

30 Sept 2022

# **Company Details:**

**ASX: NSM** 

ACN: 633 461 453

www.northstawellminerals.com

# Capital Structure

Shares: 120.127M

Performance rights: 1.18M

Share Price. (\$0.13)

Cash: \$5.8M

Market Cap: \$16.22M

#### Project

North Stawell Gold Project



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# **Highlights:**

- Full results from regional air core and RC drilling highlight eight prospects under cover and two historic mining areas that required follow-up drilling to expand initial results – setting exciting targets for upcoming drill programs.
- Selected results include:

1m @ 12.15 g/t Au from 36m (NSR0077)

3m @ 2.34 g/t Au from 45m (NSR0077)

1m @ 5.05 g/t Au from 56m (NSAC0172)

1m @ 3.96 g/t Au from 137m (NSR0086)

- 1m @ 3.00 g/t Au from 42m (NSAC0173)
- 65 anomalous intercepts were returned from 86 air core holes at 5 prospects, validating the exploration strategy targeting geophysical structures under cover that are possible repeats of the multi-million ounce Stawell mineralisation.
- Phase 2 infill AC drilling has identified significant grade following up on broad low-grade anomalism:
   2m @ 1.48 g/t Au from 25m\* (NSAC0380)
- Gravity-only geophysics anomalies are demonstrated to be basalts –increasing potential targets under cover.
- The Lubeck Tip prospect has advanced from a generative target to 3-5g/t over 500m with only 16 aircore holes in 1 season – a powerful demonstration of targeting through cover.
- Granite-hosted gold anomalism at Doctors Hill has significant similarities to the historic granite-related Wonga Deposit, an exciting addition to the models for potential gold mineralisation.



#### **OVERVIEW**

Summarising the September Quarter, North Stawell Minerals Chief Executive Officer Russell Krause commented:

"Excellent progress continued through the September Quarter, including analysis of results from Phase 1 (regional) drill testing of 20 priority targets under Murray Basin cover, and planning for follow up Phase 2 (infill) drilling of 8 prospects with exciting targets. Targets are interpreted to have structural and geological similarities to the multi-million-ounce Stawell Mine. In total, 18 prospects have been drill-tested with air core or RC drilling, one target was excluded on revised interpretation and only one target was inaccessible.

Drilling stopped in April for weather, after completing planned drilling and commenced infill drilling of prospects. During the quarter, results were returned for eight targets, including Germania, Darlington, Caledonia, Old Roo, Glenorchy East, Pleasant Creek and Doctors Hill. Results include minor infill drill programs from Old Roo and Glenorchy East, and resplits from Lubeck Tip. An air core rig is booked for mid-November and will initially focus on Phase 2 infill drilling at Lubeck Tip, Challenger, Caledonia, Old Roo, Doctors Hill and Wimmera Park.

Air core drilling is a fast, cost-effective technique for early exploration. Seven of the air core targets drilled were either previously untested or were significant step-out programs. Five of the targets include highly anomalous gold grades that warrant follow up drilling, an excellent foundation for future exploration. Completed Phase 2 infill drilling at Old Roo has successfully identified significant mineralisation, demonstrating that the highly anomalous Phase 1 results are effective vectors to gold under cover.

The NSM exploration strategy has proven effective. Approximately 50% of drill holes returned include anomalous grades. The high success rate is attributed to precision targeting of the geophysics-responsive basalts that form a core to Stawell-type mineralisation. Success is magnified by NSM's high-resolution geophysical data and a deep understanding of the controls at the Stawell Mine. To have returned multiple, coherent, multi-meter intercepts of anomalous grade near the interpreted controlling structures is an exciting validation of targeting and strategy.

The expectation of Phase 1 regional drilling has been to demonstrate that interpreted structures are gold mineralised. Thick intercepts of anomalous grades are interpreted as 'near misses' of primary mineralisation. The air core and RC programs have been an important and necessary strategic step to assess multiple viable targets in the 500km² of tenements and crystallise focus for Phase 2 infill drilling programs.

Wimmera Park and Doctors Hill present the exciting prospect of granite-related mineralisation, with strong similarities to the Wonga Mine (294koz historic production).

RC drilling was completed at four prospects in the south of the tenement package, where the Murray Basin cover is restricted or absent (Wimmera Park West, Welcome Lead, Darlington, Pleasant Creek, Germania and Caledonia prospects). All holes were completed, but programs faced challenges with water and ground conditions restricting some hole depths.

With all drilling assays returned, targets are being reviewed and refined. Planning for additional geophysics to further accelerate targeting has progressed during the quarter and has potential to further foreshorten the discovery pipeline.



## **EXPLORATION ACTIVITIES**

Exploration focused on soil sampling over areas previously not effectively tested, including areas with less than 10m of cover masking priority geophysics targets.

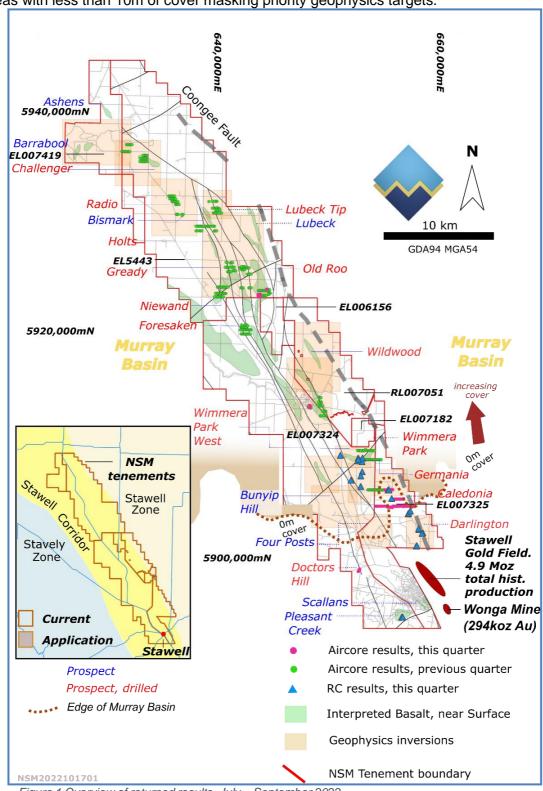


Figure 1 Overview of returned results, July – September 2022.

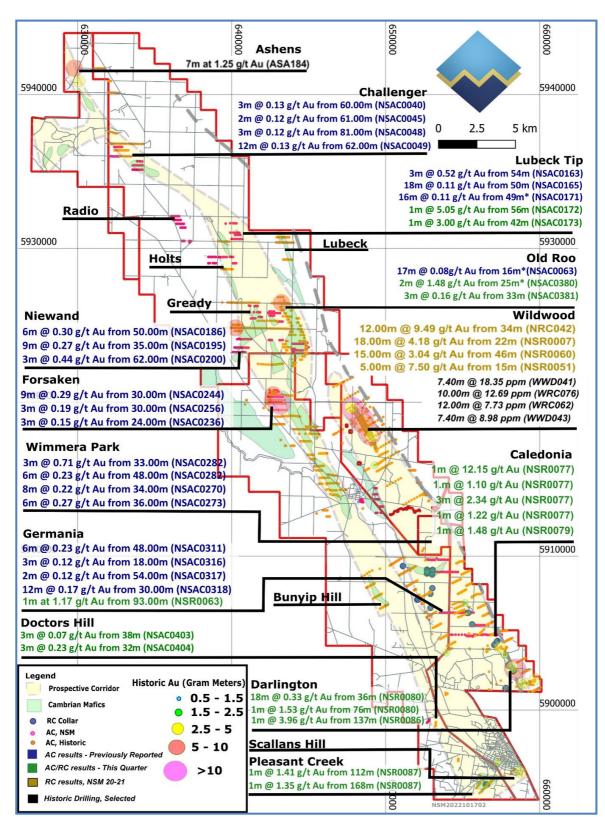


Figure 2 Summary of drilling results, including historic results. A full list of drilling results is found in Appendix 2.



Assays from 88 drill holes were returned, and include highly encouraging results for follow up:

Table 1 Significant gold results, July-September 2022.

Hole_ID	Prospect	MGA54 Easting	MGA54 Northing	RL	Azi deg	Dip deg	Final Depth (m)	Results Significant >1gt Au
NSAC0380	Old Roo	644060	5923466	159	270	-60	27	2.00m @ 1.48 ppm
NSR0077	Caledonia	657097	5904277	223	40	-60	107	1.00m @ 12.15 ppm
NSR0077	Caledonia	657097	5904277	223	40	-60	107	1.00m @ 1.10 ppm
NSR0077	Caledonia	657097	5904277	223	40	-60	107	3.00m @ 2.34 ppm
NSR0077	Caledonia	657097	5904277	223	40	-60	107	1.00m @ 1.22 ppm
NSR0079	Caledonia	657252	5904477	216	47	-60	83	1.00m @ 1.48 ppm
NSR0080	Darlington	657991	5902858	218	52	-60	95	1.00m @ 1.53 ppm
NSR0086	Darlington	657815	5901436	233	56	-60	150	1.00m @ 3.96 ppm
NSR0087	Pleasant Creek	656492	5895168	236	295	-90	172	1.00m @ 1.41 ppm
NSR0087	Pleasant Creek	656492	5895168	236	295	-90	172	1.00m @ 1.35 ppm

See Figure 1, 2 and body of text for Target locations.

Full results are summarised in Appendix 2 and are discussed below. Broad intercepts, or intercepts that form linear trends along interpreted geological structures, are priority targets for follow up infill drilling, as they are interpreted to indicate nearby bedrock mineralisation.

Drilling was completed to plan (Table 2, Figure 3). Assays from 88 holes (NSAC0319-NSAC0406) were returned. Minor Phase 2 (infill) drilling was also completed. An RC program (NSR062-NSR088) was completed during the previous quarter and all results have been returned from the 27 holes.

#### **Planned Works**

Work done is summarised in Figure 3 and Table 2. All planned activities were completed.

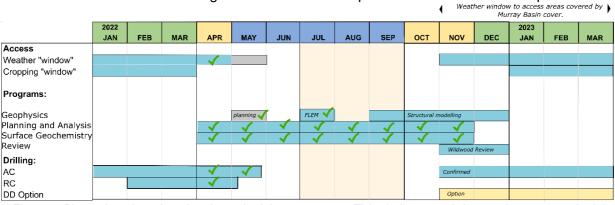


Figure 3 Planned work and exploration schedule, 2022-2023. Ticks indicate work is complete or on schedule. (FLEM (geophysics) is a fixed loop EM survey).



Table 2 Summary of work completed during the September Quarter 2022.

	Focus	Summary of work completed in the Quarter	Outcomes (details in text)			
1	Regional geophysical data	Air core drilling refines inversion models.	Completion of AC drilling confirms inversion models as a high-value guide to drill targeting. Ground truthing refined inversion best-representing geology.			
		FLEM survey over Scallens Hill site.	Australian Geophysical Services completed a FLEM survey over Scallens Hill. No clear target returned. Interference from localised town infrastructure introduced significant noise. Gravity only targets added to target lists based on drill-confirmation of near-			
		Non-Magnetic basalt targets.				
		Numerical modelling to determine mineralisation pathways.	surface basalts without mag signatures. Author of 2006 modelling paper to complete structural review of likely dilation sites on interpreted basalts.			
2	Structural architecture	On-going geological and structural interpretation based on drilling.	Revise granite and basalt boundaries. Review granites for Wonga Mine similarities.			
3	Clear geological models for mineralisation	Continued discussion, paper review, report review of documents and concepts around Stawell Mine as a 'type deposit'.	"Best" targets are shallow (but not eroded) basalt domes to preserve exploration potential. Plunging fold hinges as highest priority targets.			
	ioi alibation	Continued review of characteristics and controls of other known mineralisation.	Identified structural and architectural similarities to Wonga mineralisation (Intrusive-related) in NSM tenements – encouraging results from initial drilling.			
4	Understanding the cover sequences	Representative samples of all cover geology retained. Systematic water sampling.	Recognise emerging potential for ionic REE in Tertiary cover (e.g., Mitre Hill). Database of salinity (TDS) is groundwater as a benchmark for ongoing work. Areas prioritised for ionic leach sampling next quarter.			
5	Historic data consolidation	Additional historic geochemistry identified	Partial leach surveys without appropriate follow up on results identified. Programs will be executed in drier conditions.			
6	Drilling and field work	AC: 88 holes results returned. RC: 27 holes results returned.	Phase 1 AC complete. Phase 2 Infill AC commenced. RC program completed. 8 prospects tested (2 previously undrilled) A total of 8 targets require follow-up.			
		pXRF: 10,000+ surface and 1m downhole XRF analyses caught up.	Multi-element pXRF data captured for all AC drilling and surface soil samples. Data is for internal review and interpretation. Data is not intended for release.			
		Terraspec (spectral analyser) test work	Mineral-species data collection commenced to determine minerals in alteration/ composition of AC cores. All rehabilitation completed. 3 and 6-			



# **Exploration Strategy**

NSM's exploration strategy is to exploit the geophysics-responsive basalt units that form the core to Stawell-type mineralisation and to efficiently vector towards multi-million ounce potential under a thin blanket of Murray Basin cover.

Exploring through cover in Victoria includes exploration challenges. Generally, the sedimentary rocks and structures that host mineralisation, and the mineralisation itself, has poorly contrasting geophysical signatures, making a key exploration tool in covered terrains – regional geophysics – substantially less effective. In addition, the nature of veining and the sometimes-chaotic gold distribution that is typical of Victorian gold deposits can substantially increase the required drilling to test and understand covered mineralisation. Subsequently, typical Victorian gold deposits are challenging exploration targets under cover.

## NSM's Advantage

North Stawell Minerals has a significant exploration advantage to explore through cover. The rocks comprising the Stawell Corridor (Figure 6) includes wedges of basaltic rock that is faulted into the sediments along some structures. The basalts play a critical role in focussing mineralisation. Basalts are not typically found in Victorian Gold deposits, and they present some clear exploration upside. The basalts:

- have different geophysical properties and can be detected with magnetics and/or gravity.
- may form structural buttresses that bend and warp the later gold-bearing faults, creating conditions that focus the emplacement of mineralisation on the basalt margins.
- Increase NSMs capacity to identify and map controlling structures (faults and folds) from the geophysics and better understand the geological architecture and gold potential.

#### NSM program structure:

- Use geophysics to effectively identify areas analogous to the Stawell Mine structure and geology (2021)
- Phase 1 air core drilling through cover to identify mineralisation trends within targets, with broader intercepts or linear trends in intercepts interpreted as closer to primary mineralisation (2021-2022)
- Phase 2, closer spaced, infill air core to focus on Phase 1 anomalism to confirm primary mineralisation (2022-2023) – possible additional geophysics to accelerate understanding.
- Deeper, focused drilling (DD/RC) to establish size, style, structural controls and resource potential of most prospective targets (2022+) in parallel with air core drilling.
- Continual peer-leading community and rehabilitation practices to meet the expectations of landholders and shareholders.



# 1. Regional geophysics data.

High resolution geophysical data is a critical tool for targeting through cover. NSM flew Falcon airborne gravity-gradiometry from April 2021 (ASX announcement – 8 June 2021) (Figure 4). The gravity data compliments the existing high resolution airborne magnetics data flown by the Victorian government. In Addition, 222km² of 3D inversion of gravity and magnetics data (57% of the total tenement footprint) and structural detection analysis are complete, providing 3D geometry and structural controls of target areas.

These products have significantly assisted in drill targeting, assisting structural interpretation. From the geophysics data, NSM has identified areas interpreted to be shallow basalt buttresses with structures and dimensions comparable to the Stawell Mine.

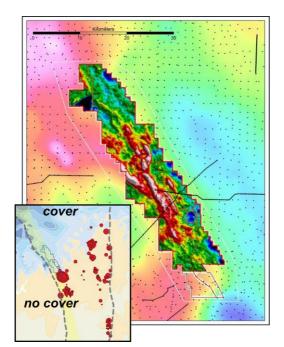
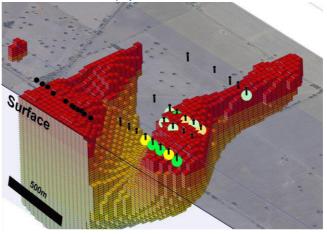


Figure 5 Lubeck Tip inversion model. 3D inversion modelling generates 3D iso-surfaces that approximate the shape of the feature causing the anomaly (Reid 2014). NSM's focus is mineralisation-related basalts, which have greater gravity anomalism to identify areas that best-match the exploration model for Stawell-type mineralisation. Drilling (and assay results) allow the inversion model to be refined to better fit the actual observed geology and improve the exploration process.

Figure 4 Regional gravity data with the NSM high resolution gravity (AGG) data superimposed. A significant increase in resolution is observed. Data points increase from approx. 300 in the regional data to 55,000+ in the AGG data and allow NSM to effectively identify gravity highs interpreted as basalt domes.

The inset shows the Stawell Corridor, mines and targets. Historic mines are shown red; size is indicative of gold production. The figure demonstrates clearly that historic mining stopped where the Murray Basin (blue) cover begins. Exploration methods that effectively target through the cover are anticipated to extend mineralisation trends under cover.

Source: Xcalibur Geophysics, AIG Macedon Conference

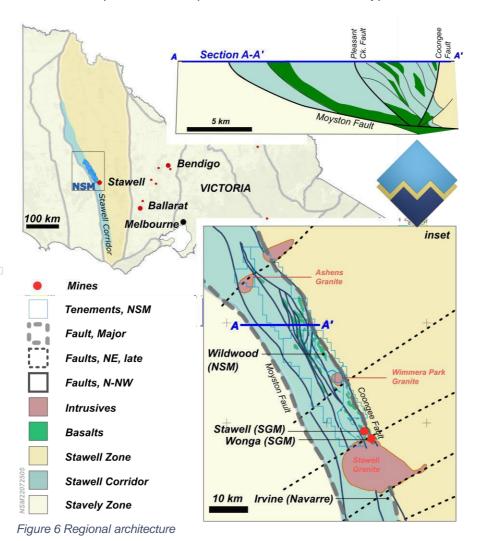




#### 2. Structural Architecture

A model for the regional development of the tenements is important for effective targeting. The regional interpretation under cover is based on the geophysics and, where available, historic drilling. The interpretation is based on work done by the Geological Survey of Victoria to the south where the geology and structures outcrop and are mapped (Cayley et al 2001). Gold prospectivity is focused on the Stawell Corridor, a 20km strip on the west margin of the Stawell Zone (Figure 6) where a major structural boundary, the Moyston Fault, occurs. A key location within the Stawell Corridor is an area of interpreted thrust-repeats of the prospective basalts (Figure 6, inset) that faults multiple basalt slices to a near-surface position. Many of these targets have been confirmed during the air core program, including Lubeck Tip, Pleasant Creek, Germania, Caledonia, Glenorchy East and Old Roo (see Section 6. Drilling/results). Margins of late intrusives are also emerging as gold targets, exploiting northeast-trending structures and potentially introducing late gold mineralisation.

The NSM tenements encompass 56km strike length of the Stawell Corridor, which is demonstrated to be mineralised in historic exploration. Multiple faults interpreted basalts and granites make the 500km<sup>2</sup> of NSM tenements a target-rich tenement package, with considerable potential for repeats of the Stawell Mine-type mineralisation.



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# 3. Clear geological models for mineralisation

NSM is exploring for a deposit similar to the mineralisation at Stawell - a footprint that is 3.5km long, approx. 400m wide and has been mined to depths of around 1,600m. The Stawell Gold Field has produced 4.9Moz (Winterbottom 2016) and is centred on a resistant buttress of basalt that has not been affected by folding. Ore shoots are on – or proximal to – the margins of the basalt, occurring where the structures that control the mineralisation bend, warp and dilate around resistive basalt.

Stawell Mine was found in the 1850's because it occurred close to the surface and was not obscured by a blanket of sedimentary cover. Over 80% of NSMs tenements are masked by cover (the Murray Basin), but the underlying rocks and structures are continuations of the geology at Stawell (Figure 6).

The Stawell-type mineralisation model is an attractive to NSM exploration as the basalt core to mineralisation can be identified under cover using geophysics. Drilling in the quarter has been able to routinely locate and test the contact between the basalts and bounding sediments. Greatest gold-prospectivity occur where the basalts that are shallow, but not unroofed, and where the mineralised structures around and above the basalt are preserved.

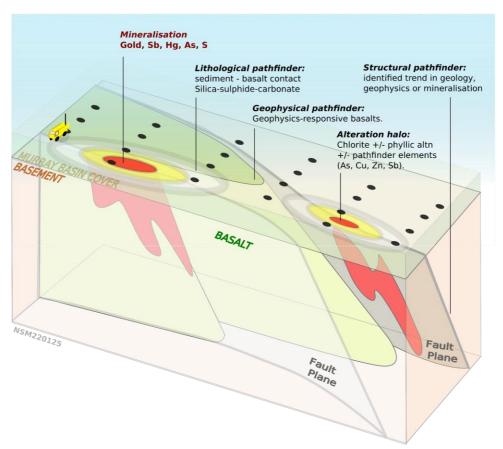


Figure 7 Drill patterns designed to identify dispersion halos of pathfinder element on high gold-potential target horizons to vector in on plunging mineralisation.

Multiple vectors to mineralisation are recognised. More recent mining at Stawell demonstrates that both east- and west-flanks of basalt structures can host substantial mineralisation. Faults adjacent to the basalts, as well as secondary faults further from the domes are important mineralisation controls, focusing mineralisation adjacent to irregularities on the basalt surfaces

by warping strain and dilation on the faults. Fe-chlorite and Fe-carbonate alteration, reduced magnetite in the ore system, and lesser calcium in the basalts are all positive indicators for proximal ore systems. Quartz veining with pyrrhotite, pyrite and arsenopyrite are important assemblages in the ore-system and help vector towards mineralisation (Figure 7).

Additional data can be established from the 3D inversion geophysics. In-Mine observations and numerical modelling (Schaubs et al 2006) shows that the parts of the basalt buttresses that are most likely to host mineralisation are:

- areas where steep flanks of domes begin to flatten (dependant on structure orientation)
- the hinges of folded domes where the plunge steepens (or changes strike)
- potential for mineralisation on dome flanks is elevated where the flanks have more irregular complex geometries (i.e., domes where basalt "lobes" occur on the dome flanks).

Other mineralisation types are also observed but are less attractive targets as they are not as responsive to geophysics and therefore harder to explore for through the ubiquitous cover. Potential for 'typical' Victorian-type narrow-vein gold (e.g., Ballarat or Bendigo), in structures in the metasediments, is demonstrated to the north of the Old Roo target (Figure 1). Where these occur in the 'roof' of the basalt domes, however (e.g., Big Hill at Stawell), the deeper dome structures may help vector towards the mineralised faults above them.

Multiple late granites intrude the Stawell Corridor and several of these are known to have associated mineralisation (e.g., Wonga, south of Stawell) (Bierlien et al 2006). The margins of the granites and the contact metamorphosed adjacent metasediments are readily identified in geophysics. Drilling at the Wimmera Park prospect has identified a 300m wide gold and arsenic anomalous zone on the margin of the granite where it intersects a structure interpreted from magnetics (see below). Minor bismuth and antimony occur in associated pXRF data. Mineralisation appears to extend into the intrusives, and more work is required to demonstrate this categorically. At Wonga, research suggests that the granites have re-mobilised and upgraded pre-granite, fault-hosted mineralisation. Multiple granites occur in NSMs tenements.

Murray Basin sediments host WIM-style heavy metal deposits throughout western Victoria. Encouraging exploration for ionic-bonded Rare Earth Elements (REEs) hosted in the cover sequence is another emerging Tertiary target in western Victoria.

#### 4. Understanding the Murray Basin Cover.

Over 80% of NSM's tenements are masked by Murray Basin cover, with thickness gradually increasing to the north to depths of approximately 90m. During the Quarter, drilling has demonstrated that the cover is not a serious impediment to air core drilling, with most drillholes (98%) reaching target depths.

Up to three aquifers occur, typically at 10m, 30m and/or the contact with basement. Groundwater is variably saline (1,000-35,000 TDS). Substantial surface water management processes have been developed to control surface water. The process has worked very effectively. To date no issues with landholders regarding surface effects of air core drilling are reported, an encouraging sign for follow up drilling requirements and sustainable operations.

#### 5. Historic data consolidation.

During the quarter minor adjustments and updates to the database was ongoing. Partial Leach geochemistry data has been identified in past reports and will be reviewed for effectiveness at different depths of cover. If positive, test lines over anomalous AC drilling will be sampled, to gauge correlation and depth-effectiveness.

## 6. Drilling

During the reporting period, no air core or RC drilling was completed. Phase 1 AC holes were drilled vertically to refusal. Phase 2, follow up drilling on Phase 1 anomalies, were collared at an angle of 60° to ensure complete coverage across the strike of anomalies. Sampling was as 3m composites (or less at EOH). QAQC blanks, CRMs and duplicates were inserted in the sample sequence at approximately 20m intervals. Assays were analysed at Gekko Laboratories (GAL) in Ballarat.

Assays for 86 holes were returned for Phase 1 and Phase 2 air core for four target areas drilled during the previous reporting period. All assays are returned (Table 4, Table 5, discussion below).

The air core drilling is tasked to return regional gold and pathfinder data through the mask of Murray Basin cover to demonstrate gold mineralisation. With an emphasis on covering multiple targets over the season, drilling is spaced on nominal 100x300m centres. Historic data and mineralisation models indicate that arsenic is the most likely pathfinder element, but other typical pathfinder elements, e.g., copper, lead and magnesium) can also be anomalous.

Targeting tests, the margins of interpreted basalts for mineralisation-related geology, alteration, sulphides, gold occurrences, local pathfinder tenor and potential near-mineralisation anomalous intercepts. Long downhole intercepts of anomalous grades, particularly where multiple similar holes cluster together, are interpreted to indicate a high likelihood of proximal significant bedrock mineralisation. This occurs at Wimmera Park, Germania, Caledonia, Challenger, Old Roo, Lubeck Tip, Forsaken and Niewand – all of which warrant follow up infill drilling (Figure 1, Figure 2). The next phase of drilling will focus on these prospective areas with closer spacing and angled holes to identify more significant mineralisation.

50% of holes returned during the Quarter included anomalous gold mineralisation. The high success rates for the regional programs are attributed to the geophysics-responsive basalt and its role in mineralisation, as well as a strong understanding of the controls on mineralisation using the Stawell Mine mineralisation model.

Closer-spaced, Phase 2 infill drilling will follow up encouraging results from the Phase 1 air core program from November 2022 to further define or extend mineralisation and sufficiently constrain near-surface significant mineralisation for deeper, focused test work. Appropriate methods, potentially including diamond drilling will be considered.

#### Results

All air core and RC drilling results returned (Appendix 2). Anomalous results (<1g/t Au, >0.05 g/t Au from AC and RC are reported in Tables 3. Significant assays (>1g/t Au) for both RC and AC are reported in Table 4. These set the foundation for follow up drilling at multiple prospects.

Table 3: Anomalous (>1g/t Au, <0.05 g/t Au) AC drilling results - Dril						Drilled J	Orilled June Quarter			
//	Hole ID	Prospect	MGA54 Easting	MGA54 Northing	RL	Azi deg	Dip deg	Final Depth (m)	Results Anomalous (g/t Au)	
1								` '		
-	NSAC0319^	germania	655032	5906328	228	0	-90	75	6.00m @ 0.21 g/t Au from 30m	
	NSAC0319^	germania	655032	5906328	228	0	-90	75	3.00m @ 0.25 g/t Au from 39m	
	NSAC0320^	germania	655125	5906321	228	0	-90	73	6.00m @ 0.10 g/t Au from 42m	
	NSAC0320^	germania	655125	5906321	228	0	-90	73	3.00m @ 0.05 g/t Au from 51m	
	NSAC0321^	germania	655225	5906325	223	0	-90	65	12.00m @ 0.09 g/t Au from 30m	
	NSAC0321^	germania	655225	5906325	223	0	-90	65	9.00m @ 0.11 g/t Au from 51m	
	NSAC0322^	germania	655335	5906323	220	0	-90	63	3.00m @ 0.05 g/t Au from 30m	
	NSAC0322^	germania	655335	5906323	220	0	-90	63	3.00m @ 0.05 g/t Au from 36m	
	NSAC0324^	germania	655526	5906330	211	0	-90	60	9.00m @ 0.10 g/t Au from 30m	
	NSAC0327^	caledonia	654246	5904898	224	0	-90	45	3.00m @ 0.10 g/t Au from 6m	
	NSAC0327^	caledonia	654246	5904898	224	0	-90	45	6.00m @ 0.17 g/t Au from 24m	
	NSAC0328^	caledonia	654351	5904894	228	0	-90	45	3.00m @ 0.86 g/t Au from 9m	
1	NSAC0330^	caledonia	654738	5904892	237	0	-90	60	3.00m @ 0.05 g/t Au from 23m	
	NSAC0330^	caledonia	654738	5904892	237	0	-90	60	3.00m @ 0.20 g/t Au from 41m	
	NSAC0330^	caledonia	654738	5904892	237	0	-90	60	3.00m @ 0.11 g/t Au from 56m	
	NSAC0331^	caledonia	654946	5904898	235	0	-90	75	3.00m @ 0.05 g/t Au from 37m	
	NSAC0331^	caledonia	654946	5904898	235	0	-90	75	2.00m @ 0.07 g/t Au from 73m*	
	NSAC0332^	caledonia	655150	5904895	228	0	-90	66	3.00m @ 0.05 g/t Au from 58m	
	NSAC0333^	caledonia	655243	5904835	231	270	-60	71	3.00m @ 0.14 g/t Au from 28m	
	NSAC0334^	caledonia	655273	5904823	232	270	-60	72	3.00m @ 0.06 g/t Au from 37m	
	NSAC0336^	caledonia	655346	5904812	230	270	-60	72	3.00m @ 0.05 g/t Au from 69m*	
	NSAC0338^	caledonia	655423	5904809	226	270	-60	78	6.00m @ 0.30 g/t Au from 39m	
	NSAC0338^	caledonia	655423	5904809	226	270	-60	78	3.00m @ 0.05 g/t Au from 75m*	
	NSAC0339^	caledonia	655664	5904775	228	270	-60	87	6.00m @ 0.13 g/t Au from 12m	
	NSAC0339^	caledonia	655664	5904775	228	270	-60	87	3.00m @ 0.14 g/t Au from 54m	
	NSAC0339^	caledonia	655664	5904775	228	270	-60	87	3.00m @ 0.05 g/t Au from 66m	
	NSAC0341^	caledonia	655576	5904812	230	270	-60	72	3.00m @ 0.08 g/t Au from 45m	
	NSAC0342^	caledonia	655541	5904814	230	270	-60	75	3.00m @ 0.20 g/t Au from 45m	
	NSAC0344^	caledonia	655475	5904814	227	270	-60	54	6.00m @ 0.13 g/t Au from 36m	
	NSAC0344^	caledonia	655475	5904814	227	270	-60	54	3.00m @ 0.06 g/t Au from 48m	
	NSAC0345^	caledonia	655448	5904815	225	270	-60	51	3.00m @ 0.05 g/t Au from 6m	
	NSAC0345^	caledonia	655448	5904815	225	270	-60	51	3.00m @ 0.06 g/t Au from 36m	
	NSAC0346^	caledonia	655747	5904902	229	0	-90	75	3.00m @ 0.15 g/t Au from 56m	
	NSAC0347^	caledonia	655836	5904896	223	0	-90	81	3.00m @ 0.06 g/t Au from 63m	
	NSAC0348^	caledonia	655959	5904886	218	0	-90	54	3.00m @ 0.06 g/t Au from 30m	
	NSAC0348^	caledonia	655959	5904886	218	0	-90	54	3.00m @ 0.10 g/t Au from 42m	
	NSAC0351^	caledonia	656250	5904895	213	0	-90	45	3.00m @ 0.09 g/t Au from 39m	
	NSAC0352^	caledonia	656341	5904904	213	0	-90	51	6.00m @ 0.08 g/t Au from 27m	
	NSAC0354^	caledonia	656565	5904902	212	0	-90	57	6.00m @ 0.09 g/t Au from 30m	

NSAC0355^	caledonia	656633	5904869	215	0	-90	67	3.00m @ 0.15 g/t Au from 18m
NSAC0355^	caledonia	656633	5904869	215	0	-90	67	3.00m @ 0.07 g/t Au from 33m
NSAC0355^	caledonia	656633	5904869	215	0	-90	67	3.00m @ 0.05 g/t Au from 60m
NSAC0357^	caledonia	656839	5904899	218	90	-60	66	3.00m @ 0.08 g/t Au from 38m
NSAC0359^	caledonia	657051	5904899	218	90	-60	72	3.00m @ 0.06 g/t Au from 39m
NSAC0359^	caledonia	657051	5904899	218	90	-60	72	6.00m @ 0.08 g/t Au from 45m
NSAC0359^	caledonia	657051	5904899	218	90	-60	72	3.00m @ 0.06 g/t Au from 54m
NSAC0360^	caledonia	657148	5904902	216	90	-60	72	18.00m @ 0.19 g/t Au from 28m
NSAC0361^	caledonia	657247	5904906	215	90	-60	72	3.00m @ 0.07 g/t Au from 23m
NSAC0362^	caledonia	657352	5904904	216	270	-60	75	3.00m @ 0.06 g/t Au from 71m
NSAC0369^	glenorchy east	648425	5913561	171	270	-60	72	3.00m @ 0.06 g/t Au from 44m
NSAC0369^	glenorchy east	648425	5913561	171	270	-60	72	9.00m @ 0.10 g/t Au from 59m
NSAC0370^	glenorchy east	648448	5913551	172	270	-60	75	15.00m @ 0.09 g/t Au from 41m
NSAC0381^	old roo	644080	5923466	159	270	-60	45	3.00m @ 0.16 g/t Au from 33m
NSAC0382^	old roo	644095	5923465	159	270	-60	45	3.00m @ 0.06 g/t Au from 24m
NSAC0390^	old roo	643944	5923312	160	270	-60	40	3.00m @ 0.06 g/t Au from 30m
NSAC0392^	old roo	644717	5923918	159	0	-90	40	3.00m @ 0.08 g/t Au from 27m
NSAC0392^	old roo	644717	5923918	159	0	-90	40	1.00m @ 0.06 g/t Au from 39m*
NSAC0399^	germania	656354	5905516	206	0	-90	66	3.00m @ 0.06 g/t Au from 51m
NSAC0400^	germania	656452	5905516	204	0	-90	72	3.00m @ 0.06 g/t Au from 45m
NSAC0401^	germania	656568	5905519	204	0	-90	63	3.00m @ 0.06 g/t Au from 21m
NSAC0401^	germania	656568	5905519	204	0	-90	63	3.00m @ 0.05 g/t Au from 30m
NSAC0402^	germania	656667	5905524	208	0	-90	57	3.00m @ 0.08 g/t Au from 45m
NSAC0403^	doctors hill	652814	5899375	206	0	-90	50	3.00m @ 0.07 g/t Au from 38m
NSAC0404^	doctors hill	652798	5899288	207	0	-90	37	3.00m @ 0.23 g/t Au from 32m

<sup>\*</sup> hole ends in mineralisation

Table 4: Significant Intercepts (>1g/t Au) AC/RC drilling results – Drilled June Quarter/Results September quarter

)	Hole_ID	Prospect	MGA54 Easting	MGA54 Northing	RL	Azi deg	Dip deg	Final Depth (m)	Results Significant >1gt Au
	NSAC0172	lubeck tip	640316	5931016	150	0	-90	69	1.00 @ 5.05 g/t Au from 47
	NSAC0173	lubeck tip	640509	5931013	149	0	-90	72	1m @ 3.00 g/t Au from 42m
	NSAC0380	old roo	644060	5923466	159	270	-60	27	2.00m @ 1.48 g/t Au from 25*
	NSR0077	caledonia	657097	5904277	223	40	-60	107	1.00m @ 12.15 g/t Au from 36
	NSR0077	caledonia	657097	5904277	223	40	-60	107	1.00m @ 1.10 g/t Au from 41
	NSR0077	caledonia	657097	5904277	223	40	-60	107	3.00m @ 2.34 g/t Au from 45
	NSR0077	caledonia	657097	5904277	223	40	-60	107	1.00m @ 1.22 g/t Au from 84
	NSR0079	caledonia	657252	5904477	216	47	-60	83	1.00m @ 1.48 g/t Au from 36
	NSR0080	darlington	657991	5902858	218	52	-60	95	1.00m @ 1.53 g/t Au from 76
	NSR0086	darlington	657815	5901436	233	56	-60	150	1.00m @ 3.96 g/t Au from 137
	NSR0087	pleasant creek	656492	5895168	236	295	-90	172	1.00m @ 1.41 g/t Au from 112
	NSR0087	pleasant creek	656492	5895168	236	295	-90	172	1.00m @ 1.35 g/t Au from 168

<sup>\*</sup> hole ends in mineralisation

<sup>^</sup>Hole drilled previous quarter, results returned this quarter

#### Old Roo

The Old Roo Phase 2 drilling program is the first infill program. The return of significant gold intercepts - 2m @ 1.48 g/t Au from 25m\* (NSAC0380) - demonstrates that broad, low-grade Phase 1 intercepts are excellent vectors to higher grade results with infill drilling. The program consisted of two drill fences totalling twenty (22) Air Core holes drilled for a total of 914m (Figure 8). Results are summarised in Table 3 and Table 4. Drilling is summarised in Appendix 2. The Phase 1 drilling program at the Old Roo prospect targeted a potential basalt embayment identified through geophysical interpretation and results included:

- 17m @ 0.08g/t Au from 16m\* (NSAC0063)
- 3m @ 0.06g/t Au from 33m (NSAC0064)

ends in mineralisation.

AC drill fences were drilled 70m to the north and south of the anomalous gold grades intercepted in NSAC0063 and NSAC0064 (Figure 8). Drilling confirmed the northeast trend of mineralisation. The northern drill line returned higher grade results within the anomalous trend (Figure 9):

• 2m @ 1.48 g/t Au from 25m\* (NSAC0380) (Figure 9.)

The drillhole ends in mineralisation - a highly iron-stained quartz veined saprolite – hosted in sheared mafic or metasedimentary rocks.

The significant intercept in NSAC0380 remains open at depth, and along strike. The intercept ends in mineralisation, an encouraging result for potential depth-extent. The gold mineralisation across multiple lines is trending in a NE-SW direction (Figure 8), running parallel to a regional scale fault. Additional drilling at the Old Roo prospect will prioritise extending significant mineralisation along the interpreted gold trend within the basalt embayment. Multiple drillholes in this trend end in mineralisation – an encouraging sign that gold continues into fresh rock at depth over a significant strike length (200m+).

<sup>1</sup>Refer to announcement 5<sup>th</sup> April 2022

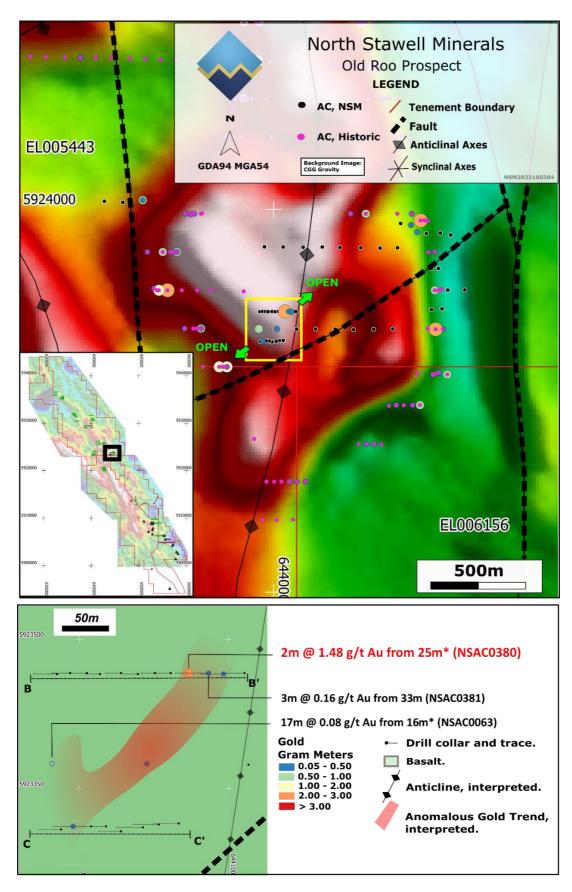
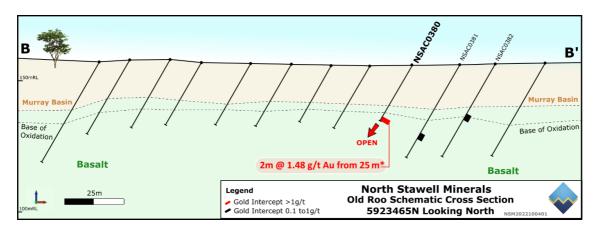


Figure 8 Old Roo AC Drilling



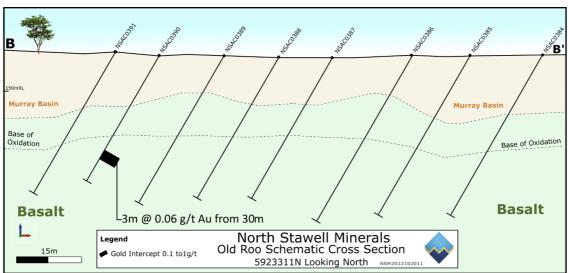


Figure 9 Old Roo AC Fenced Sections

## Glenorchy East

At Glenorchy East, 21km along strike to the north of the Stawell Mine, previous drilling tested two parallel gravity targets. The eastern target is a shallow basalt, identified and targeted based on the high resolution AGG gravity data. This is an exciting technical success, demonstrating that a magnetic response is not necessarily a precondition for the presence of a basalt. The western gravity target includes a coincident magnetic high on a regional footwall thrust. Only the northern end of the target was drilled on its east flank (7 holes for 500m), intersecting metasedimentary hanging wall rocks. Drilling returned 9 m at 0.12 g/t Au from 48m (NSAC0100) 2, an encouraging wide anomalous intercept.

The previous drilling confirmed the feature as a basalt but typically failed to test the prospective margins based on a Stawell Mine structural model. The correlation between the drilling and geophysics, indicates that the underlying structure is largely untested and there is potential where the basalt core plunges deeper and the contact with sediments is preserved. Results for follow up drilling are returned this quarter, targeting the southern strike extension of mineralisation seen in hole NSAC0100 (Figure 10). The fenced drilling produced a broader low-grade anomaly 9m @ 0.1g/t (NSAC0369) and 15m @0.09g/t (NSAC0370), extending the anomalous grades to the south and confirming strike orientation at 020 degrees (Figure 11). A northern line had no significant assays. Refer to announcement 20th April 2022

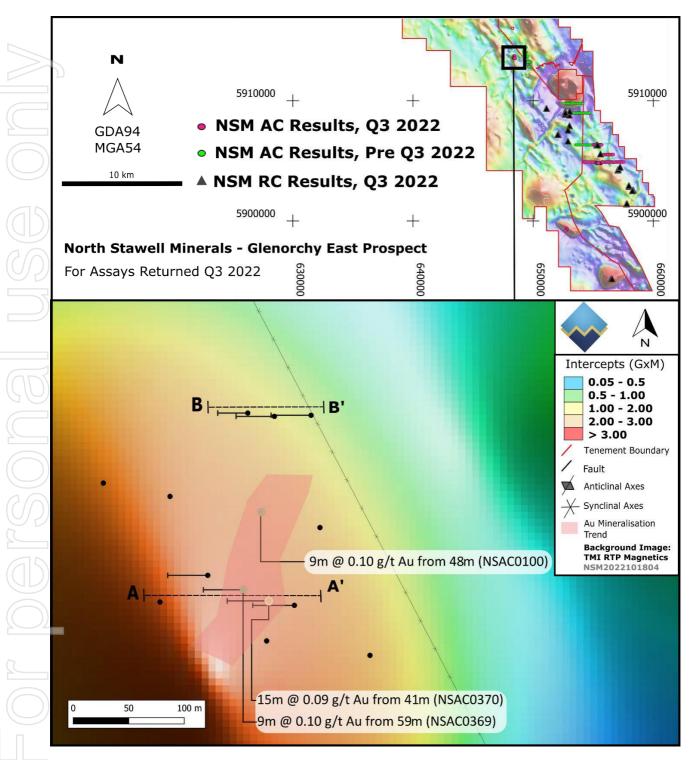


Figure 10 Glenorchy East AC Drilling

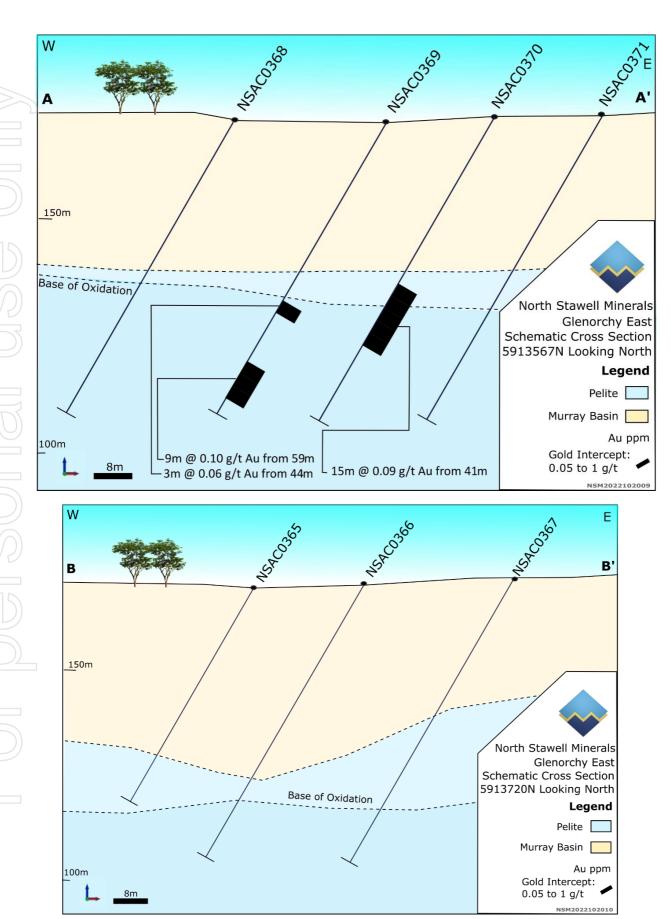


Figure 11 Glenorchy East Fenced Drilling

#### Caledonia

Historic drilling and historic mining identified the potential for high-grade gold mineralisation associated with the margin of a coincident magnetic and gravity anomaly within the Caledonia Prospect on the 10km Germania-Darlington trend. The prospect occurs in the same structural corridor as the Magdala (4.9Moz Au), Wonga (294koz Au) and Wildwood (55koz Au – see NSM Prospectus, 2020) deposits. The Caledonia Prospect is bound to the west by the Stawell Fault and to the east by the Coongee Fault – a structural fairway that is demonstrated to be highly prospective. The Caledonia Prospect is one of four high-grade gold occurrences within a 10km strike extent. All areas are sparsely drilled and are open along strike and at depth.

At Caledonia, 17 air core holes (1,017m) and four RC holes (372m) were completed. Ten of the 17 air core holes returned anomalous gold grades (Table 3) and two of 4 RC holes returned significant intercepts (Table 4) typically occurring to the east of an existing interpreted basalt<sup>3</sup>. Air core drilling along a single drill line with approximately 100m spaced holes tested the strike continuation of an anomalous gold trend that includes the Wimmera Park Granite Prospect<sup>4</sup>, Germania Mine (1,676 oz @12.1 g/t Au), Caledonia Mine (unknown historic production), Bonnie Dundee Mine (1,117 oz @ 20.9 g/t Au) and the Darlington mine (2,347 oz @18.2 g/t AU) (Figure 12). The RC drilling was designed as "step out" holes along strike from the historic Bonnie Dundee workings (figure 12) 850m to the south. Highlights from the Caledonia RC drilling include (Figure 13):

- 1m at 12.15 g/t Au from 36m (NSR0077)
- 1m at 1.10 g/t Au from 41m (NSR0077)
- 3m @ 2.34 g/t Au from 45m (NSR0077)
- 1m @ 1.22 g/t Au from 84m (NSR0077)
- 1m @ 1.48 g/t Au from 36m (NSR0079)

1m @ 1.22 g/t Au from
 1m @ 1.48 g/t Au from
 3Refer to announcement 13<sup>th</sup> September 2022

4Refer to announcement 20<sup>th</sup> July 2022

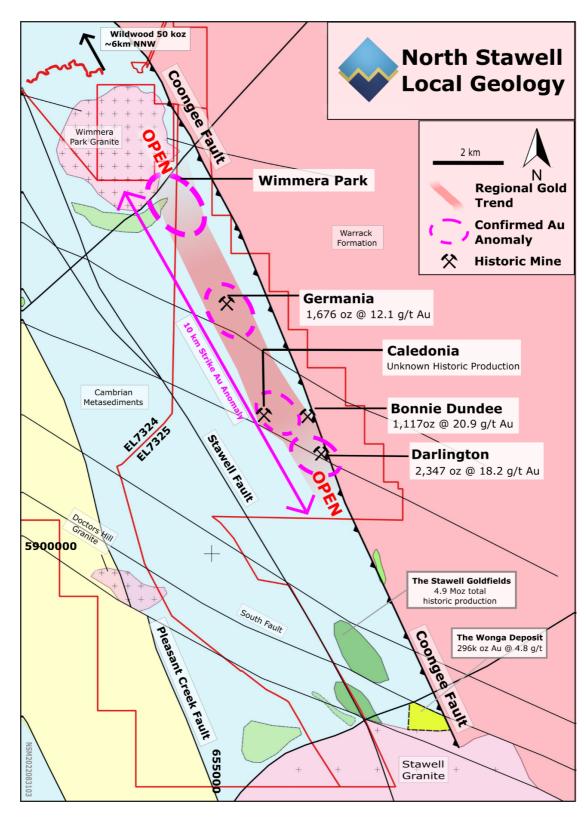


Figure 12 Caledonia structural associations

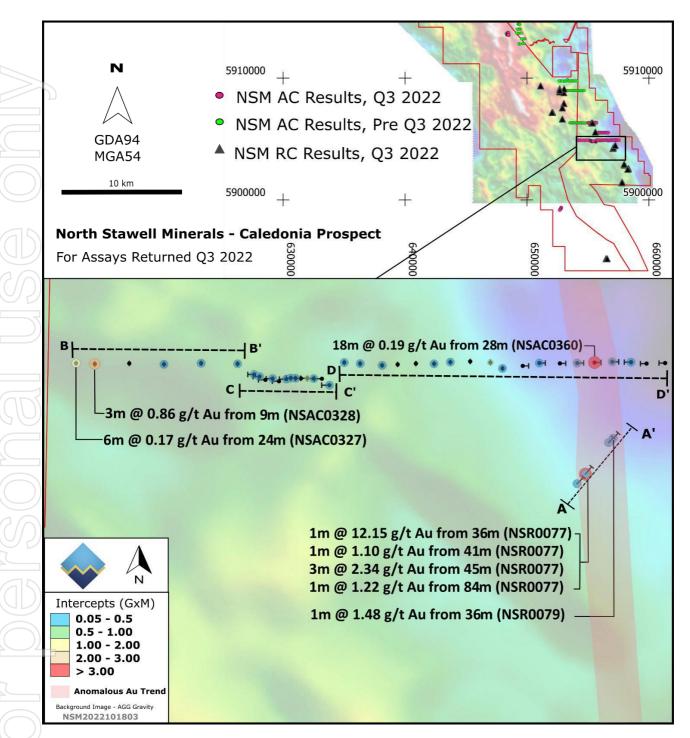


Figure 13 Caledonia Drilling, results returned September quarter

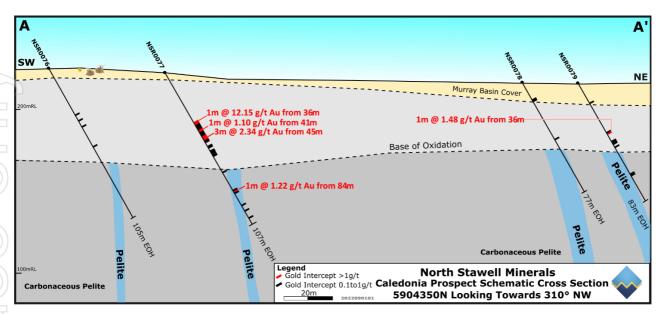


Figure 14 Caledonia RC Drilling section

NSM's RC drilling success has confirmed the presence of coincident Au-As within the Caledonia Prospect. A 50x100m pXRF soil geochemistry grid indicates that the 250m wide arsenic anomaly extends 1,000m north from the NSR0077 intercept (Figure 14). The pXRF soil geochemistry survey has also generated two drill-ready targets within the Caledonia Prospect, off the Germania-Darlington trend.

Hole NSR0077 is highly encouraging with a 12m downhole zone comprising multiple quartz-associated intercepts. This included a 12g/t Au intercept. Importantly, the intercept does not occur in isolation. Historic air core and NSM's own air core drilling have added additional grade, extent and confidence to the target. Air core drilling in 2022 also returned an encouraging anomalous grade intercept extending the trend 400m to the north:

• 18m @ 0.19 g/t Au from 28m (NSAC0360) (Appendix 4)

Historic drilling extends significant mineralisation 500m to the south:

- 1m @ 4.53 g/t Au from 6m (SEXC41)
- 10m @ 0.24 g/t Au from 40m\* (SEXI915)

The 12m gold zone (Figure 14) occurs in the oxide zone of NSR0077. The mineralisation style and geology are obscured by strong weathering of the host rock. However, the intercept includes high quartz content in high-grade zones (36-37m & 45-46m). The additional intercept, 40m further downhole in fresh rock (1m @ 1.48 g/t Au from 84m), consists of approximately 80% pyritic quartz typical of narrow vein gold and is expected to be representative of the mineralisation up-hole.

On the prospect scale gold anomalism runs sub-parallel with the margin of a coincident magnetic and gravity anomaly and occurs in the west limb of an interpreted regional anticline to the west and the Coongee Fault to the east (Figure 12). The significant intercepts (Table 4) are interpreted to have intercepted the high-grade shoots and anomalous intercepts (Table 3) are interpreted to be proximal to more significant mineralisation shoots, evidence by no observed quartz veining in chips. The gold trend remains open from the Caledonia Prospect (750m northwest of NSM's northern air core line) and for 500m southeast to the historic Bonnie Dundee Mine.

<sup>\*</sup>Ends in anomalous gold

Infill drilling is required to define vein orientations. The shallow, pyritic veining may also respond to surface IP surveying. The spacing of drilling to date (400+m) leaves the target open in all directions and represents a significant opportunity for a substantial gold system along the Germania-Darlington trend at the Caledonia Prospect.

## Lubeck Tip

The Lubeck Tip prospect is a substantial confirmation of NSMs exploration strategy. Not identified until the acquisition of the AGG high resolution gravity, the prospect has been efficiently taken from a theoretical Stawell-type generative target to a 500m 3-5g/t Au near surface, open mineralisation trend in a 16 hole, geophysics-targeted air core program in a single drill season.

Composite samples were resampled on metre intervals at Lubeck Tip for seven holes with anomalous intercepts. Five holes returned anomalous grades (Table 6, Figure 15). Anomalous gold at Lubeck Tip appeared as broad, low-grade gold 'smears' prior to composite re-splitting<sup>5</sup>. Three of the holes re-split resulted in similar intercepts, with wide, low-grade anomalies. Two holes were converted from broad, low-grade gold intersects into, narrow, discrete, high-grade (>1g/t) gold intercepts.

Intercepts include:

- 1m @ 5.05 g/t Au from 56m (NSAC0172)
- 1m @ 3.00 g/t Au from 42m (NSAC0173)

High-grade gold mineralisation is spatially associated with the coincident magnetic and gravity anomaly that defines the Lubeck Tip target. Current drill spacing (200m+) has insufficiently tested the width and strike of the Lubeck Tip geophysical anomaly with the 1m @ 5.05 g/t Au intercept in NSAC0172 remaining open for 750m to the north, and completely open to the south and to the east. Further infill drilling is planned to test the significant intersections in NSAC0172 and NSAC0173 (figure 15).

Geophysical inversion modelling (Figure 4, ASX announcement 29 Oct 2021) interprets the source of the Lubeck Tip coincident magnetic and gravity anomaly (a basalt dome) to be near surface. Drilling intersects metasediments and indicates that the 'roof' of the ore system is potentially intact, explaining the broad, low-grade gold 'smears' seen at Lubeck Tip. The 1m @ 5.05 g/t Au and 1m @ 3 g/t Au intersections in NSAC0172 and NSAC0173 respectively (figure 16) are potentially indicative of equivalents to the 'Central Lode' type structure at the 5 Moz Au Stawell Mine, which extends from the margins of the controlling basalt into the overlying host sediments (Figure 13, NSM Prospectus).

Table 6: Anomalous Resplits (>1g/t Au, <0.05 g/t Au)

Hole ID	Prospect	Easting MGA54	Northing MGA54	RL asl	Azi. Deg	Dip deg	Final Depth (m)	Results Anomalous (g/t Au)	GxM
NSAC0164	LUBECK TIP	640413	5930606	150	0	-90	60	7m @ 0.073 g/t Au from 52m*	0.51
NSAC0165	LUBECK TIP	640607	5930608	149	0	-90	75	6m @ 0.18 g/t Au from 52m	1.08
								9m @ 0.12 g/t Au from 59m	1.08
NSAC0171	LUBECK TIP	640410	5931021	150	0	-90	65	3m @ 0.13 g/t Au from 44m	0.39
NSAC0172	LUBECK TIP	640316	5931016	150	0	-90	69	2m @ 0.21 g/t Au from 47m	0.42
								1m @ 5.05 g/t Au from 56m	5.05
NSAC0173	LUBECK TIP	640509	5931013	149	0	-90	72	3m @ 0.07 g/t Au from 36m	0.21
								1m @ 3.00 g/t Au from 42m	3.0

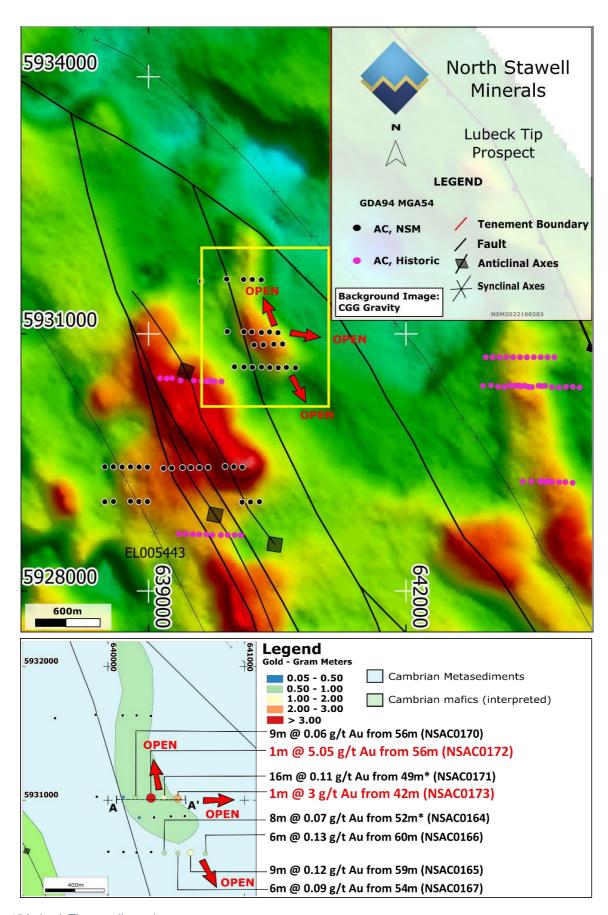


Figure 15 Lubeck Tip presplit results

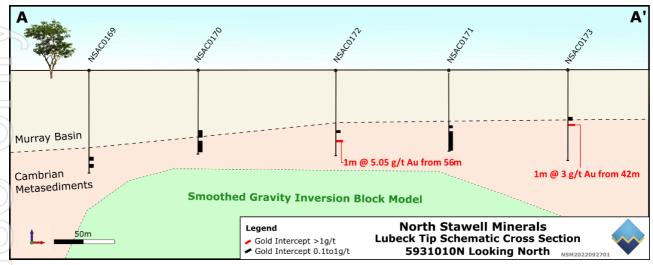


Figure 16 Lubeck Tip Cross Section

#### **Doctors Hill**

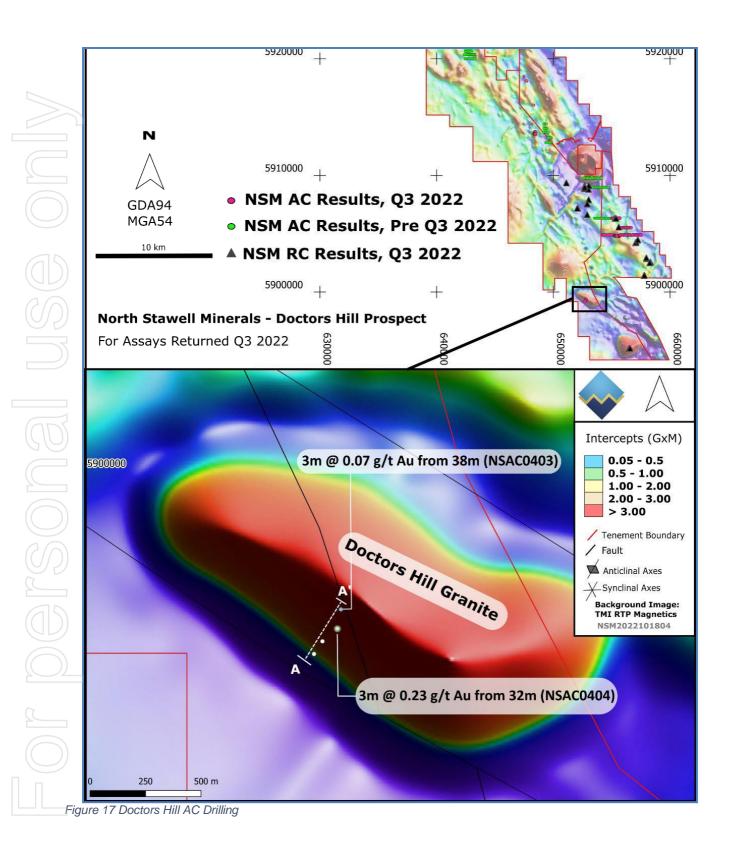
The Doctor's Hill target occurs within the Doctors Hill Granodiorite intrusion beneath shallow cover. The Doctor's Hill Granodiorite is bounded by late faults (the western continuation of the Wildcat Fault and South Fault at Stawell) (Figure 12). This is the same fault-bounded corridor that hosts the Wonga deposit (294 koz Au at 4.31 g/t Au), which occurs adjacent to the Snake Eyes Granodiorite. Both Wonga and Doctors Hill occur where major belt-parallel structures (The Stawell Fault and the Mt Pleasant Fault respectively) are cut by the late NNE faults. Both granodiorites occur in extremely similar structural-intrusive settings (Figure 12).

Results include encouraging gold anomalism in the granodiorite:

- 3.00m @ 0.23 g/t Au from 32.00m (NSAC0404)
- 3.00m @ 0.07 g/t Au from 38.00m (NSAC0403)

Further drilling is required to verify the intrusive host for gold.

Only four air core holes have been completed over the Doctor's Hill target, based on pXRF anomalism and geophysics. Of note, the footprint of the granodiorite includes anomalous REE (Neodymium and Praseodymium). Assay results returned anomalous gold in NSAC0404 (3m @ 0.23 g/t from 32m (Figures 17, 18) in the granodiorite. The drill holes intersecting hornfels zone/contact alteration zone returned no anomalous Au results, but continued to display elevated Neodymium and Praseodymium.



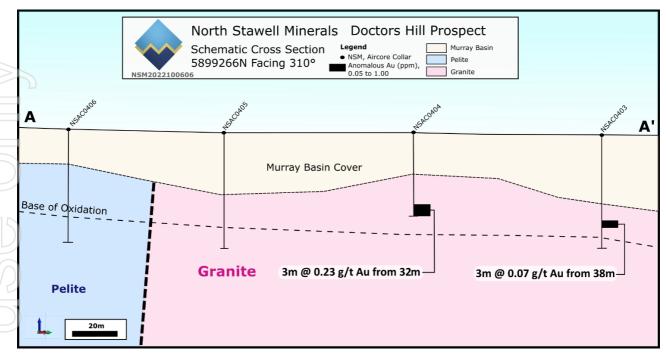


Figure 18 Doctors Hill AC Drilling Section

## **Darlington**

RC drilling was undertaken through Darlington to intersect the northern and southern strike extension of the historic workings associated with the Darlington Mine. Drilling targeted the potential link with the Caledonia workings to the NW (Figure 12).

Five RC holes were drilled, with each of the holes intersecting gold anomalism, on the interpreted strike extension of the historic Darlington Mine (Figure 12, 19).

Two holes (NSR0085 and NSR0086) tested an interpreted parallel structure, 1km southwest of the Darlington trend (Darlington East) that may be the southern continuation of the Caledonian target.

Significant and more substantial anomalous results include:

- 1m @ 3.96 g/t Au from 137m (NSR0086)
- 1m @ 1.53 g/t Au from 76m (NRS0080)
- 18m @ 0.33 g/t Au from 36m (NSR0080)
- 4m @ 0.75 g/t Au from 74m (NSR0080) Including 1m @ 1.56g/t Au from 76m
- 7m @ 0.27 g/t Au from 66m (NSR0081)
- 4m @ 0.41 g/t Au from 28m (NSR0082)
- 2m @ 0.21 g/t Au from 29m (NSR0084)
- 6m @ 0.27 g/t Au from 28m (NSR0085)
- 4m @ 0.36 g/t Au from 26m (NSR0086)

Significant and anomalous gold results have a strong correlation with arsenic anomalism (250-500 ppm As) associated with abundant quartz veining hosted in bleached sediments with moderate veining and sulphide occurrences. Further drilling will be required to better determine significant grades on this trend.

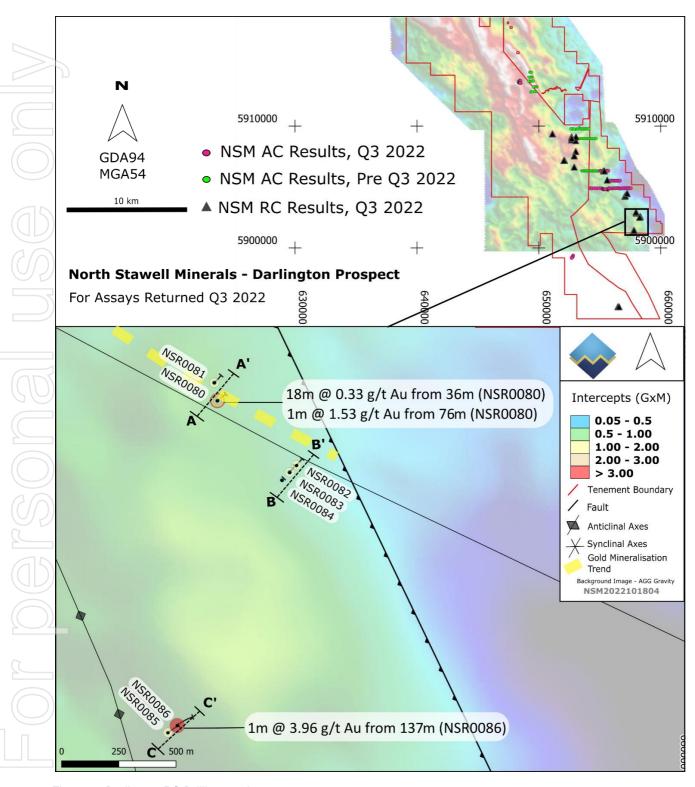
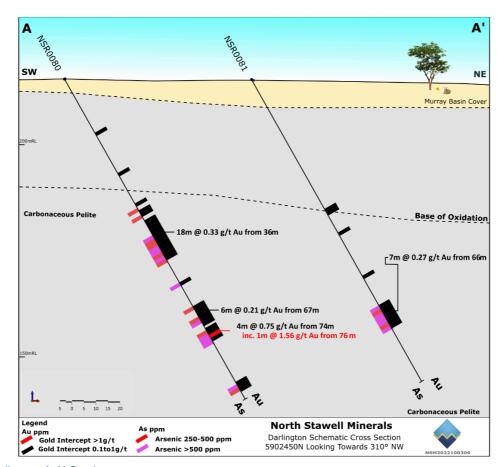


Figure 19 Darlington RC Drilling results



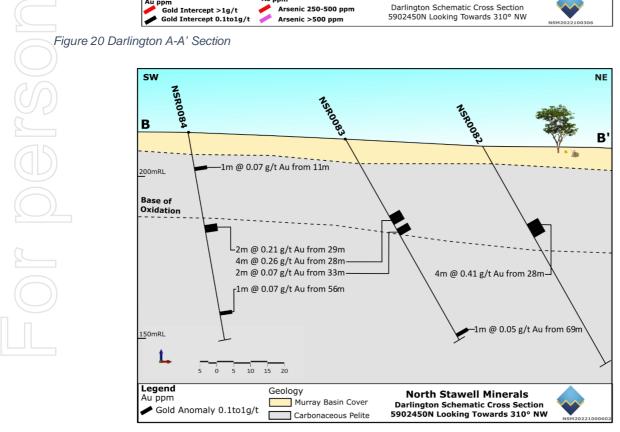


Figure 21 Darlington B-B' Section

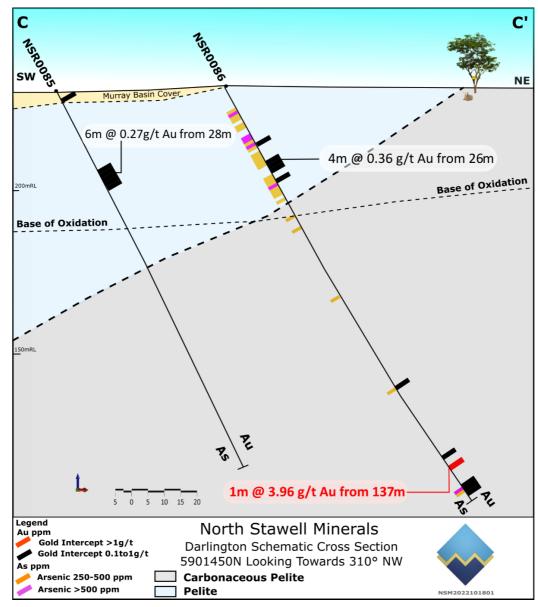


Figure 22 Darlington C-C' Section

#### Pleasant Creek

The Pleasant Creek prospect is located between the Stawell Granite and a strong coincident magnetic & gravity anomaly, potentially representing an embayment of sediments. Pleasant Creek's location at the margin of Stawell granite makes it an excellent candidate for IRG style gold mineralization. Historic drilling focused on the magnetic anomaly with anomalous gold seen in holes located near the margins of the magnetic feature. 2022 drilling results, also targeting the magnetic anomaly, includes:

- 1m @ 1.41 g/t Au from 112m (NSR0087)
- 1m @ 1.35 g/t Au from 168m (NSR0087)

The most recent two holes were drilled into the interpreted margin of the magnetic anomaly (Figure 23,24), hole NSR087 returned 1m @ 1.41g/t and 1m @ 1.36g/t. Intersection of a felsic dyke and a mafic-sediment contact has similarities to the geology at Stawell.

Further soil geochemistry will be used to determine if grades project towards surface to aid in future drilling through the region.

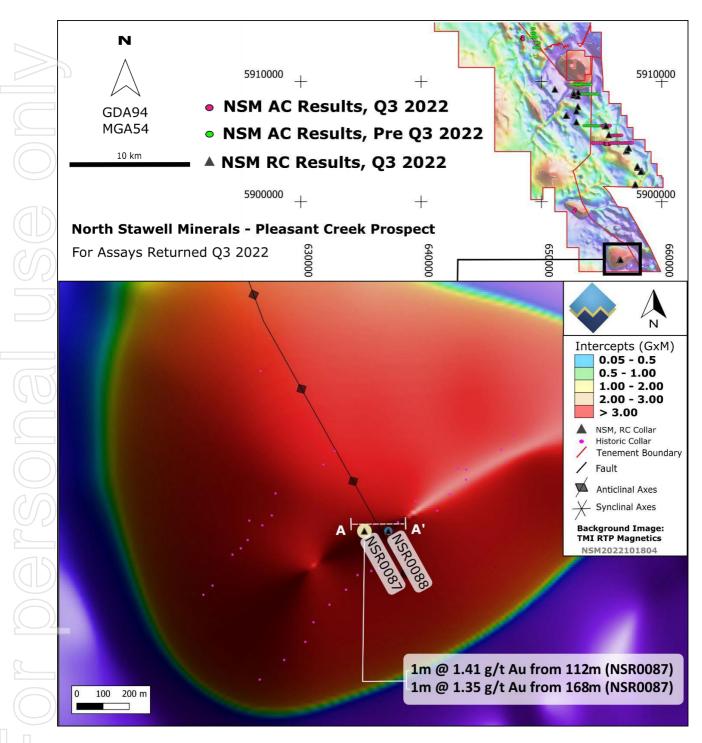


Figure 23 Pleasant Creek RC Drilling

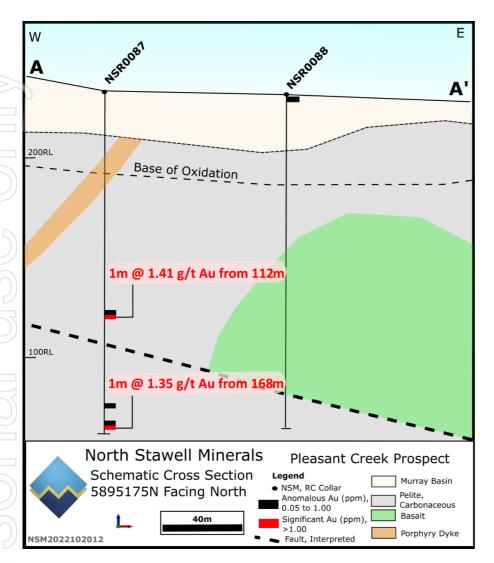


Figure 24 Pleasant Creek RC Section

#### Germania

The air core drilling at Germania targeted a geophysical feature with a strong magnetic signature adjacent to a structure associated with the Old Germania Mine (Figure 25). The drilling predominantly intersected moderately altered carbonaceous pelite.

The best anomalous results were seen in the pelitic unit, and included:

- 12m @ 0.17 g/t Au from 30m (NSAC0318)
- 3m @ 0.22 g/t Au from 57m (NSAC0318)
- 6m @ 0.21 g/t Au from 30m (NSAC0319)
- 3m @ 0.25 g/t Au from 39m (NSAC0319)
- 6m @ 0.10 g/t Au from 42m (NSAC0320)
- 12m @ 0.09 g/t Au from 30m (NSAC0321)
- 9m @ 0.11 g/t Au from 51m (NSAC0321)
- 9m @ 0.10 g/t Au from 30m (NSAC0324)
- 3m @ 0.06 g/t Au from 51m (NSAC0399)
- 3m @ 0.06 g/t Au from 45m (NSAC0400)
- 3m @ 0.06 g/t Au from 21m (NSAC0401)
- 3m @ 0.05 g/t Au from 30m (NSAC0401)
- 3m @ 0.08 g/t Au from 45m (NSAC0402)

Drilling includes minor sulphides and evidence of both chloritic and sericitic alteration seen throughout the unit. Significant percentages of quartz were also present. The host unit is considered to represent a narrow quartz vein setting.

The results highlight anomalism associated along the eastern section of the drill line crossing the southern portion of Germania. Although the drilling did not return significant alteration or mineralisation, minor sulphide development and quartz veining, particularly in NSAC0399 to NSAC0402 with coincident low-level anomalous intervals included (3m @ 0.08g/t, 3m @ 0.06g/t).

Further work will be required to determine if there is any strike extent to the North/West and South/East. Any follow up from this result will be low priority.

Three RC holes NSR073-NSR075 (303m) were drilled into these targets. No significant mineralisation was returned.

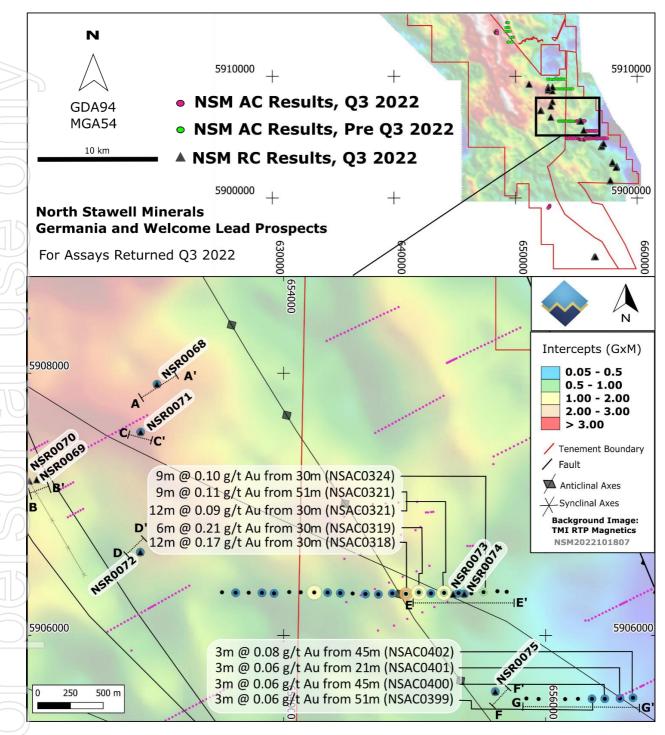


Figure 25 Germania air core drilling

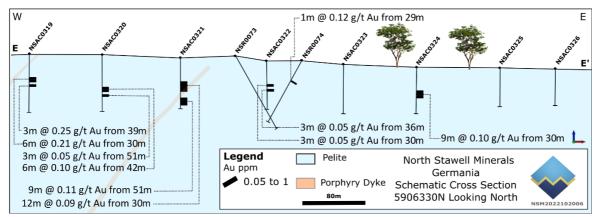


Figure 26 Most anomalous X Section

See Appendix 4 for additional cross sections.

#### Wimmera Park West

The Wimmera Park West target is an east-west geophysics-based target at the southwestern margin of the Wimmera Park granite. The anomaly was interpreted as a potential basalt.

Six RC holes were drilled into Wimmera Park West (NSR0062-NSR0067) for 612m (Figure 27). Drilling identified strongly carbonaceous graphitic shales with significant silicification and diagenetic sulphides. No basalts were intersected, but potential remains at depth.

A single significant intercept was returned:

• 1.00m @ 1.17 g/t Au from 93.00m (NSR0063)

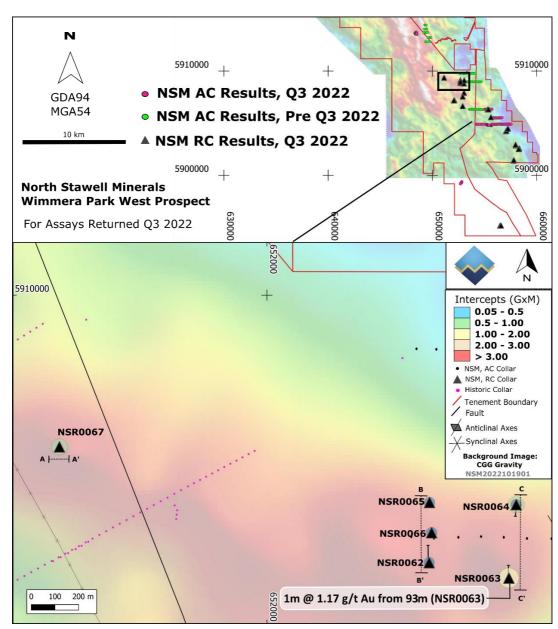


Figure 27 Plan Wimmera Park West

See Appendix 4 for remaining cross sections.

## Soil Sampling (XRF)

During the wet season, soils programs were accelerated throughout the southern NSM tenements. These were analysed with XRF, as well as all drilling from air core and RC campaigns. Approximately 4,400 soil samples were taken in areas not previously tested, on a nominal 100m x 50m sampling grid (Figure 28).

Locations were limited to areas where the cover sequence was less than 10m in thickness. Once the soil samples were taken, they were dried and then analysed using a p-XRF. Results for Arsenic (As) are in Figure 29. At the scale presented, rough trends in data are clear, including the northern continuation of the Stawell Fault. The XRF data end-use is for internal targeting. Any surface geochemistry to be reported will be assayed (or as a minimum validated) at an independent laboratory.

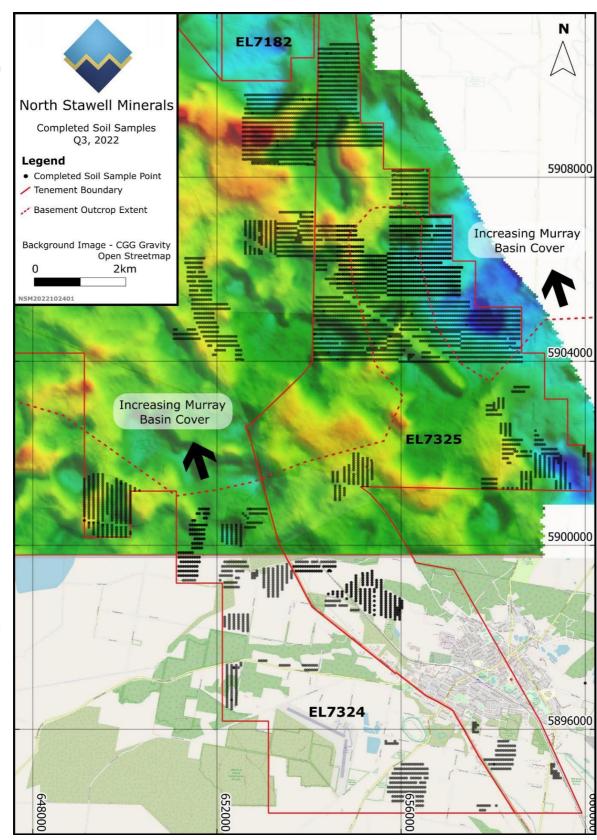


Figure 28 Soil samples taken during the quarter

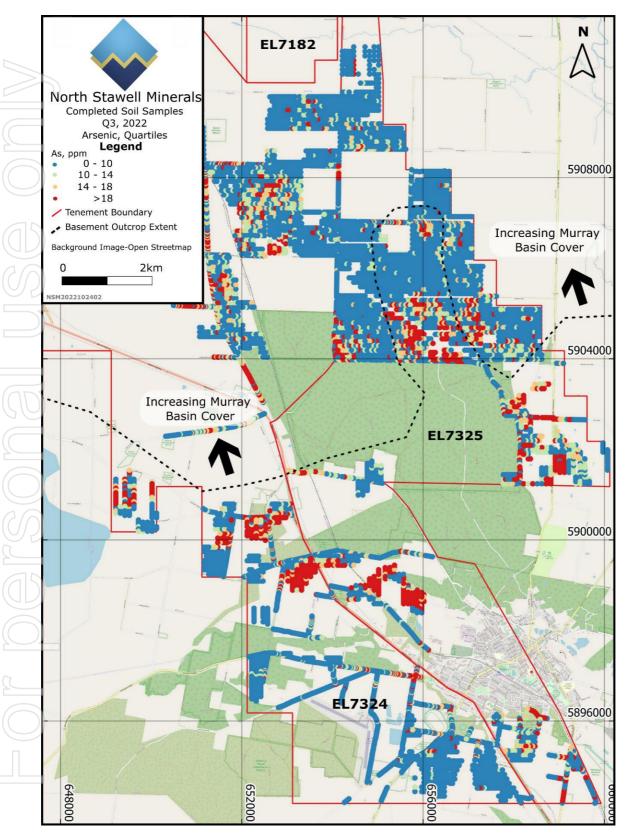


Figure 29 Soil results highlighting As. Several known gold trends (Darlington, Caledonia, Stawell fault and doctors Hill) are identifiable in the data, indicating that the XRF data will be useful for internal targeting purposes.

# FLEM Survey (Scallen Hill)

AGS completed three lines of Fixed Loop Electromagnetics (FLEM) using a single loop. A Fluxgate sensor was employed for the survey (Figure 30). The survey was planned to test the margins of the Scallans basalt dome for pyrrhotite- or magnetite-rich accumulations in a geological-mineralogical setting similar to Stawell. The FLEM survey was the least invasive option to test the flanks of the Scallans target, located beneath the centre of Stawell town.

The data quality is good for the southern half of the survey area, however the data quality of the main target area to the north is poor with electrical noise from the town's infrastructure overwhelming signal from bedrock. Signal levels are also low due to the location of the loop being restricted by land access agreements, resulting in reduced coupling with the target area.

No anomalies consistent with bedrock conductors are interpreted, however the high levels of electrical noise and low signal have significantly reduced the interpretability of the data.

As a result, this FLEM survey has not adequately explored the target area.

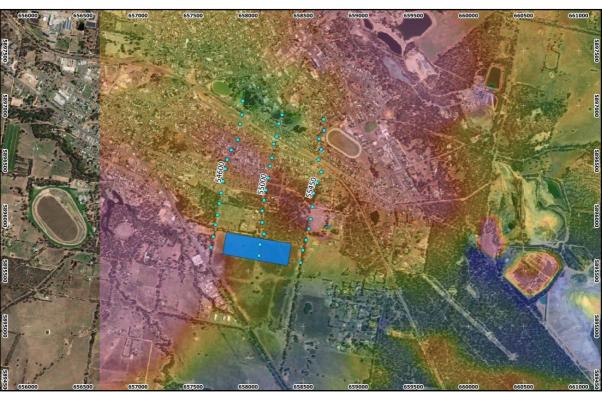


Figure 30 FLEM Survey, Scallens Hill

The Scallan Hill FLEM survey was conducted with the goal of identifying anomalies consistent with pyrrhotite mineralisation, which would provide a vector to associated gold mineralisation.

No anomalies consistent with bedrock conductors have been observed.

See Appendix 2 for complete drilling results and Appendix 4 for cross sections.

## References

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Cayley, R.A. & Taylor, D.H., **2001**. Ararat 1:100 000 map area geological report. Geological Survey of Victoria Report 115.

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Lisitsin, V.A., Olshina, A., Moore, D.H. and Willman, C.E. **2009**. Assessment of undiscovered mesozonal orogenic gold endowment under cover in the northern part of the Stawell Zone (Victoria). Gold Undercover Report 13. Department of Primary Industries.

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Schaubs, P. M., Rawling, T. J., Dugdale, L. J. and Wilson, C. J. L. **2006**. Factors controlling the location of gold mineralisation around basalt domes in the Stawell corridor: insights from coupled 3D deformation – fluid-flow numerical models, Australian Journal of Earth Sciences, 53:5, 841-862.

Winterbottom, J. and Holland, I. **2017**. Report on the Mineral Resources and Reserves of the Stawell Gold Mine in the state of Victoria, Australia. Technical Report. Kirkland Lake Gold.



# Finance and Use of Funds (1st Quarter ending 30 September 2022)

Pursuant to ASX Listing Rule 5.3.4, the Company advises the proposed use of Funds as per Section 4.7 of the Prospectus to actual use of funds as follows:

Funding Allocation	<u>Prospectus</u>	<u>FY21</u>	Sep Q FY22	Dec Q FY22	Mar Q FY22	June Q FY22	Sep Q FY23	Actual to date	<u>Variance</u>
Cost of IPO, Listing	2,128,000	2,200,400	-	-	-	-	-	2,200,400	72,400
Exploration (2 years)	13,949,000	4,605,000	437,900	444,300	730,200	1,792,800	384,129	8,394,329	-5,554,671
Capital Equipment	631,000	366,300	9,800	31,300	81,100	-18,336	-26,120	444,044	-186,956
Working Capital & Operating Expenses	3,292,000	1,049,956	477,892	308,816	448,942	363,962	527,776	3,177,344	-114,656
Total	20,000,000	8,221,656	\$ 925,592	\$ 784,416	\$ 1,260,242	\$ 2,138,426	\$ 885,784	\$14,216,117	-5,783,883

Cash at the end of the Quarter was \$5.78m. As per ASX Listing Rule 5.3.5 a Company is required to provide a description and explanation of any related party payments made during the quarter. \$65,350 in total, being for \$63,150 Director fee payments (inclusive of superannuation) and \$2,200 to Arete Capital Partners for media and administrative support.

This Announcement is authorised for release by Russell Krause, Chief Executive Officer of North Stawell Minerals Ltd

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For further information visit the website: <a href="https://www.northstawellminerals.com/">https://www.linkedin.com/</a> Visit us on LinkedIn: <a href="https://www.linkedin.com/company/north-stawell-minerals/">https://www.linkedin.com/company/north-stawell-minerals/</a> Visit us on Twitter: <a href="https://twitter.com/NorthStawell">https://twitter.com/NorthStawell</a>

# **About North Stawell Minerals Limited:**

North Stawell Minerals Limited (ASX: NSM) is an Australian-based gold exploration company focused on discovering large scale gold deposits in the highly prospective Stawell Mineralised Corridor in Victoria.

The Company is exploring prospective tenements located along strike of, and to the immediate north of the Stawell Gold Field which has produced in excess of five million ounces of gold. NSM's granted tenure has a total land area of 450 km². NSM believes there is potential for the discovery of large gold mineralised systems under cover, using Stawell Gold Mine's Magdala orebody as an exploration model to test 51km of northerly strike extension of the underexplored Stawell Mineralised Corridor.

#### Chief Executive Russell Krause said:

"NSM regards the northern Stawell Mineralised Corridor, over which NSM has a commanding ground position, to be one of Australia's most underexplored historic gold provinces, with significant potential to deliver multi-million-ounce gold mineralisation under shallow cover. Many prospects in the tenement area, tested by prior explorers, are demonstrated to be gold mineralised, and we are excited to incorporate this knowledge, regional re-interpretation, geophysical modelling, and the ongoing regional air core drilling program results into the exploration to deliver the next major Stawell Corridor exploration success – under cover.

# **Competent persons Statement**

The information that relates to Exploration Targets, Exploration Results and Mineral Resources is based on information compiled by Mr Bill Reid, a Competent Person who is a Member of The Australian Institute of Geoscientists (AIG) and Head of Exploration of North Stawell Minerals. Mr Reid 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' (2012 JORC Code). Mr Reid consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



# **Forward-Looking Statements**

This announcement contains "forward-looking statements" within the meaning of securities laws of applicable jurisdictions. Forward-looking statements can generally be identified by the use of forward-looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "believe", "continue", "objectives", "outlook", "guidance" or other similar words, and include statements regarding certain plans, strategies and objectives of management and expected financial performance. These forward-looking statements involve known and unknown risks, uncertainties and other factors, many of which are outside the control of NSM and any of its officers, employees, agents or associates. Actual results, performance or achievements may vary materially from any projections and forward-looking statements and the assumptions on which those statements are based. Exploration potential is conceptual in nature, there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Readers are cautioned not to place undue reliance on forward-looking statements and NSM assumes no obligation to update such information.

**Appendix 1: NSM Tenure Summary** 

Tenement	Status	Number	Area (km2)	Graticules <sup>1</sup>	Initial NSM holding	Earn-in potential
Wildwood	Granted	RL007051	50	50	51%	90%
Barrabool	Granted	EL5443	182	194	51%	90%
Glenorchy	Granted	EL006156	10	18	100%	n/a
West Barrabool Wimmera Park	Granted	EL007419	37	40	100%	n/a
Granite	Granted	EL007182	4.5	9	100%	n/a
Deep Lead	Granted	EL007324	167	209	51%	90%
Germania	Granted	EL007325	54	82	51%	90%
Total granted			504.5	602		

<sup>&</sup>lt;sup>1</sup> Exploration Licence areas in Victoria are recorded as graticular sections (or graticules). Graticules are a regular 1km by 1km grid throughout the state. The graticular sections recorded for an exploration licence is the count of each full graticule and each part graticule. If the tenement shape is irregular, the actual area (km²) is less than the graticular area.



Appendix 2: Air core drilling summary, September Quarter, 2022.

Hole ID	Prospect	MGA54 Easting	MGA54 Northing	RL	Azi deg	Dip deg	Final Depth (m)	Results Significant (g/t Au)	Results Anomalous (g/t Au)
NSAC0319^	GERMANIA	655032	5906328	228	0	-90	75	NSA	6.00m @ 0.21 ppm
NSAC0319^	GERMANIA	655032	5906328	228	0	-90	75	NSA	3.00m @ 0.25 ppm
NSAC0320^	GERMANIA	655125	5906321	228	0	-90	73	NSA	6.00m @ 0.10 ppm
NSAC0320^	GERMANIA	655125	5906321	228	0	-90	73	NSA	3.00m @ 0.05 ppm
NSAC0321^	GERMANIA	655225	5906325	223	0	-90	65	NSA	12.00m @ 0.09 ppm
NSAC0321^	GERMANIA	655225	5906325	223	0	-90	65	NSA	9.00m @ 0.11 ppm
NSAC0322^	GERMANIA	655335	5906323	220	0	-90	63	NSA	3.00m @ 0.05 ppm
NSAC0322^	GERMANIA	655335	5906323	220	0	-90	63	NSA	3.00m @ 0.05 ppm
NSAC0323^	GERMANIA	655433	5906321	215	0	-90	63	NSA	
NSAC0324^	GERMANIA	655526	5906330	211	0	-90	60	NSA	9.00m @ 0.10 ppm
NSAC0325^	GERMANIA	655632	5906337	211	0	-90	50	NSA	
NSAC0326^	GERMANIA	655703	5906333	209	0	-90	47	NSA	
NSAC0327^	CALEDONIA	654246	5904898	224	0	-90	45	NSA	3.00m @ 0.10 ppm
NSAC0327^	CALEDONIA	654246	5904898	224	0	-90	45	NSA	6.00m @ 0.17 ppm
NSAC0328^	CALEDONIA	654351	5904894	228	0	-90	45	NSA	3.00m @ 0.86 ppm
NSAC0329^	CALEDONIA	654544	5904897	231	0	-90	66	NSA	
NSAC0330^	CALEDONIA	654738	5904892	237	0	-90	60	NSA	3.00m @ 0.05 ppm
NSAC0330^	CALEDONIA	654738	5904892	237	0	-90	60	NSA	3.00m @ 0.20 ppm
NSAC0330^	CALEDONIA	654738	5904892	237	0	-90	60	NSA	3.00m @ 0.11 ppm
NSAC0331^	CALEDONIA	654946	5904898	235	0	-90	75	NSA	3.00m @ 0.05 ppm
NSAC0331^	CALEDONIA	654946	5904898	235	0	-90	75	NSA	2.00m @ 0.07 ppm
NSAC0332^	CALEDONIA	655150	5904895	228	0	-90	66	NSA	3.00m @ 0.05 ppm
NSAC0333^	CALEDONIA	655243	5904835	231	270	-60	71	NSA	3.00m @ 0.14 ppm
NSAC0334^	CALEDONIA	655273	5904823	232	270	-60	72	NSA	3.00m @ 0.06 ppm
NSAC0335^	CALEDONIA	655306	5904805	231	270	-60	78	NSA	
NSAC0336^	CALEDONIA	655346	5904812	230	270	-60	72	NSA	3.00m @ 0.05 ppm
NSAC0337^	CALEDONIA	655382	5904797	228	270	-60	75	NSA	
NSAC0338^	CALEDONIA	655423	5904809	226	270	-60	78	NSA	6.00m @ 0.30 ppm
NSAC0338^	CALEDONIA	655423	5904809	226	270	-60	78	NSA	3.00m @ 0.05 ppm
NSAC0339^	CALEDONIA	655664	5904775	228	270	-60	87	NSA	6.00m @ 0.13 ppm
NSAC0339^	CALEDONIA	655664	5904775	228	270	-60	87	NSA	3.00m @ 0.14 ppm
NSAC0339^	CALEDONIA	655664	5904775	228	270	-60	87	NSA	3.00m @ 0.05 ppm
NSAC0340^	CALEDONIA	655622	5904811	229	270	-60	84	NSA	
NSAC0341^	CALEDONIA	655576	5904812	230	270	-60	72	NSA	3.00m @ 0.08 ppm
NSAC0342^	CALEDONIA	655541	5904814	230	270	-60	75	NSA	3.00m @ 0.20 ppm
NSAC0343^	CALEDONIA	655505	5904813	229	270	-60	63	NSA	
NSAC0344^	CALEDONIA	655475	5904814	227	270	-60	54	NSA	6.00m @ 0.13 ppm
NSAC0344^	CALEDONIA	655475	5904814	227	270	-60	54	NSA	3.00m @ 0.06 ppm



NSAC0345^	CALEDONIA	655448	5904815	225	270	-60	51	NSA	3.00m @ 0.05 ppm
NSAC0345^	CALEDONIA	655448	5904815	225	270	-60	51	NSA	3.00m @ 0.06 ppm
NSAC0346^	CALEDONIA	655747	5904902	229	0	-90	75	NSA	3.00m @ 0.15 ppm
NSAC0347^	CALEDONIA	655836	5904896	223	0	-90	81	NSA	3.00m @ 0.06 ppm
NSAC0348^	CALEDONIA	655959	5904886	218	0	-90	54	NSA	3.00m @ 0.06 ppm
NSAC0348^	CALEDONIA	655959	5904886	218	0	-90	54	NSA	3.00m @ 0.10 ppm
NSAC0349^	CALEDONIA	656046	5904891	215	0	-90	33	NSA	
NSAC0350^	CALEDONIA	656148	5904896	214	0	-90	38	NSA	
NSAC0351^	CALEDONIA	656250	5904895	213	0	-90	45	NSA	3.00m @ 0.09 ppm
NSAC0352^	CALEDONIA	656341	5904904	213	0	-90	51	NSA	6.00m @ 0.08 ppm
NSAC0353^	CALEDONIA	656452	5904908	212	0	-90	45	NSA	
NSAC0354^	CALEDONIA	656565	5904902	212	0	-90	57	NSA	6.00m @ 0.09 ppm
NSAC0355^	CALEDONIA	656633	5904869	215	0	-90	67	NSA	3.00m @ 0.15 ppm
NSAC0355^	CALEDONIA	656633	5904869	215	0	-90	67	NSA	3.00m @ 0.07 ppm
NSAC0355^	CALEDONIA	656633	5904869	215	0	-90	67	NSA	3.00m @ 0.05 ppm
NSAC0356^	CALEDONIA	656746	5904883	218	90	-60	66	NSA	
NSAC0357^	CALEDONIA	656839	5904899	218	90	-60	66	NSA	3.00m @ 0.08 ppm
NSAC0358^	CALEDONIA	656954	5904897	219	90	-60	66	NSA	
NSAC0359^	CALEDONIA	657051	5904899	218	90	-60	72	NSA	3.00m @ 0.06 ppm
NSAC0359^	CALEDONIA	657051	5904899	218	90	-60	72	NSA	6.00m @ 0.08 ppm
NSAC0359^	CALEDONIA	657051	5904899	218	90	-60	72	NSA	3.00m @ 0.06 ppm
NSAC0360^	CALEDONIA	657148	5904902	216	90	-60	72	NSA	18.00m @ 0.19 ppm
NSAC0361^	CALEDONIA	657247	5904906	215	90	-60	72	NSA	3.00m @ 0.07 ppm
NSAC0362^	CALEDONIA	657352	5904904	216	270	-60	75	NSA	3.00m @ 0.06 ppm
NSAC0363^	CALEDONIA	657439	5904896	216	270	-60	69	NSA	
NSAC0364^	CALEDONIA	657543	5904899	215	270	-60	69	NSA	
NSAC0365^	GLENORCHY EAST	648429	5913720	173	270	-60	54	NSA	
NSAC0366^	GLENORCHY EAST	648453	5913717	174	270	-60	69	NSA	
NSAC0367^	GLENORCHY EAST	648486	5913718	175	270	-60	72	NSA	
NSAC0368^	GLENORCHY EAST	648393	5913574	171	270	-60	72	NSA	
NSAC0369^	GLENORCHY EAST	648425	5913561	171	270	-60	72	NSA	3.00m @ 0.06 ppm
NSAC0369^	GLENORCHY EAST	648425	5913561	171	270	-60	72	NSA	9.00m @ 0.10 ppm
NSAC0370^	GLENORCHY EAST	648448	5913551	172	270	-60	75	NSA	15.00m @ 0.09 ppm
NSAC0371^	GLENORCHY EAST	648471	5913547	172	270	-60	75	NSA	
NSAC0372^	OLD ROO	643928	5923465	160	270	-60	48	NSA	
NSAC0373^	OLD ROO	643941	5923466	161	270	-60	36	NSA	
NSAC0374^	OLD ROO	643958	5923466	161	270	-60	33	NSA	
NSAC0375^	OLD ROO	643971	5923465	160	270	-60	30	NSA	
NSAC0376^	OLD ROO	643992	5923466	160	270	-60	30	NSA	
NSAC0377^	OLD ROO	644009	5923465	159	270	-60	30	NSA	
NSAC0378^	OLD ROO	644026	5923466	158	270	-60	27	NSA	
NSAC0379^	OLD ROO	644042	5923466	158	270	-60	30	NSA	
NSAC0380^	OLD ROO	644060	5923466	159	270	-60	27 2.00m	n @ 1.48 ppm	2.00m @ 1.48 ppm
NSAC0381^	OLD ROO	644080	5923466	159	270	-60	45	NSA	3.00m @ 0.16 ppm
NSAC0382^	OLD ROO	644095	5923465	159	270	-60	45	NSA	3.00m @ 0.06 ppm
							N (1 0)	11 8 4	1 14 1 1 1 44



NSAC0383^	OLD ROO	644116	5923466	160	270	-60	45	NSA	
NSAC0384^	OLD ROO	644050	5923315	160	270	-60	51	NSA	
NSAC0385^	OLD ROO	644030	5923314	160	270	-60	51	NSA	
NSAC0386^	OLD ROO	644014	5923311	160	270	-60	53	NSA	
NSAC0387^	OLD ROO	643992	5923307	159	270	-60	45	NSA	
NSAC0388^	OLD ROO	643977	5923312	159	270	-60	45	NSA	
NSAC0389^	OLD ROO	643962	5923312	160	270	-60	47	NSA	
NSAC0390^	OLD ROO	643944	5923312	160	270	-60	40	NSA	3.00m @ 0.06 ppm
NSAC0391^	OLD ROO	643932	5923309	161	270	-60	45	NSA	
NSAC0392^	OLD ROO	644717	5923918	159	0	-90	40	NSA	3.00m @ 0.08 ppm
NSAC0392^	OLD ROO	644717	5923918	159	0	-90	40	NSA	1.00m @ 0.06 ppm
NSAC0393^	OLD ROO	644663	5923926	158	0	-90	71	NSA	
NSAC0394^	GERMANIA	655853	5905519	210	0	-90	36	NSA	
NSAC0395^	GERMANIA	655946	5905515	208	0	-90	60	NSA	
NSAC0396^	GERMANIA	656051	5905515	208	0	-90	66	NSA	
NSAC0397^	GERMANIA	656149	5905514	207	0	-90	60	NSA	
NSAC0398^	GERMANIA	656247	5905516	205	0	-90	60	NSA	
NSAC0399^	GERMANIA	656354	5905516	206	0	-90	66	NSA	3.00m @ 0.06 ppm
NSAC0400^	GERMANIA	656452	5905516	204	0	-90	72	NSA	3.00m @ 0.06 ppm
NSAC0401^	GERMANIA	656568	5905519	204	0	-90	63	NSA	3.00m @ 0.06 ppm
NSAC0401^	GERMANIA	656568	5905519	204	0	-90	63	NSA	3.00m @ 0.05 ppm
NSAC0402^	GERMANIA	656667	5905524	208	0	-90	57	NSA	3.00m @ 0.08 ppm
NSAC0403^	Doctors_Hill	652814	5899375	206	0	-90	50	NSA	3.00m @ 0.07 ppm
NSAC0404^	Doctors_Hill	652798	5899288	207	0	-90	37	NSA	3.00m @ 0.23 ppm
NSAC0405^	Doctors_Hill	652731	5899231	207	0	-90	51	NSA	

NSAC0406^

Doctors\_Hill

652693

5899174

209

-90

50

NSA



NSA – no significant assay anr – assays not returned. ^ Drilled June Quarter, assays returned this quarter \* end-of-hole mineralisation

# Appendix 3: RC drilling summary, September Quarter, 2022.

Hole ID	Prospect	MGA54 Easting	MGA54 Northing	RL	Azi deg	Dip deg	Final Depth (m)	Results Significant (g/t Au)	Results Anomalous (g/t Au)
NSR0062^	Germania	652686	5908869	190	344	-60	137	NSA	2.00m @ 0.06 ppm
NSR0062^	Germania	652686	5908869	190	344	-60	137	NSA	1.00m @ 0.07 ppm
NSR0062^	Germania	652686	5908869	190	344	-60	137	NSA	2.00m @ 0.12 ppm
NSR0062^	Germania	652686	5908869	190	344	-60	137	NSA	1.00m @ 0.41 ppm
NSR0062^	Germania	652686	5908869	190	344	-60	137	NSA	2.00m @ 0.12 ppm
NSR0063^	Germania	653023	5908804	204	340	-60	101	NSA	2.00m @ 0.21 ppm
NSR0063^	Germania	653023	5908804	204	340	-60	101	1.00m @ 1.17 ppm	1.00m @ 1.17 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.36 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.08 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.50 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.05 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.22 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	4.00m @ 0.07 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	3.00m @ 0.12 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	2.00m @ 0.12 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	3.00m @ 0.24 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	3.00m @ 0.15 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.06 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	2.00m @ 0.11 ppm
NSR0064^	Germania	653054	5909114	208	173	-60	101	NSA	1.00m @ 0.05 ppm
NSR0065^	Germania	652687	5909123	121	180	-70	59	NSA	1.00m @ 0.05 ppm
NSR0066^	Germania	652696	5908995	184	243	-87.7	125	NSA	1.00m @ 0.07 ppm
NSR0066^	Germania	652696	5908995	184	243	-87.7	125	NSA	2.00m @ 0.14 ppm
NSR0066^	Germania	652696	5908995	184	243	-87.7	125	NSA	2.00m @ 0.12 ppm
NSR0067^	Germania	651123	5909358	191	297	-89.6	89	NSA	6.00m @ 0.14 ppm
NSR0067^	Germania	651123	5909358	191	297	-89.6	89	NSA	1.00m @ 0.10 ppm
NSR0067^	Germania	651123	5909358	191	297	-89.6	89	NSA	3.00m @ 0.11 ppm
NSR0067^	Germania	651123	5909358	191	297	-89.6	89	NSA	2.00m @ 0.06 ppm
NSR0067^	Germania	651123	5909358	191	297	-89.6	89	NSA	2.00m @ 0.36 ppm
NSR0068^	Germania	653034	5907917	196	225	-60	108	NSA	1.00m @ 0.07 ppm
NSR0069^	Germania	652116	5907188	196	75	-60	58	NSA	
NSR0070^	Germania	652060	5907177	197	75	-60	22	NSA	
NSR0071^	Germania	652909	5907552	208	281	-56.5	166	NSA	1.00m @ 0.17 ppm
NSR0072^	Germania	652906	5906636	212	72	-60	114	NSA	3.00m @ 0.19 ppm
NSR0072^	Germania	652906	5906636	212	72	-60	114	NSA	3.00m @ 0.06 ppm



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	NSR0072^	Germania	652906	5906636	212	72	-60	114	NSA	1.00m @ 0.16 ppm
	NSR0073^	Germania	655294	5906314	226	90	-60	107	NSA	
	NSR0074^	Germania	655380	5906318	219	270	-60	89	NSA	1.00m @ 0.12 ppm
	NSR0075^	Germania	655616	5905571	222	50	-60.1	107	NSA	1.00m @ 0.09 ppm
	NSR0075^	Germania	655616	5905571	222	50	-60.1	107	NSA	1.00m @ 0.08 ppm
	NSR0075^	Germania	655616	5905571	222	50	-60.1	107	NSA	1.00m @ 0.08 ppm
	NSR0075^	Germania	655616	5905571	222	50	-60.1	107	NSA	1.00m @ 0.05 ppm
	NSR0076^	Caledonia	657051	5904224	225	48	-60.88	105	NSA	1.00m @ 0.11 ppm
	NSR0076^	Caledonia	657051	5904224	225	48	-60.88	105	NSA	1.00m @ 0.12 ppm
	NSR0076^	Caledonia	657051	5904224	225	48	-60.88	105	NSA	1.00m @ 0.36 ppm
	NSR0076^	Caledonia	657051	5904224	225	48	-60.88	105	NSA	1.00m @ 0.09 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	1.00m @ 12.15 ppm	14.00m @ 1.60 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	1.00m @ 1.10 ppm	14.00m @ 1.60 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	3.00m @ 2.34 ppm	14.00m @ 1.60 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	2.00m @ 0.14 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	2.00m @ 0.15 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	1.00m @ 0.06 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	1.00m @ 0.08 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	1.00m @ 1.22 ppm	3.00m @ 0.55 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	1.00m @ 0.05 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	1.00m @ 0.11 ppm
	NSR0077^	Caledonia	657097	5904277	223	40	-59.97	107	NSA	1.00m @ 0.05 ppm
	NSR0078^	Caledonia	657227	5904453	217	44	-61.17	77	NSA	2.00m @ 0.06 ppm
	NSR0078^	Caledonia	657227	5904453	217	44	-61.17	77	NSA	1.00m @ 0.08 ppm
	NSR0079^	Caledonia	657252	5904477	216	47	-60.08	83	NSA	1.00m @ 0.11 ppm
	NSR0079^	Caledonia	657252	5904477	216	47	-60.08	83	1.00m @ 1.48 ppm	2.00m @ 0.77 ppm
	NSR0079^	Caledonia	657252	5904477	216	47	-60.08	83	NSA	3.00m @ 0.09 ppm
	NSR0079^	Caledonia	657252	5904477	216	47	-60.08	83	NSA	1.00m @ 0.07 ppm
	NSR0079^	Caledonia	657252	5904477	216	47	-60.08	83	NSA	2.00m @ 0.11 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	1.00m @ 0.21 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	3.00m @ 0.07 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	18.00m @ 0.33 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	1.00m @ 0.19 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	6.00m @ 0.21 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	1.00m @ 1.53 ppm	4.00m @ 0.75 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	4.00m @ 0.24 ppm
	NSR0080^	Darlington	657991	5902858	218	52	-60.48	95	NSA	1.00m @ 0.05 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	1.00m @ 0.07 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	2.00m @ 0.17 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	2.00m @ 0.13 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	1.00m @ 0.06 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	1.00m @ 0.07 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	1.00m @ 0.12 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	7.00m @ 0.27 ppm
	NSR0081^	Darlington	657978	5902936	217	46	-60.87	89	NSA	1.00m @ 0.08 ppm
	NSR0082^	Darlington	658336	5902575	209	44	-61.08	77	NSA	4.00m @ 0.41 ppm



NŠR0083^	Darlington	658307	5902545	212	42	-60.76	71	NSA	4.00m @ 0.26 ppm
NSR0083^	Darlington	658307	5902545	212	42	-60.76	71	NSA	2.00m @ 0.07 ppm
NSR0083^	Darlington	658307	5902545	212	42	-60.76	71	NSA	1.00m @ 0.05 ppm
NSR0084^	Darlington	658274	5902510	214	40	-90	65	NSA	1.00m @ 0.07 ppm
NSR0084^	Darlington	658274	5902510	214	40	-90	65	NSA	2.00m @ 0.21 ppm
NSR0084^	Darlington	658274	5902510	214	40	-90	65	NSA	1.00m @ 0.07 ppm
NSR0085^	Darlington	657775	5901405	230	51	-61.21	129	NSA	3.00m @ 0.12 ppm
NSR0085^	Darlington	657775	5901405	230	51	-61.21	129	NSA	1.00m @ 0.07 ppm
NSR0085^	Darlington	657775	5901405	230	51	-61.21	129	NSA	6.00m @ 0.27 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	2.00m @ 0.09 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	4.00m @ 0.36 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	2.00m @ 0.14 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	1.00m @ 0.07 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	1.00m @ 0.05 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	1.00m @ 0.18 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	1.00m @ 0.05 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	1.00m @ 0.06 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	1.00m @ 0.22 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	1.00m @ 3.96 ppm	1.00m @ 3.96 ppm
NSR0086^	Darlington	657815	5901436	233	40	-60	150	NSA	3.00m @ 0.30 ppm
NSR0087^	Pleasant Creek	656492	5895168	236	295	-89.74	172	1.00m @ 1.41 ppm	2.00m @ 0.94 ppm
NSR0087^	Pleasant Creek	656492	5895168	236	295	-89.74	172	NSA	1.00m @ 0.06 ppm
NSR0087^	Pleasant Creek	656492	5895168	236	295	-89.74	172	1.00m @ 1.35 ppm	2.00m @ 0.84 ppm
NSR0088^	Pleasant Creek	656583	5895169	187	296	-88.94	167	NSA	1.00m @ 0.05 ppm
NSR0088^	Pleasant Creek	656583	5895169	187	296	-88.94	167	NSA	1.00m @ 0.06 ppm

NSA – no significant assay anr – assays not returned.

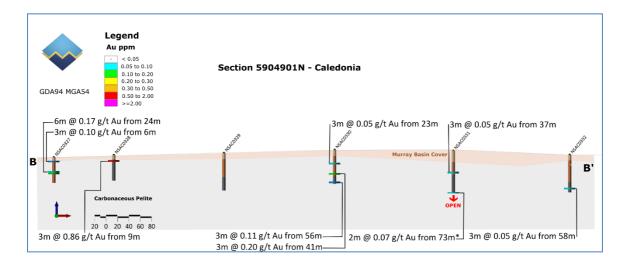
<sup>^</sup> Drilled June Quarter, assays returned this quarter

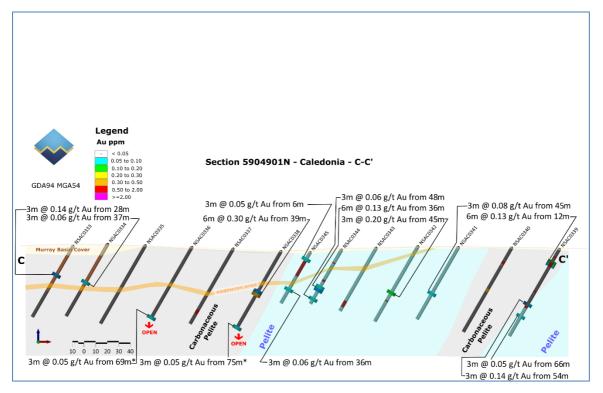
<sup>\*</sup> end-of-hole mineralisation



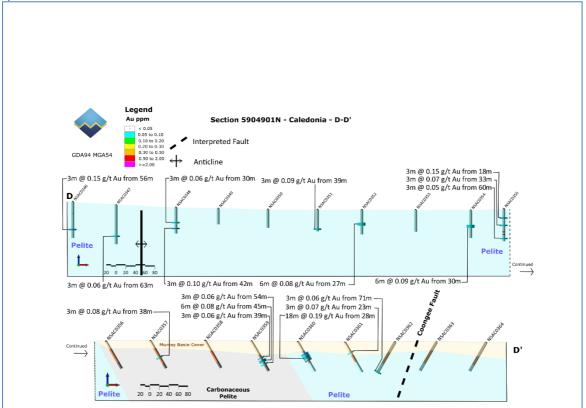
# **Appendix 4: Cross Sections**

#### Caledonia

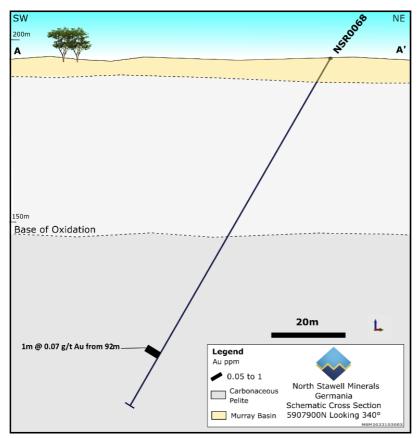




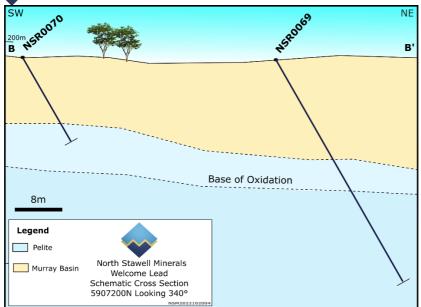


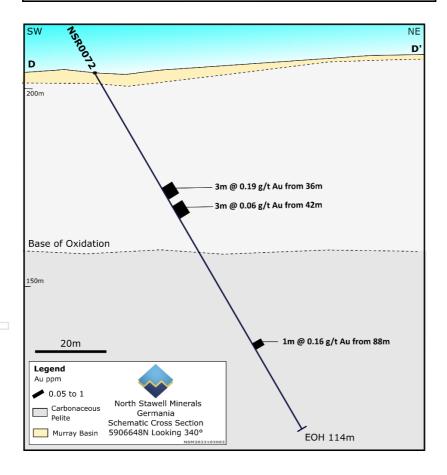


# Germania

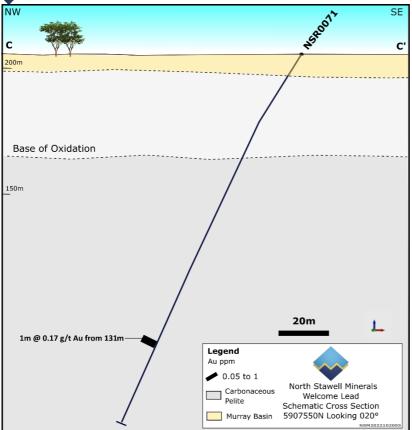


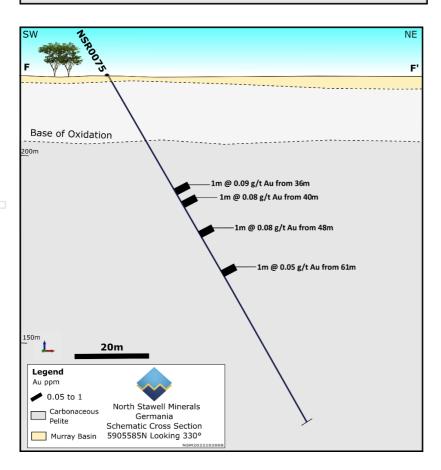














## JORC Table 1

# Section 1 Sampling Techniques and Data

Section 1 is divided into 2 sections by topic:

- a. Air core Drilling
- b. Reverse Circulation Drilling
- c. Historic Drilling

# Section 2 Reporting of Exploration Results

# a. Air core Drilling

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

what method, etc).

(Criteria in th	is section apply to all succeeding sections.)	
Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems.</li> </ul>	Sampling is conducted by collecting rock chips via air core drilling  Dry samples will be split with a 1/8 <sup>th</sup> riffle splitter. Wet sample comprise grabs. Each meter sampled is kept and stored for respites and or follow up analysis.  For wet samples 2-3kg of sample is grabbed every 3m composite. The sample is dried crushed and pulverised at a certified lab (Gekko Ballarat) and assayed for with a 50g charge.  For each meter of bedrock sample, a geochemistry bag full of sample is taken to be dried for later pXRF analysis.
Drilling techniques	Drill type (e.g., core, reverse circulation, open- hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by	Drilling is performed by a Mantis 80 Landcruiser mounted rig with 3m NQ rods.  Holes are vertical and angled.



#### Drill sample recovery

- chip sample recoveries and results assessed.
- and ensure representative nature of the samples.
- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.

Method of recording and assessing core and It is reported that when intercepting significant groundwater, the sample recovery decreased Measures taken to maximise sample recovery by up to 20%. Each meter is weighed in the field. Drillers are advised if sample return is deteriorating and requires improvement.

> Downhole sample contamination was reported on 25% of holes and, rarely, 10% of the total sample was contamination. Most of the material is barren Murray basin cover. Almost all samples are wet beneath the water table and some of the fine fractions are likely to be lost to overflow from the cyclone.

End of hole refusal 'core' was recovered on >85% of all holes drilled.

#### Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

Each hole was logged quantitively into a customized Excel spreadsheet with inbuild validation scripts.

All end of hole core was collected and XRF data was collected.

The regional, vanguard AC drilling is unlikely to be used to support mineral resource determination.

#### Sub-sampling techniques and If or all core taken. sample preparation

ore, whether cut or sawn and whether quarter,

on-core, whether riffled, tube sampled, rotary it, etc and whether sampled wet or dry. r all sample types, the nature, quality, and propriateness of the sample preparation hniaue.

ality control procedures adopted for all submpling stages to maximise representivity of mples.

asures taken to ensure that the sampling is resentative of the in-situ material collected. luding for instance results for field plicate/second-half sampling. ether sample sizes are appropriate to the grain e of the material being sampled.

Sampling protocol was based on observations in the logging and assigned by the rig geologist.

The standard sample interval was 3m composites. Resplits to 1m are submitted for any composite over 0.17g/t Au.

All bedrock (target) samples are wet Samples are kept and 'farmed' for follow up if required.

Field duplicates were inserted into the sample stream every ~20th sample. Duplicates were preferentially undertaken on meters that appear to be more likely to contain anomalous

Certified reference material (CRM) is inserted into the sample stream on every ~20th sample. CRM was inserted in between on meters that appear to be more likely to contain anomalous Au.

A blank was inserted into the sample stream after an interpreted anomalous zone or every ~30 samples.

Every sample was weighed in the field and varied between 1.5 and 3kg.

#### Quality of assay . data and laboratory tests

The nature, quality and appropriateness of the Analysis for gold is undertaken by ALS by 50g assaying and laboratory procedures used and fire assay with an AAS finish to a lower whether the technique is considered partial or detection limit of 0.01ppm Au using ALS total.



Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and	Drilling was designed as first pass regional exploration to collect basement geochemistry data thorough alluvial cover and hence vertical		
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation</li> <li>procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	Data spacing is typically 100m on drilling lines and ~300m between fences.  Data is not considered applicable to be included for Resource/Reserve estimation.  Sample compositing has not been applied to this drilling.		
Data		All collars are levelled to the DEM which was collected by AGG geophysics to a 1m accuracy.		
	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	The coordinates were collected in GDA94 / MGA zone 54		
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> </ul>	The collar coordinates were collected with a handheld GPS with an accuracy of 1.8m. The coordinates are input into the logging spreadsheet and are viewed in GIS software for validation.		
	<ul> <li>(Physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Data is presently being transferred to a third party geodatabase; further internal validations before export products are generated. Data is further validated visually in GIS and 3D software by North Stawell Minerals Personnel.		
assaying	<ul> <li>personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry</li> <li>procedures, data verification, data storage</li> </ul>	Data entry is via standardized Company excetemplates, using pre-set logging codes, with built in validation checks.		
Verification of sampling and	either independent or alternative company	The data has been verified by North Stawel Minerals Competent Person.		
		performing within acceptable limits.  Field duplicates, blanks and standards pass within acceptable variation.		
		Internal laboratory QAQC checks are reported by the laboratory and a review of the QAQC reports suggests that the laboratory is		
•	Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.	Samples processed at Gekko Assat Laboratory are dried, crushed and pulverised (<75um), analysed with Fire Assay for gold with an ICP acid digest for 10 elements (Ag As, Bi, Cd, Cu, Mo, Pb, Sb, W, Zn).		
·	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.	technique Au-AA26.  ALS also conduct a 33 element Four Aci digest ICP-AES (method: ME:ICP61) analysi on each sample to assist interpretation opathfinder elements.		
	For deaphysical tools spectrometers	TECHNIQUE AU-AAZE		



	the extent to which this is known, considering the deposit type.	Angled holes (1) have azimuths perpendicular to the regional trend.
	<ul> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	No material sample bias is expected or observed.
Sample security	The measures taken to ensure sample security.	Samples were returned to site each day and stored inside a secure, fenced area.
		Samples were loaded into labelled polyweave bags and secured with plastic wrap on pallets prior to transportation.
		Chain of custody is managed by internal staff and transport contractors. Drill samples are stored on site and transported by a licensed reputable transport company to ALS Laboratories or Gekko Assay Laboratories. Sample receipts are issued. At the laboratory samples are stored in a secured yard before being processed and tracked through preparation and analysis.
		Sample information other than the company name and the sample ID are not provided to the laboratories.
Audits or • reviews	The results of any audits or reviews of sampling	There has been no external audit of the Company's sampling techniques or data.

# b. Reverse Circulation Drilling

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under	RC sampling was at 1m intervals downhole. A cyclone sampler on the rig split samples into 2-3kg sub-samples for laboratory assay
	investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as	Each metre sampled is kept and stored for potential resplits and or follow up analysis.
	<ul> <li>limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> </ul>	For some samples in Murray Basin cover, 2-3kg of sample is grabbed every 3m composite. The sample is dried, crushed and pulverised at a certified lab (Gekko Ballarat) and assayed for with a 50g charge.
	<ul> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30g charge for fire</li> </ul>	For each metre of bedrock sample, a geochemistry bag full of sample is taken to be dried for later pXRF analysis



assay'). In other cases, more explanation may QAQC samples were inserted into the sample be required, such as where there is coarse gold that has inherent sampling problems.

stream approximately every 10th sample. including matrix matched standards (Oreas) and blanks consisting of barren quarry basalt. Repeats are inserted (at least 1/hole) and collected by a second 2-3kg split from the inline splitter.

#### **Drilling** techniques

Drill type (e.g. core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).

Drilling is performed by a UDR 1200 HC rig mounted on a MAN 8x4 with 9m 6" rods.

Pre-collars were drilled to competent bedrock where they were cased with PVC to contain overlying sediments, stabilise the hole and minimise contamination.

#### Drill sample recovery

- Method of recording and assessing core and chip sample recoveries and results assessed.
- and ensure representative nature of the samples.
- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.

RC chips were recovered from cyclone and riffle splitter attached to the drill rig in 1m Measures taken to maximise sample recovery intervals where they were deposited in green UV plastic bags.

> No loss of sample was recorded. Rod counts were routinely carried out by the driller and verified against end of hole logs.

#### Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.

Each hole was logged quantitively into a customized Excel spreadsheet with inbuilt validation scripts.

The RC drilling is unlikely to be used to support mineral resource determination.

#### Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether guarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.
- Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

Sampling protocol was based on observations in the logging and assigned by the rig geologist.

In areas with minimal Murray Basin cover RC sampling was through an integral riffle in the RC sample cyclone. Samples were mainly dry with occasional wet intervals.

Occasionally in areas of deep Murray Basin cover, samples 2-3kg samples were grabbed every 3m to form a composite.

The standard sample interval was 1m

Field duplicates were inserted into the sample stream every ~20th sample. Duplicates were preferentially undertaken on metres that appear to be more likely to contain anomalous Au.

Certified reference material (CRM) is inserted into the sample stream on every ~20th sample. CRM was inserted in between on metres that appear to be more likely to contain anomalous Au.

A blank was inserted into the sample stream



		after an interpreted anomalous zone or every ~30 samples. Every sample was collected in the field and varied between 1.5 and 3kg.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the</li> </ul>	Laboratory are dried, crushed and pulverised
	<ul> <li>parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted</li> </ul>	Internal laboratory QAQC checks are reported by the laboratory and a review of the QAQC reports suggests that the laboratory is performing within acceptable limits.
	(e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Field duplicates, blanks and standards pass within acceptable variation.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company	The data has been verified by North Stawell Minerals Competent Person.
	<ul> <li>personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry</li> <li>procedures, data verification, data storage</li> </ul>	Data entry is via standardized Company excel templates, using pre-set logging codes, with built in validation checks.
	<ul> <li>(physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Data is stored in a third-party geodatabase (datashed) and managed by an external DBA (EarthSQL); further internal validations before export products are generated. Data is further validated visually in GIS and 3D software by North Stawell Minerals Personnel.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	The collar coordinates were collected with a DGPS with an accuracy of 10cm. The coordinates are input into the logging spreadsheet and are viewed in GIS software for validation.
	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	Downhole surveys were carried out by MJ drilling personnel through usage of either TruShot or backup gyroscope in rare event of TruShot equipment failure.
		The coordinates were collected in GDA94 / MGA zone 54
		All collars are levelled to the DEM which was collected by AGG geophysics to a 1m accuracy.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> </ul>	Minimum data spacing is 40m between all RC
	<ul> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve</li> </ul>	collars on fences, with greater than 50% of
	estimation	Data is not considered applicable to be

Data is not considered applicable to be

this drilling.

included for Resource/Reserve estimation.

Sample compositing has not been applied to

estimation

applied.

procedure(s) and classifications applied. Whether sample compositing has been



#### Orientation of data in relation to geological structure

Whether the orientation of sampling achieves Drilling was designed as targeted exploration unbiased sampling of possible structures and which would verify deep geophysical targets the deposit type.

the extent to which this is known, considering which were expected at target depths beyond Murray Basin and bedrock interface.

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.

Angled holes are planned with azimuths perpendicular to the regional trend and designed to drill from interpreted unmineralized structures and units into potential mineralisation.

No material sample bias is expected or observed.

#### Sample security

The measures taken to ensure sample security.

Samples were returned to site each day and stored inside a secure, fenced area.

Samples were loaded into labelled polyweave bags, zip tied and secured with plastic wrap on pallets prior to transportation.

Chain of custody is managed by internal staff and transport contractors. Drill samples are stored on site and transported by a licensed reputable transport company to Gekko Assay Laboratories, Ballarat. Sample receipts are issued. At the laboratory samples are stored in a secured yard before being processed and tracked through preparation and analysis.

Sample information other than the company name and the sample ID are not provided to the laboratories.

#### Audits or reviews

The results of any audits or reviews of sampling

There has been no external audit of the Company's sampling techniques or data.

## c. Historic Drilling

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

#### Criteria **JORC Code explanation**

#### Commentary

# Sampling techniques

- Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.
- Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems
- Aspects of the determination of mineralisation that are Material to the Public Report.
- In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30g charge for fire assay'). In other

Historic results (only depicted on Figures) are from previous exploration conducted by past explorers including Rio Tinto Exploration, WMC Resources, Leviathan Corporation, Highlake Resources, Planet Resources and Stawell Gold Mines.



cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems.

# Drilling techniques

- Drill type (e.g., core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, facesampling bit or other type, whether core is oriented and if so, by what method, etc).
- A variety of techniques have been used in historic drilling and includes regional lines of RAB or Air core drilling (357 of 732 historic holes) over identified structures or geophysical anomalies. Follow up historic RC drilling (233 holes) under AC anomalies occur is sound practice. Pattern drilled RC at Wildwood is likewise an industry standard for resource drilling. Forty-eight historic diamond holes (8,228m) were completed – mainly focused on near Mine targets in the south and in the Wildwood Project area (RL007501).
- Standard Industry techniques have been used for historic drilling where documented.

# Drill sample recovery

- Method of recording and assessing core and chip sample recoveries and results assessed.
- Measures taken to maximise sample recovery and ensure representative nature of the samples.
- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.
- For historic data, if available, drilling data recoveries (e.g., weights for historic AC/RC drilling and recoveries for historic diamond drilling are recorded.
- No tests for bias are identified yet for historic results.

#### Logging

- Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.
- Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.
- The total length and percentage of the relevant intersections logged.
- Geological logging of historic holes, where reviewed, follows industry common practice. Qualitative logging includes; lithology, mineralogy, alteration, veining and weathering and (for core) structures.
- All historic logging is quantitative, based on visual field estimates.

#### Sub-sampling techniques and sample preparation

- If core, whether cut or sawn and whether quarter, half or all core taken.
- If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.
- For all sample types, the nature, quality, and appropriateness of the sample preparation technique.
- Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.
- Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.
- Whether sample sizes are appropriate to the grain size of the material being sampled.

- Standard industry practices are expected to be in place. However, QAQC data is incomplete in the historic data. It is considered that appropriate analytical methods have been used by historic explorers.
- Historic core sampling is typically sawn half-core.
- Historic RC and AC samples are typically riffle split or spear sampled. Information is not always complete.
- Historic sampling is typically dry.

## Quality of assay • data and laboratory tests

The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.

- For geophysical tools, spectrometers, handheld XRF instruments, etc, the
- Historic assays include gold +/- arsenic and base metals. Assays are generally aqua regia or fire assay. Detection limits and techniques are appropriate for historic results.



parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.

 Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.

# Verification of sampling and assaying

- The verification of significant intersections by either independent or alternative company personnel.
- The use of twinned holes.
- Documentation of primary data, data entry
- procedures, data verification, data storage
- (Physical and electronic) protocols.
- Discuss any adjustment to assay data.
- Historic intercepts have not been verified by the Company. The data from WMC, Leviathan and Stawell Gold Mines has been verified as part of entering data into geological databases.
- No adjustments to assay data have been made.

# Location of data points

- Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.
- Specification of the grid system used.
- Quality and adequacy of topographic control.
- Locations for historic collars have been captured in WGS84, AGD 66 and GDA94 projected coordinates or in local grids. All data is reprojected as GDA94 MGA54.
- Historic drill collars have been determined with several techniques, ranging from survey pick-up through differential GPS.
- Topographic data is based on generational topographic maps and/or survey pick-up. Topographic control, for regional exploration, has not been validated.
- Future use of data will verify recorded elevations against high-resolution topographic data acquired by NSM.

# Data spacing and distribution

- Data spacing for reporting of Exploration Results.
- Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation
- procedure(s) and classifications applied.
- Whether sample compositing has been applied.
- Historically, variable drill hole spacings are used to test targets and are determined from geochemical, geophysical, and geological data.
- Historic regional and geochemical drilling (AC) is drilled on strike perpendicular fences, with approx. 100m hole spacings and 100-400m line spacing
- Historic RC sampling is generally specifically targeted to follow up AC results. Minor RC fences are drilled, on 30-200m spacing.
- Historic diamond drilling is located to follow up on specific prior results or targets.
- Historic data in the footprint of the tenement EL007324 were designed and executed as regional exploration. The historic drilling data has not been reviewed for its appropriateness to inform Mineral Resource Classification.

Orientation of data in relation to geological structure

- Whether the orientation of sampling achieves unbiased sampling of possible structures and
- The historic drill orientation is perpendicular to the regional geology and known



the extent to which this is known, considering the deposit type.

mineralised trends previously identified from earlier drilling.

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.

#### Sample security

- The measures taken to ensure sample security.
- Sample security has not been reviewed for the historical data.

#### **Audits** reviews

or . The results of any audits or reviews of sampling There has not been internal or external audit or review of historic assays identified.

# Section 2 Reporting of Exploration Results

## Criteria

#### Mineral tenement and land tenure status

#### **JORC Code explanation**

- Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.
- The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.

#### Commentary

Current tenements are summarised Appendix 1 -Table 1 of the announcement. Historic tenements are identified from the Victorian Government Geovic online spatial resource

All granted tenements are current and in good standing.

The project area occurs on freehold land. Minor Crown Land (>3%) and Restricted Crown Land (>1%) is identified. All areas are accessible if appropriate land access requests and agreements are in place.

The Victorian Governments Geovic spatial online resource does not identify any material cultural, environmental, historic occurrences

The southern end of EL007324 encompasses parts of the Stawell Township. These areas are complicated by dense, urban freehold land parcels, and challenges gaining access may occur if attempted.

EL007324 is held by Stawell Gold Mines (SGM). North Stawell Minerals has an earn-in agreement with SGM. Initial Interest is 51%. Up to 90% earn-in can be achieved on meeting agreement conditions.

Tenement security is high, established in accordance with the Victorian Mineral Resources Act (MRSDA) and Regulations (MR(SD)(MI)R 2019).



Exploration done by other parties

Acknowledgment and appraisal of exploration by other parties.

Victorian Exploration licences are granted for a 5-year initial term with an option to renew for another 5 years. Compulsory relinquishments are as follows; end of year 2 - 25%: end of year 4 - 35%: end of year 7 - 20%: end of year 9 - 10% (see Appendix 1: NSM tenement summary).

The Tenure area has been explored in several campaigns since the 1970's, principally by companies related to Stawell Gold Mines and its predecessors (initially WMC Resources in the 1970's, Leviathan Resources and then subsequent owners).

Rio Tinto Exploration, Planet Exploration, Highlake Resources and Iluka Resources have also held parts of the tenement historically.

Public data available on exploration programmes has been downloaded from the Victorian State Governments' GeoVic website and sometimes describes exploration strategy, which is consistent with exploring for gold mineralisation under shallow cover into structural targets generated from available geochemistry and geophysics.

Although NSM has reviewed and assessed the exploration data, it has only limited knowledge of the targeting and planning process and, as a consequence, has had to make assumptions based on the available historical data generated by these companies. However, the methodology appears robust.

Work by Iluka was for Heavy Minerals exploration and is not material to gold exploration.

Most programs include regional lines of RAB or AC drilling (577 of 650 holes) over identifiable magnetic highs. Follow up RC drilling (58 holes) under AC anomalies occur is sound practice. Eleven diamond holes (2419m) are completed – mainly focused on near Mine targets in the south.

Work has identified large, low grade gold anomalism along major interpreted structures (magnetics) and represents a technical success.

In the far south of tenement EL007324 and EL007325, exploration is typically testing for fault-repeats of the Stawell-type mineralisation, cantered on magnetic anomalies. Basalt 'dome' analogies were

identified with minor associated gold mineralisation.



Geology

 Deposit type, geological setting and style of mineralisation. The project areas are considered prospective for the discovery of gold deposits of similar character to those in the nearby Stawell Gold Mine, particularly the 5Moz Magdala gold deposit located over the Magdala basalt dome. The Stawell Goldfield has produced approximately 5 million ounces of gold from hard rock and alluvial sources. More than 2.3 million ounces of gold have been produced since 1980 across more than 3 decades of continuous operation.

Orogenic Gold occurrences are possible away from the basalt domes.

Wonga-style mineralisation is possible, interpreted as Intrusive-Related Gold, and may be either an upgrade on prior (orogenic mineralisation) or a fresh mineralisation event.

The geological setting is a tectonised accretionary prism on the forearc of the Delamerian-aged Stavely Arc active plate margin.

Elements of the subducting tholeiitic basaltic ocean crust are incorporated into the accretionary pile and are important preparatory structures in the architecture of Stawell-type gold deposits.

Mineralisation is a Benambran-aged hydrothermal (orogenic gold) overprinting event — penecontemporaneous with other major mineralisation events in western and central Victoria (e.g., Ballarat, Bendigo, Fosterville).

#### Drill hole Information

- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:
  - easting and northing of the drill hole collar
  - elevation or RL (Reduced Level– elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth
  - hole length.
- If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.

Details of all air core drilling is summarised in Appendix 2 of this report

Sections and plans with summaries of assay are included in the body of the document for all drilling completed.

Summary tables of drillhole data are included.

Pathfinder elements determined by ICP for Gekko samples are not reported – these are vectors to mineralisation. Where discussed in the text, laboratory analyses for these elements are described in qualitative terms.



Data	
aggregation	
methods	

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.
- Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

Only results with anomalous gold values (>0.05ppm) have been reported.

No metal equivalents have been reported No metal equivalent reporting is used or applied.

For significant results (<1g/t Au) No external dilution is used. Internal dilution up to 2m so long as the average grade remains significant.

For anomalous results (1 g/t Au>assay>0.05 g/t Au) no internal or external dilution is used.

"including" results will be stated where the included result is an order of magnitude greater that the larger intercept.

#### Relationship between mineralisation widths and intercept lengths

- These relationships are particularly important in the reporting of Exploration Results.
- If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').

AC/RC drillholes in this program were vertical and angled. Intercept lengths are down-hole length.

Orientations of mineralisation are not known but are expected to be sub-vertical to moderately dipping.

#### Diagrams

 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. Diagrams are included in this report, including locations, plans and sections and areas mentioned in the text.

# Balanced reporting

 Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results. All drill holes have been surveyed by handheld GPS, which is considered an appropriate degree of accuracy for regional exploration air core drilling.

For the exploration results, only significant and anomalous exploration results are reported and described.

# Other substantive exploration data

Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.

Geophysical data is described in the text. Details of the processing methodology are available in Table 1 of the September 2021 Quarterly report and in Table 1, part B: Geophysical inversions.

#### Further work

- The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).
- Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.

Further campaigns of drilling will be based on the completion of the current air core programme, followed by evaluation of the data. For better results, infill drilling is expected to delineate trends.

Other drill rigs (RC or DD as appropriate) will

execute any deeper follow up work.