

Sandstone Gold Project, Western Australia

Significant increase in shallow gold resources at Sandstone Gold Project

Robust, open-pit gold resource in Western Australia. Significant potential for further growth open along strike and at depth. RC drilling underway, initial assays pending.

Highlights

- Updated Independent Mineral Resource Estimate outlines an <u>optimised and pit-constrained</u> 17.6Mt @ 1.5 g/t gold for 832,000 oz within A\$2,500/oz optimised pit-shells¹ reported at 0.5 g/t gold cut-off (consistent with the March 2022 update²).
- Pit-optimisations demonstrate the robust nature of the resource, capturing approximately 80% of the total unconstrained MRE³ (see Table 2).
- Mineral Resources are shallow with over 70% of pit-constrained ounces⁴ within 100m from surface and 90% within 150m.
- Mineralisation remains open along strike and at depth highlighting the strong potential to continue growing the resource inventory with further drilling.
- Rapid shallow resource growth at Indomitable Camp almost tripling in size to 5.4Mt @ 1.2 g/t gold for 210,000oz with mineralisation currently defined along a +3km long NW/SE trending gold corridor.
- Majority of resources are located on granted mining licences⁵, supported by excellent surrounding infrastructure and are in close proximity to each other, forming part of one mining field.
- Alto intends to continue focusing on adding quality shallow gold ounces by targeting 'step-out' mineralisation as well as priority targets at depth, to establish a multi-million ounce stand-alone operation at Sandstone.
- Drilling is ongoing targeting high-grade depth extensions at Indomitable. Assays currently pending.

Alto Metals Limited (ASX: AME) (Alto or Company) is pleased to announce a significant Mineral Resource update at the Company's 100% owned Sandstone Gold Project in Western Australia, (Sandstone Gold Project). The updated Mineral Resource incorporates updates for the Indomitable Camp (including a maiden resource for Indomitable East and Musketeer), an update to Lord Nelson and a maiden Mineral Resource estimate for Bull Oak. The updated Mineral Resource Estimates (MRE) were prepared by independent mining industry consultants, Snowden Optiro and reported in accordance with the JORC Code (2012 Edition).

The updated MRE includes all drilling completed up to the end of November 2022. Resource estimates for Lord Henry, Vanguard, Vanguard North, Havilah Camp, Tiger Moth, Piper and Ladybird deposits are unchanged from the Mineral Resources reported in March 2022, 25 September 2018 and 11 June 2019, respectively.

Alto Metals Limited

Suite 9, 12-14 Thelma Street West Perth, Western Australia 6005 T: +61 8 9381 2808

admin@altometals.com.au www.altometals.com.au Issued Shares: Share Price: \$ Market Capitalisation: \$

613m \$0.074 \$45m @altometalsltdAltometalsltd

ASX: AME

¹ Updated Mineral Resources in this release includes Inferred and Indicated Resources and are optimised and constrained using A\$2,500/oz pit shells. Mineral resources for Ladybird, Piper and Tiger Moth are based on A\$2,000/oz pit shells and have not been updated.

² Refer to ASX announced dated 23 March 2022 "Sandstone Mineral Resource increases to 635,000oz gold"

³ Unconstrained MRE includes mineral resources outside of the current optimised pit-shells, see Tables 2 and 4

⁴ Refers to the optimised and constrained MRE reported in this release, see Tables 1 and 3.

⁵ All mineral resources are located within granted mining licences, with the exception of Indomitable East, Musketeer, Ladybird and Bull Oak.



Mineral Resource Estimate – Sandstone Gold Project shallow mineral resource continues to grow

Optimised pit-shell constrained MRE - 832,000oz @ 1.5 g/t gold

Open-pit optimisations have been performed by Snowden Optiro on the updated Mineral Resource using a \$2,500/oz gold price and reported at a 0.5 g/t gold cut-off, **resulting in an optimised pit-shell constrained Total Inferred and Indicated Mineral Resource Estimate totalling 17.6Mt at 1.5 g/t gold for 832,000oz of contained gold** (refer to Tables 1 and 3).

The optimised pit shells are based on mining parameters and operating costs typical for Australian open pit extraction deposits of similar scale and geology.

Mineral Resource Estimate for the Sandstone Gold Project as at March 2023					
Classification Cut-off grade (g/t gold) Tonnes (Mt) Grade (g/t gold) Contained gold (koz)					
Total Indicated	0.5	4.3	1.6	226	
Total Inferred	0.5	13.3	1.4	606	
TOTAL	0.5	17.6	1.5	832	

 Table 1: Mineral Resource Estimate for Sandstone Gold Project, March 2023

Updated Mineral Resources reported at a cut-off grade of 0.5 g/t gold within the optimised pit-shell. Minor discrepancies may occur due to rounding of significant figures.

Only Indicated and Inferred categories of mineralisation that fall within the optimised pit shells are reported in the optimised Mineral Resources. *Mineralisation outside of the optimised pit shells (based on the current optimisation parameters) has been excluded from the optimised Mineral Resource statement until such time as further drilling and / or a refinement of optimisation parameters and gold price can be undertaken, to potentially convert additional in-pit resources.*

Over 27% of the Total MRE within the optimised pit-shells is in the Indicated category.

All resources contained in the Inferred category are due to the drill spacing at Indomitable, Vanguard, Havilah and Ladybird and the historical nature of drilling at Lord Nelson, Lord Henry and Bull Oak. It is reasonably expected that infill drilling and additional confirmatory drilling of the historical areas should allow an upgrade of the Inferred Resources to a higher category.

Alto considers the total mineral resources (Table 1) for the Sandstone Gold Project have a reasonable prospect of eventually being mined, taking into account the shallow nature of the deposits, the thickness and gold grades of the deposits, which are located on granted mining or exploration leases, and proximity to existing infrastructure.

The updated 2023 MRE was optimised and pit-constrained using the same gold price and optimisation parameters to provide continuity to the 2022 MRE.

Unconstrained MRE – 1Moz @ 1.4 g/t gold

The unconstrained Mineral Resource Estimate for the Sandstone Gold Project is, **23.5Mt at 1.4 g/t gold for 1,046,000oz of contained gold**, using a 0.5 g/t gold cut-off (refer to Tables 2 and 4). The **214,000oz outside the optimised and pit-shell constrained MRE highlights the potential for additional in-pit resource growth through refinement of optimisation parameters, an improving gold price and further drilling.**

 Table 2:
 Unconstrained Mineral Resources for Sandstone Gold Project, March 2023

Unconstrained Mineral Resources for the Sandstone Gold Project as at March 2023					
Classification Cut-off grade (g/t gold) Contained gold (koz					
Total Indicated	0.5	4.3	1.6	227	
Total Inferred	0.5	19.2	1.4	819	
TOTAL	0.5	23.5	1.4	1.046	

Unconstrained Mineral Resources reported at a cut-off grade of 0.5 g/t gold. Minor discrepancies may occur due to rounding of significant figures.



Next Steps – Future Resource Growth Potential

This Mineral Resource update is a significant increase in the total Mineral Resources at the Sandstone Gold Project and was achieved at an average discovery cost of \$16/oz. This latest update provides strong encouragement that the Company can continue to grow its Resource Inventory and progress its strategy to develop a stand-alone gold operation.

Significant potential for both shallow and deeper high-grade resource expansion remains, with the Company's exploration strategy continuing to focus on the Alpha Domain as a priority.

Importantly, when considering the exploration potential of the Sandstone Gold Project, **over 70% of the current Mineral Resources are less than 100m from surface and 90% are defined within the top 150m from surface** (see Figure 2). The vast majority of the +740km² project area is virtually untested below 100m.

Drilling is continuing at site, with the first phase of ~5,000m focused on:

- Indomitable testing interpreted high-grade mineralised structures at Indomitable, highlighted from the recent results including 25m @ 7.5 g/t gold from 41m announced at the end of last year (refer to ASX 24 November 2022), along with additional step-out extensional drilling;
- Musketeer strike extensions over 250m to the north, which are almost entirely untested at Musketeer; and
- Cessna and Duke of Windsor- priority targets located within the NW/SE trending gold corridor between Vanguard and Indomitable (refer to ASX Ann 13 March 2023).

The Company anticipates providing an update on drill results in the coming weeks.

Alto's Managing Director, Matthew Bowles said:

We are pleased to announce a further substantial increase in the mineral resource at the Sandstone Gold Project.

This latest update once again highlights the shallow nature of mineralisation and has delivered a robust, optimised and pitconstrained resource of 832,000oz gold at 1.5 g/t, representing 80% of the total MRE and remains open in all directions. Our systematic approach to exploration is continuing to deliver and we are confident further drilling will continue to grow the resource and increase the confidence of additional Inferred resources to Indicated.

Drilling is again underway at Indomitable following up strike extensions to the north of known mineralisation along with interpreted high-grade depth extensions. We expect the first assays to be received shortly and shareholders can look forward to strong news flow over the coming months.

The Company is focused on adding further ounces and sees plenty of avenues to continue growing the Sandstone resource with numerous priority targets, as well as starting to target the significant potential at depth, which remains relatively untested.

The total mineral resource now delineated at Sandstone is a significant milestone for the Company, that could not have been achieved without the hard work and dedication of our entire team and I would like to thank them all for their efforts.



Optimised pit-shell constrained MRE

	Mineral Resource Estimate for the Sandstone Project - March 2023									
		Indicated			Inferred			TOTAL		
Prospect	Cut-Off	Tonnes (Mt)	Grade (g/t)	Gold Ounces (koz)	Tonnes (Mt)	Grade (g/t)	Gold Ounces (koz)	Tonnes (Mt)	Grade (g/t)	Gold Ounces (koz)
Lord Nelson	0.5	1.5	2.1	100	3.5	1.4	163	5.0	1.6	263
Lord Henry	0.5	1.6	1.5	77	0.3	1.2	13	1.9	1.4	90
Havilah	0.5				0.9	1.4	38	0.9	1.4	38
Maninga Marley	0.5				0.1	2.6	8	0.1	2.6	8
Havilah Camp	0.5				1	1.5	46	1.0	1.5	46
Vanguard	0.5	0.4	2	26	1.5	1.6	77	1.9	1.7	103
Vanguard North	0.5				0.4	3.8	47	0.4	3.8	47
Vanguard Camp	0.5	0.4	2	26	1.9	1.6	124	2.3	2.0	150
Musketeer	0.5				0.8	1.5	40	0.8	1.5	40
Indomitable	0.5	0.8	0.9	23	2.2	1.2	81	3.0	1.1	104
Indomitable East	0.5				1	1.1	34	1.0	1.1	34
Tiger Moth	0.5				0.5	1.7	28	0.5	1.7	28
Piper	0.5				0.1	1	4	0.1	1.0	4
Indomitable Camp	0.5	0.8	0.9	23	4.6	1.1	187	5.4	1.2	210
Bull Oak	0.5				1.9	1.1	65	1.9	1.1	65
Ladybird	0.5				0.1	1.9	8	0.1	1.9	8
Total	0.5	4.3	1.6	226	13.3	1.4	606	17.6	1.5	832

Table 3: Mineral Resource Estimate for Sandstone Gold Project, March 2023 (by deposit)

Updated Mineral Resources reported at a cut-off grade of 0.5 g/t gold and are constrained within a A\$2,500/oz optimised pit shells based on mining parameters and operating costs typical for Australian open pit extraction deposits of a similar scale and geology. Mineral Resources for Lord Henry, Vanguard Camp, Havilah Camp, Piper, Tiger Moth and Ladybird deposits have not been updated. Minor discrepancies may occur due to rounding of appropriate significant figures.

The references in this announcement to Mineral Resource estimates for the Sandstone Gold Project were reported in accordance with Listing Rule 5.8 in the following announcements:

(a): Vanguard Camp, Havilah Camp, Lord Henry: release titled: "Sandstone Mineral Resource increases to 635,000oz gold" 23 March 2022;

(b): Indomitable Camp (Piper & Tiger Moth deposits): release "Maiden Gold Resource at Indomitable & Vanguard Camps, Sandstone WA" 25 Sep 2018;

(c): Ladybird: release "Alto increases Total Mineral Resource Estimate to 290,000oz, Sandstone Gold Project" 11 June 2019; and

The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcement noted above and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the previous market announcement continue to apply and have not materially changed.

Unconstrained MRE

Table 4: Unconstrained total classified resources for Sandstone Gold Project, March 2023 (by deposit)

			Indicate	d		Inferred			TOTAL	
Prospect	Cut-Off	Tonnes (Mt)	Grade (g/t)	Gold Ounces (koz)	Tonnes (kt)	Grade (g/t)	Gold Ounces (koz)	Tonnes (kt)	Grade (g/t)	Gold Ounces (koz)
Lord Nelson	0.5	1.5	2.1	100	4.1	1.4	191	5.6	1.6	291
Lord Henry	0.5	1.6	1.5	78	0.6	1.1	20	2.2	1.4	98
Havilah	0.5				1.0	1.3	42	1.0	1.3	42
Maninga Marley	0.5				0.2	2.1	12	0.2	2.1	12
Havilah Camp	0.5				1.2	1.3	54	1.2	1.3	54
Vanguard	0.5	0.4	2.0	26	2.7	1.4	119	3.1	1.5	145
Vanguard North	0.5				0.7	3.3	72	0.7	3.3	72
Vanguard Camp	0.5	0.4	2.0	26	3.4	1.4	191	3.8	1.5	217
Musketeer	0.5				1.4	1.3	59	1.4	1.3	59
Indomitable	0.5	0.8	0.9	23	3.2	1.1	110	4.0	1.0	133
Indomitable East	0.5				2.1	0.9	64	2.1	0.9	64
Tiger Moth	0.5				0.5	1.7	28	0.5	1.7	28
Piper	0.5				0.1	1.0	4	0.1	1.0	4
Indomitable Camp	0.5	0.8	0.9	23	7.3	0.9	265	8.1	0.9	288
Bull Oak	0.5				2.5	1.1	90	2.5	1.1	90
Ladybird	0.5				0.1	1.9	8	0.1	1.9	8
Total		4.3	1.6	227	19.2	1.3	819	23.5	1.4	1,046

Reported at a cut-off grade of 0.5 g/t gold. Mineral Resources for Lord Henry, Vanguard Camp, Havilah Camp, Piper, Tiger Moth and Ladybird deposits have not been updated. Minor discrepancies may occur due to rounding of appropriate significant figures.



Table 5: Optimised MRE March 2023 Grade and Tonnage by cut-off grade within the optimised pit (excl. Piper, Tiger Moth & Ladybird)¹

Cut-off grade (g/t gold)	Tonnage (Mt)	Grade (g/t gold)	Contained gold (koz)
0.3	17.7	1.4	803
0.5	16.9	1.5	792
0.8	12.4	1.8	697
1.0	9.8	2.0	621

All tonnages are reported in dry metric tonnes. Minor discrepancies may occur due to rounding of appropriate significant figures.

1 Table 5 shows the total grade and tonnage by cut-off grade for all optimised mineral resources, including the updated deposits, based on a 0.5 g/t gold cut-off. The estimates for Piper, Tiger Moth and Ladybird are excluded from this table as grade tonnage cut-off grades were not included in the release for these mineral resource estimates

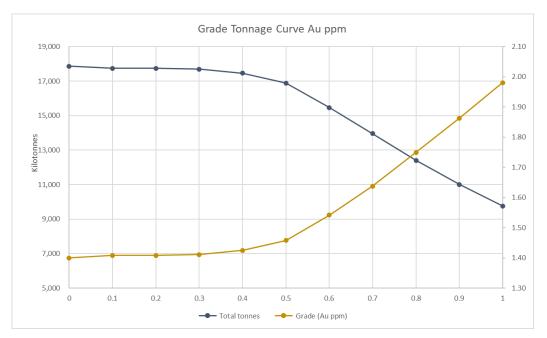


Figure 1: Sandstone Gold Project – grade tonnage curve (excl. Piper, Tiger Moth & Ladybird) and using a 0.5 g/t gold cut off

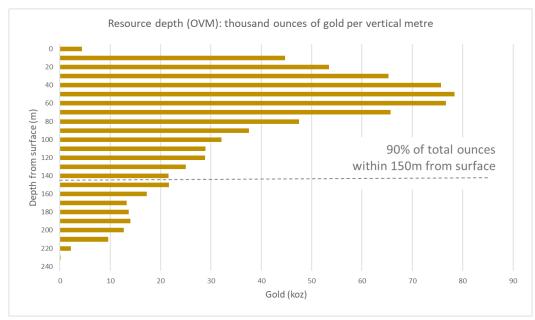


Figure 2: Sandstone Gold Project – Total ounces per vertical metre (excl. Piper, Tiger Moth & Ladybird).



The Company considers the results of the updated Mineral Resource encouraging, supporting further resource drilling to continue to grow the resources and the commencement of preliminary study work.

For further information regarding Alto and its Sandstone Gold Project please visit the ASX platform (ASX: AME) or the Company's website at <u>www.altometals.com.au.</u>

This announcement has been authorised by the Board of Alto Metals Limited.

Matthew Bowles

Managing Director & CEO Alto Metals Limited +61 8 9381 2808

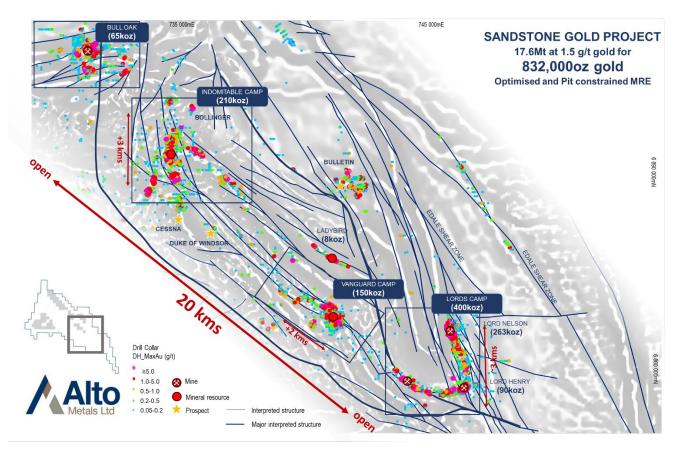


Figure 3: Sandstone Gold Project – Mineral Resources hosted within the +20km gold corridor of the Alpha Domain



Competent Persons Statement

The information in this Report that relates to Exploration Results and the data used as a basis for the mineral resource estimate is based on information compiled by Michael Kammermann, who is an employee and shareholder of Alto Metals Ltd, and he is also entitled to participate in Alto's Employee Incentive Scheme. Mr Kammermann is a Member of the Australian Institute of Geoscientists 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 "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Kammermann 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 Indomitable, Indomitable East, Musketeer, Lord Nelson and Bull Oak Mineral Resource estimates is based on information compiled by Jan Graham who is a Member of the Australian Institute of Geoscientists (MAIG) and a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which she is undertaking to qualify as a competent person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Jan Graham is a Principal Consultant and a full-time employee of Snowden Optiro and consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

The information in this report that relates to the Vanguard, Vanguard North, Lord Henry, Havilah, Maninga Marley, Tiger Moth, Piper and Ladybird Mineral Resource Estimates is extracted from the reports entitled *'Sandstone Mineral Resource increases to 635,000oz gold'* released on 23 March 2022, *'Alto Increases Total Mineral Resource Estimate to 290,000oz, Sandstone Gold Project'*, released on 11 June 2019 and *'Maiden Gold Resource at Indomitable and Vanguard Camps, Sandstone WA'* released on 25 September 2018 and are available to view on the Alto Metals Limited website (altometals.com.au) or on the ASX platform (ASX:AME). The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Forward-Looking Statements

This release may include forward-looking statements. Forward-looking statements may generally be identified by the use of forward-looking verbs such as expects, anticipates, believes, plans, projects, intends, estimates, envisages, potential, possible, strategy, goals, objectives, or variations thereof or stating that certain actions, events or results may, could, would, might or will be taken, occur or be achieved, or the negative of any of these terms and similar expressions. which are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Alto Metals Limited. Actual values, results or events may be materially different to those expressed or implied in this release. Given these uncertainties, recipients are cautioned not to place reliance on forward-looking statements. Any forward-looking statements in this release speak only at the date of issue. Subject to any continuing obligations under applicable law and the ASX Listing Rules, Alto Metals Limited does not undertake any obligation to update or revise any information or any of the forward-looking statements in this release or any changes in events, conditions or circumstances on which any such forward-looking statement is based.

Exploration Results

The references in this announcement to Exploration Results for the Sandstone Gold Project were reported in accordance with Listing Rule 5.7 in the announcements titled:

Exploration Update – Sandstone Gold Project, 13 March 2023 Outstanding gold results include an exceptional 25m @ 7.5 g/t intersection from Indomitable, 24 November 2022 80m @ 1.6 g/t gold from extensional drilling at Indomitable, 9 November 2022 Shallow high-grade gold results continue from Indomitable, 20 October 2022 Near-surface, high-grade gold results continue at Indomitable, 14 July 2022 Excellent Gold Recoveries at Lord Nelson, Sandstone Gold Project, 2 October 2020. The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcements noted above.



Mineral Resource Update - Details of each updated deposit.

Indomitable Camp

The optimised and pit-constrained Inferred Mineral Resource Estimate for Indomitable Camp has almost tripled in size to **5.4Mt at 1.2 g/t gold for 210,000oz,** reported at a 0.5 g/t gold cut-off, constrained within an A\$2,500 pit shell.

Approximately 37,000m of RC drilling was completed at Indomitable Camp during 2022 and the successful extensional drilling has significantly contributed to the growth in the Mineral Resources.

The updated Mineral Resource for Indomitable Camp comprises Indomitable and maiden Inferred Mineral Resource estimates for the Musketeer and Indomitable East deposits, all of which remain open down dip and along strike. Piper and Tiger Moth were not updated as part of the 2023 MRE update but are included in the Indomitable Camp.

Indomitable Camp is currently defined over 3km strike length and is hosted within the +20km NW/SE Indomitable/Vanguard/Havilah gold corridor that forms part of the priority 'Alpha Domain' target area.

The Company considers the rapid rate of growth demonstrates the potential to continue increasing both the grade and scale of the Mineral Resources with further drilling.

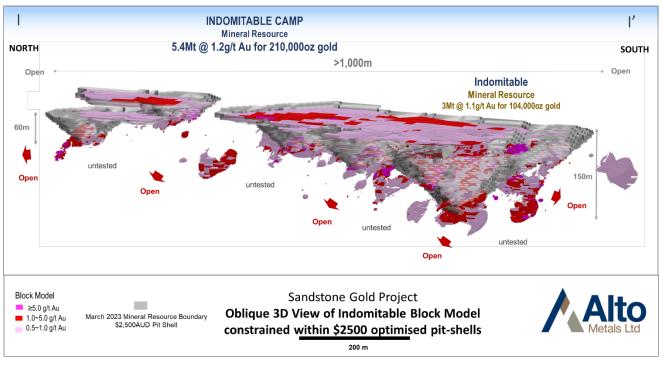


Figure 4: Oblique 3D view of Indomitable resource block models (0.5 g/t cut-off) constrained within a A\$2,500/oz optimised pit shell.

Figure 4 shows the Mineral Resources at Indomitable, constrained within the optimised pit shells and the additional mineralisation, outside the current pit shells, which remain open along strike and untested at depth.

Drilling is currently underway at Indomitable where results announced late last year included:

- o **25m @ 7.5 g/t gold** from 41m, incl. **6m @ 22.3 g/t gold** from 56m
- o 80m @ 1.6 g/t gold from 21m, incl. 10m @ 5.2 g/t gold from 43m
- o **13m @ 4.6 g/t gold** from 24m, incl. **1m @ 31.8 g/t gold** from 27m (SRC628)
- o **15m @ 4.2 g/t gold** from 30m incl. **1m @ 38.0 g/t gold** from 35m (SRC629)

The drilling is following up on these results and targeting the interpreted high-grade structures, where the Company considers there is excellent opportunity to identify further mineralisation along strike and at depth.

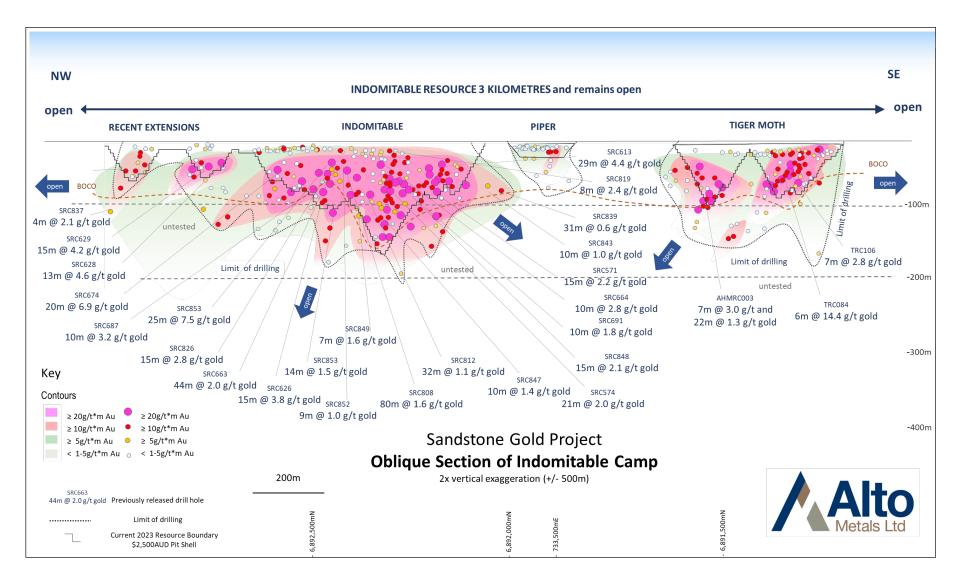


Figure 5: Indomitable Camp long section pierce point showing a A\$2,500/oz optimised pit shell.



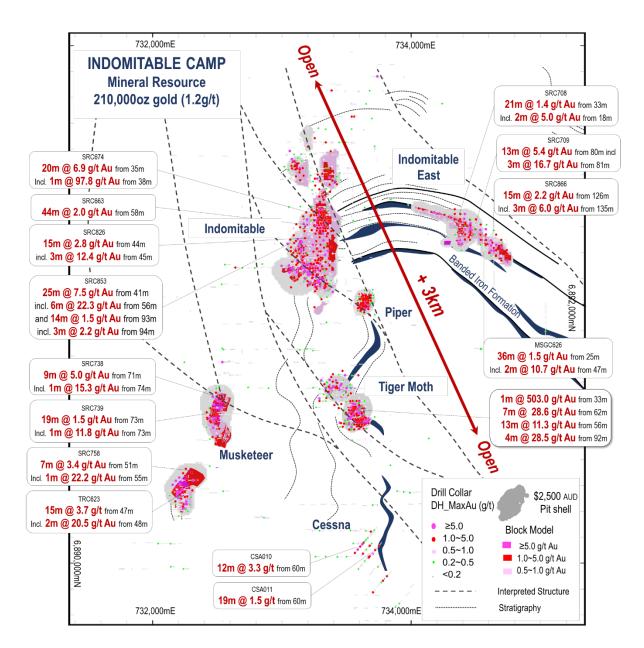


Figure 6: Indomitable Camp plan view block model of Resources (0.5 g/t cut-off) constrained within a A\$2,500/oz optimised pit shell.



Bull Oak

A maiden, JORC 2012 Inferred Mineral Resource for Bull Oak, optimised and pit constrained, of **1.9Mt at 1.1 g/t gold for 65,000 oz**, reported at a 0.5 g/t gold cut-off, constrained within an A\$2,500 pit shell and is defined to a depth of 160m from surface.

Bull Oak located towards the centre of the Sandstone Greenstone Belt, approximately 10km NW of Indomitable. The Bull Oak granite is a porphyritic intrusion with a strike length of approximately 500m and a width of up to 150m. The intrusion has relatively steep dipping boundaries and has not been defined at depth. Underground mining was carried out at Bull Oak from 1904 to 1943, targeting the higher grade reefs. Historical production from the reefs was 10,617oz at a grade of 27g/t Au.

In 1997, Herald Resources carried out a small open-pit mining operation targeting oxide mineralisation and recovered a modest 9,701oz of gold at 1.87 g/t before ceasing mining. The style of mineralisation at Bull Oak appears to be similar to that observed at Lord Henry, with multiple stacked lodes within a granodiorite.

The Bull Oak gold mineralisation covers an area of around 330m along strike by 650m across strike and extends to approximately 290m below surface, 220m below the base of the current pit. The mineralisation is open along strike and down dip.

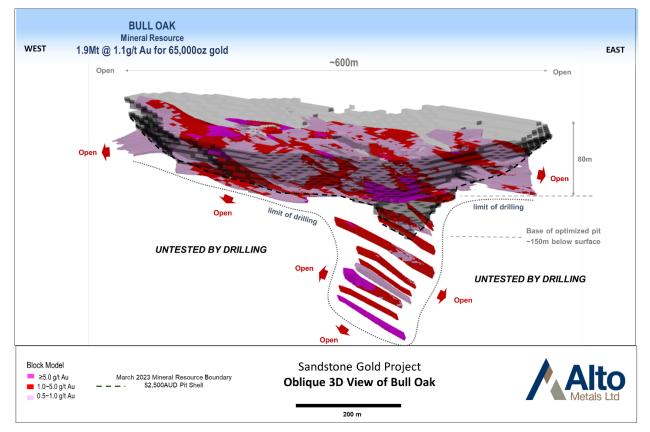


Figure 7: Oblique view of Bull Oak resource block model (0.5 g/t cut-off) constrained within a A\$2,500/oz optimised pit shell.



Lord Nelson

Lord Nelson represents 33% of the total Mineral Resources, with an Indicated and Inferred Resource of **5.0Mt at 1.6 g/t gold for 263,000 oz** reported at a 0.5 g/t gold cut-off, constrained within an A\$2,500 pit shell, that extends over 1.2km strike, up to 400m wide and to 230m below surface. In 2022, 7,000m of drilling resulted in a near doubling of the Indicated portion of the Lord Nelson Mineral Resource from 56,300 oz last year to 100,100 oz this year.

The total gold endowment of Lord Nelson (including historical reported production of 207koz @ 4.6 g/t gold) is now 470,000oz.

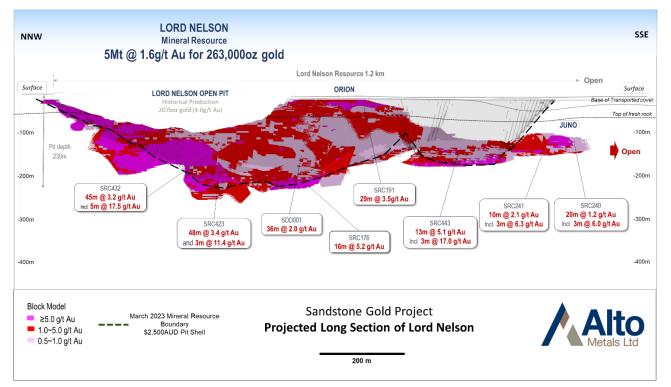


Figure 8: Lord Nelson resource block model (0.5 g/t cut-off) constrained within a A\$2,500/oz optimised pit shell.

Previous released drilling results from below the historic Lord Nelson pit and along strike to the south include:

o **3m @ 11.4 g/t gold** from 191m and

48m @ 3.4 g/t gold from 214m, incl. 19m @ 6.0 g/t gold from 223m (SRC423) - Lord Nelson

- o 45m @ 3.2 g/t gold from 161m, incl. 5m @ 17.5 g/t gold from 162m; (SRC432) Lord Nelson
- o 36m @ 2.0 g/t gold from 203m, incl. 3.6m @ 10.5 g/t gold from 232.8m (SDD001) Lord Nelson
- o 13m @ 5.1 g/t gold from 162m, incl. 3m @ 17.0 g/t gold from 168m (SRC443) Juno
- o **23m @ 1.7 g/t gold** from 141m (SRC444) Juno
- 22m @ 1.6 g/t gold from 135m (SRC449) Juno

Additional high-grade gold intercepts remain outside the optimised pit-shell with more opportunity for further growth. Further drilling is anticipated to allow this material to be included in subsequent resource updates.



APPENDIX 1: SUMMARY OF MINERAL RESOURCE ESTIMATION PARAMETERS

The following is a material information summary relating to the Resource, consistent with ASX Listing Rule 5.8.1 requirements. Further details are provided in the JORC Code Table 1.

Location, Geology and Geological Interpretation

Alto's Sandstone Project is located in the East Murchison region of Western Australia and covers approximately 740 km² of the Sandstone Greenstone Belt, with multiple granted prospecting, exploration, and mining licences all 100% owned by Sandstone Exploration Pty Ltd, which is a 100% subsidiary of Alto Metals.

Lords

The Lord Nelson deposit is hosted at the northern tip of a large granodiorite intrusion that is more than 3km long and up to 800m wide. The granodiorite has intruded mafic rocks to the west (hanging wall) and ultramafic rocks to the east (footwall). The mineralisation is mostly within the granodiorite intrusion, with a high-grade zone in the granodiorite near the ultramafic contact. In general, the mineralisation trends north-northwest, dipping approximately 50° to the west increasing to 70° with depth and plunges to the south. The mineralisation is typically characterized by a zone of pyrite + silica + biotite +/- quartz veining that follows the ultramafic footwall contact.

Indomitable Camp

At Indomitable, gold mineralisation is hosted in deeply weathered Archaean ultramafic and high magnesium and differentiated basalts, occurring as stockwork veining within the saprolite striking approximately 045° and dipping 30-40° to the northwest. Mineralisation is associated with secondary chalcedonic silica, fuchsite and disseminated sulphides (pyrite and arsenopyrite). Supergene remobilisation may have laterally redistributed mineralisation in the saprolitic horizon. Higher-grade, sub-vertical mineralisation appearing to be related to third order structures and represented by significant gramme metre intersections have been modelled with a north-south orientation, and sub-vertical dip to the northeast. The mineralised system is capped by a well-developed gold bearing pisolitic horizon located above the saprolite which is overlain by transported cover. Flat lying stockwork mineralisation was domained using a Categorical Indicator Kriging (CIK) approach.

The gold mineralisation at Indomitable East is hosted within an east-west trending sequence of jaspilitic banded iron formation intercalated with ultramafic flows. The jaspilitic BIF outcrops at surface in the area with bedding dipping 70-80° to the North exposing numerous thin stockwork-like quartz veins as well as wider 30cm N-S trending quartz veins. Mineralisation was modelled as BIF parallel 300° striking veins and 270° striking sub-vertical (85°) north dipping veins. Two laterite domains were interpreted in the east of the deposit, terminating on the base of the alluvial surface. Two north-south trending faults were interpreted from the offsets of mineralisation and BIF in the deposit area. The tenor of mineralisation is increased in proximity to these north-south cutting structures.

Musketeer is currently divided into a north and a south component, divided by the Sandstone-Menzies Road. Both deposits are controlled by jaspilitic banded iron formation units in the area, but the mineralisation is in both the BIF and the meta-dolerite, associated with pyrite, quartz veining, fuchsite and silica alteration. North Musketeer is controlled by a north-northeast to south-southwest striking BIF unit with the main mineralised domain running parallel to this with additional small splays, footwall and hangingwall lodes. South Musketeer is associated with a northeast-southwest trending BIF unit dipping to the northwest with some smaller less continuous lodes offset in the south with flat-lying near surface mineralisation over the top of it.

Bull Oak

The Bull Oak deposit is hosted in a porphyritic granite intruded into meta-basalt and minor meta-dolerite divided by numerous banded iron formation (BIF) striking 080° with near vertical dips. The BIF units are terminated and faulted by the granite. The Bull Oak granite is intensely weathered to kaolinite clay plus quartz to a depth of approximately 60m below surface. The fresh granite is medium grained, pale grey biotite granite with traces of pyrite. The granite is slightly zoned, being more porphyritic at the centre of the body. The contact with mafic rocks is sharp with slight hornfelsing of the meta-basalt.

Mineralisation at the Bull Oak deposit is associated with north-west trending quartz reefs dipping approximately 30 degrees to the north-east. The 40-75cm wide gold reefs (Bull Oak, Faugh-A-Ballagh and Kohninoor North) were all mined



before 1930. Herald identified three other additional reefs above and between, named Bull Oak 2, Bull Oak 3, and Monarch. Thin quartz veins and veinlets visible below the weathering zone ranging from less than a millimetre to a few centimetres wide contain varying levels of gold mineralisation, with a tendency for higher grades in the core of the granite and lower grades near the margins and in the surrounding mafic rocks. The veins usually contain traces of pyrite, occasionally specks of galena, scheelite and sphalerite, bordered by greenish alteration. WMC geochemical analysis of gold bearing drill samples identified anomalous values of bismuth, tungsten and tellurium.

The mineralisation domains modelled include:

- North-west trending quartz reefs gently dipping 30 degrees northeast, predominantly in oxide material.
- Flat lying, near surface mineralisation overlying the main mineralisation, four out of five having been mined out.
- Deeper, shallow dipping mineralisation entirely within the fresh material drilled by Alto in 2021 which require further drilling to extend mineralisation at depth.

Drilling Techniques

Drilling techniques used in the Mineral Resource Estimate include Aircore (AC), Rotary Air Blast (RAB), Reverse Circulation (RC) and Diamond (DDH) drilling completed by Alto Metals and numerous previous companies. AC and RAB drill holes were used to aid in geological interpretation however samples collected by AC and RAB were not used in the resource estimation. A small portion of Indomitable, near surface lateritic material included 44 AC holes, drilled by Alto.

Alto RC drilling used a KWL 350 drill rig with an onboard 1100cfm/350psi compressor and a truck mounted 1000cfm auxiliary and 1000psi booster. The sampling hammer had a nominal 140 mm hole.

Alto diamond core was drilled using a KWL1600 drill rig. Diamond holes were drilled from surface, HQ3 diameter, triple tubed and reduction to NQ2 core where required. Diamond core was oriented by the drill contractor using the BLY TruCore UPIX Orientation tool.

Alto downhole surveys were carried out using a true north seeking gyro instrument. Collar surveys for Alto drill holes were determined by an independent licenced surveyor. Historical drill collar checks were carried out using a DGPS and by a licenced surveyor.

The portion of the Mineral Resource classified as Inferred is supported by drill collar spacing of generally 40m by 40m. The portion of the Mineral Resource classified as Indicated is generally supported by drill spacing of 20m by 20m.

Diamond holes were used to obtain representative measurements of bulk density within the mineralised zones and surrounding lithologies at Lord Nelson and Indomitable Camp.

Sampling and Assaying

Samples used in the mineral resource estimation were collected by reverse circulation (RC) and diamond (DD) drilling.

RC samples were passed through an in-line cone splitter and collected in 1m intervals. Samples comprised 2-3kg samples submitted to various laboratories for assay by traditional fire assay methods up to 2021. In 2022 2-3kg samples were submitted to MinAnalytical in Canning Vale for Photon Assay.

Alto diamond core samples were collected from HQ3/NQ2 diamond drill core at mostly 1m intervals with closer spaced sampling around specific mineralized zones or structures. Alto Metals drill core was cut in half and half core sampled and assayed at Intertek Genalysis Kalgoorlie and Perth laboratories by fire assay methods.

Field blanks and industry purchased Standards and are inserted by Alto at a rate of 1 per 25 samples and Field duplicates are inserted by Alto at a rate of 1 every 100 samples. In the case of drill core duplicates, the core is quartered, and quarter core is sampled. 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.



Historical Laboratory and field QA/QC protocols and results for samples used in the MRE were reviewed by Alto Metals personnel.

Bulk Density

At Lord Nelson and Lord Henry, bulk density values have been assigned based on analysis undertaken by Snowden Optiro by rock type and weathering state. These assigned bulk density values are based on analysis of 451 density measurements taken by Alto in the 2021 diamond drill campaign in Lord Nelson and Lord Henry area. For the oxide and transitional material there were insufficient data to determine a meaningful bulk density so it was assigned with consideration of the mean of available data. Only the fresh material had sufficient data for meaningful analysis by rock type.

Assigned bulk density values per the modelled weathering domain (1.8t/m³ for all transported and oxide material, 2.2t/m³ for transitional, 2.85t/m³ for fresh ultramafic, 2.67t/m³ fresh granodiorite and 1.5t/m³ for waste dump).

At Indomitable Camp (including Musketeer and Indomitable East), bulk density values have been assigned based on a review undertaken by Snowden Optiro on 283 bulk density values determined by the water immersion method on diamond core from Indomitable. For the transported and lateritic weathering domains, there were insufficient samples to draw meaningful analysis and will assume regional bulk density values. For the oxide, transitional and fresh weathering domains, bulk density values were in line with previously assigned values. Oxide bulk density has increased to 2.0 t/m³ from 1.8 t/m³, transitional bulk density remains at 2.2 t/m³ and the fresh bulk density has increased to 2.8 t/m³ from 2.6 t/m³.

At Bull Oak, bulk density values have been assigned based on values utilised by Herald, rounded to one significant figure and have been assigned by weathering state. All transported and oxide material has been assigned 1.8t/m³, 2.2t/m³ for transitional, and 2.6t/m³ for fresh rock.

Mineral Resource Estimation

The Mineral Resources reported have been estimated through three stages of evaluation:

- 1. Grade estimates completed for each of the gold deposits (Lord Nelson, Indomitable, Indomitable East, Musketeer and Bull Oak) using the methodology described below and in Appendix 2
- The outcomes of the estimation were then constrained within optimised pit shells using an A\$2,500/oz gold price and using appropriate open-pit mining, geotechnical and processing parameters for deposits of this nature and scale; and
- 3. Only Indicated and Inferred categories of mineralisation that fall within the optimised pit shells are reported in the optimised Mineral Resources.

More detail is contained in Appendix 2

Resource Estimation Methodology

The Mineral Resource was estimated using Ordinary Kriging (OK) as the grade interpolation method.

Lord Nelson

Snowden Optiro estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software. At Lord Nelson, due to the variable dip of the mineralisation, dynamic anisotropy was used to locally adjust the orientation of the search ellipse and variogram models. The smaller, discontinuous mineralised lodes utilised a fixed search ellipse as defined by the variography. A three pass search strategy has been used.

A block model was constructed using a parent block size of 5 m(E) by 10 m(N) by 5 m(RL) based on the nominal drillhole spacing along with an assessment of the grade continuity using a kriging neighbourhood analysis.

Indomitable

Snowden Optiro estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software.



Dynamic anisotropy was run in conjunction with an Ordinary Kriged estimate for the sub-vertical mineralisation. The remaining domains were estimated using Ordinary Kriging utilising fixed search and variogram angles. A three pass search strategy has been used.

A block model was constructed using a parent block size of 20 m(E) by 20 m(N) by 2.5 m(RL) based on the nominal drillhole spacing along with an assessment of the KNA metrics.

Indomitable East

Snowden Optiro estimated gold grades using Ordinary Kriging (parent cell estimates) using Datamine Studio RM software.

The laterite, BIF parallel mineralisation domains and north dipping mineralisation domains were estimated using different fixed search ellipses based on modelled variography and Kriging neighbourhood analysis conducted for each grouped orientation. A three pass search strategy has been used.

Five north dipping higher-grade domains required the use of the grade limiting function in Datamine's Studio RM[™]. This method, in conjunction with top-cutting allows grade to be preserved locally whilst not unduly influencing total metal in the estimation.

Domains supported by a single drillhole, that did not estimate were assigned a mean grade of the top-cut for that domain.

A block model was constructed using a parent block size of 20 m(E) by 2.5 m(N) by 20 m(RL) based on the nominal drillhole spacing along with an assessment of the KNA metrics. Drilling is orientated north-south on 40 m by 40 m section lines, approximately perpendicular to the trend of mineralisation.

Musketeer

Snowden Optiro estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software. Due to the variable dip of the mineralisation at both North and South Musketeer, dynamic anisotropy was used to locally adjust the orientation of the search ellipse and variogram models. A three pass search strategy has been used.

A block model was constructed using a parent block size of 10 m(E) by 10 m(N) by 2 m(RL) based on the nominal drillhole spacing along with an assessment of the grade continuity using a kriging neighbourhood analysis.

Bull Oak

Snowden Optiro estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software. The mineralised lodes utilised a fixed search ellipse as defined by the variography. A three pass search strategy has been used.

A block model was constructed using a parent block size of 10 m(E) by 10 m(N) by 5 m(RL) based on the nominal drillhole spacing along with an assessment of the grade continuity using a kriging neighbourhood analysis.

More detail is contained in Appendix 2

Classification

The classification has been applied to the Mineral Resource estimate based on the drilling data spacing, grade and geological continuity and data integrity.

To meet the requirements that the reported Mineral Resource confirms to having reasonable prospects for eventual economic extraction, a high-level pit optimisation was undertaken by Snowden Optiro. The inputs for the optimisation were based on appropriate benchmarking of similar sized and geographically located conventional open-pit mining operations.

Only Indicated and Inferred categories of mineralisation that fall within the optimised pit shells are reported in the Mineral Resources. Mineralisation outside of the optimised pit shells has been excluded from the Mineral Resource statement until such time as further drilling can be carried out in these areas to potentially convert to additional Mineral Resources.

The following factors have been taken into consideration in evaluating the *reasonable prospects for eventual economic extraction:*



- The Mineral Resource is reported within a constraining optimised pit-shell, based on the factors outlined under Mining and Metallurgy parameters;
- Preliminary metallurgical test work indicates overall recoveries averaging 93%;
- Granted mining leases cover all the deposits (with the exception of Ladybird, Indomitable East, Musketeer and Bull Oak);
- The grades and shallow nature of the gold mineralisation is considered suitable for conventional open-pit mining;
- There has been extensive historical mining activities at the Sandstone Gold Project, and there are no unforeseen environmental matters that would prevent conventional open-cut mining and gold processing operations;
- The Project is located in a region with extensive mining operations and supported by excellent surrounding infrastructure.

Reporting Cut-off Grade

For the reporting of the Mineral Resource Estimate, a 0.5 g/t Au cut-off grade inside an A\$2,500/oz optimised pit shell has been used for potential open cut resources, refer to Mining and Metallurgical Parameters outlined below.

A grade-tonnage curve for the combined Mineral Resource (excluding Tiger Moth, Piper and Ladybird deposits) is shown in Figure 1.

Mining and Metallurgical Parameters

This Mineral Resource estimate is based on conventional open-pit extraction method. The pit optimisations prepared to support reasonable prospects for eventual economic extraction.

No additional mining dilution or ore loss has been applied to the reported Mineral Resource estimate.

Overall processing recoveries of 93% were based on results from both recent and previous preliminary metallurgical test work completed on each of the rock types at each of the deposits (ASX Announcement 23 March 2022 and 2 October 2020) and the optimised pit shell was run at gold price of A\$2,500/oz.

Preliminary test work indicates excellent gold recoveries averaging 96% (and up to 98%) in Lord Nelson primary zone mineralisation. Processing recoveries for Bull Oak are based on reported recoveries of 95% detailed in historical mining reports.

Optimised 2023 Mineral Resource Estimate for the Sandstone Gold Project by rock type									
	Indicated Inferred Total								
	Tonnage (Mt)	Grade g/t	Gold (koz)	Tonnage (Mt)	Grade g/t	Gold (koz)	Tonnage (Mt)	Grade g/t	Gold (koz)
Oxide	1.1	1.0	34	6.8	1.2	271	7.9	1.2	305
Transitional	0.8	1.5	36	1.8	1.5	85	2.6	1.5	121
Fresh	2.4	2.0	156	4.7	1.6	250	7.1	1.7	406
TOTAL	4.3	1.6	226	13.3	1.4	606	17.6	1.5	832

Table 6: Mineral Resource Estimate March 2023, by oxidation type

All tonnages are reported in dry metric tonnes. Updated Mineral Resources reported at a cut-off grade of 0.5 g/t gold. Minor discrepancies may occur due to rounding of appropriate significant figures.

Further metallurgical testwork is planned to be undertaken.

Pit slope angles used are based on geotechnical analysis and vary from 40 degrees to 50 degrees depending on rock type weathering zone and area of the deposit.



APPENDIX 2: JORC TABLES

LORD NELSON

JORC Code, 2012 Edition Table 1 – Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling	Alto Metals Limited (2016-2022)
techniques	Samples were collected by reverse circulation (RC) and diamond (DD) drilling.
	• 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 1m sample, a 4m composite sample was collected using a split PVC scoop and then submitted to the either MinAnalytical Laboratory Services Pty Ltd ("MinAnalytical") or Intertek Genalyis ("Intertek").
	• RC 1m splits were submitted if the composite sample assay values are equal to or greater than 0.2 g/t Au.
	• During 2021, the bulk sample was placed directly onto the ground (ie no green bags) and the 1m samples were sent directly to the laboratory (ie no 4m composites).
	• Diamond core sampling on HQ/NQ diamond drill core at mostly 1m intervals. Closer spaced sampling around specific mineralized zones or structures.
	Core was cut in half and half core sampled at Intertek Genalysis Kalgoorlie and Perth laboratories.
	Troy Resources NL (1999-2010)
	All drilling up to 2010 was carried out by Troy.
	• Troy's RC samples 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 calico splits (which were retained for later use).
	• From the bulk sample, a 5 m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis. The 1m calico splits were submitted to the laboratory if the composite sample returned assay values equal to or greater than 0.2 g/t Au. In certain cases, selected samples from some holes were passed from the cyclone through a rig mounted multi-tier riffle splitter, and samples collected into calico bags at 1m intervals were submitted directly for analyses. The remaining bulk sample was placed on the ground in 1m intervals.
	• Diamond cores were marked on the core by the geologist according to geological intervals. The core was cut in half by Troy field technicians, with half being placed in a pre-numbered calico bag and the other half returned to the core tray. For duplicate samples the core to be submitted for analysis is quartered.
Drilling	Alto Metals
techniques	• RC drilling program used a KWL 350 drill rig with an onboard 1100cfm/350psi compressor and a truck mounted 1000cfm auxiliary and 1000psi booster.
	• The sampling hammer had a nominal 140 mm hole.
	• Diamond core was drilled using a KWL1600 drill rig. Diamond holes were drilled from surface, HQ3 diameter, triple tubed and reduction to NQ2 core where required.
	Diamond core was oriented by the drill contractor using the BLY TruCore UPIX Orientation tool.
	Troy Resources
	• RC drilling used various drilling companies and drill rigs of similar capacity to the drill rig used by Alto Metals.
	• For diamond drilling, triple tube coring was used due to the friable nature of the oxide zone lithologies being drilled. The angled core holes were orientated where possible using a crayon marker spear tool and the holes were regularly surveyed using an Eastman downhole camera.
Drill sample	Alto Metals
recovery	• Recovery was estimated as a percentage and recorded on field sheets prior to entry into the database.
	RC samples generally had good recovery and there were no reported issues.
	• The cyclone was routinely cleaned at the end of each rod.
	• There does not appear to be a relationship with sample recovery and grade and there is no indication of sample bias.
	• Diamond core sample recovery was measured and calculated during logging using RQD logging procedures.
	• Diamond core had good recovery except in the unmineralized laterite at the top of the hole.
	No relationship between recovery and grade has been identified.
	Troy Resources



Criteria	Commentary
	No quantitative information on sample recovery is available for Troy RC holes.
	• Snowden Mining Industry Consultants Pty Ltd (Snowden) previously reviewed the available diamond core in the Sandstone core yard and concluded that the drill core shows generally good recovery.
Logging	Alto Metals
	• Alto's diamond holes were geologically and structurally logged by Alto Metals geologists using Alto standard operating procedures. Logging was transferred into the company database once complete.
	• All core was orientated where possible, marked into metre intervals and compared to depth measurements on the core blocks. Core loss was recorded.
	Core was photographed wet and dry.
	• Geological logging of drillhole intervals was carried out with sufficient detail to meet the requirements of resource estimation.
	Alto's RC drill chips were sieved from each 1m bulk sample and geologically logged.
	Washed drill chips from each 1m sample were stored in chip trays.
	 Geological logging of drillhole intervals was carried out with sufficient detail to meet the requirements of resource estimation.
	 Qualitative geological logging of most Troy drillhole intervals was done with sufficient detail to meet the requirements of resource estimation.
Subsampling	Alto Metals
techniques and sample preparation	• Alto's DD core samples were analysed at the Intertek Genalysis Laboratory in Maddington by 50g fire assay with AAS finish for gold. The technique is appropriate for the material and style of mineralisation.
	• Alto's 4m and 1m RC samples were transported to either MinAnalytical or Intertek, located in Perth, Western Australia, who were responsible for sample preparation and assaying for all RC drill hole samples and associated check assays.
	• MinAnalytical and Intertek are NATA certified for all related inspection, verification, testing and certification activities.
	• Samples submitted for analysis via Photon assay technique were dried, crushed to nominal 85% passing 2mm, linear split and a nominal 500g sub sample taken (method code PAP3502R)
	• The 500g sample is assayed for gold by Photon Assay (method code PAAU2) along with quality control samples including certified reference materials, blanks and sample duplicates.
	• Intervals of 4m composite samples reporting greater than 0.2 g/t Au (with constrain intervals) were selected for re- assay, and 1m re-split samples were submitted for 50g fire assay.
	RC 1m samples were analysed using 50g fire assay with AAS finish.
	• Alto's diamond core was transported to Intertek Genalysis in Maddington for cutting, sampling and assaying. Core is cut in half and half core is sampled.
	• Intertek Genalysis is responsible for sample preparation and assaying for all diamond drill hole samples and associated check assays.
	Sample sizes are appropriate to give an indication of mineralisation.
	 Samples are prepared by Intertek Genalysis Laboratory in Maddington. Samples are dried, pulverised to 90% passing -75um.
	• Samples are analysed at the Intertek Genalysis Laboratory in Maddington by 50g fire assay with AAS finish for gold.
	The technique is appropriate for the material and style of mineralization.
	Troy Resources
	 Troy typically used SGS Australia Pty Ltd (SGS) located in Perth, Western Australia, who were responsible for sample preparation and assaying for drillhole samples and associated check assays. The company was certified to the ISO 9001 requirements for all related inspection, verification, testing and certification activities.
	Resource definition RC and DD samples were assayed using 50g fire assay with AAS finish.
	Sample sizes are considered to be appropriate.
Quality of assay	Alto Metals
data and laboratory tests	• The Fire Assay method is considered to be a total extraction technique. There are no deleterious elements present



Criteria	Commentary
	which could affect the technique.
	• The Photon Assay technique is a fast and chemical free alternative to the traditional fire assay or Aqua Regia process and utilizes high energy x-rays. The process is non-destructive on samples and utilises a significantly larger sample than the conventional 50 g fire assay (FA50AAS) or 10 g Aqua Regia (AR10MS).
	There is no information available to Alto to indicate that the gold is refractory gold.
	• Field blanks and industry purchased Standards and are inserted by Alto at a rate of 1 per 20 samples.
	• Field duplicates are inserted by Alto at a rate of 1 every 60 samples. In the case of drill core duplicates, the core is quartered, and quarter core is sampled.
	• 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 Metals personnel.
	Troy Resources
	 For Troy's RC and DDH resource evaluation drilling, an average of one field duplicate, one blank and one standard were submitted for every 50 samples.
	 QC samples were inserted randomly throughout the sample sequence.
	 Standards were purchased from Gannet Holdings Pty Ltd (Gannet) in Perth, WA. The actual standard used was dependent on the expected assay results and type of sample being taken (i.e. oxide, transitional or fresh rock). The grade of the standard used was also routinely varied.
	• Blank material (crushed basalt) for the resource drilling at Lord Nelson and Lord Henry was also purchased from Gannet.
	 The results of the QC standards were assessed by Troy on a batch-by-batch basis. Batches of samples where the results of the submitted standards differ from the expected value by more than ±10% were re-analysed by the laboratory. Troy had independent checking of all QC sample results carried out by Maxwell Geoservices (Maxwell) on a monthly basis. Maxwell monitored the laboratory performance over the longer period and liaised with the laboratory and with Troy when QC problems were detected. Maxwell reported that all standards and blanks fell within the expected limits. The field duplicate results show that 20–25% of the repeat samples are outside of ±10% compared to the original sample values with no apparent bias. This is to be expected given the style of mineralisation.
Verification of	All significant intersections are reviewed by alternative company personnel.
sampling and assaying	• Several RC holes drilled by previous companies have been twinned with Alto RC drill holes and the results were considered satisfactory.
	Alto RC holes have been twinned by Alto DD holes and the results were considered satisfactory.
	• Field data is recorded on logging sheets and entered into excel prior to uploading to and verification in Micromine and Datashed.
	Laboratory data is received electronically and uploaded to and verified in Micromine and Datashed.
	 Values below the analytical detection limit were replaced with half the detection limit value or assigned a value of - 0.005 ppm Au in the database.
	 Snowden reported in the 2016 Mineral Resource Estimate that Troy maintained a well audited database, however as Alto do not own the database, the data used for the 2016 Mineral Resource is based on a database compiled by Alto from publicly available data. Review of the statistics of the compiled database shows that it is not materially different to that reported by Troy (Snowden, 2007).
Location of	Alto Metals
data points	All data is reported based on GDA 94 zone 50.
	• Alto used handheld Garmin GPS to locate and record drill collar positions, accurate to +/-5 metres (northing and easting), which is sufficient for exploration drilling.
	• Subsequently RM Surveys (licensed surveyor) carry out collar surveys with RTK GPS with accuracy of +/-0.05m to accurately record the easting, northing and RL prior to drill holes being used for resource estimation.
	• Downhole surveys are undertaken by the drilling contractor at 30m intervals using a true north seeking gyro.
	• Alto has previously engaged an independent downhole survey company to carry out an audit of downhole surveys and the results were considered satisfactory.
	Troy ResourcesThe majority of Troy drill holes were recorded with DGPS in GDA94.
	- The majority of Hoy unit holes were recorded with Dor's III ODA34.



Criteria	Commentary
Data spacing and	• RC and DD drill collar spacing is sufficient to establish the degree of geological and grade continuity appropriate for a mineral resource estimation.
distribution	 Diamond holes were used to obtain measurements of bulk density within the mineralized zone and surrounding lithologies.
	The drilling was composited downhole for estimation using a 1m interval.
Orientation of data in	• Drill orientation of at Lord Nelson is typically -60° to 090° which is designed to intersect mineralisation perpendicular to the interpreted mineralised zones.
relation to geological	• Drill orientation of at Lord Henry is typically -60° to 180° which is designed to intersect mineralisation perpendicular to the interpreted mineralised zones.
structure	Geological and mineralised structures have been interpreted at Lords from drilling and pit mapping.
Sample	Alto Metals
security	• For Alto, RC 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 into a bulka bag that was tied and dispatched to the laboratory via freight contractors or company personnel.
	• Whole core marked up and stored in plastic core boxes on pallets secured with metal strapping was transported to Intertek Genalysis in Maddington by McMahon Burnett transport.
	• 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.
	Troy Resources
	• For Troy, drill samples comprised approximately 2 kg of material within a labelled and tied calico bag. After wet samples were dried, six bags were placed in a larger plastic polyweave bag that was labelled with the laboratory address and sender details and tied with wire.
	• Samples were dispatched three times per week. On each occasion, a sample submission form was completed which lists the sample IDs, the total number of samples and analyses to be conducted. This form was faxed to the laboratory and to the database technician in Troy's Perth office.
	• Samples were picked up by a courier firm, who counted the total number of polyweave bags before taking them to the Mount Magnet depot 150 km to the west of Sandstone. Here the samples were picked up by the courier's road train and taken to the Perth depot before being dispatched to the lab.
	• Upon receipt of the samples, the lab checked the sample IDs and total number of samples and notified Troy of any differences from the sample submission form.
	• After the analysis of the samples had been completed, results were sent to the senior geologist and database technician in both digital and paper format.
Audits and reviews	• Alto's Exploration Manager and Chief Geologist attended the RC and DD drilling programs and ensured that sampling and logging practices adhered to Alto's prescribed standards.
	• Alto's Chief Geologist has reviewed the laboratory assay results against field logging sheets and drill chip trays and confirmed the reported assays occur with logged mineralised intervals and checked that assays of standards and blanks inserted by the Company were appropriately reported.
	Alto have compiled and reviewed Troy's drilling and assay data.
	• Alto and Snowden are not aware of any other independent reviews of the drilling, sampling and assaying protocols, or the assay database.

JORC (2012) Table 1 – Section 2 Reporting of Exploration Results



ltem	Comments
Mineral tenement and land tenure	 Alto's Sandstone Project is located in the East Murchison region of Western Australia and covers approximately 900 km² with multiple prospecting, exploration and mining licences all 100% owned by Sandstone Exploration Pty Ltd, which is a 100% subsidiary of Alto Metals. All tenements are currently in good standing with the Department of Mines, Industry Regulation and Safety and to date there has been no issues obtaining approvals to carry out exploration. Royalties include up to 2% of the Gross Revenue payable to a third party, and a 2.5% royalty payable to the Gross Revenue payable to a third party.
Exploration done	 the State Government. Troy Resources discovered the Lord Nelson deposit in 2004 and carried out open pit mining between
by other parties	2005 and 2010 to produce approximately 207,000 ounces of gold.
Geology	 Lord Nelson is hosted at the northern tip of a large granodiorite intrusion, that is more than 3 kilometres long and up to 800m wide. The granodiorite has intruded mafic rocks to the west (hanging wall) and ultramafic rocks to the east (footwall). The mineralisation is mostly within the granodiorite intrusion, with a high-grade zone on the contact between the granodiorite and the ultramafic contact.
	• The main Lord Nelson deposit which was mined by Troy is hosted within a zone of intermixed high- magnesium basalt and granodiorite intrusive rocks above a footwall ultramafic unit.
	 The Orion lode was identified by Alto approximately 200m south of the Lord Nelson open pit and is considered a repeat of the Lord Nelson deposit. The Juno lode is considered a previously undiscovered extension of the mineralised zone extending below and south from the Lord Nelson pit.
	 Juno has a gentle southerly plunge and remains open up and down dip, and along strike.
	• In general, the mineralisation trends north-northwest, dipping approximately 50° to the west increasing to 70° with depth and plunges to the south.
	• The mineralisation is typically characterized by a zone of pyrite + silica + biotite +/- quartz veining that follows the ultramafic footwall contact.
	• The interpreted mineralisation domains are based on a nominal 0.2 g/t Au to 0.3 g/t Au cut-off which appears to be a natural break in the grade distribution.
Drill hole information	• Drill hole collar and relevant information is included in a table in the main report.
Data aggregation methods	• Reported mineralised intervals +0.2 g/t Au may contain 2 to 4 metres of internal waste (or less than 0.2 g/t Au low grade mineralisation interval).
	No metal equivalent values have been reported.
	The reported grades are uncut.
Relationship	• DD drill holes were angled at -60° and designed to intersect perpendicular to the mineralisation.
between mineralisation	• RC drill holes were angled at -60° and designed to intersect perpendicular to the mineralisation.
widths and intercept lengths	• Downhole intercepts are not reported as true widths however are considered to be close to true widths based on the drill orientation and current understanding of the mineralisation.
Diagrams	 Relevant sections and plans have been included in the main report and in previous reports which can be found on the Company website or ASX site.
Balanced reporting	 All drill hole information and significant mineralised intercepts and widths have been reported in previous reports which can be found on the Company website or ASX site.
Other substantive	All material information has been included in the report.
exploration data	 Preliminary gold recovery testwork has been carried out by Alto in addition to the historical mining and production records.
	 Bulk densities have been measured from drill core by Alto Metals.
	There are no known deleterious elements.



JORC (2012) Table 1 – Section 3 Estimation and Reporting of Mineral Resources

Item	Comments
Database integrity	• Troy maintained a well audited database; however, as Alto do not own the database, the pre-Alto data used for the 2023 Lord Nelson Mineral Resource is based on a database compiled by Alto from publicly available data. Review of the statistics of the compiled database shows that it is not materially different to that reported by Troy (Snowden, 2007).
	• Alto carried out verification checks on the historic database including locations checks, downhole surveys and assay checks.
	• Drilling undertaken by Alto is recorded in a separate secure database. Collar and survey data is imported directly into the database with no manual transcription.
	• Snowden Optiro undertook a basic check of the data for potential errors as a preliminary step to compiling the resource estimate for Lord Nelson. No significant flaws were identified.
Site visits	• The Snowden Optiro CP responsible for the mineral resource estimate visited the Lord Nelson on 7 and 8 October 2021, observing the existing open pit, local geology and general site layout.
	 Staff from Alto, who accept responsibility for the reliability of the underlying drillhole data, have been to site multiple times and have been present during the drilling programs.
Geological	Snowden Optiro believes that the local geology is reasonably well understood.
interpretation	• All drillholes used in the interpretation and estimation were either RC or diamond drilled.
	• Historic drillholes prior to 2016 have been vetted by Alto to ensure they meet minimum drilling and sampling requirements for resource estimation.
	Historic drillholes with unsampled intervals have been left as null in the database.
	• The interpreted mineralisation domains are based on a nominal 0.2 g/t Au to 0.3 g/t Au cut-off which appears to be a natural break in the grade distribution. In total, 32 mineralised domains have been interpreted. The interpreted domains include:
	• Eastern mineralisation – main ultramafic contact: A continuous domain of mineralisation which runs along the ultramafic to intermediate contact on the eastern edge of the deposit (Domain 10030).
	 Eastern mineralisation – southern extension: A continuous extension domain of mineralisation to the main ultramafic contact domain (10300) extending into the Juno area.
	 Western mineralisation: A continuous domain of mineralisation on the western edge of the deposit (10050), closely shadowed by another continuous lode (10060) in the footwall of 10050.
	 Central, disconnected mineralisation: A series of less continuous mineralised pods between the two main (east and west) domains, with the larger areas potentially related to west-northwest structures.
	 Flat lying near surface mineralisation: A lower grade flat lying, near-surface domain overlying the main mineralisation. A second flat lying, near-surface domain lies to the east in an area which is poorly drilled at depth. This eastern near-surface domain indicates potential for a repeat of the Lord Nelson mineralisation and is a target for further exploration. This material may be lateritic, (Domains 10010 and 10020)
	• The main domain extending to the south (10300) is on the contact of the ultramafic and granodiorite intrusion. Drillhole logging and assay results have been used to guide the modelling. A smaller, lower grade lode in the hanging wall has been interpreted (10390)
	• Alternative interpretations of the mineralisation are unlikely to significantly change the overall volume of the mineralised envelopes in terms of the reported classified resources.
Dimensions	• The Lord Nelson gold mineralisation covers an area of around 1300 m along strike by 400 m across strike and extends to over 250 m below surface. The mineralisation interpretation extends around 180 m down dip from the base of the current pit.
	• The mineralisation is open along strike to the north and south. In the Juno area of the deposit the mineralisation on the contact is open along strike and is a target for further exploration. There is a second near surface mineralised domain to the east of the area reported above, which is poorly drilled at depth. This eastern near surface domain indicates potential for a repeat of the Lord Nelson mineralisation and could be a target for further exploration.
Estimation and modelling techniques	• Snowden Optiro estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software. At Lord Nelson, due to the variable dip of the mineralisation, dynamic anisotropy was used to locally adjust the orientation of the search ellipse and variogram models. The



Item	Comments		
	smaller, discontinuous mineralised lodes utilised a fixed search ellipse as defined by the variography. A three pass search strategy has been used.		
	 The statistical analysis shows that the main mineralised domains have positively skewed gold distributions with high coefficients of variation (CVs), indicating there are outliers in the domains which have the potential to cause local over estimation. Top cut levels have been determined using a combination of histograms, log probability and mean variance plots on a domain by domain basis. Top cuts (ranging from 2 g/t Au to 45 g/t Au depending on domain at Lord Nelson) were applied prior to estimation. The CVs for two of the domains were still slightly elevated after top cutting; however, review of the high-grade outliers shows that they are mostly located in the centre of the mined-out portion of the open pits, and as such will have no influence on the Mineral Resource. The flat lying, near-surface mineralisation at Lord Nelson is lower grade and less skewed, no top cut was applied to this domain. 		
	 Based on the statistical analysis, Snowden Optiro considers that ordinary kriging with a top cut is an appropriate estimation technique for these domains. 		
	Boundaries between the mineralised domains were treated as hard for estimation.		
	 Two check estimates were undertaken using inverse distance to the power of 2 (ID2) and nearest neighbour (NN) for gold and reviewed in the validation steps. 		
	 No assumptions have been made regarding recovery of any by-products. 		
	 A block model was constructed using a parent block size of 5 m(E) by 10 m(N) by 5 m(RL) based on the nominal drillhole spacing along with an assessment of the grade continuity using a kriging neighbourhood analysis. 		
	• The initial search ellipse of 45 m by 20 m by10 m was defined based on the results of the variography and assessment of the data coverage. A minimum of ten and maximum of 24 samples was used for the initial search pass. Second pass was one and a half times the initial search ellipse with a minimum of ten and maximum of 24 samples. Third pass was three times the initial search with a minimum of five and maximum of 24 samples. All passes had a maximum of four samples per drillhole in the main mineralisation domains, and a maximum of two samples per drillhole in the near surface flat lying mineralised domains.		
	 The previous Mineral Resource for Lord Nelson was estimated in 2022 (Snowden, 2022) and reported in accordance with the 2012 Edition of the JORC Code. For comparison purposes Snowden Optiro compared the 2023 Mineral Resource to the 2022 depleted Mineral Resource reported in the Snowden report (2022). No mining has occurred since mining ceased in 2010. 		
	The comparison of the 2023 MRE to the 2022 MRE shows an increase of 0.5 Mt Indicated material, a slight increase in grade of 0.3 g/t Au for an increase of 44,000 oz Au. For Inferred, there is a decrease of 0.8 Mt with a slight decrease of 0.1 g/t Au (-15%) for a decrease of 48,000 oz Au. Overall, there is a slight decrease in total Mineral Resources of 0.2 Mt, no change in grade for an overall decrease of 4,000 oz Au. This minor change is due to infill drilling in Juno, changing the interpretation from one thick lode to two narrower lodes. The material change is from converting Inferred material to Indicated based on infill drilling, with over a 40% increase in Indicated resources. The down dip and along strike mineralisation is informed by an additional 7,013 samples from 33 new RC holes intersecting mineralisation. Areas previously classified as Inferred have been classified as Indicated material given the targeted drilling confirming the mineralisation interpretation.		
Moisture	All tonnages have been estimated as dry tonnages.		
Cut-off parameters	 For the reporting of the Mineral Resource Estimate, a 0.5 g/t Au cut-off grade inside an optimised pit shell has been used for potential open cut resources. 		
Mining factors and	• It is assumed the deposit will be mined using conventional open cut mining methods.		
assumptions	 The Mineral Resource has been reported within a pit shell generated by Snowden using an input gold price of A\$2,500 with all cost and recovery assumptions provided by Alto based on their bench marking against deposits of a similar scale and geological nature. 		
Metallurgical factors and assumptions	• The deposit has been mined previously by Troy with the material processed at the Sandstone Mill. The previous operation focused mainly on the oxide resources; however, with a suitable process flowsheet, in Snowden Optiro's opinion, the sulphide ore should also be recoverable.		
	 Processing recoveries of 96% for oxide, transitional and fresh mineralisation have been applied to the optimisation for Lord Nelson. The fresh recoveries are based on preliminary metallurgical test work undertaken by Alto 2020 and are supported by reported historical performance of the production plant gold recovery for Lord Nelson (93% to 96%). These results are preliminary and Snowden Optiro recommends further metallurgical test work be undertaken. 		



Item			Comments	
Environmental factors and assumptions	• It is assumed that no environmental factors exist that could prohibit any potential mining development at the Lord Nelson deposit. The Sandstone area has a strong history of mining and several prospecting leases are currently being worked. Anecdotal evidence suggests strong local support for mining in the area.			
Bulk density	by rock type and density measure the oxide and tra so it was assigne sufficient data fo	weathering state. Thes ments taken by Alto in nsitional material there d with consideration of	been assigned based on analysis undertaken by the assigned bulk density values are based on analysis the 2020 drill campaign in Lord Nelson and Lord e were insufficient data to determine a meaning the mean of available data. Only the fresh mate y rock type. Assigned bulk density values provid Description	lysis of 451 Henry area. For ful bulk density erial had
		1.8	All transported and oxide material (all rock types)	
		2.2	Transitional (all rock types)	
		2.85	Fresh ultramafic	
		2.67	Fresh granodiorite	
		1.5	Waste Dump	
	The bulk density ultramafic is high	value for the fresh in G er. Snowden Optiro rec	which are as a set of the second s commends undertaking more bulk density meas as on a second	he value for
Classification	grade and geolog	ical continuity and data	e Mineral Resource estimate based on the drillir a integrity. satisfied the requirement to be classified as Me	
	continuous and s	upported by 20 m by 20 rond the drilling is limit	d as an Indicated Resource where the mineralisa O m drilling data and estimated predominantly in ed to approximately one drill section. These are	n the first pass.
			d as an Inferred Resource where the mineralisat e drilling is limited to approximately one drill se	
	• The eastern lens	of the flat lying, near-su	urface mineralisation is not classified due to a co leath the existing waste dump.	
	by more widely s	oaced drill data. All sma	d as an Inferred Resource where the mineralisat all, discontinuous lodes have been classified as li ed to approximately one drill section.	
	The Mineral Reso	urce classification appr	opriately reflects the view of the Competent Pe	rson.
Audits and reviews			t of Snowden Optiro's standard internal peer re ernal reviews of the Lord Nelson or Lord Henry N	
Discussion of relative accuracy/	The relative accur	racy of the Lord Nelson	Mineral Resource estimate is reflected in the re of the 2012 JORC Code.	
confidence	The Mineral Reso	urce has been validate	d against the input composite data.	
	The statement re	lates to a global estima	te of tonnes and grade with an open pit cut-off	of 0.5 g/t Au.
	lower grade, with area is slightly ov	lower contained gold.	duction data shows that the 2023 estimate has s Snowden Optiro is aware that the estimate with r-estimated as a result of high-grade outliers in a reasonable result.	nin the mined-out



JORC Code, 2012 Edition Table 1 – Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling	Western Mining Corporation (1983-1993) and Elmina NL (1993-1996)
techniques	 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.
	 WMC diamond drilling (HQ & NQ) was also used to obtain samples.
	Elmina reportedly submitted RC 1m drill samples for fire assay at Analabs or Ultratrace in Perth. <u>Herald Resources Limited (1996-1999)</u>
	• 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 mineral resource estimate but were used to assist with interpretation.
	<u>Troy Resources NL (1999-2009)</u>
	• 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 1 m 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 1 m intervals and laid on the ground.
	• Diamond drilling was used to obtain samples. An RC pre-collar was drilled with a diamond tail and half-core submitted as samples.
	• From the bulk samples (RAB 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 samples were assayed at Analabs Perth by 50 gm aqua regia digest followed by DIBK extraction Flame Atomic Absorption Spectrometry. The technique had a lower detection limit of 0.01 ppm Au.
	• Troy RC and diamond core samples were analysed at Genalysis Laboratory in Perth for gold by fire assay on a 50g sample (method FAA505).
	• Drill assays from RAB drill samples were not used in the mineral resource estimate.
	Alto Metals Limited (2021)
	Samples were collected by RC drilling.
	• For RC drilling and sampling, the rig-mounted in-line cyclone and cone splitter was used to produce a bulk sample and an approximately 3 kg sample for each 1 m interval.
	• From the bulk 1m sample a 4 m composite sample was collected using a split PVC scoop and then submitted Intertek Genalysis ("Intertek") in Maddington for fire assay. 1 m splits were submitted if the composite sample assay values are equal to or greater than 0.2 g/t Au.
Drilling	Alto Metals
techniques	• RC drilling program used a KWL 350 drill rig with an onboard 1100cfm/350psi compressor and a truck mounted 1000cfm auxiliary and 1000psi booster.
	• The face sampling hammer had a nominal 140 mm hole.
	Previous companies
	• RC drilling used various drilling companies and drill rigs of similar capacity to the drill rig used by Alto Metals.
	WMC RC drilling was by roller bit or hammer using a cross over sub.
	• For Troy diamond drilling, triple tube coring was used due to the friable nature of the oxide zone lithologies being drilled. The angled core holes were orientated where possible using a crayon marker spear tool and the holes were regularly surveyed using an Eastman downhole camera.



Criteria	Commentary
Drill sample	WMC and Elmina noted on the logging sheets where samples were wet. Comments on recovery were also
recovery	noted on the logging sheets where relevant. There is no other information on sample recovery.
	• The WMC diamond drillhole MSGD010 (251.4m depth) was reported as being close to 100% recovery.
	• Alto has no quantitative information on Troy or Herald RAB 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 RC drillhole SRC360 reported no issues with recovery.
	 The cyclone was routinely cleaned at the end of each rod.
	 No relationship between recovery and grade has been identified.
Logging	
Logging	 WMC and Elmina drill logging was reported on log sheets with laboratory assay data typically for each 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.
	Detailed logging codes were used for the Troy diamond drillhole.
	• There are no photographic records however the two deep diamond drillholes are stored at the DMIRS core yard.
	 Alto RC drill chips were sieved from each 1 m sample and geologically logged.
	Washed drill chips from each 1 m sample were stored in chip trays.
	• Geological logging of drillhole intervals was carried out with sufficient detail to meet the requirements of resource estimation.
Subsampling	WMC and Elmina
techniques and sample preparation	• 1 m 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.
preparation	No composite sampling was undertaken.
	WMC drill assays were assayed at a WMC laboratory using their own aqua regia style of analysis.
	WMC diamond drill core was sampled over mineralized intervals.
	• Elmina reportedly submitted drill samples for fire assay at Analabs or Ultratrace in Perth. Herald
	 For samples obtained from RAB drilling, 4 m composites were collected using a scoop off each 1m sample heap, with the majority of significant intersections >0.2ppm Au re-sampled at 1 m intervals and sent to Analabs Perth for aqua regia AAS gold determination.
	Troy
	• 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 1 m intervals into bulk plastic bags and 1 m 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 1 m interval, which was laid on the ground.
	• From the bulk samples (RAB, AC or RC), a 5 m 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 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 0.01 ppm Au.
	• Troy RC and diamond core samples were analysed at Genalysis Laboratory in Perth for gold by fire assay on a 50g sample (method FAA505).
	Alto
	• Alto's 4 m and 1 m RC samples were transported to Intertek, located in Perth, Western Australia, who were responsible for sample preparation and assaying for all RC drillhole samples and associated check assays.
	• Intertek are NATA certified for all related inspection, verification, testing and certification activities.
	• Intervals of 4 m composite samples reporting greater than 0.2 g/t Au (with constrain intervals) were selected



Criteria	Commentary
	for re-assay, and 1 m re-split samples were submitted for 50g fire assay.
	Samples are dried, pulverised to 90% passing -75um.
	RC samples were analysed using 50g fire assay with AAS finish.
	• Field duplicates comprised an approximately 3kg sample and were collected either by spear for submission of 4 m composite samples.
	The rig mounted cone splitter was routinely cleaned at the end of each rod.
	Sample sizes are considered to be appropriate for the style of mineralisation.
Quality of assay data and	 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
laboratory tests	refractory sulphides or some silicate minerals may not be fully dissolved, resulting in partial reporting of gold content.
	• The Photon Assay technique is a fast and chemical free alternative to the traditional fire assay or Aqua Regia process and utilizes high energy x-rays. The process is non-destructive on samples and utilises a significantly larger sample than the conventional 50 g fire assay (FA50AAS) or 10 g Aqua Regia (AR10MS).
	• There is no information available to Alto to indicate that the gold at the Bull Oak deposit is refractory gold. <u>Troy</u>
	• 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 Bull Oak, were reviewed in the absence of field QA/QC data specific to the Bull Oak deposit.
	 Laboratory Repeat assays were reported for Troy drill assays.
	WMC, Elmina and Herald
	There is no available information on the protocols used by Elmina or Herald.
	• There is no available documentation for the WMC procedures of QAQC protocols however it is known that the laboratory included one repeat analysis, one standard and one blank in each tray of 50 samples.
	Laboratory Repeat assays were reported for WMC and Elmina drill assays and reviewed by Alto.
	• Where Elmina and WMC drillholes were identified within proximity, the drilling assay data showed an acceptable correlation.
	There were no anomalous assays reported that could not be explained. <u>Alto</u>
	• RC samples were submitted to the laboratory with field duplicates, certified standards and field blank samples 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 were reviewed by Alto personnel.
Verification of sampling and	• Drilling carried out by WMC, Elmina, Herald and Troy Resources NL was compiled by Alto from WA Dept Mines Open File records (WAMEX).
assaying	• 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



Criteria	Commentary
	WMC and Elmina) 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 Alto database.
	• The data was also checked using various methods in ArcGIS and Micromine. Google Earth and aerial drone imagery was also used to check collar positions where historical evidence was visible in satellite imagery.
	• Values below the analytical detection limit were replaced with half the detection limit value or assigned a value of -0.005 ppm Au in the database.
	• Troy engaged Maxwell to undertake independent periodic audit of their exploration QAQC data on a monthly basis.
	• Significant intersections and stopes reported within previous drillholes were checked for potential smearing and found to be acceptable.
	Alto Metals
	All significant intersections are reviewed by alternative company personnel.
	• Field data is recorded on logging sheets and entered into excel prior to uploading to and verification in Datashed.
	Laboratory data is received electronically and uploaded to and verified in Datashed and Micromine.
	 <u>Twinned Holes</u> WMC completed several diamond twin holes adjacent to RC drillholes which had a substantial gold
	intersection. The assays for the diamond holes were of samples obtained by shaving material from the soft weathered granite and chipping bits off the harder quartz veins. The differences in assays grades is considered due to the poor sampling methodology and as such the data is not considered reliable.
	• WMC drilling was carried out at 20 m x 40 m spacing. Elmina carried out infill drilling which reduced the spacing to 14m. The WMC and Elmina drilling shows acceptable correlations.
	• The geological logging and the mineralised intervals and in particular the high-grade intersections showed an acceptable correlation.
Location of	• The grid used for the project area is GDA94, Map Grid of Australia 94, Zone 50.
data points	• WMC and Elmina drillholes were reported using an AMG grid established by contract surveyors.
	Herald reported that all previously reported drilling (WMC and Elmina) was checked on the ground.
	Troy drilling was located with DGPS.
	• Alto registered and cross-checked historical mine plans, drill location plans, satellite and aerial drone imagery to verify the location of all drill collars.
	No issues were identified.
	 Most of the drilling is vertical with no down-hole surveys carried out.
	• The average depth of the WMC inclined RC drillholes is ~70m. No down hole survey data was reported however it is considered unlikely that any actual variation from the reported dip over the short drillhole length would be materially significant.
	• Down hole survey data for WMC diamond drillhole MSGD10 was reported as -89 ^o at 126 m and 250 m depth.
	• Down hole surveys for the Troy diamond drillhole TRCD706 were carried out by a contract surveyor and are considered reliable.
	 Alto drillhole was located using a handheld GPS unit, accurate to +/-5 m (northing and easting).
	 Subsequently RM Surveys (licensed surveyor) carry out collar surveys with RTK GPS with accuracy of +/- 0.05 m to accurately record the easting, northing and RL prior to drillholes being used for resource estimation.
	All drillholes were surveyed down hole using a north seeking Gyro at 30 m intervals.
Data spacing and distribution	• Drilling by WMC and Elmina was carried out on 20 m spaced cross-sections with most holes being drilled vertically at spacings of either 20 m or 40 m. Infill drilling by Elmina reduced the spacing to 14 m. Not all Elmina drilling has been captured by Alto.
	• Maximum down hole drill depth was 299.8 m (TRCD706) with an average drill depth of 46 m.
	• The maximum drill depth below surface was WMC diamond drillhole MSGD10 (~250 m).



Criteria	Commentary
Orientation of data in relation to geological structure	 Geological structures have been interpreted from drilling and surface and 1:500 scale pit geological mapping. The Bull Oak granite is a porphyritic intrusion with a strike length of approximately 500 m and a width of up to 150 m. The intrusion has a depth of at least 250 m and has relatively steep dipping boundaries. The intrusion trends north-east cutting across mafic rocks between the BIF units. Mineralisation at the Bull Oak deposit is associated with north-west trending quartz reefs, which dip approximately 30 degrees to the north-east. The Bull Oak granite is itself cut by three main gold reefs (Bull Oak, Faugh-A-Ballagh, and Kohinoor North) with a fourth reef (Monarch) between the Faugh-A-Ballagh and Kohinoor North and two additional reefs overlying the main Bull Oak reef. Drill orientation was typically vertical or -60 degrees to the south-west. 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. For Alto drilling, RC drill samples comprised approximately 3 kg of material within a labelled and tied calico bag. Individual sample bags were placed in a larger labelled poly-weave bag then into a bulka bag that was labelled, tied and dispatched to the laboratory via freight contractors or company personnel. 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 Bull Oak 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. Troy engaged Snowden to prepare a NI43-101 Report, which included a discussion on Bull Oak in 2007. Mineral Resource Estimates have previously been carried out at Bull Oak by WMC, Elmina, Herald and Troy.

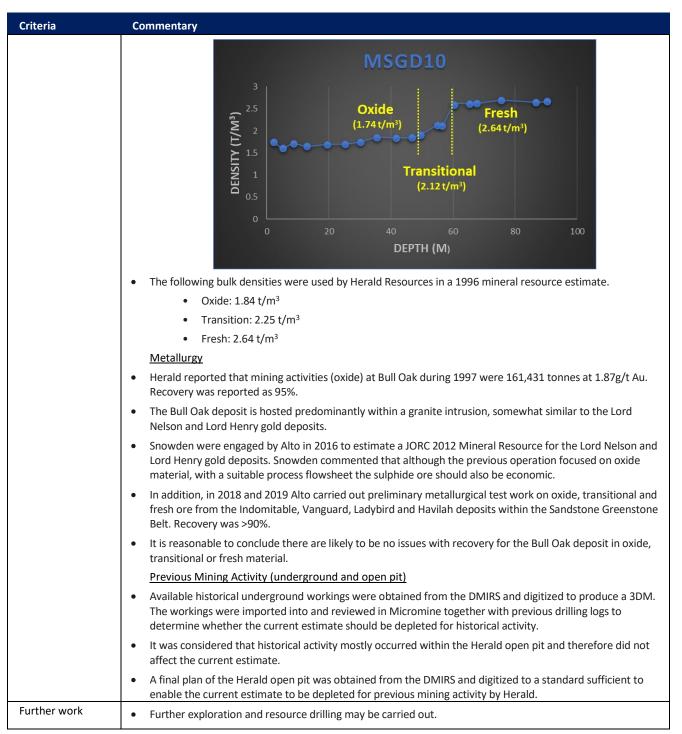
JORC (2012) Table 1 – Section 2 Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure	• Alto's Sandstone Project is located in the East Murchison region of Western Australia and overlies the Sandstone Greenstone Belt with approximately 730 km ² of granted tenements including prospecting, exploration and mining licences all 100% owned by Sandstone Exploration Pty Ltd, which is a 100% subsidiary of Alto Metals.
	• Bull Oak is located on Prospecting Licence 57/1378, granted on 11 July 2016 to Sandstone Exploration Pty Ltd, a wholly owned subsidiary of ASX listed Alto Metals Limited (AME).
	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 current known impediments to obtaining a licence to operate in the area.
	• The Bull Oak deposit has been previously mined by open pit methods in 1997.



Criteria	Commentary
Exploration done by other	• The Bull Oak deposit is located within the Hancocks Mining Centre, which produced a total of 39,936oz of gold at an average grade of 38g/t Au between 1904 and 1943.
parties	 Previously reported estimates of historical production from reefs associated with the Bull Oak granite between 1907 and 1917 are;
	 10,617oz at a grade of 27g/t Au; and
	 9,710oz at a grade of 26g/t Au.
	 Modern exploration by WMC, Elmina and Herald between 1983 and 1999 included geological mapping, deflation lag sampling, drilling, resource estimation and open pit mining.
	 Herald commenced open pit mining at Bull Oak in April 1997 and ceased mining in September 1997. Herald reportedly produced 161,431 tonnes at 1.87 g/t Au for 9,701oz of gold.
	 Troy carried out pit mapping, RAB and diamond drilling between 1999 and 2009.
Geology	• The area is generally covered by 0.5 m to 2 m of lateritic soil. The dominant lithology is metabasalt with minor metadolerite, divided by numerous sedimentary marker beds (banded iron formation or BIF). The BIF units strike east-west and have near vertical dips.
	• The Bull Oak granite is a porphyritic intrusion with a strike length of approximately 500 m and a width of up to 150 m. The intrusion has a depth of at least 250 m and has relatively steep dipping boundaries. The intrusion trends north-east cutting across mafic rocks between the BIF units. The granite does not outcrop and is intensely kaolinised to clay plus quartz to a depth of approximately 60 m below surface. The fresh granite is a medium grained, pale grey, biotite granodiorite with traces of pyrite.
	• Mineralisation at the Bull Oak deposit is associated with north-west trending quartz reefs, which dip approximately 30 degrees to the north-east.
	• The Bull Oak granite is itself cut by three main gold reefs (Bull Oak, Faugh-A-Ballagh, and Kohinoor North) with a fourth reef (Monarch) between the Faugh-A-Ballagh and Kohinoor North and two additional reefs overlying the main Bull Oak reef.
	• A geological log of WMC diamond drillhole MSGD010, which was sited on the footwall side of the Bull Oak Reef, identified the Faugh-A-Ballagh reef as 40 cm of ironstained quartz from ~48 m below surface. The Kohinoor North Reef was seen as a cluster of quartz veins at 127 m below surface. Another 40 cm vein was seen at 102 m below surface.
	• Depth of weathering is interpreted from drilling data to be approximately 60 m. The water table is reported as approximately 35 m below surface.
	• In general, the Bull Oak deposit has a northwest strike and dips to the northeast approximately 30 degrees.
Drillhole information	• Drillhole collar and relevant information is included in a table in the main report.
Data aggregation	• Reported mineralised intervals >0.2 g/t Au may contain 2 m to 4 m of internal waste (or less than 0.2 g/t Au low grade mineralisation interval).
methods	No metal equivalent values have been reported.
	The reported grades are uncut.
Relationship between	• Mineralisation at the Bull Oak deposit is associated with northwest trending quartz reefs, which dip approximately 30 degrees to the northeast.
mineralisation widths and	• Drill orientation was typically vertical or -60 degrees to the southwest.
intercept	• Downhole intercepts are not reported as true widths however are considered to be close to true widths based on the drill orientation and current understanding of the mineralisation.
lengths Diagrams	 Relevant sections and plans have been included in the main report and in previous reports which can be found on the Company website or ASX site.
Balanced reporting	 All drillhole information and significant mineralised intercepts and widths have been reported in previous reports which can be found on the Company website or ASX site.
Other	Bulk Density
substantive exploration data	 Bulk density determinations (physical measurements) were carried out by WMC on diamond core from drillhole MSGD10 at ~5 m intervals to 90 m depth below surface. The measured density values increased from 1.61 t/m³ (5.2 m depth) to 2.69 t/m³ (75.5 m depth).





Item	Comments
Database integrity	 The database used for the 2023 Bull Oak Mineral Resource is based on historic drill data drilled by WMC, Elmina, Herald and Troy Resources NL and has been compiled by Alto from publicly available data from the WA Dept Mines Open File records (WAMEX).
	• Alto carried out verification checks on the historic database including locations checks, downhole surveys and assay checks.
	• Drilling undertaken by Alto is recorded in a separate secure database. Collar and survey data is imported directly into the database with no manual transcription.
	 Snowden undertook a basic check of the data for potential errors as a preliminary step to compiling the resource estimate for Bull Oak. All RAB and AC collars had an elevation discrepancy, these were excluded. Otherwise, no significant flaws were identified.



Item	Comments
Site visits	• The Snowden CP responsible for the mineral resource estimate visited the Bull Oak Project on 7 and 8 October 2021, observing the existing open pit, local geology and general site layout.
	• Staff from Alto, who accept responsibility for the reliability of the underlying drillhole data, have been to site multiple times and have been present during the drill program.
Geological interpretation	 Alto staff were involved in all aspects of the geological interpretation used for the MRE and provided guidance to the modelling, undertaken by Snowden. Snowden believes that the local geology is reasonably well understood at Bull Oak.
	• All drillholes used in the interpretation and estimation were either RC or diamond drilled.
	 Historic drillholes prior to 2016 have been vetted by Alto to ensure they meet minimum drilling and sampling requirements for resource estimation.
	Historic drillholes with unsampled intervals have been left as null in the database.
	 The interpreted mineralisation domains are based on a nominal 0.2 g/t Au to 0.3 g/t Au cut-off which appears to be a natural break in the grade distribution. In total, 34 mineralised domains have been interpreted. The interpreted domains include:
	 Gently dipping mineralisation – northwest trending quartz reefs, dipping approximately 30 degrees to the northeast, predominantly in oxide material (Domains 120010 to 120190). The key/largest domains are 120010, 120040 and 120050.
	 Flat lying, near surface mineralisation: Five low grade flat lying, near-surface domains overlying the main mineralisation. Four of the five domains have been completely depleted, only domain 120250 has in-situ lateritic material remaining (Domains 120210 to 120250)
	 Deeper, shallow dipping mineralisation – these lodes are entirely within the fresh material, are small, defined by recent Alto drilling at depth and are supported by only two or three holes. (120310 to 120400). Further drilling is required to test and extend the mineralisation at depth.
	 Contact analysis across weathering domains was undertaken, with elevated gold grade identified in the mineralised oxide compared to the mineralised transitional/fresh material. The majority of the shallow dipping domains exist entirely within the oxide material. Three domains extend into the transitional and fresh material (120010, 120020 and 120030), for these a hard boundary between the oxide and transitional/fresh was applied utilizing the base of complete oxidation surface to separate the domain.
	 Alternative interpretations of the mineralisation are possible but unlikely to significantly change the overall volume of the mineralised envelopes in terms of the reported classified resources.
	• Snowden recommends Alto model the granodiorite intrusion to improve understanding of the extents of the mineralisation.
Dimensions	• The Bull Oak gold mineralisation covers an area of around 330 m along strike by 650 m across strike and extends to approximately 290 m below surface. The mineralisation interpretation extends around 220 m below the base of the current pit.
	• The mineralisation is open along strike and down dip and should be a target for further exploration.
Estimation and modelling techniques	 Snowden estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software. The mineralised lodes utilised a fixed search ellipse as defined by the variography. A three pass search strategy has been used.
	• The statistical analysis shows that the main mineralised domains have positively skewed gold distributions with high coefficients of variation (CVs), indicating there are outliers in the domains which have the potential to cause local over estimation. Top cut levels have been determined using a combination of histograms, log probability and mean variance plots on a domain by domain basis. Top cuts (ranging from 4 g/t Au to 18 g/t Au) depending on domain were applied prior to estimation.
	• Based on the statistical analysis, Snowden considers that ordinary kriging with a top cut is an appropriate estimation technique for these domains.
	Boundaries between the mineralised domains were treated as hard for estimation.
	 Two check estimates were undertaken using inverse distance to the power of 2 (ID2) and nearest neighbour (NN) for gold and reviewed in the validation steps.
	No assumptions have been made regarding recovery of any by-products.
	 A block model was constructed using a parent block size of 10 m(E) by 10 m(N) by 2.5 m(RL) based on the nominal drillhole spacing along with an assessment of the grade continuity using a kriging neighbourhood analysis.
	 For the shallowly dipping mineralisation, the initial search ellipse of 70 m by 45 m by10 m was defined based on the results of the variography and assessment of the data coverage. A minimum of ten and



Item	Comments
	maximum of 24 samples was used for the initial search pass. Second pass was one and a half times the initial search ellipse with a minimum of ten and maximum of 24 samples. Third pass was two and a half times the initial search with a minimum of two and maximum of 12 samples. No maximum number of samples per drillhole was applied to the shallowly dipping mineralisation domains.
	• For the near surface, flat lying mineralisation, the initial search ellipse of 95 m by 75 m by 5 m was defined based on the results of the variography. A minimum of ten and maximum of 24 samples was used for the initial search pass. Second pass was one and a half times the initial search ellipse with a minimum of ten and maximum of 24 samples. Third pass was two times the initial search with a minimum of four and maximum of 12 samples. A maximum of four samples per drillhole were applied to the flat lying, near surface mineralised domains.
	No selective mining units are assumed in this estimate.
	 Grade estimates were validated against the input drillhole composites (globally and using grade trend plots) and show a good comparison where there is plenty of data. Some of the small deep domains are supported by only two drillholes. Visual comparison between estimated blocks and composites have been undertaken.
	• Only one domain had a small number of blocks that did not estimate (due to low composite numbers), these blocks have been assigned the mean grade of the top-cut composites in that domain. These blocks are not reported in the MRE.
	No comparable Mineral resource is available for comparison purposes at Bull Oak.
Moisture	All tonnages have been estimated as dry tonnages.
Cut-off parameters	• For the reporting of the Mineral Resource Estimate, a 0.5 g/t Au cut-off grade inside an optimised pit shell has been used for potential open cut resources.
Mining factors and	It is assumed the deposit will be mined using conventional open cut mining methods.
assumptions	 The Mineral Resource has been reported within a pit shell generated by Snowden using an input gold price of A\$2,500 with all cost and recovery assumptions provided by Alto based on their bench marking against deposits of a similar scale and geological nature.
Metallurgical factors and	• The deposit has been mined historically in the early 1900s and by Herald in 1997 with the material processed at the Sandstone Mill.
assumptions	 Processing recoveries of 95% for oxide, transitional and fresh mineralisation have been applied to the optimisation. The recoveries are based recoveries reported in historical mining reports. These recoveries are supported by preliminary metallurgical test work undertaken by Alto 2020 in the Sandstone region. However, Snowden Optiro recommends further metallurgical test work be undertaken at Bull Oak.
Environmental factors and assumptions	• It is assumed that no environmental factors exist that could prohibit any potential mining development at the Bull Oak deposit. The Sandstone area has a strong history of mining and several prospecting leases are currently being worked. Anecdotal evidence suggests strong local support for mining in the area.
Bulk density	 At Bull Oak, bulk density values have been assigned based on values utilised by Herald, rounded to one significant figure and have been assigned by weathering state. Assigned bulk density values provided below.
	Bulk Density Assigned t/m3 Description
	1.8 All transported and oxide material
	2.2 Transitional
	2.6 Fresh
	 Snowden recommends undertaking bulk density measurements, however, considers the bulk densities reasonable for the style of mineralisation.
Classification	• The classification has been applied to the Mineral Resource estimate based on the drilling data spacing, grade and geological continuity and data integrity.
	 No areas of the in situ Mineral Resource satisfied the requirement to be classified as Measured or Indicated Resources.
	• The Mineral Resource has been classified as an Inferred Resource where the mineralisation is supported by drilling data. Extrapolation beyond the drilling is limited to approximately one drill section.



Item	Comments
	• Some areas have closely spaced drilling, which would ordinarily support an Indicated Resource, however, the data used to estimate the Bull Oak deposit is historic and no source data is available. Snowden is unaware of any QAQC data for this drill data. Given that mining has taken place, additional drilling with some confirming twin holes would support conversion to a higher classification.
	• The Mineral Resource classification appropriately reflects the view of the Competent Person.
Audits and reviews	 The MRE has been peer reviewed as part of Snowden's standard internal peer review process. Snowden is not aware of any external reviews of the Bull Oak MRE.
Discussion of relative accuracy/ confidence	 The relative accuracy of the Bull Oak Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. The Mineral Resource has been validated against the input composite data.
	 The statement relates to a global estimate of tonnes and grade with an open pit cut-off of 0.5 g/t Au. Historic production by Herald reports approximately 10 koz was mined in 1997, with estimates of approximately 20 koz mined in the early 1900s. However, no reconciliation records exist to allow for reconciliation of the current MRE.

INDOMITABLE AND INDOMITABLE EAST

JORC Code, 2012 Edition Table 1 – Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• Samples were collected by reverse circulation (RC) drilling by Alto Metals Ltd (Alto), Troy Resources NL (Troy) and Western Mining Corporation (WMC).
	Western Mining Corporation Limited (WMC) 1983-1993
	• Percussion Reverse Circulation (RC) drilling was used to collect samples over 1 m 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 with a lower detection limit of 0.02 ppm Au.
	WMC diamond drilling (NQ) was also used to obtain samples.
	Troy Resources NL (Troy) 1999-2009
	• RC samples 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 1 m 3 kg calico bags (which were retained for later use).
	• From the bulk samples a 5m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis.
	• Where anomalous gold zones were detected, 1 m re-split samples were collected and submitted to the laboratory.
	Alto Metals Limited (Alto) 2016-2023
	• Samples were collected by reverse circulation (RC) drilling by Alto.
	• RC samples were passed directly from the in-line cyclone through a rig mounted cone splitter or multi-tier riffle splitter. Samples were collected in 1 m intervals and 1 m calico splits.
	• The sample was placed directly onto the ground and the samples were sent directly to MinAnalytical Laboratory Services Pty Ltd ("MinAnalytical").
	• Field duplicate samples were collected using a second calico bag on the drill rig cyclone.
Drilling techniques	• Alto RC drilling program used a KWL 350 drill rig with an onboard 1100cfm/350psi compressor and a truck mounted 1000cfm auxiliary and 1000psi booster.
	• The face sampling hammer had a nominal 140 mm hole.
	• WMC RC drilling was by roller bit or hammer using a cross over sub.
	It is not known what type of RC rig was used by Troy.



Criteria	Commentary
Drill sample recovery	Alto recovery was estimated as a percentage and recorded on field sheets prior to entry into the database.
	RC samples generally had good recovery except where significant groundwater is intercepted.
	Drill rig of sufficient capacity is used to maximise recovery.
	• The cyclone and cone splitter were routinely cleaned at the end of each rod.
	There are no available records of Troy sample recovery.
	• WMC noted on the logging sheets where samples were wet. Comments on recovery were also noted on the logging sheets where relevant.
	• There does not appear to be a relationship with sample recovery and grade and there is no indication of sample
	bias.No relationship between recovery and grade has been identified.
Logging	• WMC drill logging was reported on log sheets with laboratory assay data typically for each metre. The historical graphical hardcopy logs and other geoscientific records available for the project are of high quality and contain significant detail.
	• The WMC 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 Troy, and Alto's geological logging codes.
	Detailed logging codes were used for the Troy drillholes.
	• Alto RC drill chips were sieved from each 1 m bulk sample and the geology logged using detailed logging codes.
	• Washed drill chips from each 1 m sample were stored in chip trays.
	• It is considered that drillholes were logged with a sufficient level of detail to support a mineral resource estimate.
Subsampling	Sample sizes are appropriate to give an indication of mineralisation.
techniques and	• The sampling technique is appropriate for the material and style of mineralization.
sample preparation	WMC
	• 1 m 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.
	Troy
	 SGS Australia Pty Ltd (SGS) located in Perth, Western Australia, were responsible for sample preparation and assaying for drillhole samples and associated check assays. SGS at the time, were certified to the ISO 9001 requirements for all related inspection, verification, testing and certification activities.
	 RC samples were assayed using 50 g fire assay with AAS finish, and sample sizes were noted as being 2kg.
	<u>Alto</u>
	 1m RC samples were transported to MinAnalytical, located in Perth, Western Australia, who were responsible for sample preparation and assaying for all RC drillhole samples and associated check assays.
	MinAnalytical are NATA certified for all related inspection, verification, testing and certification activities.
	• Samples submitted for analysis via Photon assay technique were dried, crushed to nominal 85% passing 2 mm, linear split and a nominal 500 g sub sample taken (method code PAP3502R)
	• The 500 g sample is assayed for gold by Photon Assay (method code PAAU2) along with quality control samples including certified reference materials, blanks and sample duplicates.
Quality of assay data and	• The Fire Assay method is considered to be a total extraction technique. There are no deleterious elements present which could affect the technique.
laboratory tests	 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 Photon Assay technique is a fast and chemical free alternative to the traditional fire assay or Aqua Regia process and utilizes high energy x-rays. The process is non-destructive on samples and utilises a significantly larger sample than the conventional 50 g fire assay (FA50AAS) or 10 g Aqua Regia (AR10MS).
	There is no information available to Alto to indicate the presence of refractory gold.
	WMC and Herald
	Repeat assays were carried out and recorded on the logging sheets.
	• There is no available documentation for the WMC procedures of QAQC protocols however it is known that the laboratory included one repeat analysis, one standard and one blank in each tray of 50 samples.
	Anomalous assays reported that could not be explained have been removed from the dataset.



Criteria	Commentary
	 Troy For Troy RC drilling, an average of 1 field duplicate, 1 blank and 1 standard were submitted for every 50 samples. Troy engaged Maxwell to undertake periodic audit of the exploration QAQC data on a monthly basis. Laboratory Repeat assays were reported for Troy drill assays.
	 <u>Alto</u> Industry purchased Blanks and Standards and are inserted at a rate of 1 per 25 samples. Field duplicates are inserted by Alto at a rate of 1 every 100 samples. Field duplicates are collected using a second calico bag on the drill rig cyclone.
	 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 Metals personnel.
Verification of sampling and assaying	 All significant intersections are reviewed by alternative company personnel. Field data is recorded on logging sheets and entered into excel prior to uploading to and verification in Micromine and Datashed. Laboratory data is received electronically and uploaded to and verified in Micromine and Datashed. Values below the analytical detection limit were replaced with half the detection limit value or assigned a value of -0.005 ppm Au in the database.
	 Drilling carried out by WMC and Troy 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 (i.e. WMC) the data was manually entered into Excel.
Location of data points	 All data is reported based on GDA 94 zone 50. <u>Alto</u> Alto used handheld Garmin GPS to locate and record drill collar positions, accurate to +/-5 m (northing and easting), which is sufficient for exploration drilling. Subsequently the collars are surveyed by Alto personnel using a Stonex S700A GNSS Receiver (DGPS) with accuracy +/-0.10 m, or by RM Surveys (licensed surveyor) with RTK GPS with accuracy of +/-0.05 m to record the easting, northing and RL prior to drillholes being used for resource estimation. Downhole surveys are undertaken by the drilling contractor at 30 m intervals using a true north seeking gyro. Alto has previously engaged an independent downhole survey company to carry out an audit of downhole surveys and the results were considered satisfactory. Troy and WMC Troy drilling was located with DGPS. WMC drillholes were reported using an AMG grid established by contract surveyors. The average depth of the WMC inclined RC drillholes is ~70 m. No down hole survey data was reported however it is considered unlikely that variation from the reported dip over the short drillhole length would be materially significant.
Data spacing and distribution	 RC drill collar spacing is sufficient to establish the degree of geological and grade continuity appropriate for a mineral resource estimate, for the Indomitable and Indomitable East deposits the drill spacing is typically 40 m by 40 m. The drilling was composited downhole for estimation using a 1 m interval.
Orientation of data in relation to geological structure	 Drill orientation at Indomitable is typically -60° to 130° which is designed to intersect mineralisation perpendicular to the interpreted mineralised zones. Drill orientation at Indomitable East is typically -60° to 180° which is designed to intersect mineralisation perpendicular to the interpreted stratigraphy. Geological and mineralised structures have been interpreted at Indomitable from drilling and at Indomitable East from drilling and surface geological mapping.
Sample security	 <u>Alto</u> 1 m 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 into a bulka bag that was tied and dispatched to the laboratory via freight contractors or company personnel. Sampling data was recorded on field sheets and entered into a database then sent to the head office.



Criteria	Commentary
	Laboratory submission sheets are also completed and sent to the laboratory prior to sample receival. Travend WMC
	 Troy and WMC No sample security details are available for WMC 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.
Audits and reviews	• Alto's Exploration Manager attended the Alto RC drilling programs and ensured that sampling and logging practices adhered to Alto's prescribed standards.
	• Alto's Exploration Manager has reviewed the significant assay results against field logging sheets and drill chip trays and confirmed the reported assays occur with logged mineralised intervals and checked that assays of standards and blanks inserted by the Company were appropriately reported.

JORC (2012) Table 1 – Section 2 Reporting of Exploration Results

ltem	Comments
Mineral tenement and land tenure	• Alto's Sandstone Project is located in the East Murchison region of Western Australia and overlies the Sandstone Greenstone Belt with approximately 730 km ² of granted tenements including prospecting, exploration and mining licences all 100% owned by Sandstone Exploration Pty Ltd, which is a 100% subsidiary of Alto Metals.
	To date there has been no issues obtaining approvals to carry out exploration.
	• Royalties include up to 2% of the Gross Revenue payable to a third party, and a 2.5% royalty payable to the State Government.
Exploration done	Historically gold was first discovered in the Sandstone area in the 1890's.
by other parties	No mining has been carried out Indomitable.
	• In the early 1900s mining was carried out at Indomitable East. Recorded production was 18.85 ounces from 98 tonnes.
	• Previous work carried out by Troy and WMC involved surface geochemistry, geophysics, geological mapping, and drilling.
Geology	• The Indomitable Camp, which includes Indomitable and Indomitable East is located within an area of alluvium covering deeply weathered, mafic and ultramafic units and banded iron formation.
	• At Indomitable East the stratigraphy is subvertical and has an east-west strike. Two main geological units are observed being a northern deeply weathered ultramafic unit and a southern unit comprising interlayered banded iron formation within deeply weathered ultramafic. Weathered banded iron formation is exposed on the surface. Elsewhere there is no outcrop.
	• At Indomitable the dominant geological unit is deeply weathered ultramafic rocks with minor banded iron formation in the northern parts of the deposit.
	At Indomitable, gold mineralisation is related to quartz veining within saprolite.
	• A flat-lying gold bearing horizon is located above the saprolite hosted deposits at a depth of 10 m below the surface, separated from the main mineralised bodies by a zone of gold depletion about 10 m thick. The mineralisation appears to be at the top of the weathered bedrock below the base of the alluvium.
	• At Indomitable East the gold mineralisation appears to be constrained to the banded iron formation/ ultramafic package.



ltem	Comments
Drillhole information	• Drillhole collar and relevant information is included in a table in the main report.
Data aggregation methods	 <u>Alto</u> Reported mineralised intervals +0.2 g/t Au may contain 2 m to 4 m of internal waste (or less than 0.2 g/t Au low grade mineralisation interval). No metal equivalent values have been reported. The reported grades are uncut. <u>Troy and WMC</u> Troy mineralised intervals are reported +0.5 g/t Au and may contain 2 m to 4 m of internal waste (or less than 0.5 g/t Au low grade mineralisation interval). WMC mineralised intervals are reported +1.0 g/t Au and may contain 2 m to 4 m of internal waste (or less than 0.5 g/t Au low grade mineralisation interval).
	 WMC mineralised intervals are reported +1.0 g/t Au and may contain 2 m to 4 m of internal waste (or less than 0.5 g/t Au low grade mineralisation interval).
Relationship between mineralisation widths and intercept lengths	 RC drillholes were angled at -60° and designed to intersect perpendicular to the host stratigraphy and interpreted strike and dip of the mineralisation. Downhole intercepts are not reported as true widths however are considered to be close to true widths based on the drill orientation and current understanding of the mineralisation.
Diagrams	• Relevant sections and plans have been included in the main report and in previous reports which can be found on the Company website or ASX site.
Balanced reporting	• All previous drillhole information and significant mineralised intercepts and widths have been reported in previous reports which can be found on the Company website or ASX site.
Other substantive exploration data	 All material information has been included in the report. Preliminary gold recovery test work has been carried out by Alto in addition to the historical mining and
	production records.There are no known deleterious elements.
Further work	Alto has planned further RC infill and extension drilling.

JORC (2012) Table 1 – Section 3 Estimation and Reporting of Mineral Resources

Item	Comments
Database integrity	Indomitable
	• The Indomitable database was provided to Snowden Optiro on 24 January 2023 and comprises 313 holes. 44 air core (AC), 5 diamond drill (DD), 264 reverse circulation (RC) holes. 67 are historic holes, (pre-Alto tenure) and the remaining 246 have been drilled by Alto.
	 Of the 313 holes, 6 MSGC/AHMRC prefix holes totalling 607 m were drilled by Western Mining Corporation Limited (WMC) between 1983 and 1993. 61 TRC/TRCD prefix holes totalling 6,792 m were drilled by Troy Resources NL (Troy) between 1999 and 2009. 246 SAC/SRC prefix holes totalling 30,097 m were drilled by Alto between 2018 and 2022.
	 Apart from the higher quality Alto drilled AC holes, all remaining rotatory air blast (RAB), AC and any RC holes that were not part of the Indomitable footprint were excluded for the purposes of the 2023 MRE update.
	Indomitable East
	 The Indomitable East database was provided to Snowden Optiro on 12 January 2023.and comprises 75 holes. 13 MSGC prefix holes totalling 588 m were drilled by Western Mining Corporation Limited between 1983 and 1993. Three TRC prefix holes totalling 325 m were drilled by Troy Resources NL between 1999 and 2009 and 62 SRC prefix holes totalling 8,404 m were drilled by Alto in 2022. All drilling used in the 2023 MRE is RC, with all historic RAB and AC holes excluded from the dataset used for the Mineral Resource estimate. Additionally, five historic RC holes that have been subsequently twinned by new Alto drilled SRC holes have been removed.
	 Both databases comprise historic and recent drill data. Alto has conducted verification checks on historic data (pre-Alto tenure) including hole location, downhole surveys, and reported assay values for a selected sub-set of holes.



Item	Comments
	• Alto's geological data capture uses paper-based logs, which are digitised to Excel, then validated and uploaded to a geological database (DataShed [™]). The geological database is controlled internally by the Alto geological team.
	• Snowden Optiro undertook a basic check of the data for potential errors as a preliminary step to compiling the resource estimate for Indomitable and Indomitable East. No significant flaws were identified in the datasets used for the MREs.
Site visits	• The Snowden Optiro CP responsible for the Mineral Resource Estimate visited the Indomitable project area, but not Indomitable East Project area. At the time of the site visit (7 and 8 October 2021), drilling at Indomitable East had not commenced.
	• Staff from Alto, who accept responsibility for the reliability of the underlying drillhole data have been to site multiple times and have been present during the drilling programmes.
Geological	Indomitable
interpretation	 At Indomitable, gold mineralisation is hosted within deeply weathered Archean ultramafic and high- magnesium and differentiated basalts. Mineralisation is purported to be related to second and third order structures mapped regionally and through interpreted aeromagnetics. Broadly, gold mineralisation occurs as stockwork veining within the saprolite striking approximately 045° and dipping between 30° to 40° to the northwest. Mineralisation is marked by secondary chalcedonic silica, fuchsite and disseminated sulphides (arsenopyrite and pyrite). It is plausible that supergene remobilisation may have laterally redistributed mineralisation in the saprolite horizon.
	• Higher-grade, sub-vertical mineralisation appears to be related to third order structures and represented by significant gramme metre intersections. They are modelled with a north-south orientation, with a sub-vertical dip to the northeast.
	• The mineralised system is capped by a well-developed gold bearing pisolitic horizon located above the saprolite which is overlain by transported cover.
	• Base of alluvial/transported cover (BOA), bottom of complete oxidation (BOCO) and top of fresh rock (TOFR) were built using lithological and weathering logging codes in Leapfrog Geo [™] .
	• A lateritic domain and the sub-vertical mineralised domain were discreetly modelling using the deposit and vein modelling tools respectively in Leapfrog Geo [™] . Flat lying stockwork mineralisation was domained using a Categorical Indicator Kriging (CIK) approach.
	 The CIK process evaluated probability thresholds within the population. The 60-percentile indicator corresponding to a 0.2 g/t Au cut-off demonstrated sufficient continuity and corresponded to an inflexion in the log-probability plot, this was determined to represent an onset of mineralisation. An indicator probability model was estimated on a binary indicator at >=0.2 g/t Au using a search ellipse of 50 m by 40 m by 5 m, the full range of the modelled indicator variograms. The search utilised a single pass requiring a minimum of eight and maximum of 16 samples, with no maximum number of samples per drillhole applied.
	• A 0.5 probability threshold was selected to domain flat lying mineralisation. A three-dimensional wireframe was constructed from the 0.5 probability model and cleaned to remove un-realistic extrapolation of the CIK process. The subsequent wireframe was used to flag composites and create an estimation domain for the flat lying mineralisation.
	• Boundary analysis of flagged intervals by weathering indicated a higher-grade population within the oxide domain, with transitional and fresh weathering domains demonstrating similar grade populations.
	 Snowden Optiro recognises that further drilling may result in the ability to discreetly model the mineralisation system. The CIK process is a method suitable for constraining an appropriate volume of mineralisation and derived from modelling grade continuity. Geological confidence has been considered in the classification process of the Indomitable deposit.
	Indomitable East
	• Limited surface mapping was undertaken by Alto geological staff, which identified outcropping BIF units with two orthogonal vein arrays, offset locally by later north-south orientated faults. One vein set appears bedding parallel with the BIF marker striking 300°, dipping 70°-80° to the north. The second, a steeper dipping (85°) vein set appears to crosscut the BIF unit, however this relationship is not fully understood at the current stage of the project and has been derived from geological observations from field mapping and RC drilling. Logging of the RC drill chips indicates an occurrence of sulphide mineralisation coincident with gold mineralisation; however, it is also observed that not all quartz veins appear mineralised in the Indomitable East system.



Item	Comments
	• Six lithological BIF wireframes were constructed by Alto and provided to Snowden Optiro for the purposes of the 2023 MRE (providing a lithological framework). The surrounding country rock is logged as an Archean ultramafic. A deep weathering profile is apparent over the deposit and the mineralisation is overlain by an area of colluvium and alluvial sediments.
	• Mineralisation domains were based on a nominal 0.2 g/t Au cut-off as determined from exploratory data analysis and continuity modelling.
	 Snowden Optiro undertook geological interpretation of the Indomitable East deposit using the available data, including the mapped surface outcrops and RC drilling. A discrete vein system was built using Leapfrog Geo™ which comprises 27 domains, and a single laterite domain. The mineralised wireframes are interpreted to be offset (<10 m throw) by north-south trending vertical structures, creating three fault blocks. Mineralisation wireframes terminate on the later cross-cutting structures. The structural relationship of these faults with the mineralisation event is not currently understood.
	• Ten domains were modelled as BIF parallel 300° striking veins. 16 domains were modelled as 270° striking, sub-vertical (85°) north dipping veins. Two laterite domains were interpretated in the east of the deposit, terminating on the base of alluvial surface.
	• Weathering surfaces for the base of complete oxidation (BOCO) and top of fresh rock (TOFR) were provided by Alto. A bottom of alluvial or transported cover (BOA) was modelled in Leapfrog Geo [™] using the available lithological logging.
	• Boundary analysis of flagged intervals by weathering indicated a higher-grade population within the oxide domain, with transitional and fresh weathering domains showing a similar grade population.
	 It is plausible that alternative interpretation of the north dipping mineralised domains is possible as their geometry and relationship with the BIF parallel vein sets is not currently understood. Further surface mapping and drilling is required to determine this association. The grade tenor of mineralisation in the north dipping domain set is elevated compared with BIF parallel veining, and at this stage is interpretated to be a function of local structural controls related to the modelled north-south cross cutting structures. Further observations in the grade distribution and regional geology present possibilities that local folding may be coincident with elevated gold distributions, not currently resolvable at the current drill spacing and in the absence of orientated diamond core. Geological confidence has been considered in the classification of the Indomitable East deposit.
	• The mineralisation models for both Indomitable and Indomitable East have been reviewed by the Alto geological team and are the accepted mineralisation models based on the current project status.
Dimensions	Indomitable
	• The Indomitable deposit covers an area of 1,200 m (strike) by 250 m (dip).
	• The laterite domain (80010) covers area approximating 1,200 m(N) by 300-350 m(E) at an average thickness ranging between 1 m and 4 m. The laterite is capped by transported sediments.
	• The sub-vertical mineralised domain (80020) is orientated north-south (500 m), dipping 85° (200 m) to the east. Average thickness ranges between 1 m and 10 m.
	• The majority of drilling is on 40 m by 40 m section lines orientated at 60° towards 130°. This is approximately perpendicular to the flat mineralisation, however sub-optimal to the sub-vertical mineralised domain. Further drill testing orthogonal to this structure is required to accurately determine true thickness.
	Indomitable East
	• The Indomitable East deposit covers an area of 850 m (strike) by 180 m (dip). Extrapolation beyond the last drillhole is based on half the distance over the average drillhole spacing (40 m by 40 m).
	• The average width of mineralisation of the BIF parallel and north dipping mineralised domains range between 0.5 m and 3 m. Locally modelled widths up to 10 m adjacent to the north-south structures are observed. The laterite domain ranges in width from 1 m to 5 m across the eastern section of the deposit (over an area of 270 m(E) by 150 m(N) and overprints both BIF parallel and north dipping mineralisation domains.
	• The majority of drilling is on 40 m by 40 m section lines orientated at 60° towards the north. This is approximately perpendicular to the broad strike of the mineralised system, however, is parallel to interpreted north-south orientated faults. Orthogonal drilling is required to concept test north dipping mineralisation and the interpreted north south structures.
Estimation and	Indomitable
modelling techniques	
L	1



 Snowden Optiro estimated gold grades using Ordinary Kriging (parent cell estimates) using Datamine Studio RM™ software.
 Statistical analysis indicated slightly positively skewed gold grades with low to moderate high coefficients of variation. The requirement for top-cuts was reviewed on a domain-by-domain basis and applied where outliers existed.
• Modelled variography and Kriging neighbourhood analysis (KNA) was conducted on three grouped orientations of mineralisation. The laterite (flat lying mineralisation), the second the sub-vertical north south orientated mineralised domain and thirdly, the flatter northeast striking, northwest dipping mineralisation.
• Mineralisation domains were split on the basis of weathering profiles, determined by a statistical review of the domain populations by weathering, indicating a higher tenor of grade in the oxide domain. The transitional and fresh domains were combined as they showed similar grade distributions. A deep weathering profile is apparent over the entire Indomitable deposit, particularly where the interplay of structures is interpreted.
• Based on the statistical analysis, Snowden Optiro considers that Ordinary Kriging with a top cut is an appropriate estimation technique for the mineralised domains.
Boundaries between the mineralised domains were treated as hard for estimation.
• A block model was constructed using a parent block size of 20 m(E) by 20 m(N) by 2.5 m(RL) based on the nominal drillhole spacing along with an assessment of the KNA metrics.
• Dynamic anisotropy was run in conjunction with an Ordinary Kriged estimate for the sub-vertical mineralisation. The remaining domains were estimated using Ordinary Kriging utilising fixed search and variogram angles.
No assumptions have been made regarding recovery of any by-products.
Laterite estimation (Domain 80010)
 The initial search ellipse of 100 m by 50 m by 5 m was defined as approximately half the maximum ranges modelled in the variography using a minimum of ten and a maximum of 20 samples for the first and second pass (two thirds of the range). The third pass (one and a half times the modelled range) reduced sample pairs to a minimum of five and ten samples. The search strategy utilised a maximum of four samples per drillhole.
Sub-vertical estimation (Domain 80020)
• The initial search ellipse of 100 m by 25 m by 10 m defined as the full range of the modelled variogram using a minimum of ten and a maximum of 20 samples for the first and second pass (one and half times the first range). The third pass (also one and half times the first range the modelled range), but with reduced sample pairs to a minimum of five and ten samples. The search strategy utilised a restriction of ten samples per drillhole. The number of samples allowed per drillhole was increased due to the sub-optimal intersection of the drilling with this domain. A check estimate was undertaken using dynamic anisotropy to allow for flexures in the domain.
• A yield restriction approach was used. This process reduced the influence of high-grade samples within sparsely/sub-optimally drilled domain.
Flat mineralisation domain estimation (Domain 80030/80040)
• Flat mineralisation was estimated using an initial search of 60 m by 40 m by 10 m defined as the full range of the modelled variogram using a minimum of ten and 20 samples for the first and second pass (one and a half times the first range). The first and second pass search strategy utilised a restriction of ten samples per drillhole. The third pass was run using the first search pass ranges, however used a minimum of 8 and maximum of 16 samples, with no maximum number of samples per drillhole. This method allowed sparse mineralisation to locally use more samples from proximal drillholes, in preference to searching over greater ranges to satisfy a restriction on the number of samples per drillhole.
• Mineralisation external to the flat lying mineralisation (e.g., outside of the indicator wireframe) used the same search methodology as domain 80030, however the third pass used a search volume of one and a half times the first pass with reduced sample pairs to a minimum of five and maximum of ten samples. The external was estimate is heavily top-cut and is not material to the Reportable Resource for Indomitable.
Indomitable East
 Snowden Optiro estimated gold grades using Ordinary Kriging (parent cell estimates) using Datamine Studio RM software.
 Statistical analysis indicated slightly positively skewed gold grades with low to moderate high coefficients of variation. The requirement for top-cuts was reviewed on a domain-by-domain basis and applied where outliers existed.



Item	Comments
	 Modelled variography and Kriging neighbourhood analysis (KNA) analysis was conducted on three grouped orientations of mineralisation. The laterite (flat lying mineralisation), the second the 300° trending BIF parallel mineralisation and the third as the 270° striking, steeper north dipping mineralisation.
	 Mineralised domains were split on the basis of weathering profiles, as indicated from a statistical review of the domain populations by weathering, indicating a higher tenor of grade in the oxide domain. To ensure adequate sample numbers the transitional and fresh domains were combined which showed similar grade distributions.
	• Based on the statistical analysis, Snowden Optiro considers that Ordinary Kriging with a top cut is an appropriate estimation technique for the mineralised domains.
	Boundaries between the mineralised domains were treated as hard for estimation.
	• A block model was constructed using a parent block size of 20 m(E) by 2.5 m(N) by 20 m(RL) based on the nominal drillhole spacing along with an assessment of the KNA metrics. Drilling is orientated north-south on 40 m by 40 m section lines, approximately perpendicular to the trend of mineralisation.
	• An inverse distance squared check estimation was undertaken to validate the Ordinary Kriged estimate.
	No assumptions have been made regarding recovery of any by-products.
	Laterite estimation (Domain 100000)
	 The initial search ellipse of 185 m by 90 m by 5 m was defined as the full range of the modelled variogram using a minimum of four and a maximum of 12 samples for the first and second pass (one and half times the first range). The third pass (three times the modelled range) reduced sample pairs to a minimum of two and maximum of six samples. The search strategy utilised a restriction of four samples per drillhole. BIF parallel mineralisation (Domains 100010-10040, 100140, 100150, 10180, 10200, 100210 and 10220)
	 BIF parallel mineralisation in Fault Block three showed a slight rotation of strike. For this the search ellipse was locally rotated to account for this geometry change but utilised the same modelled variography as the grouped BIF parallel mineralisation. The Kriging neighbourhood used an initial search ellipse of 140 m by 85 m by 20 m defined as the full range of the modelled variogram using a minimum of eight and a maximum of 16 samples for the first and second pass (one and half times the first range). The third pass (three times the modelled range) reduced sample pairs to a minimum of four and maximum of eight samples. The search strategy utilised a restriction of four samples per drillhole.
	North dipping mineralisation (Domains 100050-10130, 10160, 10170, 10190 and 100230-100260)
	 North dipping mineralisation utilised an initial search ellipse of 65 m by 55 m by 20 m defined as the full range of the modelled variogram using a minimum of eight and a maximum of 16 samples for the first and second pass (one and half times the first range). The third pass (three times the modelled range) reduced sample pairs to a minimum of four and eight samples. The search strategy utilised a restriction of four samples per drillhole.
	• Five north dipping higher-grade domains required the use of the grade limiting function in Datamine's Studio RM [™] . This method, in conjunction with top-cutting allows grade to be preserved locally whilst not unduly influencing total metal in the estimation.
	 Domains supported by a single drillhole, that did not estimate were assigned a mean grade of the top-cut for that domain. The following estimation domains did not estimate and were assigned grade; 100084, 100262, 100102, 100144 and 100192. Domains 100084/100262 do not optimise, with the remaining three domains contributing <2% reportable ounces.
	• An external waste (country rock) domain was not estimated and hard coded at 0.005 g/t Au.
	• A previously stated MRE for Indomitable was undertaken in September 2018 (Carras Mining Pty Ltd). The 2023 MRE assumes new data and improved understanding of the deposit and is not directly comparable.
	• The is no previously stated MRE for the Indomitable East deposit. Locally minor historic underground workings are present that are not material to the stated MRE.
Moisture	All tonnages have been estimated as dry tonnages.
Cut-off parameters	• For the reporting of the Mineral Resource Estimate, a 0.5 g/t Au cut-off grade inside an optimised pit shell has been used for Reportable Resource.
Mining factors and	 It is assumed the deposit will be mined using conventional open cut mining methods.
assumptions	 The Mineral Resource has been reported within a pit shell generated by Snowden Optiro using an input gold price of A\$2500 with all cost and recovery assumptions provided by Alto based on their bench marking against deposits of a similar scale and geological nature.



Item	Comments
Metallurgical factors and	 Metallurgical factors and processing assumptions are derived from Alto Metals Limited guidance and standardised across the Sandstone tenure.
assumptions	 Processing recoveries of 94% for oxide, transitional and fresh mineralisation have been applied to the optimisation. The fresh recoveries are based on preliminary metallurgical test work undertaken by Alto 2020 These results are preliminary, and Snowden Optiro recommends further metallurgical test work be undertaken as projects advance.
Environmental factors and assumptions	 It is assumed that no environmental factors exist that could prohibit any potential mining development at the Indomitable East deposit. The Sandstone area has a strong history of mining, and several prospecting leases are currently being worked. Anecdotal evidence suggests strong local support for mining in the area.
Bulk density	 Indomitable and Indomitable East bulk density values have been assigned based on a review undertaken by Snowden Optiro on 283 bulk density values determined by the water immersion method on diamond core from Indomitable. For the transported and lateritic weathering domains, there were insufficient samples to draw meaningful analysis and will assume regional bulk density values. For the oxide, transitional and fresh weathering domains, bulk density values were in line with previously assigned values. Oxide bulk density has increased to 2.0 t/m³ from 1.8 t/m³, transitional bulk density remains at 2.2 t/m³ and the fresh bulk density has increased to 2.8 t/m³ from 2.6 t/m³.
	 Snowden Optiro recommends that additional bulk density data should be collected as part of routine drilling and will be required to advance the project beyond an Inferred Mineral Resource.
	• Density has been assigned based on weathering state. The assigned values are tabulated below and assigned to the model based on weathering domain, irrespective of lithology:
	Bulk density assigned t/m3 Description
	1.8 Overburden/transported and or lateritic horizons
	2.0 Oxide
	2.2 Transitional
	2.8 Fresh, ultramafic
Classification	 Classification has been applied to the Mineral Resource estimates on the basis of drill data spacing, grade and geological continuity. It has also considered the quality of the informing data, and current QA/QC measures. The Mineral Resources of Indomitable and Indomitable East appropriately reflect the view of the Competent Person.
	Indomitable
	 No areas of the in situ Mineral Resource satisfied the requirement to be classified as Measured Resources.
	The Mineral Resource at Indomitable comprises Indicated and Inferred Resources.
	 An Indicated Resource is only stated for a portion of the lateritic domain, where drill spacing is close below 40 m by 40 m spacing, mineralisation shows geological and grade continuity, and the estimation is of sufficient confidence through interpolation.
	• The remaining Resource at Indomitable is classified as an Inferred Resource on the basis of confidence of both geological and grade continuity demonstrated at a 40 m by 40 m drill spacing.
	Indomitable East
	 No areas of the in situ Mineral Resource satisfied the requirement to be classified as Measured or Indicated Resources.
	• The Mineral Resource at Indomitable East has been classified as an Inferred Resource where the mineralisation is supported by drilling data typically on 40 m by 40 m grid spacing.
Audits and reviews	• The MRE has been peer reviewed as part of Snowden Optiro's standard internal peer review process.
	Snowden Optiro is not aware of any external reviews of the Indomitable or Indomitable East MRE.
Discussion of relative accuracy/ confidence	• The relative accuracy of the Indomitable and Indomitable East Mineral Resource Estimates is reflected in the reporting of the Mineral Resources as per the guidelines of the 2012 JORC Code.
	The Mineral Resources have been validated against the input composite data.
	 The statement relates to a global estimate of tonnes and grade with an optimised pit shell reported at 0.5 g/t Au cut-off.
	 Minor historic workings of the Indomitable East deposit are unquantifiable and non-material to the stated MRE.



MUSKETEER DEPOSIT

JORC Code, 2012 Edition Table 1 – Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	 Samples were collected by reverse circulation (RC) drilling by Alto Metals Ltd (Alto) and Troy Resources NL (Troy). <u>Troy Resources NL (Troy)</u> RC samples 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).
	• From the bulk samples a 5 m composite sample was collected using a split PVC scoop and then submitted to the laboratory for analysis.
	• Where anomalous gold zones were detected, 1m re-split samples were collected and submitted to the laboratory.
	Alto Metals Limited (Alto)
	• RC samples were passed directly from the in-line cyclone through a rig mounted cone splitter or multi-tier riffle splitter. Samples were collected in 1m intervals and 1m calico splits.
	• The bulk sample was placed directly onto the ground and the samples were sent directly to MinAnalytical Laboratory Services Pty Ltd ("MinAnalytical").
	Field duplicate samples were collected using a second calico bag on the drill rig cyclone.
Drilling techniques	• Alto RC drilling program used a KWL 350 drill rig with an onboard 1100cfm/350psi compressor and a truck mounted 1000cfm auxiliary and 1000psi booster.
	The face sampling hammer had a nominal 140 mm hole.
	• It is not known what type of RC rig was used by Troy however it is most likely to have been a face sampling hammer.
Drill sample	• Alto sample recovery was estimated as a percentage and recorded on field sheets prior to entry into the database.
recovery	Drill rig of sufficient capacity was used to maximise recovery.
	• RC samples generally had good recovery except where significant groundwater is intercepted, which was noted on the drilling logs and sampling sheets.
	The cyclone and cone splitter were routinely cleaned at the end of each rod.
	There are no available records of Troy sample recovery.
	• There does not appear to be a relationship with sample recovery and grade and there is no indication of sample bias.
Logging	• Alto and Troy RC drill chips were sieved from each 1m bulk sample and the geology logged using detailed logging codes.
	Washed drill chips from each 1m sample were stored in chip trays.
	Geological logging of drillhole intervals was carried out with sufficient detail to meet the requirements of resource estimation.
Subsampling	Alto
techniques and sample preparation	• 1m RC samples were transported to MinAnalytical, located in Perth, Western Australia, who were responsible for sample preparation and assaying for all RC drill hole samples and associated check assays.
preparation	MinAnalytical are NATA certified for all related inspection, verification, testing and certification activities.
	• Samples submitted for analysis via Photon assay technique were dried, crushed to nominal 85% passing 2mm, linear split and a nominal 500g sub sample taken (method code PAP3502R)
	• The 500g sample is assayed for gold by Photon Assay (method code PAAU2) along with quality control samples including certified reference materials, blanks and sample duplicates.
	Sample sizes are appropriate to give an indication of mineralisation.
	The technique is appropriate for the material and style of mineralization. <u>Troy</u>
	 SGS Australia Pty Ltd (SGS) located in Perth, Western Australia, were responsible for sample preparation and assaying for drill hole samples and associated check assays. SGS at the time, were certified to the ISO 9001 requirements for all related inspection, verification, testing and certification activities.
	• RC samples were assayed using 50 g fire assay with AAS finish, and sample sizes were noted as being 2kg.
Quality of assay	• The Fire Assay method is considered to be a total extraction technique. There are no deleterious elements present



Criteria	Commentary
data and	which could affect the technique.
laboratory tests	• 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 Photon Assay technique is a fast and chemical free alternative to the traditional fire assay or Aqua Regia process and utilizes high energy x-rays. The process is non-destructive on samples and utilises a significantly larger sample than the conventional 50 g fire assay (FA50AAS) or 10 g Aqua Regia (AR10MS).
	There is no information available to Alto to indicate the presence of refractory gold. Alto
	 Industry purchased Blanks and Standards and are inserted at a rate of 1 per 25 samples.
	 Field duplicates are inserted by Alto at a rate of 1 every 100 samples. Field duplicates are collected using a second calico bag on the drill rig cyclone.
	• 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 Metals personnel.
	Troy
	• For Troy RC drilling, an average of 1 field duplicate, 1 blank and 1 standard was submitted for every 50 samples.
	Troy engaged Maxwell to undertake periodic audit of the exploration QAQC data on a monthly basis.
	Laboratory Repeat assays were reported for Troy drill assays.
Verification of	All significant intersections are reviewed by alternative company personnel.
sampling and assaying	• The drilling program included extension and infill drill holes therefore twinned holes were not applicable.
	• Field data is recorded on logging sheets and entered into excel prior to uploading to and verification in Micromine and Datashed.
	Laboratory data is received electronically and uploaded to and verified in Micromine and Datashed.
	• Values below the analytical detection limit were replaced with half the detection limit value or assigned a value of -0.005 ppm Au in the database.
	 Drilling carried out by Troy 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.
Location of data points	All data is reported based on GDA 94 zone 50.
	 <u>Alto</u> Alto used handheld Garmin GPS to locate and record drill collar positions, accurate to +/-5 metres (northing and easting), which is sufficient for exploration drilling.
	 Subsequently the collars are surveyed by Alto personnel using a Stonex S700A GNSS Receiver (DGPS) with accuracy +/-0.10m, or by RM Surveys (licensed surveyor) with RTK GPS with accuracy of +/-0.05m to record the easting, northing and RL prior to drill holes being used for resource estimation.
	• Downhole surveys are undertaken by the drilling contractor at 30 m intervals using a true north seeking gyro.
	• Alto has previously engaged an independent downhole survey company to carry out an audit of downhole surveys and the results were considered satisfactory.
	Troy
	Troy drilling was located with DGPS.
	No down hole survey data was reported however it is considered unlikely that variation from the reported dip over the short drill hole length would be materially significant.
Data spacing	RC drill collar spacing is typically at 40 m spacing along 40 m spaced lines.
and distribution	• The drilling was composited downhole for estimation using a 1 m interval.
Orientation of data in	 Drill orientation at Indomitable is typically -60° to 090° or 130° which is designed to intersect mineralisation perpendicular to the interpreted stratigraphy.
relation to geological structure	 Geological and mineralised structures have been interpreted at Musketeer from drilling.
Sample security	 <u>Alto</u> 1m RC drill samples comprised approximately 3 kg of material within a labelled and tied calico bag.



Criteria	Commentary
	• Individual sample bags were placed in a larger plastic poly-weave bag then into a bulka bag that was tied and dispatched to the laboratory via freight contractors or company personnel.
	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.
	 Troy 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.
Audits and reviews	 Alto's Exploration Manager attended the Alto RC drilling program and ensured that sampling and logging practices adhered to Alto's prescribed standards.
	 Alto's Exploration Manager has reviewed the significant assay results against field logging sheets and drill chip trays and confirmed the reported assays occur with logged mineralised intervals and checked that assays of standards and blanks inserted by the Company were appropriately reported.

JORC (2012) Table 1 – Section 2 Reporting of Exploration Results

Item	Comments
Mineral tenement and land tenure	• Alto's Sandstone Project is located in the East Murchison region of Western Australia and overlies the Sandstone Greenstone Belt with approximately 730 km ² of granted tenements including prospecting, exploration and mining licences all 100% owned by Sandstone Exploration Pty Ltd, which is a 100% subsidiary of Alto Metals.
	To date there have been no issues obtaining approvals to carry out exploration.
	• Royalties include up to 2% of the Gross Revenue payable to a third party, and a 2.5% royalty payable to the State Government.
Exploration done	Gold was first discovered in the Sandstone area in the 1890's.
by other parties	There has been no previous mining at Musketeer.
	• Previous work carried out by Troy at Musketeer involved aircore (AC) and reverse circulation (RC) drilling.
Geology	• The Musketeer prospect is located within the Indomitable Camp, which is located within an area of alluvium covering deeply weathered, mafic and ultramafic units and banded iron formation. There is no outcrop at Musketeer.
	• Gold mineralisation appears to be associated with a southwest-northeast striking banded-iron-formation within a mafic-ultramafic package and northwest-southeast cross-cutting structures.
	Depth to fresh rock is up to approximately 100m.
Drill hole	• Drill hole collar and relevant information for all RC drill holes are included in a table in the main report.
information	• Drill hole collar locations with a maximum gold value are shown in figures within the main report.
Data aggregation methods	• Alto compiled the drilling assay data and have reported mineralised intervals <0.2 g/t Au, which may contain 2 m to 4 m of internal waste (or less than 0.2 g/t Au low grade mineralisation interval).
	No metal equivalent values have been reported. The reported grades are uncut.
Relationship	• RC drill holes were angled at -60° and designed to intersect perpendicular to the host stratigraphy.
between mineralisation widths and intercept lengths	• Downhole intercepts are not reported as true widths however are considered to be close to true widths based on the drill orientation and current understanding of the mineralisation.
Diagrams	Relevant sections and plans have been included in the main report.
Balanced reporting	• All RC drill hole information and significant mineralised intercepts and widths for Musketeer have been reported in a table in the main report.
Other substantive exploration data	All material information has been included in the report.
	There are no known deleterious elements.
Further work	• Alto has planned further RC infill and extension drilling and mineral resource estimation for Musketeer.



JORC (2012) Table 1 – Section 3 Estimation and Reporting of Mineral Resources

Item	Comments
Database integrity	• Sample data used for the MRE was obtained from various drilling programs carried out by Troy between 2003 and 2009.
	Alto have undertaken a drill campaign at Musketeer in 2022.
	• Alto carried out verification checks on the historic database including locations checks, downhole surveys and assay checks. Alto have utilised the lithological coding system for logging.
	Drilling undertaken by Alto is recorded in a separate secure Datashed database.
	• Historic collars have been pressed to the topographic surface. All Alto collars have been picked up. Validation checks showed all surveyed collars were within 2 m of the topographic surface.
	• Snowden Optiro undertook a basic check of the data for potential errors as a preliminary step to compiling the resource estimate. No significant flaws were identified.
Site visits	• The Snowden Optiro CP responsible for the mineral resource estimate has not visited the Musketeer Project area. At the time of the site visit undertaken (7 and 8 October 2021), drilling at Musketeer had not commenced.
	• Staff from Alto, who accept responsibility for the reliability of the underlying drillhole data, have been to site multiple times and have been present during the drilling programs. They have observed the local geology and general site layout.
Geological interpretation	• Alto staff were involved in all aspects of the geological interpretation used for the MRE and provided guidance to the modelling, undertaken by Snowden Optiro. Alto modelled BIF units from drill logging which appear to be associated with the mineralisation, however, Snowden Optiro believes further work is required to understand the local geology and mineralisation controls.
	• All available drillholes (AC, RC, RAB and DD) were used in the interpretation. For the estimation, all AC and RAB holes were excluded, only RC and Diamond drilled holes were used.
	• Historic drillholes prior to 2016 have been vetted by Alto to ensure they meet minimum drilling and sampling requirements for resource estimation.
	Historic drillholes with unsampled intervals have been left as null in the database.
	• Musketeer is split into two areas; north and south, separated by a road running through the property. In both the north and south, the interpreted mineralisation domains have been modelled using a nominal 0.2 g/t Au to 0.3 g/t Au cut-off which appears to be a natural break in the grade distribution.
	North Musketeer
	• The main control appears to be the north-northeast to south-southwest striking BIF unit, with the main domain mineralisation associated with but not constrained to the BIF. In total, 12 mineralised domains have been interpreted in the north. The interpreted domains include:
	 Domain 110010 - main mineralised domain, a continuous horizon of mineralisation running parallel to the BIF unit, dipping to the northwest. The mineralisation runs the entire length of the deposit.
	 Domains 110020, 110030 and 110050 are splays coming off the main mineralised domain and are continuous horizons of mineralisation.
	 Domains 110040 and 110060 to 110090 are smaller footwall lodes parallel to the BIF.
	 Domains 110100, 110110 and 110120 are three small mineralised domains in the hangingwall of the main domain, close to the surface.
	South Musketeer
	• The main gold mineralisation domain is associated with a northeast-southwest trending BIF unit, dipping to the northwest, domain 110200. Domain 110210 is associated with another BIF unit, offset to the south of domain 110200. Domains 110220, 110230 are small, discontinuous lodes in the footwall of the main domain. Domains 110240 and 110250 comprise flat lying near surface mineralisation.



Item	Comments
	• Alternative interpretations of the mineralisation are possible, with faulting likely to be present in the area. However, Snowden Optiro considers a change in interpretation is unlikely to significantly change the overall volume of the mineralised envelopes in terms of the reported classified resources.
Dimensions	North Musketeer
	• The north musketeer gold mineralisation covers an area of around 650 m along strike by 200 m across strike and extends to approximately 150 m below surface.
	The mineralisation is open along strike and down dip.
	South Musketeer
	• The south musketeer gold mineralisation covers an area of around 350 m along strike by 150 m across strike and extends to approximately 100 m below surface.
	The mineralisation is open along strike to the northeast and down dip.
Estimation and modelling techniques	 Snowden Optiro estimated gold grades using ordinary block kriging (parent cell estimates) using Datamine Studio RM software. Due to the variable dip of the mineralisation at both North and South Musketeer, dynamic anisotropy was used to locally adjust the orientation of the search ellipse and variogram models. A three pass search strategy has been used.
	• The statistical analysis shows that the main mineralised domains have positively skewed gold distributions with high coefficients of variation (CVs), indicating there are outliers in the domains which have the potential to cause local over estimation. Top cut levels have been determined using a combination of histograms, log probability and mean variance plots on a domain by domain basis. Top cuts (ranging from 3.5 g/t Au to 20 g/t Au depending on domain) were applied prior to estimation.
	• Based on the statistical analysis, Snowden Optiro considers that ordinary kriging with a top cut is an appropriate estimation technique for these domains.
	Boundaries between the mineralised domains were treated as hard for estimation.
	• Two check estimates were undertaken using inverse distance to the power of 2 (ID2) and nearest neighbour (NN) for gold and reviewed in the validation steps.
	No assumptions have been made regarding recovery of any by-products.
	 A block model was constructed using a parent block size of 10 m(E) by 10 m(N) by 2 m(RL) based on the nominal drillhole spacing along with an assessment of the grade continuity using a kriging neighbourhood analysis.
	• For North Musketeer , the initial search ellipse for the main horizons of 45 m by 40 m by 4 m was defined based on the results of the variography and assessment of the data coverage. A minimum of ten and maximum of 22 samples was used for the initial search pass for all domains. Second pass was two times the initial search ellipse with a minimum of ten and maximum of 22 samples. Third pass was three times the initial search with a minimum of five and maximum of 15 samples. No maximum number of samples per drillhole was applied.
	• For South Musketeer , the initial search ellipse of 60 m by 40 m by 8 m was defined based on the results of the variography and assessment of the data coverage. A minimum of ten and maximum of 22 samples was used for the initial search pass for all domains. Second pass was two times the initial search ellipse with a minimum of ten and maximum of 22 samples. Third pass was three times the initial search with a minimum of four and maximum of 15 samples. All passes had a maximum of five samples per drillhole applied.
	No selective mining units are assumed in this estimate.
	• Grade estimates were validated against the input drillhole composites (globally and using grade trend plots) and show a good comparison. Visual comparison between estimated blocks and composites on sections through the deposit have been undertaken.
	 Blocks that did not estimate on the third pass in the main domain 110010 have been assigned a grade of 0.1 g/t and are unclassified. Domain 110120, has a single drillhole through it and did not estimate, this has been assigned the mean grade of the top-cut composites (0.8 g/t Au).
	• This is a maiden Mineral Resource. No mining has occurred in the area that has a material effect on the mineral resource.
Moisture	All tonnages have been estimated as dry tonnages.
Cut-off parameters	• For the reporting of the Mineral Resource Estimate, a 0.5 g/t Au cut-off grade inside an optimised pit shell has been used for potential open cut resources.



Item	Comments
Mining factors and assumptions	• It is assumed the deposit will be mined using conventional open cut mining methods.
	• The Mineral Resource has been reported within a pit shell generated by Snowden Optiro using an input gold price of A\$2500 with all cost and recovery assumptions provided by Alto based on their bench marking against deposits of a similar scale and geological nature.
Metallurgical factors and assumptions	• Processing recoveries of 92% for oxide, transitional and fresh mineralisation have been applied to the optimisation. The recoveries are based on preliminary metallurgical test work undertaken by Alto in 2020 in the Sandstone region. These results are preliminary and Snowden Optiro recommends metallurgical test work be undertaken at Musketeer.
Environmental factors and assumptions	• It is assumed that no environmental factors exist that could prohibit any potential mining development at the Musketeer deposit. The Sandstone area has a strong history of mining and several prospecting leases are currently being worked. Anecdotal evidence suggests strong local support for mining in the area.
Bulk density	• At Musketeer, bulk density values have been assigned based on regional values and analysis undertaken by Snowden Optiro by logged weathering state at Indomitable. These assigned bulk density values are based on analysis of 284 density measurements taken by Alto in the 2020 drill campaign in the Indomitable area. Assigned bulk density values provided below.
	Bulk Density Assigned t/m3 Description
	1.8 All transported and oxide material
	2.2 Transitional (all rock types)
	2.8 Fresh (all rock types)
	• Snowden Optiro recommends taking bulk density measurements at Musketeer however, considers the bulk densities reasonable for the style of mineralisation.
Classification	• The classification has been applied to the Mineral Resource estimate based on the drilling data spacing, grade and geological continuity and data integrity.
	• No areas of the in situ Mineral Resource satisfied the requirement to be classified as Measured or Indicated Resources.
	• The Mineral Resource has been classified as an Inferred Resource where the mineralisation is supported by 40 m by 40 m spaced drill data. Extrapolation beyond the drilling is limited to approximately one drill section.
	• The Mineral Resource classification appropriately reflects the view of the Competent Person.
Audits and reviews	 The MRE has been peer reviewed as part of Snowden Optiro's standard internal peer review process. Snowden Optiro is not aware of any external reviews of the Musketeer MRE.
Discussion of relative accuracy/ confidence	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code.
	The Mineral Resource has been validated against the input composite data.
	• The statement relates to a global estimate of tonnes and grade with an open pit cut-off of 0.5 g/t Au.