate reported here. The change in the reported tonnes and grade is derived solely from the inclusion of the Havilah and Ladybird deposits into the resource inventory.

Table 1. Sandstone Gold Project – Summary of Total Mineral Resources (JORC 2012)

Deposit	Classification	Reporting cut-off (g/t Au)	Tonnage (kt)	Grade (g/t Au)	Contained Gold (oz)
Lord Henry[1]	Indicated	0.8	1,200	1.6	65,000
TOTAL INDICATED			1,200	1.6	65,000
Lord Henry[1]	Inferred	0.8	110	1.3	4,000
Lord Nelson[2]	Inferred	0.8	980	2.2	68,000
Vanguard Camp & Indomitable Camp[3]	Inferred	0.5	2,580	1.49	124,000
Havilah & Ladybird	Inferred	0.5	510	1.76	29,000
TOTAL INFERRED			4,180	1.67	225,000
TOTAL INDICATED & INFERRED			5,380	1.67	290,000

Footnote 1. AME ASX Release 16 May 2017. *"Maiden Lord Henry JORC 2012 Mineral Resource of 69,000oz."*

Footnote 2. AME ASX Release 28 April 2017. *"Lord Nelson Mineral Resource Increased to 68,000oz."*

Footnote 3.AME ASX Release 25 Sept 2018. *"Maiden Gold Mineral Resource- Indomitable & Vanguard Camps."*

All material assumptions and technical parameters underpinning the 2017 and 2018 JORC (2012) Mineral Resource estimates in the above ASX announcements continue to apply and have not materially changed since last reported.

Table 1 above shows the combined total of the 2017 Snowden resource estimations added to the 2018 and 2019 Carras Mining estimations. The Total Indicated & Inferred Mineral Resources (JORC 2012) for the Sandstone Gold Project at 11 June 2019.

The locations of the Alto Metals JORC 2012 Mineral Resources referred to in Table 1 above are shown in Figure 1.

Maiden Mineral Resource Estimate – Havilah and Ladybird

The upgraded mineral resource estimate includes the maiden Inferred Mineral Resource for Havilah and Ladybird deposits at the Sandstone Gold Project.

Table 2 below summarises the Inferred Mineral Resources for the **Havilah and Ladybird** deposits by deposit and rock type.

Table 2. Inferred Mineral Resources (JORC 2012) of the Havilah and Ladybird Gold Deposits estimated by Carras Mining Pty Ltd

Deposit	Rock Type	Tonnes (kt)	Grade (g/t Au)	Contained Gold (ozs)
Havilah	Oxide	5	0.97	150
	Transition	137	1.98	8,700
	Fresh	229	1.55	11,400
Havilah	**Total**	**371**	**1.70**	**20,300**
Ladybird	Oxide	**136**	**1.91**	**8,400**
	Grand Total	**507**	**1.76**	**28,700**

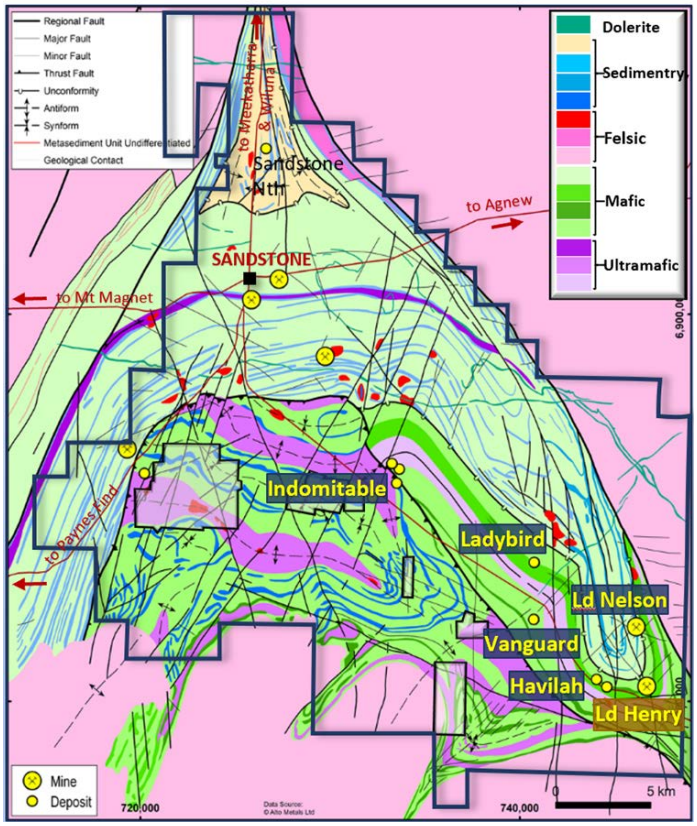
Notes:

- All Mineral Resources are estimated under guideline of JORC 2012.
- For reporting purposes, all Tables have been rounded. Rounding may result in some slight discrepancies in totals reported.
- Only material within the A$2,000 per ounce gold price optimised Whittle pit shells is reported as Inferred Resource
- The drilling density was sufficient to have defined the Resources as Indicated, however due to the lack of definitive bulk density information all the Resources have been placed in the Inferred category and use nominal assigned regional bulk densities.
- Preliminary metallurgical testwork completed by Alto on the Havilah and Ladybird deposits, and historic metallurgical data suggests high recoveries in excess of 90% would be expected.
- Refer Appendix 1 for Havilah JORC (2012) Table 1 information and Appendix 2 for Ladybird JORC (2012) Table 1 information.

Parameters used to define intersections are listed below

Inferred Mineral Resource	Material	Assumed Bulk Density (t/m^3)	Minimum Mining Width downhole (with 0.5m edge dilution)	Intersection Selection with a cut- off grade of (g/t Au)	High cut gold applied to all mineralization (g/t Au)
Havilah	Oxide	1.8	3m	0.5	10
Havilah	Transition	2.2	3m	0.5	25
Havilah	Fresh	2.8	3m	0.5	25
Ladybird	Oxide	2.2	5m	0.5	12

Figure 1. Sandstone Gold Project, Regional Geological Interpretation showing Alto's Landholdings and Location of Mineral Resources Including Havilah and Ladybird Deposits



RESOURCE ESTIMATION METHODOLOGY FOR THE HAVILAH AND LADYBIRD DEPOSITS

The following general method of modelling was used to produce the resource estimate for each deposit. Initially a comprehensive consistent geological interpretation was carried out on sections. This was done in consultation with the Alto geological team. Intersection selection was then used to define those intersections which were consistent with the geology while having cut off grade and bench height parameters making them amenable to any future open pit mining.

The intersections had parameters as defined in the Notes accompanying Table 1.

Partial edge dilution of these intersections was applied to allow for that dilution which will result during the grade control process when defining the edges of structures. This is because the mineralisation at Sandstone in these deposits does not occur as defined visible lode structures.

Once interpreted, the intersections were wireframed and data within the wireframes was statistically analysed to produce a high grade cut for each deposit. Variography was carried out and used in conjunction with the interpreted wireframe orientations to provide the directional searches to be used in filling the block model. Due to the narrow nature of the wireframes, small blocks were used to provide tonnage estimates consistent with these narrow shapes.

Bulk densities were based on regional values as measured bulk densities have yet to be determined for each deposit. Grade interpolation involved use of the Inverse distance cubed method (ID3). This was to ensure preservation of the local high grade shoots which are characteristic of the Sandstone geology.

Even though the areas were well drilled, the deposits were classified as Inferred due to the lack of measured bulk densities. For reporting purposes, for each deposit, only those shapes which fell within a Whittle optimised pit shell based on a gold price of A$2,000 per ounce were used.

The drilling density was sufficient to have defined the Resources as Indicated, however due to the lack of definitive bulk density information all the Resources have been placed in the Inferred category and use nominal assigned regional bulk densities. Further drilling will be carried out to determine the appropriate bulk densities for all deposits and once this information is available, together with geotechnical drilling to confirm nominal pit slopes used to define the A$2,000/oz Whittle pit shells, Resources can be placed into a higher classification category.

Preliminary metallurgical testwork completed by Alto on the Havilah and Ladybird deposits, and historic metallurgical data suggests high recoveries in excess of 90% would be expected.

HAVILAH GOLD DEPOSIT

The Havilah Deposit is located approximately 35km SE of the town of Sandstone and lies immediately to the north of the Sandstone - Menzies road.

The recorded underground production from the area was **48,497 tonnes @ 21.6g/t Au for 33,870oz** between 1904 – 1929, with the majority of this during the period 1907 - 1911. A high-grade "footwall" zone was stoped out, and a lower grade "hanging wall" zone of mineralisation was left intact and was subsequently drilled by modern explorers.

Between 1980 and 2009 a total of 210 drill holes for 7,240m were drilled at Havilah by previous explorers. Drilling methods included rotary air blast (RAB), air-core (AC), reverse circulation (RC) and diamond drill core (DC) with the majority of drilling (~79%) being RC and DC (refer Appendix 1). Maximum drill hole depth was 123m with an average maximum depth of only 34m.

Table 3. Summary of all Drilling at Havilah

Company	RAB		AIR-CORE		RC		DD	
	Holes	Metres	Holes	Metres	Holes	Metres	Holes	Metres
Westmex (1979-1981)					103	2064		
Homestake (1985)							4	395
GME (1988)	36	1059			11	1003		
Herald (1996-1997)					21	1212		
Troy (2001-2009)	5	115	4	195	26	1197		
Alto (2019)					1	80		
Total	41	1174	4	195	162	5556	4	395

Alto captured and digitised the existing drilling data and detailed historic underground workings and produced a 3D model of the geology, mineralisation and underground workings. (Refer Figure 2, Long Section, and Figures 3 & 4, Cross Sections). The surface location of drill collars was validated by Alto's aerial drone imagery.

In February 2019, Alto drilled one RC drill hole to 80m (SRC118) at -60 degrees to 180 degrees as a twin to previous DD drill hole MAD004. The purpose of the drilling program was to confirm the mineralised interval in MAD004, confirm previous geological logging and existence of historic underground workings, and to obtain samples for metallurgical testwork.

Further RC drilling is planned for 2019 to test the down-dip/down-plunge extensions to the mineralisation and potentially expand the Mineral Resource. For details of drill hole locations, assays and cross sections,

refer AME: ASX announcement 17 January 2019, and for information regarding the Mineral Resource estimate, see in this report Appendix 1 "*Havilah, JORC 2012, Table 1, Section 3, and Figures 2 – 3.*

Geology

Detailed geological mapping by Homestake and interpretation of drilling data by Homestake and other explorers has shown the Havilah Mine area to be underlain by a WNW striking dolerite unit termed the Havilah Dolerite, bounded to the northeast by pillowed and amygdaloidal basalt, and to the southwest by ultramafic rocks.

Figure 2. Havilah NW-SE 115° Schematic Long Section A - A' (+/-50m)

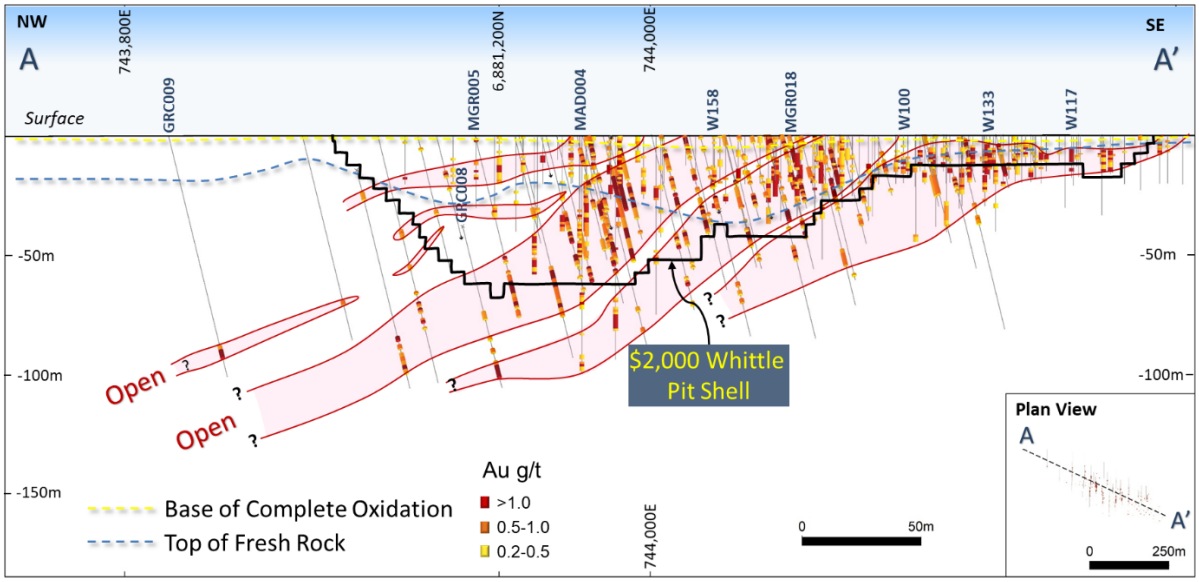
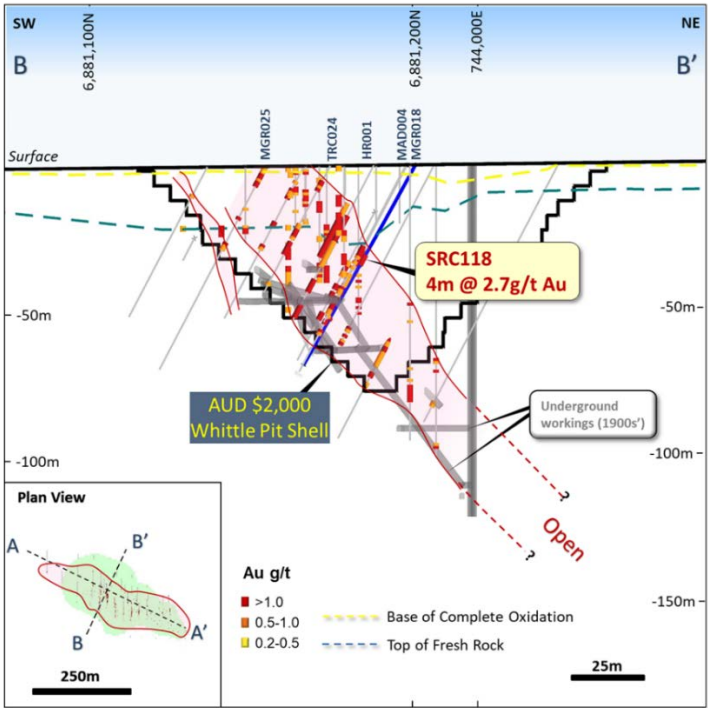


Figure 3. Havilah SW-NE 25° Schematic Cross Section B – B' (+/-20m)



LADYBIRD GOLD DEPOSIT

The Ladybird Deposit is located approximately 25km SE of the town of Sandstone and lies approximately 3km north of the Sandstone - Menzies road. Following a regional lag geochemical survey, WMC drilled 38 RC holes at Ladybird between 1988 and 1990, which defined a 550m strike length of gold mineralisation. A summary of all drilling in the Ladybird area by WMC and later explorers is shown below in Table 4.

Table 4. Summary of all Drilling at Ladybird

Company	RAB		AIR-CORE		RC	
	Holes	Metres	Holes	Metres	Holes	Metres
WMC (1988-1990)					38	2,726
Elmina (1993)					3	300
Herald (1998-1999)	35	1,070			16	658
Troy (2001-2002)	6	178	3	219	14	443
Total	**41**	**1,248**	**3**	**219**	**71**	**4,127**

In February 2019, Alto drilled one RC drill hole to 80m (SRC119). The hole was drilled at -60 degrees to 045 degrees as a twin to previous RC drill hole HKR006. The purpose of the drilling program was to confirm the mineralised interval in HKR006, confirm previous geological logging and to obtain samples for metallurgical testwork.

Alto has captured and digitised the existing Ladybird drilling data and produced a 3D model of the geology and mineralisation. (see Figures 4 - 6). The model has assisted with interpretation of the geology, gold mineralisation and the targeting of future drilling.

For details of drill hole locations, assays and cross sections, refer AME: ASX announcement 30 January 2019, and for information regarding the Mineral Resource estimate, see in this report Appendix 2 *"Ladybird, JORC 2012, Table 1, Section 3, and Figures 4 - 6*.

Geology

The greenstone sequence in the Ladybird area is weathered and lateritised to the extent that only the quartz-magnetite BIF/chert horizons form prominent outcrops. The mafic and ultramafic units occur as low-lying areas or low hills.

Gold mineralisation at Ladybird occurs within a sub-vertical dipping BIF/chert unit that has a strike of approximately 300 degrees. The BIF/chert unit is located at or near the contact between a mafic unit (to SW) and an ultramafic unit (to NE). A parallel BIF/chert unit occurs approximately 10 to 15m away to the south-west. Metabasalt generally separates the two chert units.

The gold mineralisation is associated with quartz veining, and the mineralised BIF occurs discontinuously over 1.5km. The depth of weathering is approximately 45-65m. In general, the Ladybird deposit has a NW strike and dips approximately 75 to 90 degrees to the SW.

Figure 4. Ladybird Prospect – Schematic Cross Section A - A'

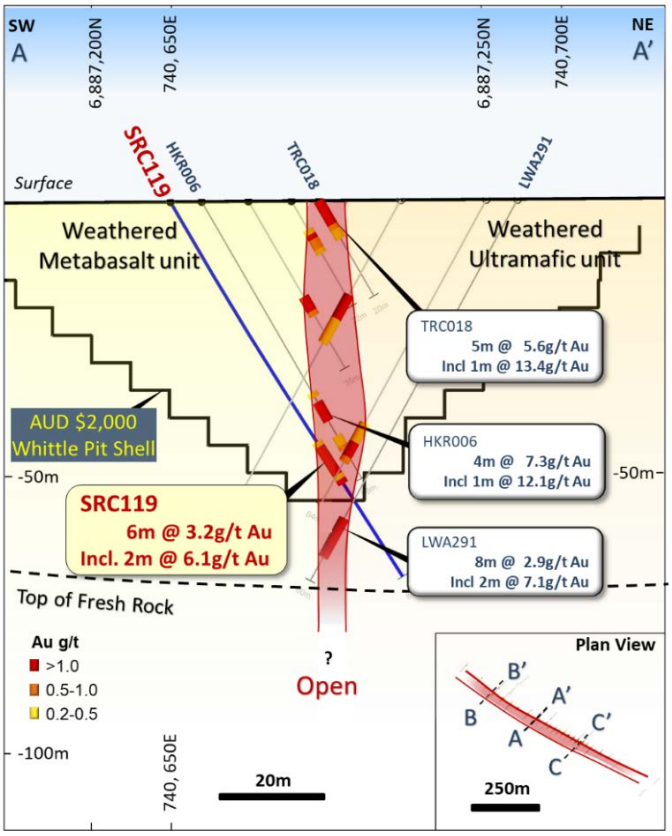


Figure 5. Ladybird Prospect – Schematic Cross Section B - B'

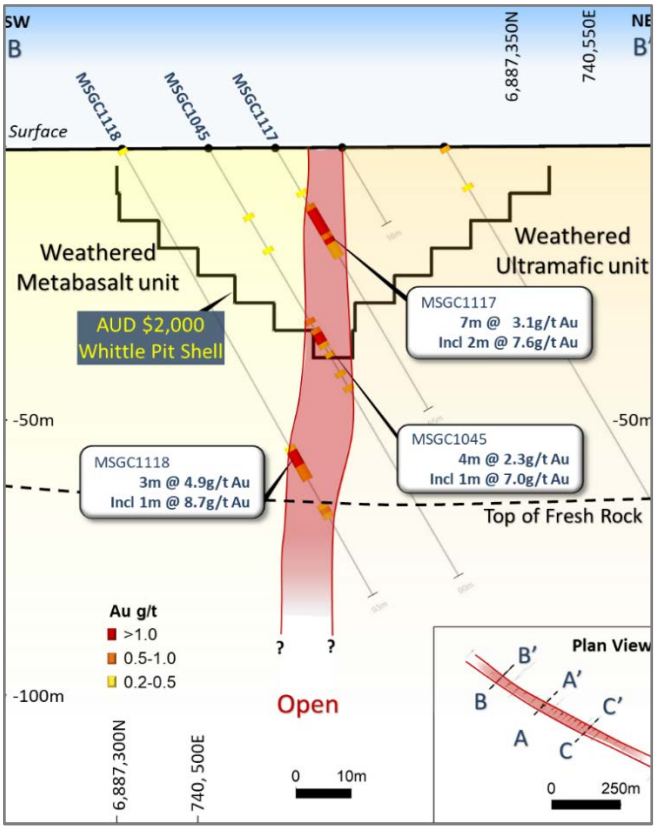
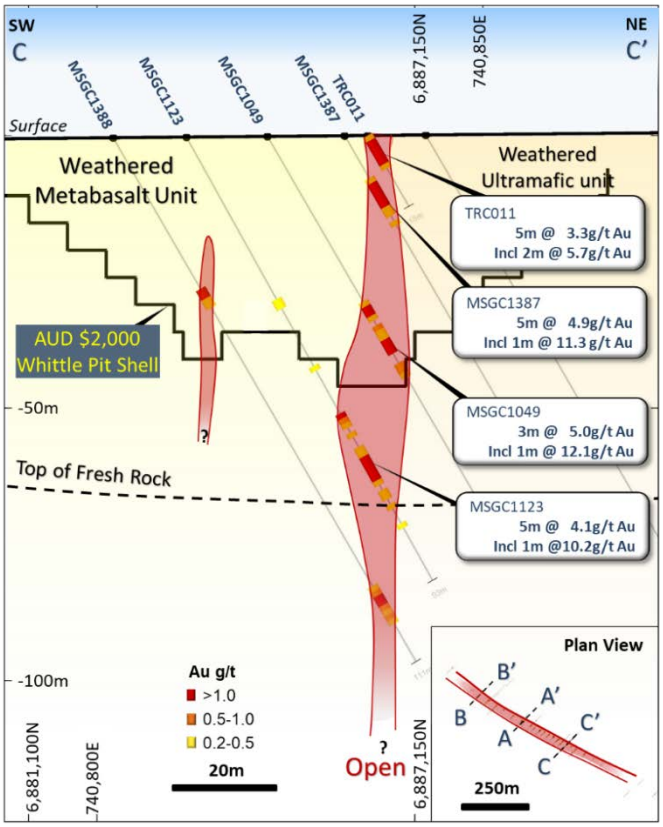


Figure 6. Ladybird Prospect – Schematic Cross Section C - C'



Mining Lease Granted over Indomitable Camp

Alto is also pleased to advise that has received advice from the Dept. of Mines, Industry Regulation and Safety that its application for a Mining Lease (M57/646) over the Indomitable Camp, covering Indomitable, Piper and Tiger Moth prospects and deposits, has been granted. Securing this Mining Lease is part of Alto's long term strategy and the Company's primary focus remains on establishing Resources and Reserves on its numerous prospects.

For further information regarding the Sandstone Gold Project please visit the ASX platform (ASX: AME) or the Company's website at www.altometals.com.au

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Competent Persons Statements

The information in this Report that relates to the 2019 Havilah and Ladybird Inferred Mineral Resources is based on resource estimation by Dr. Spero Carras of Carras Mining Pty Ltd. Dr. Carras has disclosed that a related party of his is a very minor security holder of the Company. Dr Carras is a Fellow of the Australasian Institute Mining and Metallurgy (AusIMM) and has over 40 years' experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr. S. Carras consents to the inclusion in the report of the matters based on the information in the context in which it appears.

The information in this Report that relates to the preliminary metallurgical testwork on the Havilah and Ladybird deposits has been reviewed and approved by Mr David Wright who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and has over 5 years' experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Wright consents to the inclusion in the report of the matters based on the information in the context in which it appears.

The information in this Report that relates to current and historical Exploration Results is based on information compiled by Mr Dermot Ryan, who is an employee of XServ Pty Ltd and security holder of the Company. Mr Ryan is a Fellow of the Australasian Institute of Mining and Metallurgy and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ryan consents to the inclusion in the report of the matters based on the information in the context in which it appears.

Mineral Resource Governance Statement

The Havilah and Ladybird Mineral Resources are reported as at 11 June 2019. Governance of Alto's Mineral Resources and the estimation process is a key responsibility of the management of the Company. The Chief Geologist of the Company oversees the reviews and technical evaluations of the Mineral Resource estimates. The Company has a number of governance processes in place to manage the Mineral Resource estimates in line with industry best practice. All Mineral Resource estimates are prepared by qualified professionals following JORC Code compliant procedures that ensure representative and unbiased samples are obtained with appropriate QA/QC practices in place. Mineral Resource estimates for the Havilah and Ladybird deposits are based on information compiled by Carras Mining Pty Ltd, which are resource estimators with over 40 years' experience in Archaean geology.

Forward looking Statements

This document may contain certain forward-looking statements. Such statements are only predictions, based on certain assumptions and involve known and unknown risks, uncertainties and other factors, many of which are beyond the Company's control. Actual events or results may differ materially from the events or results expected or implied in any forward-looking statement. The inclusion of such statements should not be regarded as a representation, warranty or prediction with respect to the accuracy of the underlying assumptions or that any forward looking statements will be or are likely to be fulfilled. The Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date of this document (subject to securities exchange disclosure requirements). The information in this document does not take into account the objectives, financial situation or particular needs of any person. Nothing contained in this document constitutes investment, legal, tax or other advice.

APPENDIX 1
JORC 2012 TABLE 1 REPORT
SANDSTONE PROJECT Havilah

SECTION 1 - Sampling Techniques and Data

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

Criteria	Commentary
Sampling techniques	**Drilling carried out by Westmex Limited (1979-1980)** • Reverse Circulation (RC) drilling was used with either a roller bit or a hammer bit to collect samples over selected 1m intervals. • Drill samples were reportedly analysed for gold only by mixed acid digestion (ie aqua regia) with Atomic Absorption Spectroscopy (AAS) finish at Genalysis Laboratory in Perth. **Drilling carried out by Homestake Australia Limited (1986)** • Homestake engaged Corewell Pty Ltd of Perth to carry out NQ diamond drilling (DD) with pre-collars drilled using percussion methods. Down hole surveys were carried out using an Eastman camera. Detailed geological logs and core recoveries were recorded. • Pre-collar drill samples and diamond drill core samples were assayed by Australian Assay Laboratories in Perth by fire assay of a 50gm charge followed by AAS finish. **Drilling carried out by Gold and Mineral Exploration NL (1988-1990)** • GME engaged Davies Drilling to carry out RC drilling. The drill holes were blown clean at the end of each 1m run with samples collected in plastic bags attached to a cyclone. • 2m composite samples were prepared for the upper parts of the RC drill holes. Mineralised intersections were later resampled at 1m intervals. • All samples were submitted to Minlabs in Perth and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation. **Drilling carried out by Herald Resources Limited (1996-1997)** • Herald engaged Strange Drilling of Kalgoorlie to carry out RC drilling using a hollow face sampling hammer bit. • All dry RC samples were collected at 1m intervals via a cyclone and a 3-tier riffle splitter with the excess collected in plastic bags and left on site. Wet samples were generally grabbed and of a lesser quality. • The drilling was generally bulk samples at 4m intervals with 1m resplits being taken from significantly mineralised zones. • All samples were sent to Analabs in Mt Magnet and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples were used in the Alto Metals Resource Estimation.

<table>
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Drilling carried out by Troy Resources NL (2001-2009)

- Troy RC drilling was carried out by Boart Longyear. RC samples were passed from a cyclone through a rig-mounted multi-tier riffle splitter and collected in 1m intervals in plastic bags and 1m calico splits which were retained for later use.
- RAB drilling was also used to obtain samples, which were collected in 1m intervals and laid on the ground. Air-core (AC) drilling was used to obtain samples via a cyclone every for each 1m interval, which was laid on the ground.

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<tr><td>Sampling techniques</td><td>

- From the bulk samples (RAB, AC or RC), a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis.
- RC samples were submitted to Genalysis Laboratory in Perth for analysis of gold analysis by fire assay. The 1m splits were submitted for analysis by fire assay where the composite sample returned gold assay values >0.2 ppm Au over anomalous zones.
- Troy RAB and AC samples were assayed at Analabs Perth by 50gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01ppm Au.
- Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation.

Drilling carried out by Alto Metals Limited (2019)

- Alto Metals Limited (Alto) engaged Challenge Drilling Pty Ltd to carry out RC drilling at Havilah using a KWL 350 drill rig with an onboard 1100/350 compressor using a face sampling hammer of nominal 140mm hole.
- RC samples were passed directly from the in-line cyclone through a rig mounted cone splitter. Samples were collected in 1m intervals into bulk plastic bags and 1m calico splits (which were retained for later use).
- From the bulk sample, a 4 metre composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis.
- RC 1m splits were submitted to the laboratory if the composite sample assay values are equal to or greater than 0.1g/t Au.

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<tr><td>Drilling techniques</td><td>

- Drilling techniques have included RAB, AC, RC and DD as per the table below.

	YEAR	RAB		AC		RC		DD	
		Holes	(m)	Holes	(m)	Holes	(m)	Holes	(m)
Westmex	1979-80					103	2064		
Homestake	1986							4	395
GME	1988-90	36	1059			11	1003		
Herald	1996-97					21	1212		
Troy	2001-09	5	115	4	195	26	1197		
Alto	2019					1	80		
TOTAL		**41**	**1174**	**4**	**195**	**162**	**5556**	**4**	**395**

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Criteria	Commentary
	• AC, RC and DD drilling were used in the Alto Mineral Resource Estimation. • Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation.
Drill sample recovery	• Alto has no quantitative information on the Westmex, GME, Herald or Troy RAB, AC and RC sample recovery. • Drill core recovery was documented for the Homestake DD holes. • Alto reviewed the geological logging sheets to determine if a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. The review concluded that there were no issues. • Alto sample recovery was estimated as a percentage and recorded on field sheets prior to entry into the database.
Logging	• Westmex drill holes were logged to provide information on rock type and depth and if historic workings were intersected. The logs also indicated whether a roller bit or hammer bit was used. • The Homestake DD holes were logged in detail for each metre and at sub-metre intervals where it was considered appropriate or relevant. • GME reported that the RAB and RC drill holes were geologically examined and logged in the field. The logging was commentary based with no specific geological codes used for events such as top of fresh rock, base of oxidation etc. However, the logging and descriptions are of sufficient quality that the lithologies drilled can be correlated with later logging carried out by Herald and Troy, who used detailed logging codes. • Herald and Troy logged all drill holes however no detailed information is available on the logging methods. Detailed logging codes were used, and it is considered that the drill holes were logged with a sufficient level of detail to support a mineral resource estimate • Logging of proximal previous drill holes matched the logging of Alto's confirmatory drill hole. • Alto RC drill chips were sieved from each 1m sample and geologically logged. • Washed drill chips from each 1m sample were stored in chip trays and photographed. • Geological logging of drill hole intervals was carried out with sufficient detail to meet the requirements of resource estimation.
Subsampling techniques and sample preparation	**Drilling carried out by Westmex (1979-1980)** • 1m samples were collected over selected intervals. No composite sampling was undertaken. • Drill samples were reportedly analysed for gold only by mixed acid digestion (ie aqua regia) with Atomic Absorption Spectroscopy (AAS) finish at Genalysis Laboratory in Perth. **Drilling carried out by Homestake (1986)** • Pre-collar drill samples and diamond drill core samples were assayed by Australian Assay

Criteria	Commentary
	Laboratories in Perth by fire assay of a 50gm charge followed by AAS finish. **Drilling carried out by GME (1988)** • 2m composite samples were prepared for the upper parts of the RC drill holes. Mineralised intersections were later resampled at 1m intervals. • All samples were submitted to Minlabs in Perth and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. **Drilling carried out by Herald (1996-1997)** • All dry RC samples were collected at 1m intervals via a cyclone and a 3-tier riffle splitter with the excess collected in plastic bags and left on site. Wet samples were generally grabbed and of a lesser quality. • The drilling was generally bulk samples at 4m intervals with 1m resplits being taken from significantly mineralised zones. • All samples were sent to Analabs in Mt Magnet and analysed by 50gm fire assay to a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation. **Drilling carried out by Troy (2001-2009)** • RC samples were collected in 1m intervals in plastic bags and 1m calico splits which were retained for later use. • RAB drilling was also used to obtain samples, which were collected in 1m intervals and laid on the ground. AC drilling was used to obtain samples via a cyclone every for each 1m interval, which was laid on the ground. • From the bulk samples (RAB, AC or RC), a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis. • RC samples were submitted to Genalysis Laboratory in Perth for analysis of gold analysis by fire assay. The 1m splits were submitted for analysis by fire assay where the composite sample returned gold assay values >0.2 ppm Au over anomalous zones. • Troy RAB and AC samples were assayed at Analabs Perth by 50gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation. **Drilling carried out by Alto (2019)** • MinAnalytical Laboratory Services Australia Pty Ltd located in Canning Vale, Western Australia, were responsible for sample preparation and assaying for drill hole samples and associated check assays. MinAnalytical is certified to NATA in accordance with ISO 17025:2005 ISO requirements for all related inspection, verification, testing and certification activities. • 3kg 4m composite RC samples were dried and then ground in an LM5 ring mill for 85%

Criteria	Commentary
	passing 75 Microns. • Subsequently, intervals of 4m composite samples reporting greater than 0.1g/t Au were selected for re-assay, and 1m re-split samples were submitted for 50gm fire assay. • RC 1m samples were analysed using 50 gm fire assay with AAS finish.
Quality of assay data and laboratory tests	**Assaying and Laboratory Procedures** • The Fire Assay method is considered to be a total extraction technique. There are no deleterious elements present which could affect the technique. • The Aqua Regia technique is considered to be a partial extraction technique where gold encapsulated in refractory sulphides or some silicate minerals may not be fully dissolved, resulting in partial reporting of gold content. • There is no information available to Alto to indicate that the gold at Havilah is refractory gold. **Drilling carried out by Westmex, Homestake, GME and Herald (1979-1997)** • There is no available information on the protocols used by Westmex, Homestake, GME and Herald. • Where reported, Laboratory Repeat assays were reviewed by Alto. • Where Troy drill holes were identified within close proximity to earlier drill holes the drilling assay data showed an acceptable correlation (refer to twinned drill holes). • There were no anomalous assays reported that could not be explained. **Drilling carried out by Troy (2001 - 2009)** • For Troy RC drilling, an average of 1 field duplicate, 1 blank and 1 standard was submitted for every 50 samples. • For Troy RAB and AC drilling, field duplicates and standards were used at 1:50 however no blank samples were routinely used in RAB or AC drilling. • Troy engaged Maxwell to undertake periodic audit of the exploration QAQC data on a monthly basis. • Laboratory Blank, Standards and Repeat assays were reported for Troy drill assays. **Drilling carried out by Alto (2019)** • For Alto 4m composite sampling; field duplicates and field blank samples were inserted at a ratio of 1:20. • For 1m re-split samples; field standards and field blanks were inserted at a ratio of 1:20. • Laboratory Certified Reference Materials and/or in-house controls, blanks, splits and replicates are analysed with each batch of samples by the laboratory. These quality control results are reported along with the sample values in the final report. Selected samples are also re-analysed to confirm anomalous results. • Laboratory and field QA/QC results are reviewed by Alto personnel.
Verification	• Drilling carried out by previous explorers was compiled by Alto from WA Dept Mines Open

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td>of sampling and assaying</td><td>File records (WAMEX).

• Data was transferred from WAMEX digital files to Alto's database. The original WAMEX files were generally in excel or text format and were readily imported into Alto's database. For some of the earlier reports (ie Westmex drilling) the data was manually entered into Excel.

• All collar, survey and assay data was checked by printing all original data records and checking against a printed database being used for Alto's resource estimate.

• The data was also checked using various methods in Datashed, ArcGIS and Micromine. Google Earth satellite imagery was also used to check collar positions where historical evidence was visible in satellite imagery.

• Adjustment to assay data has been made where values below the analytical detection limit have been replaced with half the lower detection limit value (0.01 ppm Au).

• Troy engaged Maxwell to undertake independent periodic audit of their exploration QAQC data on a monthly basis.

• Significant intersections within previous drill holes and Alto's confirmatory drill hole were checked for potential smearing and it was found that there was no smearing.

Twinned Holes
• Drill holes were identified that occur proximal to each other and were drilled by different companies. Drill hole details are included in the table below.

<table>
<tr><th>Twin</th><th>Company</th><th>Hole ID</th><th>Easting GDA94</th><th>Northing GDA94</th><th>Dip (deg)</th><th>Azimuth (deg)</th><th>Depth (m)</th></tr>
<tr><td>Twin 1</td><td>Troy</td><td>TRC818</td><td>744046</td><td>6881126</td><td>-90</td><td>000</td><td>34</td></tr>
<tr><td>Twin 1</td><td>Westmex</td><td>W159</td><td>744040</td><td>6881133</td><td>-90</td><td>000</td><td>20</td></tr>
<tr><td>Twin 2</td><td>Troy</td><td>TRC725</td><td>744047</td><td>6881143</td><td>-60</td><td>180</td><td>40</td></tr>
<tr><td>Twin 2</td><td>Herald</td><td>MGR017</td><td>744046</td><td>6881134</td><td>-60</td><td>180</td><td>35</td></tr>
<tr><td>Twin 3</td><td>Alto</td><td>SRC118</td><td>740650</td><td>6887210</td><td>-60</td><td>180</td><td>80</td></tr>
<tr><td>Twin 3</td><td>Homestake</td><td>MAD004</td><td>743982</td><td>6881202</td><td>-60</td><td>180</td><td>81</td></tr>
</table>

• The geological logging and the mineralised intervals and in particular the high-grade intersections showed an acceptable correlation.</td></tr>
<tr><td>Location of data points</td><td>• The grid used for the project area is GDA94, Map Grid of Australia 94, Zone 50.

• Westmex, GME, Homestake and Herald drilling was originally located in local grid format.

• Contract surveyors were engaged by previous explorers to accurately locate the surface location of drill collars and historic workings in local grid format.

• Troy drilling was located with a Differential Global Positioning System unit (DGPS).

• Alto carried out a desktop check of all drill hole collars using satellite and aerial drone</td></tr>
</table>

Criteria	Commentary
	imagery. • Alto carried out field checks on 24 randomly selected drill holes (~10%) in November 2018 to confirm the locations of the drill hole collars used in the Alto Mineral Resource Estimate. • The collar heights in Alto's database were determined by Alto by intersecting the collar location with Shuttle Radar Tomography Mission (SRTM) 30m data. • Alto used handheld Garmin GPS to locate and record drill collar positions, accurate to +/- 5m. • There are no outstanding issues with respect to collar survey locations for Havilah drill holes. • The Westmex drill holes were all vertical and no survey data was reported. • The downhole dip and azimuth of the Homestake diamond drill holes were determined using an Eastman camera. • The dip and azimuth of all GME and Herald drill holes were reported however there are no details available on the method used to determine the dip and azimuth. • A compass and clinometer were used by Troy to set up the dip and azimuth of Troy drill holes. • Alto staff also checked the dip and azimuth of additional drill collars in the field where possible. • Downhole surveys were carried out for Alto's 2019 RC drill hole using a north seeking Gyro.
Data spacing and distribution	• The drill hole orientation is typically vertical or at -60 degrees dip to 180 degrees. • The shallow, vertical Westmex RC drill holes were drilled on a 20m x 20m and a 10m x 10m pattern. • The Herald RC drilling was carried out on a 20m x 40m pattern. • Troy RC drilling was designed to test historical drilling results and infilling anomalous intersections and did not conform to a particular pattern. • Maximum drill depth was 123m (GRC003 and GRC008) with an average drill depth of 34m.
Orientation of data in relation to geological structure	• Geological structures have been interpreted from drilling and detailed surface geological mapping. • The Havilah mine area is underlain by a NW striking dolerite unit bounded to the NE by basalt and to the SW by ultramafic rocks. The stratigraphy strikes NW-SE and has sub-vertical dips. • Mineralisation at Havilah is confined to the dolerite and is associated with quartz veins and stockworks within a north-dipping, NW striking mineralized shoot with a plunge approximately 20 degrees to the NW. • Drill orientation was typically vertical or at -60 degrees to 180 degrees which was designed

Criteria	Commentary
	to intersect mineralisation perpendicular to the strike. • Sample bias is not considered to be an issue due to the geological structures and appropriate orientation of drilling. • In general, the Havilah deposit is a north-dipping, NW striking deposit with a 20 degree plunge to the NW.
Sample security	• No sample security details are available for Westmex, Homestake, GME or Herald drill samples. • Troy reported that their drill samples were collected in a labelled and tied calico bag. Up to six calico bags are then placed in a larger polyweave bag that is labelled with the laboratory address and sender details and tied with wire. The polyweave bags were picked up by a courier firm who counted the number of polyweave bags before taking them to the Mt Magnet depot. The samples were picked up by the courier's road train and transported to Perth. Upon receipt of the samples the laboratory checked the sample IDs and total number of samples and notified Troy of any differences from the sample submission form. • Alto 4m composite and 1m original RC drill samples comprised approximately 3 kg of material within a labelled and tied calico bag. • Individual sample bags were placed in a larger plastic poly-weave bag then transported by Alto staff to MinAnalytical in Perth. • Sampling data was recorded on field sheets and entered into a database then sent to the head office. • Laboratory submission sheets are also completed and sent to the laboratory prior to sample receival.
Audits and reviews	• Alto has reviewed and compiled the technical data for Havilah internally. No independent audit had been previously carried out. • Troy engaged Maxwell to undertake periodic independent audit of Troy's exploration QAQC data on a monthly basis. • A Mineral Resource Estimate has previously been carried out at Havilah by; ➢ Herald (2000) ➢ Troy (2002)

SECTION 2 - Reporting of Exploration Results

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

Criteria	Commentary
Mineral tenement and land tenure	• Havilah is located on Exploration Licence 57/1033, granted on 20 September 2016 to Sandstone Exploration Pty Ltd, a wholly owned subsidiary of ASX listed Alto Metals Limited (AME). • E57/1033 is currently in good standing with the Department of Mines, Industry Regulation and Safety. • E57/1033 is part of Alto's Sandstone Gold Project. The total project area covers approximately 800 km^2 with five exploration licences all granted on 20 September 2016 and two prospecting licences granted on 11 June 2016. • The following royalties apply: ➢ 2% of the Gross Revenue is payable to a third party ➢ 2.5% payable to the State Government • There are no registered heritage sites proximal to the Havilah deposit. • There are no current known impediments to obtaining a licence to operate in the area.
Exploration done by other parties	• Historically gold was first discovered in the Sandstone area in the 1890's. • The first recorded production from the Havilah Mine area was in 1904. A total of 47,106 ounces of gold was produced from the Havilah and nearby Maninga Marley mines up until 1929 with the bulk of the production between 1907 and 1911. • Production figures from the Havilah Mine are reported as 48,497 tonnes at 21.8g/t Au for 33,871 ounces of gold. It is probable that some of the reported production may be attributed to small nearby mines that treated their ore at the Havilah Mine. • In the 1970s, Seeko Nickel carried out nickel exploration within the general area. • Between 1979 and 2009, geological mapping, surface sampling, geophysical surveys and drilling was carried out by Westmex Limited, Homestake Australia Limited, Gold and Mineral Exploration NL, Carpentaria Exploration Company Pty Ltd, Herald Resources Limited and Troy Resources NL. • Mineral resource estimates were carried out by Herald Resources Limited and Troy Resources NL.
Geology	• Detailed surface geological mapping by Homestake and interpretation of drilling data by Homestake and other explorers has shown the Havilah Mine area is underlain by a NW striking dolerite unit termed the Havilah Dolerite, bounded to the northeast by pillowed and amygdaloidal basalt, and to the southwest by ultramafic rocks. • Within the mineralised part of the Havilah Dolerite, drilling has intersected dolerites and basalts of similar mineralogy suggesting the Havilah Dolerite is a differentiated mafic unit. Granophyric quartz dolerite has also been identified in historic mullock dumps. Based on petrology of thin sections of diamond drill core, previous explorers reported a similarity between the Havilah Dolerite and the lower units of the Golden Mile Dolerite.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>

Mineralisation is confined to the Havilah Dolerite close to the dolerite/basalt contact and is associated with quartz veins and stockworks within a north-dipping, NW striking mineralised shoot with a plunge of approximately 20 degrees to the north-west
Quartz-carbonate veins up to 0.5m wide have been intersected in drill core with recognisable selvedges to the mineralisation up to 10m in width. Sulphides occur both in the veins and the adjacent wall rocks and consist of dominant pyrite and arsenopyrite with minor pyrrhotite and trace chalcopyrite
The mineralised zones are surrounded by a chlorite alteration envelope approximately 1km wide and at least 6km long. Carbonate alteration is intimately associated with the mineralisation both in stockwork and shear-controlled zones.

</td></tr>
<tr><td>Drill hole information</td><td>

A summary of all drilling at the Havilah deposit is included in the table below.
A summary of all significant intercepts is included in a table accompanying this JORC Table.
Drill orientation was typically vertical or at-60 degrees to 180 degrees (south), which was designed to intersect mineralisation perpendicular to the strike.
Drill assays from RAB drill samples were not used in the Alto Mineral Resource Estimation.

<table>
<tr><th></th><th>YEAR</th><th colspan="2">RAB</th><th colspan="2">AC</th><th colspan="2">RC</th><th colspan="2">DD</th></tr>
<tr><th></th><th></th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th><th>Holes</th><th>(m)</th></tr>
<tr><td>Westmex</td><td>1979-80</td><td></td><td></td><td></td><td></td><td>103</td><td>2064</td><td></td><td></td></tr>
<tr><td>Homestake</td><td>1986</td><td></td><td></td><td></td><td></td><td></td><td></td><td>4</td><td>395</td></tr>
<tr><td>GME</td><td>1988-90</td><td>36</td><td>1059</td><td></td><td></td><td>11</td><td>1003</td><td></td><td></td></tr>
<tr><td>Herald</td><td>1996-97</td><td></td><td></td><td></td><td></td><td>21</td><td>1212</td><td></td><td></td></tr>
<tr><td>Troy</td><td>2001-09</td><td>5</td><td>115</td><td>4</td><td>195</td><td>26</td><td>1197</td><td></td><td></td></tr>
<tr><td>Alto</td><td>2019</td><td></td><td></td><td></td><td></td><td>1</td><td>80</td><td></td><td></td></tr>
<tr><td>TOTAL</td><td></td><td>41</td><td>1174</td><td>4</td><td>195</td><td>162</td><td>5556</td><td>4</td><td>395</td></tr>
</table>
</td></tr>
<tr><td>Data aggregation methods</td><td>

A summary of significant results is included in a table attached to this report.
Where Alto has reported drill assays from previous explorers, a 1.0g/t cut-off grade has been applied.
No metal equivalents have been used or reported.
The reported grades are uncut.

</td></tr>
<tr><td>Relationship between mineralisation widths & intercept lengths</td><td>

Drill orientation was typically vertical or at-60 degrees to 180 degrees, which was designed to intersect mineralisation perpendicular to the strike.
The mineralisation and drill intercepts are reported as down hole widths not true widths.

</td></tr>
<tr><td>Diagrams</td><td>

Diagrams including drill hole location plan and representative sections are included to accompany this JORC table.

</td></tr>
<tr><td>Balanced reporting</td><td>

All significant drill assay results (+1.0g/t Au) have been included in a table attached to this report.

</td></tr>
</table>

Criteria	Commentary
Other substantive exploration data	**Metallurgy** • Drill samples from Alto's confirmatory drill hole were submitted on 13th February 2019 to Intertek Genalysis Laboratory in Perth for preliminary metallurgical testwork, which suggested that high recoveries (90%+) would be achieved for material to approximately 70m down hole. Deeper fresh mineralisation requires drilling followed by additional testwork. **Bulk Density** • No measured specific gravity or measured field bulk density information is available. Assumed bulk density values were assigned based on the Events table (ie BOCO – base of complete oxidation; TOFR – top of fresh rock) from previous geological logging and Alto's confirmatory drill hole SRC118. The following assumed bulk density values were assigned; ➢ Oxide: 1.8 t/m^3 ➢ Transition: 2.2 t/m^3 ➢ Fresh: 2.8 t/m^3 • The bulk density has not been determined by measurement. **Historic Underground Workings** • GME produced Plans and Sections in local grid format showing the historical underground workings. • The surface locations of shafts and pits were surveyed by Homestake contract surveyors. Homestake obtained the mine development and stope outlines from Plans and Sections produced by the Havilah Gold Mining Company in April 1912. The historic information was sourced from the WA Mines Department and the Alexander Library in Perth. • Alto georeferenced the GME Plans and Sections and produced a 3D GIS model of the underground workings. The surface locations of the historic workings were checked using Alto's aerial drone imagery. The model was then checked against the lithological logs of available drill holes and amended to take into account additional stopes etc not shown on the GME Plans and Sections. • There is no other material information available for the Resource area at this stage.
Further work	• Further drilling may be carried out in future to provide appropriate bulk density measurements and samples for additional metallurgical testwork. Geotechnical work for pit slope analysis may also be undertaken. Further exploration drilling may also be carried out.

SECTION 3 – Estimation and Reporting of Mineral Resources

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

Criteria	Commentary
Database Integrity	• The sample data used for Resource Estimation work was obtained from various drilling programs carried out since 1979. Historically, original drilling which included Rotary Air Blast (RAB), Air-Core (AC), Reverse Circulation (RC) and Diamond Drilling (DD) into Havilah was carried out by Westmex, Homestake Australia Limited (Homestake), Gold and Mineral Exploration NL (GME), Herald Resources Limited (Herald) and Troy Resources NL (Troy). Alto Metals Limited (Alto) completed a confirmatory RC drill hole in February 2019. • Alto carried out checks on the historic database including assay checks, location checks and down hole survey checks. • The original data was geologically logged and work by Alto has continued using a lithological code system and photographic records of all drill chips. • Alto data was originally captured on field sheets and uploaded into Excel by Alto staff for input into Data Shed. Data was continually validated by Alto staff. • Normal checks were carried out using Surpac Software by Carras Mining Pty Ltd (CMPL).
Site Visit	• Dr Spero Carras of CMPL (Competent Person) visited the Sandstone area on the 8th August 2018 with Alto staff Dermot Ryan (Managing Director) and Mike Kammermann (Exploration Manager) and reviewed projects on the ground including the Havilah deposit. • Dr Carras also spent a significant amount of time working with Alto Chief Geologist Dr Changshun Jia and independently on the Sandstone geology and geophysics. • Dermot Ryan, Mike Kammermann and Changshun Jia visited the Havilah deposit on multiple occasions in 2016, 2017 and 2018. • Alto's Senior Geologist, Robert Crowe, visited the Havilah deposit in November 2018 to carry out drill collar checks. • Mike Kammermann and Robert Crowe supervised the drilling of Alto's confirmatory drill hole in February 2019.
Geological Interpretation	• Detailed surface geological mapping by Homestake and interpretation of drilling data by Homestake and other explorers has shown the Havilah Mine area is underlain by a NW striking dolerite unit termed the Havilah Dolerite, bounded to the northeast by pillowed and amygdaloidal basalt, and to the southwest by ultramafic rocks. • Within the mineralised part of the Havilah Dolerite, drilling has intersected dolerites and basalts of similar mineralogy suggesting the Havilah Dolerite is a differentiated mafic unit. Granophyric quartz dolerite has also been identified in historic mullock dumps. Based on petrology of thin sections of diamond drill core, previous explorers reported a similarity between the Havilah Dolerite and the lower units of the Golden Mile Dolerite. • Mineralisation is confined to the Havilah Dolerite close to the dolerite/basalt contact and consists of quartz veins and stockworks within a north-dipping, NW striking mineralised

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>shoot with a plunge of approximately 20 degrees to the north-west

• Quartz-carbonate veins up to 0.5m wide have been intersected in drill core with recognisable selvedges to the mineralisation up to 10m in width. Sulphides occur both in the veins and the adjacent wall rocks and consist of dominant pyrite and arsenopyrite with minor pyrrhotite and trace chalcopyrite

• The mineralised zones are surrounded by a chlorite alteration envelope approximately 1km wide and at least 6km long. Carbonate alteration is intimately associated with the mineralisation both in stockwork and shear-controlled zones.</td></tr>
<tr><td>Dimensions</td><td>• The Havilah deposit has a strike of 300m NNW and a width of 150m, in plan projection. The Havilah area includes a total of 6,921m of drilling. The drilling in the mineralized area for Havilah includes 3 DD holes for 39m, 98 RC holes for 863m and 2 AC holes for 55m.

• No RAB drilling was included in the Resource estimation process.</td></tr>
<tr><td>Estimations and Modelling Techniques</td><td>1. The following outlines the estimation and modelling technique used for producing Resources for the Havilah deposit.

<table>
<tr><th>Deposit</th><th>Orebody Dimensions</th><th>Nominal Drill Spacing</th><th>Metres of Mineralised Drilling</th></tr>
<tr><td>Havilah</td><td>300m x 150m x 125m</td><td>20m x 25m</td><td>957m</td></tr>
</table>
2. Wireframes were provided by AME for:

a. Topography based on drill collar data
b. Bottom of Oxidation (BOCO)
c. Top of Fresh Rock (TOFR)

3. CMPL carried out a review of the weathering surfaces in conjunction with AME geologists.

4. Based on geology and using intersection selection, domainal shapes were wireframed at a 0.5g/t nominal cut-off grade. These domainal shapes could contain values less than 0.5g/t within the wireframes. The parameters used for intersection selection were 3m down hole which equates to an approximate 2-2.5m bench height. The intersections could include 1m of internal dilution and all intersections included 0.5m of edge dilution. This edge dilution was added to allow for the non-visible edge definition which would be experienced in the mining process and can be interpreted as a shape dilution.

5. The wireframed shapes were audited by AME geological staff.

6. Each mineralisation wireframe had an assigned strike, dip and plunge.

7. The majority of data was 1m lengths and weighted lengths were used when modelling the deposit.

8. The number of shapes used was as follows:

<table>
<tr><th>Deposit</th><th>Number of Shapes</th></tr>
<tr><td>Havilah</td><td>13</td></tr>
</table>
9. A breakdown of pre-Resource volume for each shape was measured. This was to ensure that modelling did not over dilute the shapes due to the block sizes being used.</td></tr>
</table>

Criteria	Commentary

10. For each shape a detailed set of weighted statistics was produced. Based on the statistics, high grade cuts were determined using both the GAP method and the method of Denham. The GAP method determines the beginning position of non-linearity of the cumulative probability plot, in the tail. The Denham method uses statistical distribution theory based on the gamma distribution and the co-efficient of variation.

    The selected high grade cut and percentage metal cut is shown below:

Deposit	Maximum Cut (g/t)	Percentage Metal Cut %
Havilah	25	15

    Note: there were some very high grades (including 2 values at 120g/t) appearing in the drill hole data that have been cut. They may present a small upside to the project, should they be continuous during the mining process.

11. Major search orientations relied on dip and strike of the orebody.

12. The following parameters were used in modelling:

    - Inverse Distance Power 3 (ID^3)
    - A minimum number of samples of 2 and a maximum number of samples of 16
    - The discretisation parameters were 2 x 2 x 1
    - Search parameters were based on shape orientation.
    - Note: for blocks that did not meet these requirements, the parameters were relaxed and the search radii were increased.
    - Note: ID^3 was used to constrain the high grade shoots.

13. There was no alluvial material.

14. The fundamental block size used was:

Deposit	Small Blocks
Havilah	1mN x 1mE x 1mRL

    Small blocks were used to ensure adequate volume estimation where shapes were narrow.

15. To check that the interpolation of the block model honoured the drill data, validation was carried out comparing the interpolated blocks to the sample composite data.

16. Volumes within wireframes were determined and these were then compared with the block estimates of the volumes within those wireframes on a shape by shape basis to ensure that volumes estimated were correct.

17. Classification was carried out using a combination of drill hole density and geology as the guide. While both of these criteria were considered adequate, a lack of detailed bulk density work resulted in the Resource being classified as Inferred. All Resource was classified as Inferred.

18. Resources were estimated within an A$2,000 per ounce gold price optimised Whittle pit shell. The optimised Whittle pit shells provided a reasonable basis for defining the portion of models that may have prospects for economic exploitation in the foreseeable future and could therefore reasonably be declared as Open Pit Resources. (Optimisation used a metallurgical recovery of 92%. The Resources reported are minimally diluted and further

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>dilution, predominately in hard rock, would be required to produce Reserves.) A small allowance has been made for a goodbye cut.

19. Operating cost estimates developed by CMPL indicated that a break even mill feed cut-off grade for deposits in the Sandstone area was likely to be 0.5g/t Au.</td></tr>
<tr><td>Moisture</td><td>• All results are reported on a dry tonnage basis.</td></tr>
<tr><td>Cut-off Parameters</td><td>• Operating cost estimates developed by CMPL indicated that a break even mill feed cut-off grade for deposits in the Sandstone area was likely to be 0.5g/t Au.</td></tr>
<tr><td>Mining Factors or Assumptions</td><td>• Open pit mining will be the mining method employed going forward.</td></tr>
<tr><td>Metallurgical Factors or Assumptions</td><td>• Preliminary metallurgical testwork suggested high recoveries (90%+) would be achieved up to a depth of approximately 70m down hole. The following describes the metallurgical testwork carried out:

• In February 2019, Alto Metals collected samples for preliminary metallurgical testwork from RC drill hole SRC118 at Havilah and submitted 7 samples to Intertek Genalysis in Maddington for metallurgical analysis.

<table>
<tr><th>Hole No.</th><th>Easting*</th><th>Northing*</th><th>RL (m)</th><th>Inclination (deg)</th><th>Azimuth (deg)</th><th>Tenement</th></tr>
<tr><td>SRC118</td><td>743980</td><td>6881206</td><td>477</td><td>-60</td><td>180</td><td>E57/1033</td></tr>
</table>
*MGA94-Zone 50

• Samples for preliminary metallurgical testwork comprised 10kg composite samples collected using split pvc from the 1m RC intervals. The 10kg samples for preliminary metallurgical testwork were dried and split into two equal 5kg portions labelled “A” and “B”.

• Sample A was crushed to 2mm, a split was taken and pulverised to 75um followed by 50gm fire assay for gold (Intertek Genalysis method code FA50/AA).

• Sample B was pulverised to nominal 90% passing 106um. A 1kg split was analysed by 24 hour pH10 cyanide leach (Accelerated Cyanide Leach LeachWELLTM) with an ICP-MS finish for gold (Intertek Genalysis method code LW1000/MS).

• The tails were recovered, washed, re-homogenised and analysed by 50gm fire assay for gold (Intertek Genalysis method FA50T/OE).

• The high-grade cyanide leach utilises the LeachWELLTM accelerant to determine the cyanide extractable gold and provide an indication of potential recoveries in metallurgical processes and circuits. Recovery and analysis of the residues provide the option of reporting total gold values and thus determining the refractory gold fraction.

• An estimate of gold recovery is calculated as a percentage using the results from the above two methods and the formula;
Recovery (%) = LW1000/MS / (LW1000/MS + FA50T/OE) X 100</td></tr>
</table>

Criteria	Commentary
	Results are shown in the table below:

Deposit	Hole ID	From (m)	To (m)	Head Grade[1] (g/t Au)	Leach Grade[2] (g/t Au)	Tail Grade[3] (g/t Au)	Recovery (%)	Rock Type
Havilah	SRC118	36	40	2.255	2.69	0.17	94%	Transitional/Fresh
		40	44	0.610	0.74	0.05	94%	Transitional/Fresh
		44	48	0.235	0.30	0.03		Transitional/Fresh
		48	52	0.279	0.35	0.03		Transitional/Fresh
		52	56	0.262	0.26	0.02		Transitional/Fresh
		60	62	0.757	0.78	0.10	89%	Transitional/Fresh
		68	72	0.045	0.02	X		Transitional/Fresh

Footnotes: 1 Grade by 50gm FA on "A" sample
2 Grade by Leachwell on "B" sample
3 Grade by 50gm FA on "B" sample tail

Note: The discrepancy between the head grade of Sample A vs Sample B Leach grade + Tail grade is likely due to the presence of coarse gold in the original 10Kg sample, and Sample A and Sample B therefore not being entirely identical.

- The estimated recovery was determined using samples >0.5 g/t Au. In the fresh material below approximately 70m down hole, the recovery may be lower due to more sulphidic ore. A deeper drill hole is required to test this hypothesis.

Environmental Factors or Assumptions	• There are currently no known environmental factors which will affect the project. To date, there have been no issues in carrying out drilling and having POW's approved.
Bulk Density	• The following bulk density (t/m^3) were used: Oxide: 1.8 Transition: 2.2 Fresh: 2.8 The bulk densities used were based on assumed regional values. They have not been determined by measurement.
Classification	• In general drill hole spacing of 20m x 25m was used, with some infill holes. • Even though the drilling density and geological understanding was considered adequate to place the classification into a higher category of Resource, the Resource has been classified as Inferred due to the lack of bulk density measurements. • The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits and Reviews	• There have been no other audits and reviews carried out. An historical estimate was carried out by Snowden at Havilah in 2002. **Previous Resource Estimations (Details)** • In 2002, Troy Resources NL engaged Snowden Mining Industry Consultants Pty Ltd ("Snowden") to estimate a Mineral Resource for the Havilah deposit using Troy RC drill hole data, and historical drill hole data from Westmex Ltd, Homestake Australia Ltd, Gold and Mineral Exploration NL, Carpentaria Exploration Company Pty Ltd and Herald Resources Ltd. Snowden used a global bulk density of 2.0t/m3 and estimated the

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>resource as per the table below. Snowden reported that the resource estimate did not exclude material removed by historic mining.

Historical Havilah Resource Estimate (Non-JORC)*
<table>
<tr><th>Deposit</th><th>Category</th><th>Tonnes</th><th>Grade (g/t Au)</th><th>Contained gold (oz)</th></tr>
<tr><td rowspan="2">Havilah</td><td>Indicated</td><td>285,000</td><td>1.69</td><td>15,500</td></tr>
<tr><td>Inferred</td><td>41,000</td><td>2.14</td><td>2,800</td></tr>
<tr><td>Total</td><td></td><td>326,000</td><td>1.75</td><td>18,300</td></tr>
</table>
*Reported in Table 2. Troy Resources NL Information Memorandum, 2011.</td></tr>
<tr><td>Discussion of Relative Accuracy and Confidence</td><td>• The interpretation of the deposit is robust and it is unlikely that a different interpretation could be produced.</td></tr>
</table>

APPENDIX 2
JORC 2012 TABLE 1 REPORT
SANDSTONE PROJECT Ladybird

SECTION 1 - Sampling Techniques and Data

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

Criteria	Commentary
Sampling techniques	**Drilling carried out by Western Mining Corporation (1988-1990) and Elmina NL (1993)** • Reverse Circulation (RC) drilling was used to collect samples over 1m intervals via a cyclone and riffle splitter unless the sample was too damp or puggy in which case the sample was grabbed from throughout the bag. • From the bulk 1m RC samples, a sample was collected then submitted to the laboratory for analysis. • WMC drill assays were assayed at a WMC laboratory using their own aqua regia style of analysis. • Elmina reportedly submitted RC 1m drill samples for fire assay at Analabs or Ultratrace in Perth. **Drilling carried out by Herald Resources Limited (1998-1999)** • Rotary air blast (RAB) drilling was used to obtain 4m composites using a scoop off each 1m sample heap, with the majority of significant intersections >0.2ppm Au re-sampled at 1m intervals and sent to Analabs Perth for aqua regia AAS gold determination. • Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation. • RC drilling was used to collect samples over 1m intervals. All dry RC samples were split at 1m intervals using a 3-tier riffle splitter, with the excess collected in plastic bags and left on site. Wet samples were generally grabbed by hand. • RC samples were also collected in 2m or 4m composites which were sent to Analabs Laboratory in Perth for initial analysis by aqua regia AAS to a lower detection limit of 0.02ppm Au. • For samples returning significant results the corresponding 1m resplits were sent for further analysis by Fire Assay to a lower detection limit of 0.01ppm Au. **Drilling carried out by Troy Resources NL (2001-2009)** • RC drilling was used to obtain samples which were passed directly from the in-line cyclone through a rig mounted multi-tier riffle splitter. Samples were collected in 1m intervals into bulk plastic bags and 1m 3kg calico bags (which were retained for later use). • RAB drilling was used to obtain samples, which were collected in 1m intervals and laid on the ground. • Air-core (AC) drilling was used to obtain samples via a cyclone every for each 1m interval, which was laid on the ground. • From the bulk samples (RAB, AC or RC), a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis. • The composite samples were then sent to the laboratory for analysis. Any composite sample that assayed >0.1 g/t Au was revisited and the 1m samples re-submitted for gold assay. • Troy RAB, AC and RC samples were assayed at Analabs Perth by 50gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01ppm Au. • Drill assays from RAB drill samples were not used in the Alto Metals Resource

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>Estimation.
Drilling carried out by Alto Metals Limited (2019)
• Alto Metals Limited (Alto) engaged Challenge Drilling Pty Ltd to carry out RC drilling at Ladybird using a KWL 350 drill rig with an onboard 1100/350 compressor using a face sampling hammer of nominal 140mm hole.
• RC samples were passed directly from the in-line cyclone through a rig mounted cone splitter. Samples were collected in 1m intervals into bulk plastic bags and 1m calico splits (which were retained for later use).
• From the bulk sample, a 4 metre composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis.
• RC 1m splits were submitted to the laboratory if the composite sample assay values are equal to or greater than 0.1g/t Au.</td></tr>
<tr><td>Drilling techniques</td><td>• Drilling techniques have included RAB, AC and RC as per the table below.
<table>
<tr><th></th><th colspan="2">RAB</th><th colspan="2">AC</th><th colspan="2">RC</th></tr>
<tr><th></th><th>Holes</th><th>Metres</th><th>Holes</th><th>Metres</th><th>Holes</th><th>Metres</th></tr>
<tr><td>WMC (1988-1990)</td><td></td><td></td><td></td><td></td><td>38</td><td>2,726</td></tr>
<tr><td>Elmina (1993)</td><td></td><td></td><td></td><td></td><td>3</td><td>300</td></tr>
<tr><td>Herald (1998-1999)</td><td>35</td><td>1,070</td><td></td><td></td><td>16</td><td>658</td></tr>
<tr><td>Troy (2001-2002)</td><td>6</td><td>178</td><td>3</td><td>219</td><td>14</td><td>443</td></tr>
<tr><td>Alto (2019)</td><td></td><td></td><td></td><td></td><td>1</td><td>80</td></tr>
<tr><td>Total</td><td>41</td><td>1,248</td><td>3</td><td>219</td><td>72</td><td>4,207</td></tr>
</table>
• AC and RC drilling was used in the Alto Mineral Resource Estimation.
• Drill assays from RAB drill samples were not used in the Alto Metals Resource Estimation.</td></tr>
<tr><td>Drill sample recovery</td><td>• WMC and Elmina noted on the logging sheets where samples were wet. Comments on recovery were also noted on the logging sheets where relevant. There is no other information on sample recovery.
• Alto has no quantitative information on Troy or Herald RAB, AC and RC sample recovery. There were no reported sample recovery issues.
• Alto reviewed the WMC and Elmina logging sheets to determine if a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. The review concluded that there were no issues.
• Alto sample recovery was estimated as a percentage and recorded on field sheets prior to entry into the database.
• Alto RC samples generally had good recovery.</td></tr>
<tr><td>Logging</td><td>• WMC drill logging was reported on log sheets with laboratory assay data typically for each</td></tr>
</table>

Criteria	Commentary
	metre. • The logging was commentary based with no specific geological codes used for events such as top of fresh rock, base of oxidation etc. However, the logging and descriptions are of sufficient quality that the lithologies drilled can be correlated with later logging carried out by Herald and Troy, who used detailed logging codes. • All drill holes were logged however no detailed information is available on the logging methods used by Herald and Troy for the Ladybird drill holes. • Detailed logging codes were used, and it is considered that the previous drill holes were logged with a sufficient level of detail to support a mineral resource estimate. • Logging of proximal previous drill holes matched the logging of Alto's confirmatory drill hole. • Alto RC drill chips were sieved from each 1m sample and geologically logged. • Washed drill chips from each 1m sample were stored in chip trays and photographed. • Geological logging of drill hole intervals was carried out with sufficient detail to meet the requirements of resource estimation.
Subsampling techniques and sample preparation	**Drilling carried out by WMC (1988-1990) and Elmina (1993)** • 1m samples were collected via a cyclone and riffle splitter unless the sample was too damp or puggy in which case the sample was grabbed from throughout the bag. • No composite sampling was undertaken. • WMC drill assays were assayed at a WMC laboratory using their own aqua regia style of analysis. • Elmina reportedly submitted drill samples for fire assay at Analabs or Ultratrace in Perth. **Drilling carried out by Herald (1998-1999)** • For samples obtained from RAB drilling, 4m composites were collected using a scoop off each 1m sample heap, with the majority of significant intersections >0.2ppm Au re-sampled at 1m intervals and sent to Analabs Perth for aqua regia AAS gold determination. • All dry RC samples were split at 1m intervals using a 3-tier riffle splitter, with the excess collected in plastic bags and left on site. Wet samples were generally grabbed by hand. • 2m or 4m composite samples were collected from the 1m samples and typically assayed at Analabs Perth for aqua regia AAS. • 1m resplit samples were submitted to Analabs Perth for Fire Assay. **Drilling carried out by Troy (2001 - 2002)** • RC drilling was used to obtain samples which were passed directly from the in-line cyclone through a rig mounted multi-tier riffle splitter. Samples were collected in 1m intervals into bulk plastic bags and 1m 3kg calico bags (which were retained for later use). • RAB drilling was used to obtain samples, which were collected in 1m intervals and laid on the ground. • AC drilling was used to obtain samples via a cyclone every for each 1m interval, which was laid on the ground. • From the bulk samples (RAB, AC or RC), a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis. • The composite samples were then sent to the laboratory for analysis. Any composite sample that assayed >0.1 g/t Au was revisited and the 1m samples re-submitted for gold assay. • Troy RAB, AC and RC samples were assayed at Analabs Perth by 50gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01ppm Au.

Criteria	Commentary
	Drilling carried out by Alto (2019) • MinAnalytical Laboratory Services Australia Pty Ltd located in Canning Vale, Western Australia, were responsible for sample preparation and assaying for drill hole samples and associated check assays. MinAnalytical is certified to NATA in accordance with ISO 17025:2005 ISO requirements for all related inspection, verification, testing and certification activities. • 3kg 4m composite RC samples were dried and then ground in an LM5 ring mill for 85% passing 75 Microns. • Subsequently, intervals of 4m composite samples reporting greater than 0.1g/t Au were selected for re-assay, and 1m re-split samples were submitted for 50gm fire assay. • RC 1m samples were analysed using 50 gm fire assay with AAS finish.
Quality of assay data and laboratory tests	**Assaying and Laboratory Procedures** • The Fire Assay method is considered to be a total extraction technique. There are no deleterious elements present which could affect the technique. • The Aqua Regia technique is considered to be a partial extraction technique where gold encapsulated in refractory sulphides or some silicate minerals may not be fully dissolved, resulting in partial reporting of gold content. • The geological logging indicates the material within the mineral resource is within the oxide zone and it is considered that gold assay values reported by aqua regia assay method are acceptable. • There is no information available to Alto to indicate that the gold at the Ladybird deposit is refractory gold. **Drilling carried out by Troy (2001 - 2002)** • For Troy RC drilling, an average of 1 field duplicate, 1 blank and 1 standard was submitted for every 50 samples. • For Troy RAB and AC drilling, field duplicates and standards were used at 1:50 however no blank samples were routinely used in RAB or AC drilling. • Troy engaged Maxwell to undertake periodic audit of the exploration QAQC data on a monthly basis. • Troy's reported QA/QC methodology and data from other prospect areas in the Sandstone area at the time Troy was exploring at Ladybird, were reviewed in the absence of field QA/QC data specific to the Ladybird deposit. • Laboratory Repeat assays were reported for Troy drill assays. **Drilling carried out by WMC, Elmina and Herald (1988-1999)** • There is no available information on the protocols used by WMC, Elmina or Herald. • Laboratory Repeat assays were reported for Elmina and Herald drill assays and reviewed by Alto. • Where Troy drill holes were identified within close proximity to WMC, Elmina and Herald drill holes the drilling assay data showed an acceptable correlation. • There were no anomalous assays reported by WMC, Elmina or Herald that could not be explained. **Drilling carried out by Alto (2019)** • For Alto 4m composite sampling; field duplicates and field blank samples were inserted at a ratio of 1:20. • For 1m re-split samples; field standards, field duplicates and field blanks were inserted at a ratio of 1:20. • Laboratory Certified Reference Materials and/or in-house controls, blanks, splits and replicates are analysed with each batch of samples by the laboratory. These quality

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>control results are reported along with the sample values in the final report. Selected samples are also re-analysed to confirm anomalous results.
• Laboratory and field QA/QC results are reviewed by Alto personnel.</td></tr>
<tr><td>Verification of sampling and assaying</td><td>• Drilling carried out by WMC, Elmina, Herald and Troy Resources NL was compiled by Alto from WA Dept Mines Open File records (WAMEX).
• Data was transferred from WAMEX digital files to Alto's database. The original WAMEX files were generally in excel or text format and were readily imported into Alto's database. For some of the earlier reports (ie WMC) the data was manually entered into Excel.
• All collar, survey and assay data was checked by printing all original data records and checking against the printed database used for Alto's resource estimate.
• The data was also checked using various methods in Datashed, ArcGIS and Micromine. Google Earth satellite imagery was also used to check collar positions where historical evidence was visible in satellite imagery.
• Adjustment to assay data has been made where values below the analytical detection limit have been replaced with half the lower detection limit value (0.01 ppm Au).
• Troy engaged Maxwell to undertake independent periodic audit of their exploration QAQC data on a monthly basis.
• Significant intersections within previous drill holes and Alto's confirmatory drill hole were checked for potential smearing and found to be acceptable.
Twinned Holes
• Drill holes were identified that occur proximal to each other and were drilled by different companies. Drill hole details are included in the table below.
<table>
<tr><th>Twin</th><th>Company</th><th>Hole ID</th><th>Easting GDA94</th><th>Northing GDA94</th><th>Dip (deg)</th><th>Azimuth (deg)</th><th>Depth (m)</th></tr>
<tr><td>Twin 1</td><td>Troy</td><td>TRC011</td><td>740835</td><td>6887144</td><td>-60</td><td>045</td><td>15</td></tr>
<tr><td>Twin 1</td><td>WMC</td><td>MSGC1387</td><td>740831</td><td>6887142</td><td>-60</td><td>045</td><td>60</td></tr>
<tr><td>Twin 2</td><td>Troy</td><td>TRC010</td><td>740857</td><td>6887117</td><td>-60</td><td>045</td><td>30</td></tr>
<tr><td>Twin 2</td><td>Herald</td><td>HKR020</td><td>740861</td><td>6887120</td><td>-60</td><td>045</td><td>40</td></tr>
<tr><td>Twin 3</td><td>Alto</td><td>SRC119</td><td>740650</td><td>6887210</td><td>-60</td><td>045</td><td>80</td></tr>
<tr><td>Twin 3</td><td>Herald</td><td>HKR006</td><td>740652</td><td>6887216</td><td>-60</td><td>045</td><td>58</td></tr>
</table>
• The geological logging and the mineralised intervals and in particular the high-grade intersections showed an acceptable correlation.</td></tr>
<tr><td>Location of data points</td><td>• The grid used for the project area is GDA94, Map Grid of Australia 94, Zone 50.
• Western Mining reported all RC drill collars in AMG (AGD84). The coordinates (Easting and Northing) were located within the AMG coordinated grid established by independent contract surveyors.
• Herald reported that most old and new drill hole collars (ie WMC, Elmina, Herald) had been surveyed by MHR Surveyors Pty Ltd using a differential GPS to an expected accuracy of <0.1m for horizontal and vertical readings, which were relative to the adjacent government survey station "Breen".</td></tr>
</table>

Criteria	Commentary
	• The collar locations for all Troy Resources RAB, AC and RC drill hole collars were reported as being determined by DGPS. • Alto used handheld Garmin GPS to locate and record drill collar positions, accurate to +/- 5m. • In Troy's 2002 Mineral Resource Estimate, Troy reported all WMC, Elmina, Herald and Troy drill hole locations in AMG (AGD84). • In November 2018, Alto staff visited the Ladybird deposit to undertake a site inspection and check the easting and northing of historical drill collar locations using a hand-held GPS unit to verify that there had been no issues with local grid conversions or AMG to GDA transformations of the historical collar data. • The collar heights as used in the Alto database for the Resource Estimate were determined by Alto by intersecting the collar location with Shuttle Radar Tomography Mission (SRTM) 30m data. • There were no issues with respect to collar survey locations for Ladybird drill holes. • No downhole survey data was reported for drill holes completed by previous explorers. The average maximum drill depth is 56m and is expected that any potential deviation would not be significant. • A compass and clinometer was used by Troy to set up the dip and azimuth of Troy drill holes. • The dip and azimuth of all WMC, Elmina and Herald drill holes were reported however there are no details available on the method used to determine the dip and azimuth. • The 3 Elmina RC drill holes were recorded on the original log sheets as vertical. Drill sections produced by Herald show the Elmina drill holes were drilled at -60 degrees to 045 degrees. • Alto reviewed the sections, geological interpretation, assay results, Elmina's discussion about the drilling and concluded that the drill holes were most likely drilled at -60 degrees to 045 degrees and that the original log sheets had not been correctly documented. • Alto staff also inspected the collar of Elmina RC drill hole LBRC002 and confirmed the dip and azimuth to be -60 degrees to 045 degrees. • Alto staff also checked the dip and azimuth of additional drill collars in the field where possible. • Downhole surveys were carried out for Alto's 2019 RC drill hole using a north seeking Gyro.
Data spacing and distribution	• The drill hole orientation is typically -60 degrees dip to 045 degrees (northeast). • RC drill holes are generally on 20-70m spaced sections along a strike length of approximately 300m and are spaced at 10-20m intervals on section. • Maximum drill depth is 111m (MSGC1388) with an average drill depth of 56m.
Orientation of data in relation to geological structure	• Geological structures have been interpreted from drilling and surface geological mapping. • The prospect area comprises mafic and ultramafic rocks intercalated with thin sedimentary marker beds of chert and banded-iron-formation (BIF). The stratigraphy strikes NW-SE and has sub-vertical dips. • Mineralisation at the Ladybird deposit occurs within a sub-vertical dipping BIF/chert unit that has a strike of approximately 300 degrees (northwest). • The BIF/chert unit is located at or near the contact between a mafic unit (SW side) and an ultramafic unit (NE side). • Drill orientation was typically -60 degrees to 045 degrees, which was designed to

Criteria	Commentary
	intersect mineralisation perpendicular to the strike of the BIF/chert unit. • Sample bias is not considered to be an issue due to the well-defined geological structures and appropriate orientation of drilling.
Sample security	• No sample security details are available for WMC, Elmina or Herald drill samples. • Troy reported that their drill samples were collected in a labelled and tied calico bag. Up to six calico bags are then placed in a larger polyweave bag that is labelled with the laboratory address and sender details and tied with wire. The polyweave bags were picked up by a courier firm who counted the number of polyweave bags before taking them to the Mt Magnet depot. The samples were picked up by the courier's road train and transported to Perth. Upon receipt of the samples the laboratory checked the sample IDs and total number of samples and notified Troy of any differences from the sample submission form. • Alto 4m composite and 1m original RC drill samples comprised approximately 3 kg of material within a labelled and tied calico bag. • Individual sample bags were placed in a larger plastic poly-weave bag then transported by Alto staff to MinAnalytical in Perth. • Sampling data was recorded on field sheets and entered into a database then sent to the head office. • Laboratory submission sheets are also completed and sent to the laboratory prior to sample receival.
Audits and reviews	• Alto has reviewed and compiled the technical data for Ladybird internally. No independent audit had been previously carried out. • Troy engaged Maxwell to undertake periodic independent audit of Troy's exploration QAQC data on a monthly basis. • A Mineral Resource Estimate has previously been carried out at Ladybird by; ➢ WMC (1992) ➢ Elmina (1994) ➢ Herald (1999) ➢ Troy (2002)

SECTION 2 - Reporting of Exploration Results

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

Criteria	Commentary
Mineral tenement and land tenure	• Ladybird is located on Exploration Licence 57/1031, granted on 20 September 2016 to Sandstone Exploration Pty Ltd, a wholly owned subsidiary of ASX listed Alto Metals Limited (AME). • E57/1031 is currently in good standing with the Department of Mines, Industry Regulation and Safety. • E57/1031 is part of Alto's Sandstone Gold Project. The total project area covers approximately 800 km^2 with five exploration licences all granted on 20 September 2016 and two prospecting licences granted on 11 June 2016. • The following royalties apply: ➢ 2% of the Gross Revenue is payable to a third party ➢ 2.5% payable to the State Government • There are no registered heritage sites proximal to the Ladybird deposit. • There are no current known impediments to obtaining a licence to operate in the area.
Exploration done by other parties	• Historically gold was first discovered in the Sandstone area in the 1890's. • In 1911, mining activity was undertaken at the Lady Mary prospect located approximately 1km northwest of Ladybird. • There are no historic workings at the Ladybird deposit. • In the 1970s, Seeko Nickel carried out nickel exploration within the general area. • WMC commenced gold exploration commenced in 1979 and carried out surface geochemistry, geological mapping, RC drilling and resource estimation. • Elmina and Herald completed RAB and RC drilling and resource estimation in the 1990's. • Troy completed RAB, AC and RC drilling and resource estimation in the early 2000's.
Geology	• The prospect area comprises mafic (Metabasalt) and ultramafics intercalated with thin sedimentary marker beds of chert and banded-iron-formation (BIF). The stratigraphy strikes NW-SE and has sub-vertical dips. The greenstone sequence in the Ladybird area is weathered and lateritised to the extent that only the quartz-magnetite BIF/chert horizons form prominent outcrops. The mafic and ultramafic units usually occur as low-lying areas or low hills. • Mineralisation at the Ladybird deposit occurs within a sub-vertical dipping BIF/chert unit that has a strike of approximately 300 degrees (northwest). The BIF/chert unit is located at or near the contact between a mafic unit (SW side) and an ultramafic unit (NE side). A parallel BIF/chert unit occurs approximately 10 to 15m away to the south-west. Metabasalt generally separates the two chert units. Drilling has indicated that the south-west chert unit has limited mineralisation. • Metabasalts to the SW of the main chert unit are fine grained and massive. Thin sections produced by WMC revealed that the rocks are composed dominantly of acicular/plumose plagioclase and amphibole (with possible relic pyroxenes). • The ultramafic rocks to the NE of the main chert unit are brown, silicified, foliated amphibole-chlorite schists however differentiates include possible olivine cumulate textured rocks. • Mineralisation is associated with quartz veining, however there appears to be no obvious cross-cutting structural control on the deposit. The mineralised BIF at the Ladybird deposit occurs discontinuously over 1.5km. • Depth of weathering is interpreted from drilling data to be approximately 45-65m. The water table is reported as between 9m and 19m below surface.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>

In general, the Ladybird deposit is sub-vertical, flat (ie no plunge) and has a NW strike.

</td></tr>
<tr><td>Drill hole information</td><td>

A summary of all drilling at the Ladybird deposit is included in the table below.
A summary of all significant intercepts is included in a table accompanying this report.
Troy AC drill holes were orientated at -60 degrees dip to 205 degrees (southwest).
All other drill holes including Alto’s confirmatory drill hole SRC119 were orientated at -60 degrees dip to 045 degrees (northeast).
Drill assays from RAB drill samples were not used in the Alto Mineral Resource Estimation.

<table>
<tr><th></th><th colspan="2">RAB</th><th colspan="2">AC</th><th colspan="2">RC</th></tr>
<tr><th></th><th>Holes</th><th>Metres</th><th>Holes</th><th>Metres</th><th>Holes</th><th>Metres</th></tr>
<tr><td>WMC (1988-1990)</td><td></td><td></td><td></td><td></td><td>38</td><td>2,726</td></tr>
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<tr><td>Alto (2019)</td><td></td><td></td><td></td><td></td><td>1</td><td>80</td></tr>
<tr><td>Total</td><td>41</td><td>1,248</td><td>3</td><td>219</td><td>72</td><td>4,207</td></tr>
</table>
</td></tr>
<tr><td>Data aggregation methods</td><td>

A summary of significant results is included in a table attached to this report.
Where Alto has reported WMC, Elmina, Herald or Troy grades, a 1.0g/t cut-off grade has been applied.
No metal equivalents have been used or reported.
The reported grades are uncut.

</td></tr>
<tr><td>Relationship between mineralisation widths and intercept lengths</td><td>

Mineralisation at the Ladybird deposit occurs within a sub-vertical dipping BIF/chert unit that has a strike of approximately 300 degrees.
Drill orientation was typically -60 degrees to 045 degrees, which was designed to intersect mineralisation perpendicular to the strike of the BIF/chert unit.
The mineralisation is steeply dipping and drill intercepts are reported as down hole widths not true widths.

</td></tr>
<tr><td>Diagrams</td><td>

Diagrams including drill hole location plan and representative sections are included to accompany this JORC table.

</td></tr>
<tr><td>Balanced reporting</td><td>

All significant drill assay results (+1.0g/t Au) have been included in a table attached to this report.

</td></tr>
</table>

Criteria	Commentary
Other substantive exploration data	**Metallurgy** • Drill samples from Alto's confirmatory drill hole SRC119 were submitted on 13th February 2019 to Intertek Genalysis Laboratory in Perth for preliminary metallurgical testwork, which suggested that high recoveries (90%+) would be achieved for oxide/transitional material. There was no fresh material submitted for metallurgical testwork. **Bulk Density** • An assumed bulk density of 2.2 t/m^3 was used, which is considered appropriate for the banded-iron-formation host rock. The bulk density has not been determined by measurement. • There is no other material information available for the Resource area at this stage.
Further work	• Further drilling may be carried out in future to provide appropriate bulk density measurements and samples for further additional metallurgical testwork. Geotechnical work for pit slope analysis may also be undertaken. Further exploration drilling may also be carried out.

SECTION 3 – Estimation and Reporting of Mineral Resources

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

Criteria	Commentary
Database Integrity	• The sample data used for Resource Estimation work was obtained from various drilling programs carried out since 1988. Historically, original drilling which included Rotary Air Blast (RAB), Air-Core (AC) and Reverse Circulation (RC) into Ladybird was carried out by Western Mining Corporation (WMC), Elmina NL (Elmina), Herald Resources Limited (Herald) and Troy Resources NL (Troy). Alto Metals Limited (Alto) completed a confirmatory RC drill hole in February 2019. • Alto carried out checks on the historic database including assay checks, location checks and down hole survey checks. • The original data was geologically logged and work by Alto has continued using a lithological code system and photographic records of all drill chips. • Alto data was originally captured on field sheets and uploaded into Excel by Alto staff for input into Data Shed. Data was continually validated by Alto staff. • Normal checks were carried out using Surpac Software by Carras Mining Pty Ltd (CMPL).
Site Visit	• Dr Spero Carras of CMPL (Competent Person) visited the Sandstone area on the 8th August 2018 with Alto staff Dermot Ryan (Managing Director) and Mike Kammermann (Exploration Manager) and reviewed projects on the ground. • Dr Carras also spent a significant amount of time working with Alto Chief Geologist Dr Changshun Jia and independently on the Sandstone geology and geophysics. • Dermot Ryan, Mike Kammermann and Changshun Jia visited the Ladybird deposit in April 2017. • Alto's Senior Geologist, Robert Crowe, visited the Ladybird deposit in November 2018 to carry out drill collar checks. • Mike Kammermann and Robert Crowe supervised the drilling of Alto's confirmatory drill hole in February 2019.
Geological Interpretation	• The prospect area comprises mafic (Metabasalt) and ultramafics intercalated with thin sedimentary marker beds of chert and banded-iron-formation (BIF). The stratigraphy strikes NW-SE and has sub-vertical dips. The greenstone sequence in the Ladybird area is weathered and lateritised to the extent that only the quartz-magnetite BIF/chert horizons form prominent outcrops. The mafic and ultramafic units usually occur as low-lying areas or low hills. • Mineralisation at the Ladybird deposit occurs within a sub-vertical dipping BIF/chert unit that has a strike of approximately 300 degrees (northwest). The BIF/chert unit is located at or near the contact between a mafic unit (SW side) and an ultramafic unit (NE side). A parallel BIF/chert unit occurs approximately 10 to 15m away to the south-west. Metabasalt generally separates the two chert units. Drilling has indicated that the south-west chert unit has limited mineralisation. • Metabasalts to the SW of the main chert unit are fine grained and massive. Thin sections produced by WMC revealed that the rocks are composed dominantly of acicular/plumose plagioclase and amphibole (with possible relic pyroxenes). • The ultramafic rocks to the NE of the main chert unit are brown, silicified, foliated amphibole-chlorite schists however differentiates include possible olivine cumulate textured rocks. • Mineralisation is associated with quartz veining, however there appears to be no obvious cross-cutting structural control on the deposit. The mineralised BIF at the Ladybird deposit occurs discontinuously over 1.5km.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>

Depth of weathering is interpreted from drilling data to be approximately 45-65m. The water table is reported as between 9m and 19m below surface.
In general, the Ladybird deposit is sub-vertical, flat (ie no plunge) and has a NW strike.

</td></tr>
<tr><td>Dimensions</td><td>

The Ladybird deposit has a strike of 500m NW and a width of 20m. The Ladybird area includes a total of 4,524m of drilling. The drilling in the mineralized area for Ladybird includes no DD holes, 53 RC holes for 349m and 3 AC holes for 20m.
No RAB drilling was included in the Resource estimation process.

</td></tr>
<tr><td>Estimations and Modelling Techniques</td><td>
1. The following outlines the estimation and modelling technique used for producing Resources for the Ladybird deposit.
<table>
<tr><th>Deposit</th><th>Orebody Dimensions</th><th>Nominal Drill Spacing</th><th>Metres of Mineralised Drilling</th></tr>
<tr><td>Ladybird</td><td>500m x 20m x 100m</td><td>15m x 35m</td><td>369m</td></tr>
</table>
2. Wireframes were provided by AME for:
a. Topography based on drill collar data
b. Bottom of Oxidation (BOCO)
c. Top of Fresh Rock (TOFR)
3. CMPL carried out a review of the weathering surfaces in conjunction with AME geologists.
4. Based on geology and using intersection selection, domainal shapes were wireframed at a 0.5g/t nominal cut-off grade. These domainal shapes could contain values less than 0.5g/t within the wireframes. The parameters used for intersection selection were 5m down hole which equates to an approximate 2-2.5m bench height. The intersections could include 1m of internal dilution and all intersections included 0.5m of edge dilution. This edge dilution was added to allow for the non-visible edge definition which would be experienced in the mining process.
5. The wireframed shapes were audited by AME geological staff.
6. The deposit has a sub-vertical dip and strikes NW/SE.
7. The majority of data was 1m lengths and weighted lengths were used when modelling the deposit.
8. The number of shapes used was as follows:
<table>
<tr><th>Deposit</th><th>Number of Shapes</th></tr>
<tr><td>Ladybird</td><td>5</td></tr>
</table>
9. A breakdown of pre-Resource volume for each shape was measured. This was to ensure that modelling did not over dilute the shapes due to the block sizes being used.
10. For each shape a detailed set of weighted statistics was produced. Based on the statistics, high grade cuts were determined using both the GAP method and the method of Denham. The GAP method determines the beginning position of non-linearity of the cumulative probability plot, in the tail. The Denham method uses statistical distribution theory based on the gamma distribution and the co-efficient of variation.
</td></tr>
</table>

Criteria	Commentary

The selected high grade cut and percentage metal cut is shown below:

Deposit	Maximum Cut (g/t)	Percentage Metal Cut %
Ladybird	12	15

2 values above 50g/t were cut.

11. Major search orientations relied on dip and strike of the orebody.

12. The following parameters were used in modelling:

    - Inverse Distance Power 3 (ID^3)
    - A minimum number of samples of 2 and a maximum number of samples of 16
    - The discretisation parameters were 2 x 2 x 1
    - Search parameters were based on shape orientation.
    - Note: for blocks that did not meet these requirements, the parameters were relaxed and the search radii were increased.
    - Note: ID^3 was used to constrain the high grade shoots.

13. There was no alluvial material.

14. The fundamental block size used was:

Deposit	Small Blocks
Ladybird	1mN x 1mE x 1mRL

Small blocks were used to ensure adequate volume estimation where shapes were narrow.

15. To check that the interpolation of the block model honoured the drill data, validation was carried out comparing the interpolated blocks to the sample composite data.

16. Volumes within wireframes were determined and these were then compared with the block estimates of the volumes within those wireframes on a shape by shape basis to ensure that volumes estimated were correct.

17. Classification was carried out using a combination of drill hole density and geology as the guide. While both of these criteria were considered adequate, a lack of detailed bulk density work resulted in the Resource being classified as Inferred. All Resource was classified as Inferred.

18. Resources were estimated within an A$2,000 per ounce gold price optimised Whittle pit shell. The optimised Whittle pit shells provided a reasonable basis for defining the portion of models that may have prospects for economic exploitation in the foreseeable future and could therefore reasonably be declared as Open Pit Resources. (Optimisation used a metallurgical recovery of 92%. The Resources reported are minimally diluted and further dilution, predominately in hard rock, would be required to produce Reserves.)

19. Operating cost estimates developed by CMPL indicated that a break even mill feed cut-off grade for deposits in the Sandstone area was likely to be 0.5g/t Au.

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td>Moisture</td><td>• All results are reported on a dry tonnage basis.</td></tr>
<tr><td>Cut-off Parameters</td><td>• Operating cost estimates developed by CMPL indicated that a break even mill feed cut-off grade for deposits in the Sandstone area was likely to be 0.5g/t Au.</td></tr>
<tr><td>Mining Factors or Assumptions</td><td>• Open pit mining will be the mining method employed going forward.</td></tr>
<tr><td>Metallurgical Factors or Assumptions</td><td>
• Preliminary metallurgical testwork suggested high recoveries (90%+) would be achieved. The following describes the metallurgical testwork carried out by AME:
• No historic metallurgical data is available for the Ladybird deposit and no diamond drill holes have been completed.
• In February 2019, Alto Metals collected samples for preliminary metallurgical testwork from RC drill hole SRC119 at Ladybird and submitted 2 samples to Intertek Genalysis in Maddington for metallurgical analysis.

<table>
<tr><th>Hole No.</th><th>Easting*</th><th>Northing*</th><th>RL (m)</th><th>Inclination (deg)</th><th>Azimuth (deg)</th><th>Tenement</th></tr>
<tr><td>SRC119</td><td>740650</td><td>6887210</td><td>499</td><td>-60</td><td>45</td><td>E57/1031</td></tr>
</table>
*MGA94-Zone50

• Samples for preliminary metallurgical testwork comprised 10kg composite samples collected using split pvc from the 1m RC intervals. The 10kg samples for preliminary metallurgical testwork were dried and split into two equal 5kg portions labelled “A” and “B”.
• Sample A was crushed to 2mm, a split was taken and pulverised to 75um followed by 50gm fire assay for gold (Intertek Genalysis method code FA50/AA).
• Sample B was pulverised to nominal 90% passing 106um. A 1kg split was analysed by 24 hour pH10 cyanide leach (Accelerated Cyanide Leach LeachWELLTM) with an ICP-MS finish for gold (Intertek Genalysis method code LW1000/MS).
• The tails were recovered, washed, re-homogenised and analysed by 50gm fire assay for gold (Intertek Genalysis method FA50T/OE).
• The high-grade cyanide leach utilises the LeachWELLTM accelerant to determine the cyanide extractable gold and provide an indication of potential recoveries in metallurgical processes and circuits. Recovery and analysis of the residues provide the option of reporting total gold values and thus determining the refractory gold fraction.
• An estimate of gold recovery is calculated as a percentage using the results from the above two methods and the formula:

Recovery (%) = LW1000/MS / (LW1000/MS + FA50T/OE) X 100

Results are shown in the table below:

<table>
<tr><th>Deposit</th><th>Hole ID</th><th>From (m)</th><th>To (m)</th><th>Head Grade[1] (g/t Au)</th><th>Leach Grade[2] (g/t Au)</th><th>Tail Grade[3] (g/t Au)</th><th>Recovery (%)</th><th>Rock Type</th></tr>
<tr><td rowspan="2">Ladybird</td><td rowspan="2">SRC119</td><td>52</td><td>56</td><td>3.648</td><td>3.86</td><td>0.50</td><td>89%</td><td>Oxide/Transitional</td></tr>
<tr><td>56</td><td>60</td><td>1.042</td><td>1.10</td><td>0.08</td><td>93%</td><td>Oxide/Transitional</td></tr>
</table>
Footnotes: 1 Grade by 50gm FA on “A” sample
2 Grade by Leachwell on “B” sample
3 Grade by 50gm FA on “B” sample tail
</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>Commentary</th></tr>
<tr><td></td><td>Note: The discrepancy between the head grade of Sample A vs Sample B Leach grade + Tail grade is likely due to the presence of coarse gold in the original 10Kg sample, and Sample A and Sample B therefore not being entirely identical.</td></tr>
<tr><td>Environmental Factors or Assumptions</td><td>• There are currently no known environmental factors which will affect the project. To date, there have been no issues in carrying out drilling and having POW's approved.</td></tr>
<tr><td>Bulk Density</td><td>• The following bulk density (t/m^3) was used:

Oxide: 2.2
(Note: Banded iron oxide which usually has an elevated bulk density.)

The bulk density used was based on assumed regional values. It has not been determined by measurement.</td></tr>
<tr><td>Classification</td><td>• In general drill hole spacing of 15m x 35m was used, with some infill holes.

• Even though the drilling density and geological understanding was considered adequate to place the classification into a higher category of Resource, the Resource has been classified as Inferred due to the lack of bulk density measurements.

• The Mineral Resource estimate appropriately reflects the view of the Competent Person.</td></tr>
<tr><td>Audits and Reviews</td><td>• There have been no other audits and reviews carried out. An historical estimate was carried out by Snowden at Ladybird in 2002. Snowden reported approximately 12,000 ounces to a depth of 90m.

Previous Resource Estimations (Details)

• In 2002, Troy Resources NL engaged Snowden Mining Industry Consultants Pty Ltd (“Snowden”) to estimate a Mineral Resource for the Ladybird deposit using Troy RC drill hole data, and historical drill hole data from Western Mining Corporation, Elmina NL, and Herald Resources Ltd. Snowden estimated the resource as per the table below:

Historical Ladybird Resource Estimate (Non-JORC)*
<table>
<tr><th>Deposit</th><th>Category</th><th>Tonnes</th><th>Grade (g/t Au)</th><th>Contained Gold (oz)</th></tr>
<tr><td rowspan="2">Ladybird</td><td>Indicated</td><td>118,000</td><td>2.52</td><td>9,600</td></tr>
<tr><td>Inferred</td><td>40,000</td><td>2.08</td><td>2,700</td></tr>
<tr><td>Total</td><td></td><td>158,000</td><td>2.42</td><td>12,300</td></tr>
</table>
*Reported in Table 2. Troy Resources NL Information Memorandum, 2011.</td></tr>
<tr><td>Discussion of Relative Accuracy and Confidence</td><td>• The interpretation of the deposit is robust and it is unlikely that a different interpretation could be produced.</td></tr>
</table>