

Stavely Makes Significant Exploration Breakthrough with Intercept of ‘Bendigo-like’ Source Rocks at Toora West

Drilling unexpectedly hits thick package of sedimentary rocks similar to those believed to be the source of the 25Moz Bendigo Goldfield, opening an exciting new exploration opportunity alongside the accelerating porphyry campaign at Thursday’s Gossan

Highlights

- Recently completed diamond drill hole STWD003 at the Toora West prospect has intersected a thick package of thin-bedded turbidite sedimentary rocks with abundant pyrrhotite sulphides to 10% in the shale tops to the beds.
- The hole was targeting a large and intense IP chargeability anomaly, but has unexpectedly intersected a rock package never before seen in the Stavely Belt.
- These units are under 80-100m of younger transported cover, are not exposed at surface, and are in a portion of the belt that is vastly under-explored with only three diamond drill holes ever drilled – all by Stavely Minerals.
- These sedimentary units are considered very similar to those thought as the source rocks for the gold mineralisation in the world-class Bendigo goldfield (25Moz produced) and possibly other giant sedimentary-hosted gold deposits including Sukhoi Log in Siberia (estimated ~65Moz) and Muruntau in Uzbekistan (estimated ~170Moz).
- The discovery of these units could potentially open up an entirely new frontier for exploration for giant sedimentary-hosted gold deposits in the Stavely Belt.
- Next steps are to confirm if the original sulphides in the sedimentary sequence did host gold and that this gold was available to be remobilised into mineralised structures and ladder-veins further up sequence during regional metamorphism. If the original endowment is confirmed, then the hunt is on for the up-sequence gold mineralisation.
- *“While the outcome of STWD003 was not expected, and we still believe the target porphyry is in the area, the abundant pyrrhotite sulphides in the sedimentary sequence does explain the large and very strong IP chargeability anomaly. We still have some technical work to do to confirm the gold endowment of this system. If confirmed, this is a very exciting development given it potentially creates an entirely new exploration opportunity for a world-class gold target in an area that Stavely Minerals holds a dominant tenure position. Sometimes you have to create your own luck and the very active drill-focussed style of exploration we favour has really identified something potentially very exciting in this instance. This provides us with a discovery opportunity in addition to our on-going copper-gold porphyry search.” – Stavely Minerals’ Managing Director Chris Cairns.*

Stavely Minerals Limited (ASX Code: **SVY** – “Stavely Minerals”) is pleased to provide an update from the diamond drilling programme at its 100%-owned **Yarram Park Project** in western Victoria (Figures 1 & 2), where drilling at the Toora West prospect has intercepted a wide interval (~310m to end of hole) of thinly-bedded turbidite

sedimentary units with abundant pyrrhotite and lesser pyrite. Occasional andesite dykes intrude the sedimentary sequence and biotite alteration is pervasive throughout both the sedimentary sequence and the andesite intrusives (Figure 3).

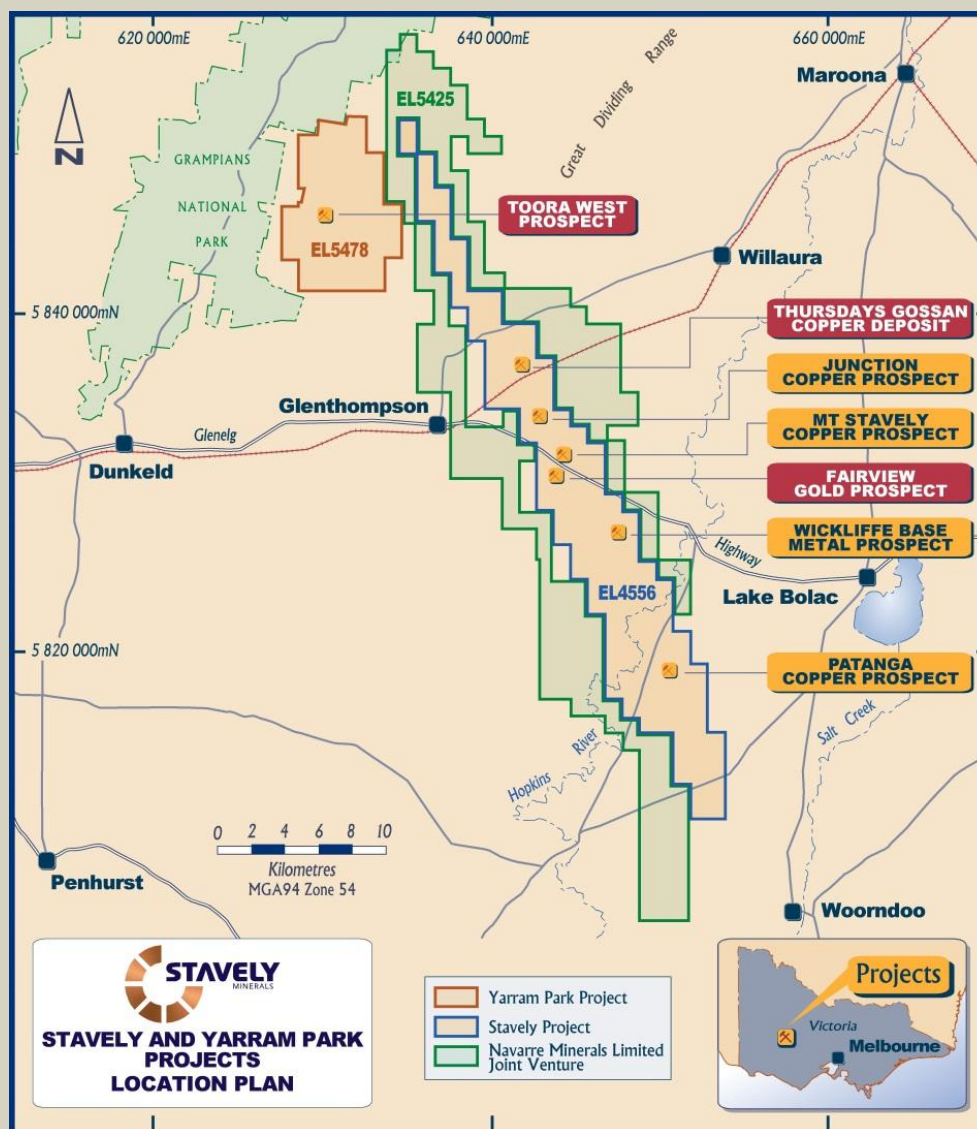


Figure 1. Project location map.

The significance of this intercept is that the biotite alteration and abundant disseminated pyrrhotite sulphide are very similar to the units directly below the Bendigo saddle-reef and laminated quartz (LQ) vein hosted gold mineralisation.

Bendigo Gold Mineralisation Model

Stavely Minerals is using the Bendigo gold mineralisation model as described by Thomas et al (2011)¹ (Figure 4). In summary, when the thinly-bedded turbidite sequences were laid down, the fine-grained shale tops to these beds contained diagenetic / syngenetic pyrite formed in an anoxic environment at the time the sediments were deposited. These original pyrites were enriched in a number of elements including gold and arsenic.

¹ Thomas et al, 2011, Pyrite and Pyrrhotite Textures and Composition in Sediments, Laminated Quartz Veins, and Reefs at Bendigo Gold Mine, Australia: Insights for Ore Genesis, Economic Geology, Vol. 106, No. 1 pp1-31.

During regional metamorphism with increased pressure and temperature, iron-rich minerals were converted through chlorite to biotite thereby releasing significant hydrous fluids while the original gold-enriched pyrites were altered to pyrrhotite liberating gold, arsenic and sulphur into the metamorphic fluids. Gold was transported as a bi-sulphide complex in the fluid and these fluids migrated along laminated quartz (LQ) veins to the saddle reefs at the apex of anticlinal folds. Through-going fault array links provide access to late deep basin gold and arsenic-rich fluids.

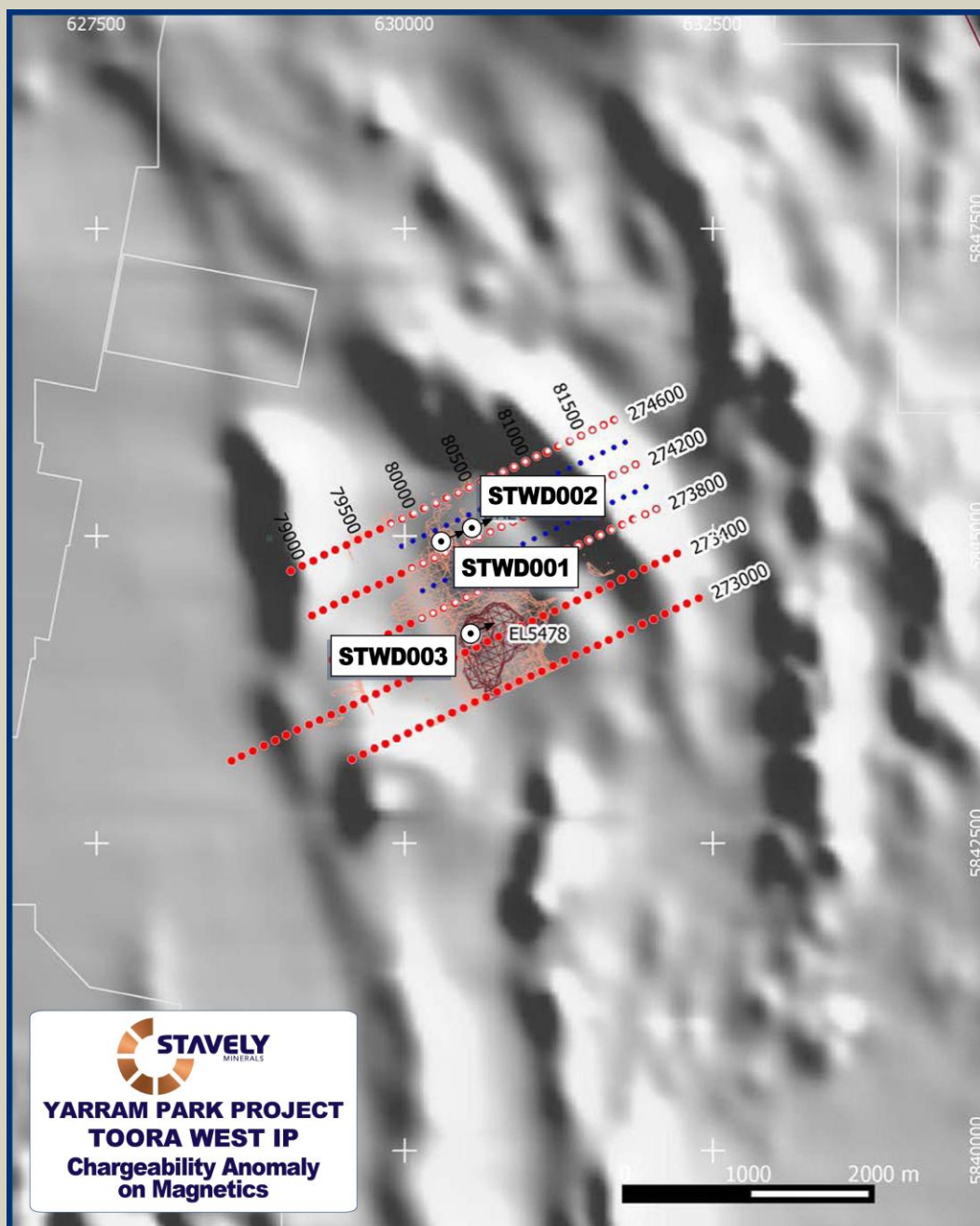


Figure 2. Drill hole location map overlaid on grey-scale magnetics with IP chargeability wireframe.

The overall architecture of this model is one of gold-arsenic depleted and pyrrhotite sulphide dominant thinly-bedded turbidite units (Photo 1) below the mineralised horizon (Figure 5). It is this source region that has been intercepted in diamond drill hole

STWD003 (Photo 2). Stratigraphically above this zone should be the structurally controlled gold and arsenic deposition zone within LQ veins, saddle reefs and a lower-grade halo in the surrounding sediments. While in the saddle reefs and the laminated quartz veins host appreciable quantities of fine to coarse gold, a meaningful proportion of gold is hosted in enriched rims to pyrites in the sediments proximal to the quartz veins.

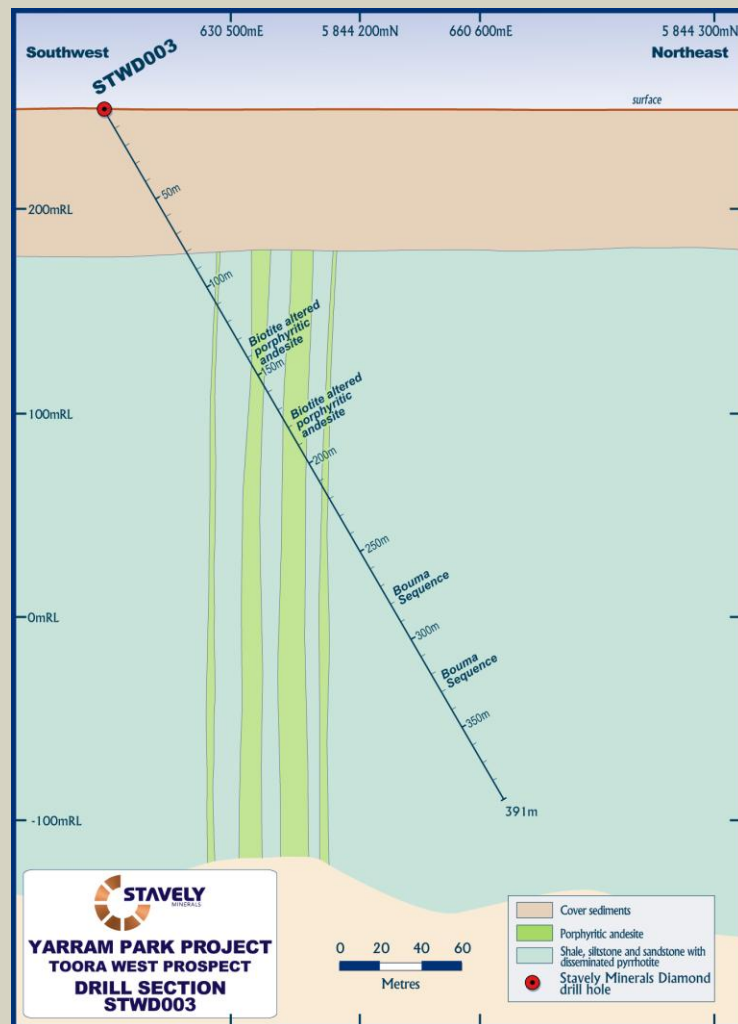


Figure 3. STWD003 drill section.



Photo 1. Thinly-bedded turbidite sedimentary sequence with fine sandy bases (light colour) grading to fine-grained shale tops (dark colour). STWD003 at 325m depth.



Photo 2. Fine-grained disseminated pyrrhotite in a shale top.

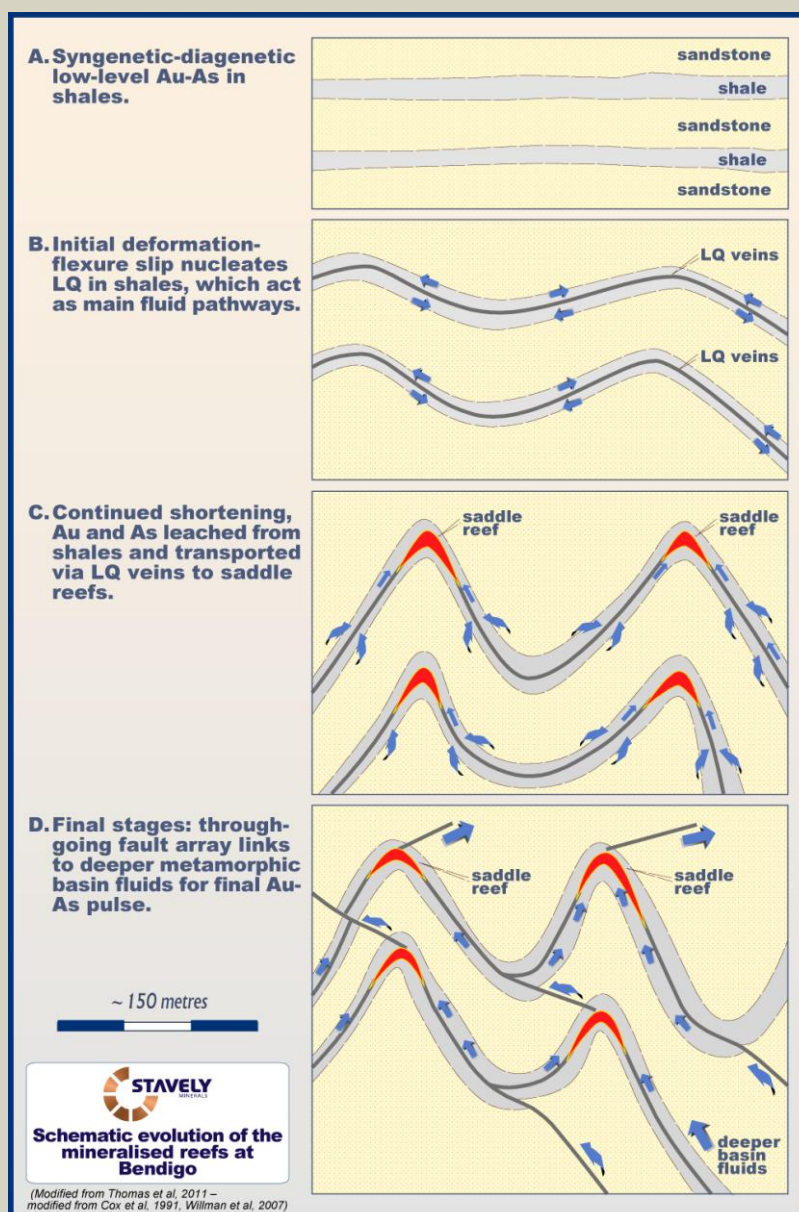


Figure 4. Schematic evolution of the gold mineralised reefs at Bendigo.

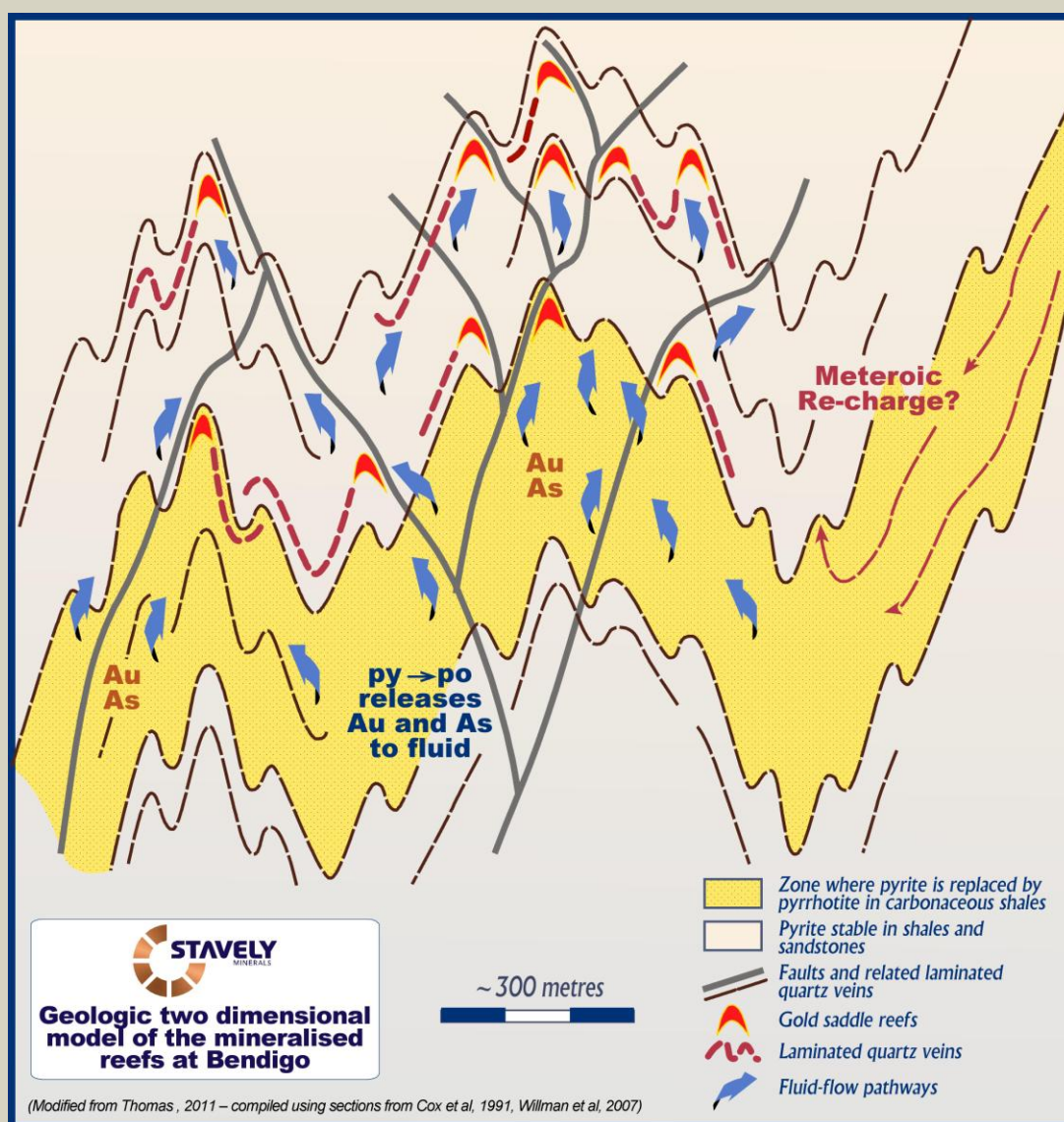


Figure 5. Two-dimensional model of the gold mineralised reefs at Bendigo showing the gold depleted source region below.

Next Steps

The next step is to confirm that the mineralisation system discovered at Toora West had an original endowment in gold hosted in diagenetic / syngenetic pyrites in the fine-grained shale tops to the thinly-bedded turbidite units. This will be accomplished by sending representative drill core samples to the Centre for Ore Deposit and Earth Sciences (CODES) at the University of Tasmania for laser ablation inductively coupled plasma mass spectrometry (LA-ICPMS) analysis. The LA-ICPMS analysis involves a fine laser targeted at and ablating (vapourising) specific target sulphides (in this case pyrite and pyrrhotite) and analysing that very small amount of vapour in an ICPMS machine. If examples of the diagenetic / syngenetic pyrites do demonstrate an original endowment in gold, the next steps would be to begin to search for the pathways for the migration of the metamorphic fluids and final deposition sites for the gold in a position stratigraphically above the zone of depletion.

The Stavely Belt is some 500 million years old and has had a long history of deformation and structural disruption. While the interpreted zone of gold depletion has been intercepted in drill hole STWD003, there is ample opportunity for structural offsets to have preserved the gold deposition zone relatively nearby.

IP geophysics has proven effective at identifying the disseminated sulphides under circa 80-100m of younger transported cover and it is likely that a significant expansion of IP coverage in this new target area would be warranted. A potentially effective additional exploration technique would be to drill regularly spaced drill holes through the transported cover into the basement rocks looking for arsenopyrite / arsenic geochemical anomalism as an indication of proximity to the gold deposition zone.

Current Drilling Programme

Two drill rigs are currently diamond drilling at the Thursday's Gossan prospect. One rig is following up in the vicinity of the 100m intercept of porphyry 'M' veins above the low-angle structure in SMD015 previously reported (see ASX release 12 January 2018) and the other drill rig is following up in the vicinity of the 80m intercept of porphyry 'M' veins located below the low-angle structure in SMD017 previously reported (see ASX release 16 February 2018).

Yours sincerely,



Chris Cairns
Managing Director

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Chris Cairns, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Cairns is a full-time employee of the Company. Mr Cairns is the Managing Director of Stavely Minerals Limited, is a substantial shareholder of the Company and is an option holder of the Company. Mr Cairns has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Cairns consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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Table 1. Toora West Prospect Collar Location Table.

Toora West Prospect						
		MGA 94 zone 54				
Hole id	Hole Type	East	North	Dip/ Azimuth	RL (m)	Total Depth (m)
STWD003	DD	630450	5844125	-60/065	250	391

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	N/A
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	N/A
	<i>Aspects of the determination of mineralisation that are Material to the Public Report - In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual</i>	N/A

Criteria	JORC Code explanation	Commentary
	<i>commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i>	
Drilling techniques	<i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	<p>Yarram Park Project Toora West Prospect Stavely Minerals' Diamond Drilling</p> <p>Diamond drill hole STWD003 was drilled by Titeline Drilling in February 2018.</p> <p>For hole STWD003 a mud rotary pre-collar was drilled through the cover sequence which consisted of unconsolidated sand, silt and clay until bedrock was intersected.</p> <p>Diamond drilling was used to produce drill core with a diameter of 63.5mm (HQ).</p> <p>Diamond drilling was standard tube. Diamond core was orientated by the Reflex ACT III core orientation tool.</p> <p>Drill hole STWD003 was orientated at -60° towards azimuth 065° to a depth of 391m.</p>
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	<p>Yarram Park Project Toora West Prospect Stavely Minerals' Diamond Drilling</p> <p>Diamond core recoveries were logged and recorded in the database.</p> <p>Recoveries were generally excellent.</p>
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	<p>Yarram Park Project Toora West Prospect Stavely Minerals' Diamond Drilling</p> <p>Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the driller.</p>
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	N/A
Logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	<p>Yarram Park Project Toora West Prospect Stavely Minerals' Diamond Drilling</p> <p>Geological logging of samples followed Company and industry common practice. Qualitative logging of samples including (but not limited to) lithology, mineralogy, alteration, veining and weathering. Diamond core logging included additional fields such as structure and</p>

Criteria	JORC Code explanation	Commentary
		<p>geotechnical parameters.</p> <p>Due to the excellent core returns there was a high confidence in the orientations and structural measurement.</p> <p>Magnetic Susceptibility measurements were taken for each 1m diamond core interval.</p>
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>All logging is quantitative, based on visual field estimates. Systematic photography of the diamond core in the wet and dry form was completed.</p>
	<i>The total length and percentage of the relevant intersections logged.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Detailed diamond core logging, with digital capture, was conducted for 100% of the core by Stavely's on-site geologist at the Company's core shed near Glenthompson.</p>
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Representative intervals which contain sulphides will be submitted for gold and multi-element geochemical analysis.</p>
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>No sampling of the mud-rotary pre-collar was undertaken.</p>
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	N/A
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	N/A
	<i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i>	N/A
	<i>Whether sample sizes are appropriate to the grain size</i>	N/A

Criteria	JORC Code explanation	Commentary
	<i>of the material being sampled.</i>	
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	N/A
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Ground IP Survey</p> <p>Survey Specification</p> <p>Array: Dipole - Dipole</p> <p>Line spacing: 400m</p> <p>Rx Dipole Separation: 100m</p> <p>Tx Dipole Separation: 100m</p> <p>Max N separation: 11</p> <p>Coordinate System: Stavely 2013 Local Grid</p> <p>Base Frequency: 0.0125 Hz</p> <p>Total chargeability</p> <p>Integration time: 590-1450 ms</p> <p>Typical Current: 7.4 A</p> <p>Max Current: 9.5 A</p> <p>Min Current: 2.7 A</p> <p>Equipment</p> <p>Transmitter: GDD TX II x 2 in parallel</p> <p>Output: 10 kVA</p> <p>Max Current: 10 A</p> <p>Max Voltage: 4800 V</p> <p>Current at max Voltage: 2.1 A</p> <p>Motor Generator: Honda 15 kW</p> <p>Receiver</p> <p>Make: Geonics GDD Rx-16</p> <p>Channels: 16</p> <p>Sample Rate: Nominal 5 kW</p> <p>Electrodes</p> <p>Electrodes: 1 x steel plate</p> <p>Size: 1.0 x 0.15m</p> <p>Holes: Hand dug</p>

Criteria	JORC Code explanation	Commentary
		<p>Orientation: Along line</p> <p>Pattern: Roll-along</p> <p>Location</p> <p>GPS Type: Hand Held – High Sensitivity</p> <p>Model: Garmin 60CSx</p> <p>Location Accuracy: +/-3m</p>
	<i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i>	N/A
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	N/A
	<i>The use of twinned holes.</i>	N/A
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>Primary data was collected for drill holes using the OCRIS logging template on Panasonic Toughbook laptop computers using lookup codes. The information was sent to a database consultant for validation and compilation into a SQL database.</p>
	<i>Discuss any adjustment to assay data.</i>	N/A
Location of data points	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	<p>Yarram Park Project</p> <p>Toora West Prospect</p> <p>Stavely Minerals' Diamond Drilling</p> <p>The drill collar location was pegged before drilling and surveyed using Garmin handheld GPS to accuracy of +/-3m. Collar surveying was performed by Stavely Minerals' personnel. This is considered appropriate at this early stage of exploration.</p> <p>For the diamond hole, down-hole single shot surveys were conducted by the drilling contractor. Surveys were conducted at approximately every 30m down-hole.</p>
	<i>Specification of the grid system used.</i>	The grid system used is GDA94, zone 54.
	<i>Quality and adequacy of topographic control.</i>	For Stavely Minerals' exploration, the RL was recorded for each drill hole location from the GPS. Accuracy of the GPS is considered to be within 5m.
Data spacing and	<i>Data spacing for reporting of Exploration Results.</i>	N/A

Criteria	JORC Code explanation	Commentary
distribution	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	N/A
	<i>Whether sample compositing has been applied.</i>	N/A
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Yarram Park Project Toora West Prospect Stavely Minerals' Diamond Drilling The diamond drill hole was orientated at -60° toward 065° to intercept an IP chargeability anomaly.
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	Yarram Park Project Toora West Prospect Stavely Minerals' Diamond Drilling There is insufficient drilling data to date to determine if any orientation sampling bias can be identified in the data.
Sample security	<i>The measures taken to ensure sample security.</i>	N/A
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews of the data management system have been carried out.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i>	Yarram Park Project The diamond drilling and IP survey completed at the Toora West prospect was conducted on the Yarram Park Project, comprising EL5478. The Yarram Park Project was purchased by Stavely Minerals from Diatrema Resources Limited in April 2015. Stavely Minerals hold 100% ownership of EL5478. The tenement is on freehold land and is not subject to native title claim.
	<i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	Yarram Park Project The tenement is in good standing and no known impediments exist.
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Yarram Park Toora West Prospect In 2013, Diatrema Resources Limited completed ground gravity in the northern half of EL5478, over the prospective Cambrian aged volcanics. In 2015, Stavely Minerals engaged Newexco Services to reprocess and model the ground gravity data as well as the publicly available regional aeromagnetic data. A coincident gravity low with peripheral and central magnetic highs was identified within the Cambrian aged volcanics in the northern portion of EL5478 and named the Toora West prospect.
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	Yarram Park Project Toora West Prospect The aeromagnetic data shows that the northern half of EL5478 covers an offset of the Mount Stavely Belt, or a structurally offset portion of the Bunnagul Belt, which is overlain by approximately 80 metres of Quaternary cover. The Toora West target comprises an IP chargeability feature within the prospective Mount Stavely Volcanic Complex.
Drill hole Information	<i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the 	No drill hole assay information is being reported.

Criteria	JORC Code explanation	Commentary
	<i>drill hole collar</i> <ul style="list-style-type: none"> <i>dip and azimuth of the hole</i> <i>down hole length and interception depth</i> <i>hole length.</i> 	
	<i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	N/A
Data aggregation methods	<i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i>	N/A
	<i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	N/A
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	N/A
Relationship between mineralisation widths and intercept lengths	<i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	N/A
	<i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i>	N/A
Diagrams	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a</i>	Refer to Figures in body of text. A plan view of the drill hole collar location is included.

Criteria	JORC Code explanation	Commentary
	<i>plan view of drill hole collar locations and appropriate sectional views.</i>	
Balanced reporting	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	N/A
Other substantive exploration data	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	All relevant exploration data is shown on figures and discussed in the text.
Further work	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<p>Yarram Park Project</p> <p>Further work has been outlined in the body of the report.</p>