

Thursday's Gossan Porphyry Copper-Gold Project – Diamond Drilling Update

## Partial Assays from SMD049 Return Unexpected Gold Intervals

*Recently completed drill hole SMD049 has returned unexpected gold intervals interpreted to represent a late gold overprint*

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### Highlights

- Deep diamond drill hole SMD049, drilled to target the source porphyry for the polymetallic high-grade structurally-controlled copper-gold-silver mineralisation intersected in recent drilling, has been completed at a depth of 1,767.6m.
- Assays have been received for a portion of the drill hole down to 1,325m with significant results including:
  - 17m @ 0.30% Cu from 583m down-hole including
    - 6m @ 0.43% Cu and 0.26g/t Au from 587m down-hole
  - 37m at 0.26% Cu from 664m down-hole
  - 22m @ 0.11% Cu, 0.49g/t Au from 1,223m down-hole including
    - 4m at 1.72g/t Au, including
      - 1m @ 5.52g/t Au
- While the hole is not believed to have intersected the porphyry responsible for the high-grade structurally-controlled polymetallic copper-gold-silver mineralisation, the hole is expected to provide further valuable information on the potential location of the source porphyry.
- Once all assays have been received and the short-wavelength infra-red data collected and processed, there will be a review of the observations on this drill hole towards targeting a possible second deep drill hole.
- The drill rig is moving to hole SMD050 to test for shallow high-grade structurally-controlled polymetallic copper-gold-silver mineralisation on the Ultramafic contact fault (UCF), where previously reported copper-gold-silver intercepts include:
  - 7.7m at 4.1% Cu, 1.1g/t Au and 25g/t Ag from 94.7m in drill hole SNDD001
  - 9.5m at 2.9% Cu, 0.4g/t Au and 40g/t Ag from 154.6m in SNDD001
  - 3.1m at 1.72% Cu, 1.48g/t Au and 21g/t Ag from 216.9m in SMD007
  - 6m at 2.35% Cu, 1.05g/t Au and 48g/t Ag from 177m in SMD012
  - 3m at 4.14% Cu, 0.36g/t Au and 59g/t Ag from 87m in STRC013
  - 3m at 2.65% Cu, 1.17g/t Au and 68g/t Ag from 151m in STRD019D
  - 5m at 1.89% Cu, 0.24g/t Au and 7g/t Ag from 40m in STRC020D
  - 9m at 2.62% Cu, 0.28g/t Au and 10g/t Ag from 248m in SMD015

Stavely Minerals Limited (ASX Code: **SVY** – “Stavely Minerals”) is pleased to provide a brief update on deep diamond hole SMD049, which was recently completed at the **Thursday’s Gossan prospect**, part of its 100%-owned Stavely Copper-Gold Project in western Victoria (Figures 1, 2 and 3).

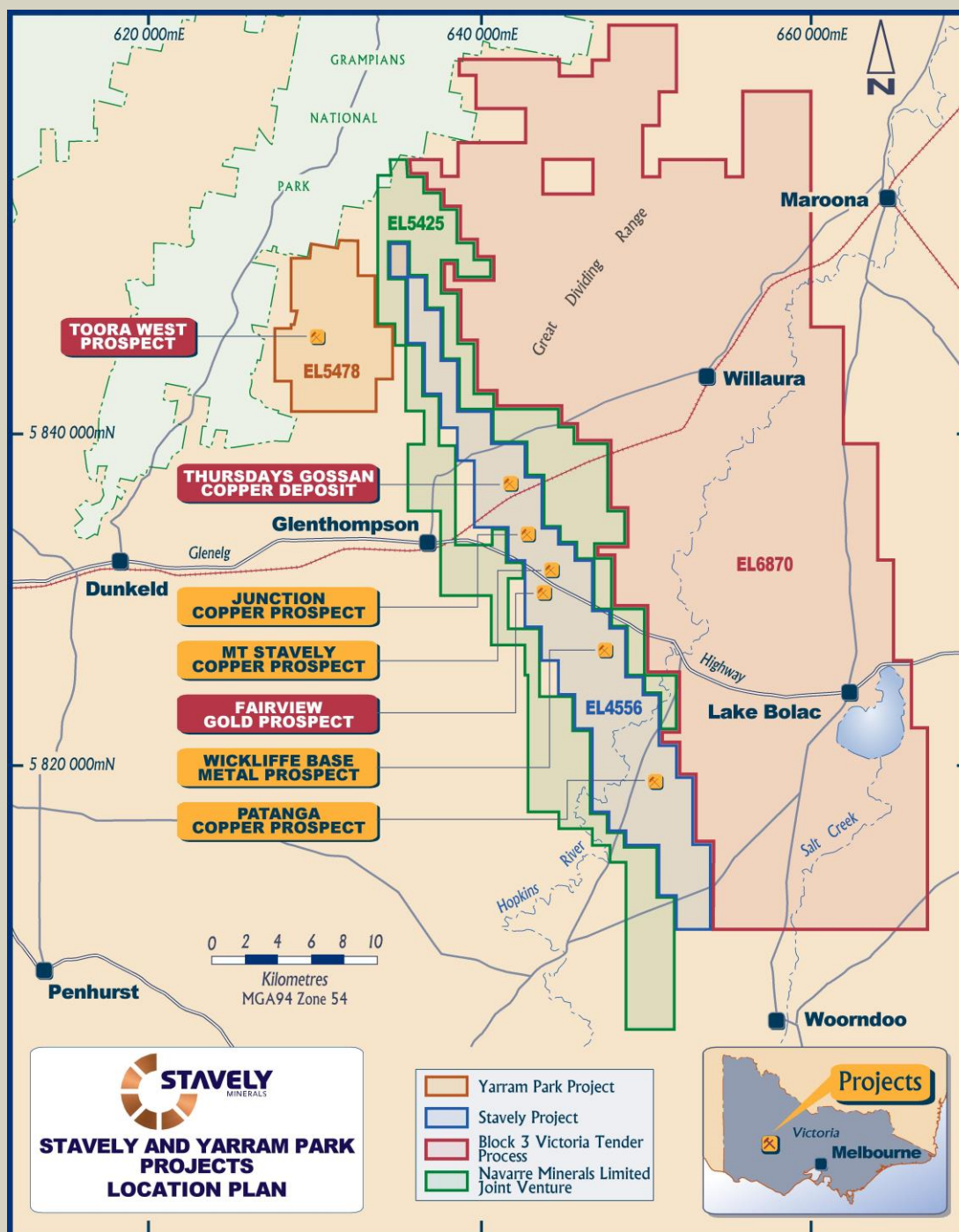
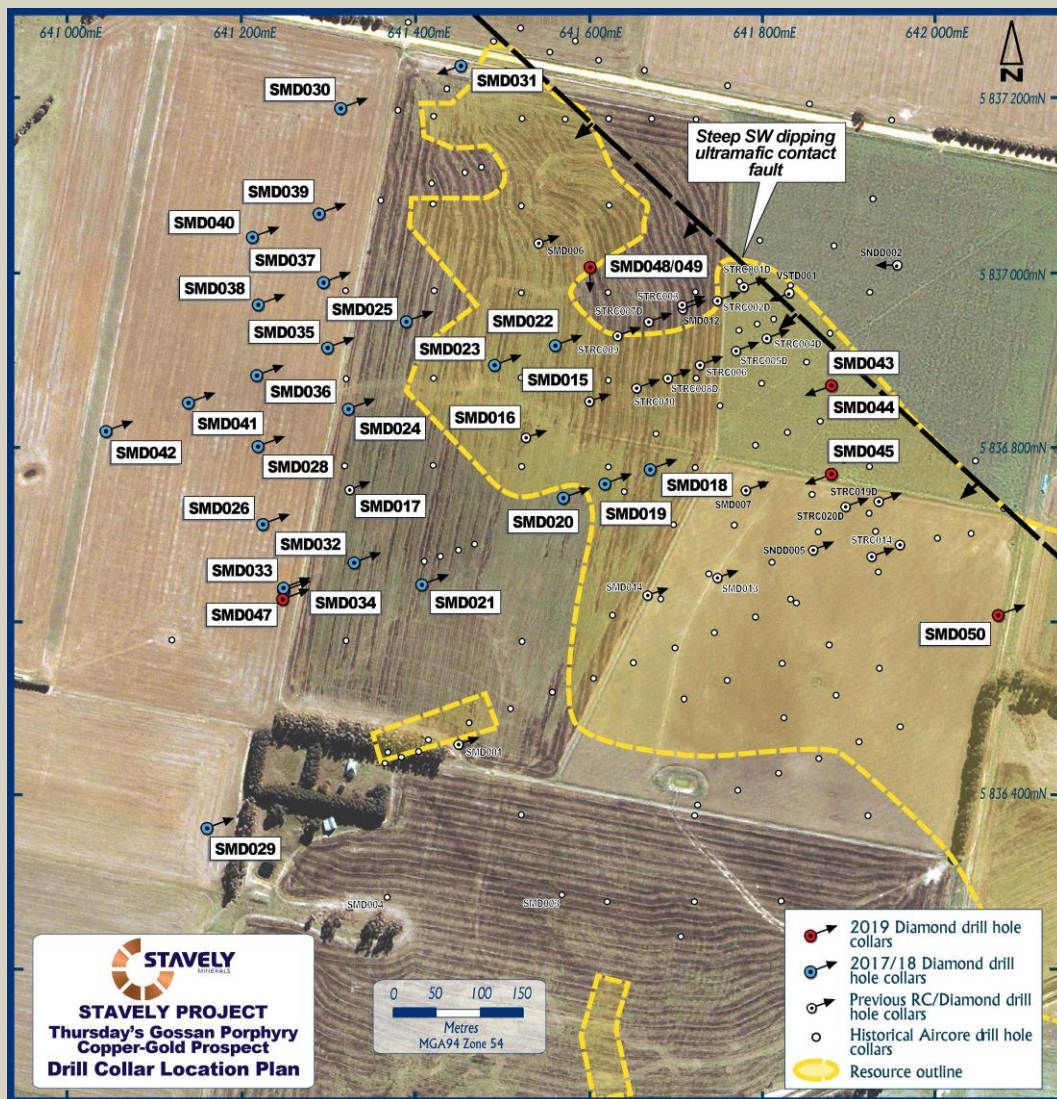


Figure 1. Stavely Project location map.

Hole SMD049 was designed to target the source porphyry believed to be responsible for high-grade structurally-controlled polymetallic epithermal copper-gold-silver mineralisation encountered in recent drilling (see recent ASX announcements).



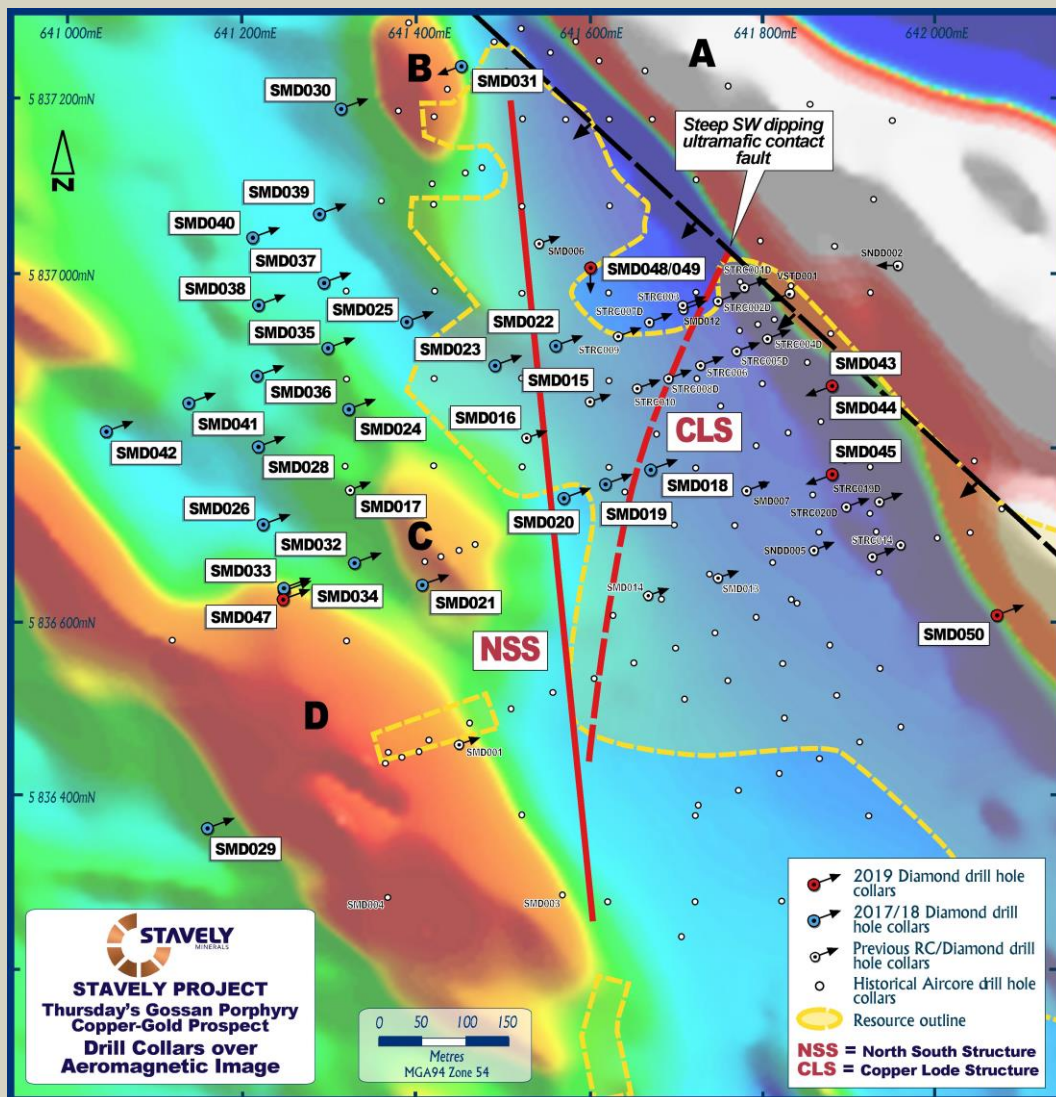


**Figure 2. Thursday's Gossan drill collar location plan.**

The hole, which was drilled from north to south, parallel to the mineralisation-hosting north-south structure (NSS), has now been completed at 1,767.6m depth.

While the hole is not believed to have intersected the source porphyry, as previously reported, the hole encountered appreciable molybdenite in porphyry A veins from 1,315m to approximately 1,440m down-hole. This is consistent with an outer molybdenite halo to a porphyry.

After passing through a shear around 1,443 to 1,445m drill depth, from 1,458m actinolite alteration began appearing in the quartz diorite porphyry (QDP). From 1,465.5m, porphyry A veins with quartz  $\pm$  actinolite and patchy disseminated magnetite and quartz-magnetite  $\pm$  chalcopyrite porphyry M veins made an appearance.



**Figure 3. Aeromagnetic image with drill collars and the surface projection of the North-South Structure and the Copper Lode Splay.**

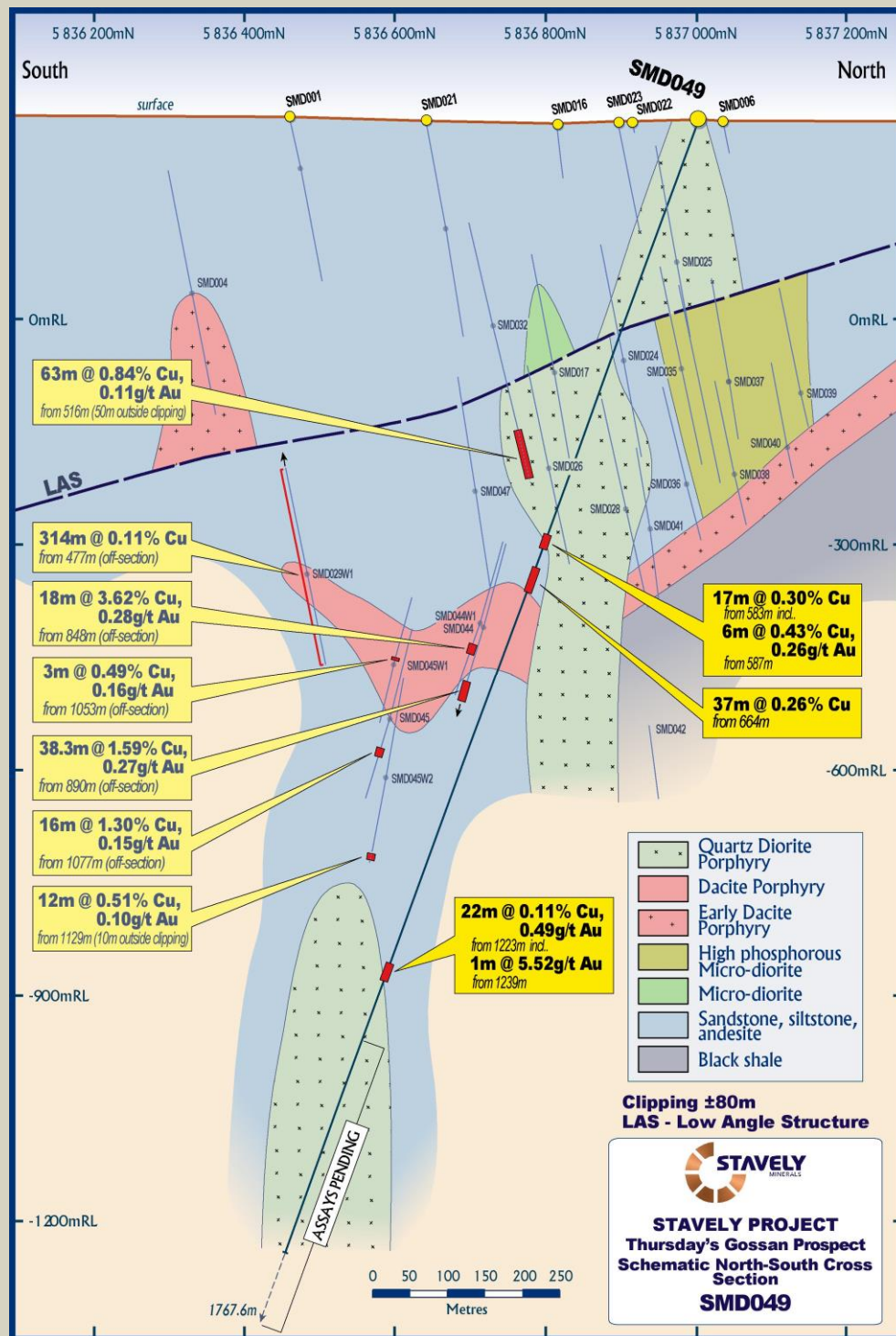
From around 1,510m drill depth, the QDP was hosting moderate to strong disseminated magnetite alteration with lesser epidote and actinolite with locally well-developed porphyry A veins. This style of alteration, which persisted to the end-of-hole, is a style of alteration not previously encountered in drilling at Thursday's Gossan.

While the source porphyry has not been intersected, the style of alteration is interpreted to be similar to inner propylitic and, in places, appears to be unaffected by phyllic alteration – more typical of the upper portions of a porphyry hydrothermal system.

It is interpreted that the drill hole is potentially on the lateral margin to (to the side of) the hotter core of the porphyry. It is possible that observed hydrothermal biotite overprinted by chlorite may be an early potassic event overprinted by a later propylitic retrograde alteration.

The full daily drilling report with drill core photos for SMD049 is provided as Appendix 1.





**Figure 4. SMD049 drill section.**

Random intervals of gold mineralisation, often without appreciable copper mineralisation, include **2m at 0.56g/t gold** without copper or silver mineralisation from 948m drill depth in SMD049 and hosted in the late-mineral dacite.

It is likely that the gold is associated with late carbonate veins. This is clear evidence of a late gold overprint and may provide an important upgrade if it could be found overprinting hypogene copper-gold-silver mineralisation.

A different style of gold mineralisation is noted associated with the interval of **22m at 0.11% copper, 0.49g/t gold and 2g/t silver** from 1,223m down-hole in SMD049 (Figure 4). This interval of moderate grade gold is associated with anhydrite veins with minor pyrite and chalcopyrite, minor anomalous arsenic, molybdenum and low-grade copper mineralisation. Some quartz-pyrite-molybdenite veins are noted.

This style of gold mineralisation is likely of greater affinity to the high-grade structurally-controlled copper-gold-silver lode-style mineralisation.

Results from 1,325m to 1,767m (end-of-hole) are pending.

Recent site visits by Dr Greg Corbett and Dr Paul Ashley as well as a Skype meeting with Dr Scott Halley at the same time – in conjunction with a recently received petrology report – has further confirmed the analogy of the Thursday's Gossan deposit with the Butte, Montana and Magma, Arizona styles of what has been termed Cordilleran Vein Deposits, and more recently as Epithermal Polymetallic Deposits.

This recognition provides opportunities to target both the high-grade structurally-controlled copper-gold-silver mineralisation – especially closer to surface – and the associated porphyry as per the relationship between the Resolution porphyry and the Magma veins system in Arizona. The deeper porphyry target will be reviewed once all the data from SMD049 is compiled.

The drill rig will not be doing any wedge drill holes off SMD049 as better near-term value is thought to be available in testing shallow high-grade structurally-controlled copper-gold-silver mineralisation on the UCT.

While the deeper wedge drill-hole targets are attractive, the presence of mineralisation at depth has been confirmed and its economic potential will have to be underpinned by mineralisation located closer to surface.

Yours sincerely,



**Chris Cairns**  
**Managing Director**

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

**For Further Information, please contact:**

**Stavely Minerals Limited**

Phone: 08 9287 7630

Email: [info@stavely.com.au](mailto:info@stavely.com.au)

**Media Inquiries:**

Nicholas Read – Read Corporate

Phone: 08 9388 1474

## Thursday's Gossan Prospect – Collar Table

MGA 94 zone 54							
Hole id	Hole Type	East	North	Dip/ Azimuth	RL (m)	Total Depth (m)	Comments
SMD017	DD	641325	5836750	-60/070	262	793.6	
SMD018	DD	641670	5836772	-60/070	264	96.3	Hole failed did not reach target depth
SMD019	DD	641620	5836755	-60/070	264	477.5	
SMD020	DD	641570	5836740	-60/070	264	465.4	
SMD021	DD	641410	5836640	-60/070	264	534.9	
SMD022	DD	641560	5836915	-60/070	264	406.2	
SMD023	DD	641490	5836895	-60/070	264	330.6	
SMD024	DD	641315	5836835	-60/070	264	509.6	
SMD025	DD	641390	5836940	-60/070	264	399.2	
SMD026	DD	641225	5836710	-60/070	264	796	
SMD028	DD	641220	5836800	-60/070	264	777.3	
SMD029/ SMD029W1	DD	641164	5836363	-60/070	264	384/ 837.5	Hole wedged due to drilling problems in original hole
SMD030	DD	641315	5837185	-60/070	264	109.4	Hole failed did not reach target depth
SMD031	DD	641455	5837235	-60/250	264	409.5	Redrill of SMD030 from opposite direction
SMD032	DD	641330	5836665	-60/070	264	582.8	
SMD033	DD	641250	5836635	-60/070	264	121.2	Drilling issues resulted in hole being abandoned
SMD034	DD	641250	5836635	-60/070	264	150	Redrill of SMD033, hole failed did not reach target depth
SMD035	DD	641300	5836910	-60/070	264	615.3	
SMD036	DD	641220	5836880	-60/070	264	654.2	
SMD037	DD	641295	5836985	-60/070	264	485.9	
SMD038	DD	641220	5836960	-60/070	264	573.5	
SMD039	DD	641290	5837065	-60/070	264	471.4	
SMD040	DD	641215	5837040	-60/070	264	570.4	
SMD041	DD	641140	5836850	-60/073	264	850	
SMD042	DD	641044	5836815	-60/070	264	1001.5	
SMD043	DD	641880	5836870	-60/250	264	249.1	Was terminated due to hole deviating from target
SMD044	DD	641880	5836870	-63/245	264	1189.4	
SMD044W1	DD	641880	5836870	-63/245	264	1008.4	Wedged off SMD044 at 536.8m
SMD045	DD	641930	5836765	-63/236	264	1257.4	
SMD045W1	DD	641930	5836765	-63/236	264	1071	Wedged off SMD045 at 417m
SMD045W2	DD	641930	5836765	-63/236	264	1233.3	Wedged off SMD044 at 403m
SMD046	DD	642197	5836010	-63/234.5	264	636.9	
SMD047	DD	641250	5836630	-60/070	264	842.5	
SMD048	DD	641600	5837000	-70/185.5	264	61.6	Hole failed
SMD049	DD	641601	5837002	-70/185.5	264	1767.6	Re-drill of SMD048



Thursday's Gossan Prospect – Intercept Table													
		MGA 94 zone 54					Intercept						Comments
Hole id	Hole Type	East	North	Dip/ Azimuth	RL (m)	Total Depth (m)	From (m)	To (m)	Width (m)	Cu (%)	Au (g/t)	Ag (g/t)	
SMD049	DD	641601	5837002	-70/185.5	264	1767.6	583	600	17	0.30			
						Incl.	587	593	6	0.43	0.26		
							664	701	37	0.26			
							1223	1245	22	0.11	0.49		
						Incl.	1239	1243	4		1.72		
						and incl.	1239	1240	1		5.52		

## JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavely Minerals' RC Drilling</b></p> <p>Reverse Circulation (RC) percussion drilling was used to produce a 1m bulk sample (~25kg) which was collected in plastic bags and representative 1m split samples (12.5% or nominally 3kg) were collected using a cone splitter and placed in a calico bag. The cyclone was cleaned out with compressed air at the end of each hole and periodically during the drilling. The 1m split samples were submitted for analysis.</p> <p><b>Stavely Minerals' Diamond Drilling</b></p> <p>The diamond core for intervals of interest, ie. those that contained visible sulphides as well as 5m above and below were sampled. PQ quarter core and HQ half core was submitted for analysis. Sample intervals were based on lithology but in general were 1m. No intervals were less than 0.4m or greater than 1.2m.</p>
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavely Minerals' Diamond and RC Drilling</b></p> <p>Sample representivity was ensured by a combination of Company Procedures regarding quality control (QC) and quality assurance/ testing (QA). Certified standards and blanks were inserted into the assay batches.</p>
	<i>Aspects of the determination of mineralisation that are Material to the Public Report - In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavely Minerals' Diamond Drilling</b></p> <p>Drill sampling techniques are considered industry standard for the Stavely work programme.</p> <p>PQ quarter core and HQ half core was submitted for analysis. Sample intervals were based on lithology but in general were 1m. No intervals were less than 0.3m or greater than 1.8m.</p> <p>The diamond drill samples were submitted to Australian Laboratory Services ("ALS") in Adelaide, SA. Laboratory sample preparation involved:- sample crush to 70% &lt; 2mm, riffle/rotary split off 1kg, pulverize to &gt;85% passing 75 microns.</p> <p>Diamond core samples were analysed by ME-ICP61 – multi acid digest with HF and ICPAES and ICPMS and Au-AA23 – fire assay with AAS finish. For sample that returned Cu values greater than 10 000ppm (1%) re-assaying was conducted by OG62, which is a four acid digest with ICP-AES or AAS finish.</p>

Criteria	JORC Code explanation	Commentary
	<i>warrant disclosure of detailed information.</i>	<p><b>Stavelly Minerals' RC Drilling</b></p> <p>Drill sampling techniques are considered industry standard for the Stavelly work programme.</p> <p>The 1m split samples were submitted to Australian Laboratory Services ("ALS") in Orange, NSW. Laboratory sample preparation involved:- sample crush to 70% &lt; 2mm, riffle/rotary split off 1kg, pulverize to &gt;85% passing 75 microns.</p> <p>The RC samples were analysed by ME-ICP61 – multi acid digest with HF and ICPAES and ICPMS and Au-AA23 – fire assay with AAS finish.</p>
<b>Drilling techniques</b>	<i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	<p><b>Stavelly Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavelly Minerals' Diamond Drilling</b></p> <p>Diamond drill holes were drilled by Titeline Drilling in 2014 (SMD001, SMD003 and SMD004) and 2017 (SMD006, SMD007, SMD008 and SMD012). Diamond tails were completed on drill holes STRC001D, STRC002D, STRC004D, STRC005D, STRC007D, STRC008D, STRC019D and STRC020D. Holes SMD013, SMD014 and SMD015 were drilled in 2017 by Titeline Drilling. Holes SMD016, SMD017, SMD018, SMD019, SMD020, SMD021, SMD022, SMD023, SMD024, SMD025, SMD026, SMD028, SMD029, SMD029W, SMD030, SMD031, SMD032, SMD033, SMD034, SMD035, SMD036, SMD037, SMD038, SMD039, SMD040, SMD041 and SMD042 were drilled in 2018 by Titeline Drilling. Hole SMD043, SMD044, SMD044W1, SMD045, SMD045W1, SMD045W2, SMD046, SMD047, SMD048 and SMD049 were drilled by Titeline Drilling in 2019. For the diamond holes, drilling was used to produce drill core with a diameter of 85mm (PQ) from surface until the ground was sufficiently consolidated and then core with a diameter of 63.5mm (HQ) was returned. For the diamond tails, drilling was used to produce drill core with a diameter of 63.5mm (HQ).</p> <p>Diamond drilling was standard tube. Diamond core was orientated by the Reflex ACT III core orientation tool.</p> <p>SMD003 was orientated at -60° towards azimuth 060° to a depth of 522.3m.</p> <p>SMD006, SMD007 and SMD008 were orientated at -60° towards azimuth 070° to depths of 353.3m, 355.6m and 240m respectively. SMD012 was orientated at -60° towards azimuth 065° to a depth of 206.6m.</p> <p>SMD013, SMD014 and SMD015 were orientated at -60° towards azimuth 070° to depths of 573.9m, 738.9m and 448.1m respectively. SMD016 was orientated at -60° towards azimuth 080° to a depth of 467.6m.</p> <p>The dips, azimuths and depths of holes SMD017 to SMD026, inclusive, and SMD028 to SMD049, inclusive, are provided in the Thursday's Gossan Prospect Collar Table.</p>



Criteria	JORC Code explanation	Commentary
		<p><b>Stavelly Minerals' RC Drilling</b></p> <p>The RC holes were drilled by Budd Exploration Drilling P/L. The RC percussion drilling was conducted using a UDR 1000 truck mounted rig with onboard air. A Sullair 350/1150 auxiliary compressor was used. 4" RC rods were used and 5<sup>1</sup>/<sub>4</sub>" to 5<sup>3</sup>/<sub>4</sub>" drill bits. A Reflex Digital Ezy-Trac survey camera was used.</p> <p>The holes were oriented at -60° towards azimuth 070°.</p>
<b>Drill sample recovery</b>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	<p><b>Stavelly Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavelly Minerals' Diamond Drilling</b></p> <p>Diamond core recoveries were logged and recorded in the database.</p> <p>Core recovery for SMD001, SMD003 and SMD007 was good. In general, the core recovery for SMD012 was good but there were several intervals where core was lost or there was poor core recovery.</p> <p>Core recoveries for SMD013, SMD014, SMD015, SMD016, and SMD017 were generally very good, with the vast majority of intervals returning +95% recovery and only a few intervals, mainly near the surface, returning poor (&lt;50%) recoveries. Core recoveries for SMD018, SMD019, SMD020, SMD021, SMD022, SMD023 and SMD024 were good with the holes averaging above 92% recovery for the total hole. Core recovery for SMD025 averaged 84.5%. Core recovery for SMD026 and SMD028 was 91% and 95% respectively. Core recovery for SMD029 was 90% and for SMD029W was 93%. The core recovery for SMD030 was not good, at an average of 69%. SMD030 was abandoned at 109m. Core recovery for SMD031 averaged 92%. Core recovery for SMD032 averaged 93%.</p> <p>Core recovery for SMD033 was good averaging 91%, however the hole was lost at 121.2m.</p> <p>Core recovery for SMD034 was good averaging 90%, however the hole was lost at 150m.</p> <p>Core recovery for SMD035 was good averaging 94%.</p> <p>Core recovery for SMD036 was good averaging 93%.</p> <p>Core recovery for SMD037 was very good averaging 97%.</p> <p>Core recovery for SMD038 was very good averaging 96%.</p> <p>Core recovery for SMD039 was very good averaging 97%.</p> <p>Core recovery for SMD040 was very good averaging 96%.</p> <p>Core recovery for SMD041 was very good averaging 97%.</p> <p>Core recovery for SMD042 was very good averaging 97%.</p> <p>Core recovery for SMD043 was very good averaging 96%.</p> <p>Core recovery for SMD044 was very good averaging 98%.</p> <p>Core recovery for SMD044W1 was very good averaging 96%.</p> <p>Core recovery for SMD045 was very good averaging 98%.</p> <p>Core recovery for SMD045W1 was very good averaging 98%.</p>

Criteria	JORC Code explanation	Commentary
		<p>Core recovery for SMD045W2 was very good averaging 98%.</p> <p>Core recovery for SMD046 was good averaging 95%.</p> <p>Core recovery for SMD047 was good averaging 95%.</p> <p>Core recovery for SMD048 averaged 92%.</p> <p>Core recovery for SMD049 was very good averaging 97%.</p> <p><b>Stavely Minerals' RC Drilling</b></p> <p>RC sample recovery was good. Booster air pressure was used to keep the samples dry despite the hole producing a significant quantity of water. RC sample recovery was visually checked during drilling for moisture or contamination.</p>
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavely Minerals' Diamond Drilling</b></p> <p>Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the driller.</p> <p><b>Stavely Minerals' RC Drilling</b></p> <p>The RC samples are collected by plastic bag directly from the rig-mounted cyclone and laid directly on the ground in rows of 10. The drill cyclone and sample buckets are cleaned between rod-changes and after each hole to minimise down-hole and/or cross contamination.</p>
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavely Minerals' Diamond Drilling</b></p> <p>Not an issue relevant to diamond drilling.</p> <p><b>Stavely Minerals' RC Drilling</b></p> <p>No analysis has been undertaken as yet regarding whether sample bias may have occurred due to preferential loss/gain of fine/coarse material and is not considered to have a material effect given the good sample recovery.</p>
<b>Logging</b>	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p><b>Stavely Minerals' Diamond and RC Drilling</b></p> <p>Geological logging of samples followed Company and industry common practice. Qualitative logging of samples including, but not limited to, lithology, mineralogy, alteration, veining and weathering. Diamond core logging included additional fields such as structure and geotechnical parameters.</p> <p>Magnetic Susceptibility measurements were taken for each 1m RC and diamond core interval.</p>

Criteria	JORC Code explanation	Commentary
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond Drilling</b> All logging is quantitative, based on visual field estimates. Systematic photography of the diamond core in the wet and dry form was completed. <b>Stavely Minerals' RC Drilling</b> All logging is quantitative, based on visual field estimates. Chip trays with representative 1m RC samples were collected and photographed then stored for future reference.
	<i>The total length and percentage of the relevant intersections logged.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond Drilling</b> Detailed diamond core logging, with digital capture, was conducted for 100% of the core by Stavely Minerals' on-site geologist at the Company's core shed near Glenhompson. <b>Stavely Minerals' RC Drilling</b> All RC chip samples were geologically logged by Stavely Minerals' on-site geologist on a 1m basis, with digital capture in the field.
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond Drilling</b> Quarter core for the PQ diameter diamond core and half core for the HQ diameter core was sampled on site using a core saw.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' RC Drilling</b> Splitting of RC samples occurred via a rotary cone splitter by the RC drill rig operators. Cone splitting of RC drill samples occurred regardless of whether the sample was wet or dry.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> Company procedures were followed to ensure sub-sampling adequacy and consistency. These included, but were not limited to, daily work place inspections of sampling equipment and practices.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> Blanks and certified reference materials are submitted with the samples to the laboratory as part of the quality control procedures.



Criteria	JORC Code explanation	Commentary
	<i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> No second-half sampling of the diamond core or field duplicates for the RC drilling has been conducted at this stage.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> The sample sizes are considered to be appropriate to correctly represent the sought mineralisation.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> The core samples and 1m RC split samples were analysed by multielement ICPAES Analysis - Method ME-ICP61. A 0.25g sample is pre-digested for 10-15 minutes in a mixture of nitric and perchloric acids, then hydrofluoric acid is added and the mixture is evaporated to dense fumes of perchloric (incipient dryness). The residue is leached in a mixture of nitric and hydrochloric acids, the solution is then cooled and diluted to a final volume of 12.5mls. Elemental concentrations are measured simultaneously by ICP Atomic Emission Spectrometry. This technique approaches total dissolution of most minerals and is considered an appropriate assay method for porphyry copper-gold systems.  For samples which returned a Cu assay value in excess of 10,000ppm (1%) the pulp was re-assayed using Cu-OG62 which has a detection limit of between 0.001 and 40% Cu.  This technique is a four acid digest with ICP-AES or AAS finish.  The core samples and 1m RC split samples were also analysed for gold using Method Au-AA23. Up to a 30g sample is fused at approximately 1,100°C with alkaline fluxes including lead oxide. During the fusion process lead oxide is reduced to molten lead which acts as a collector for gold. When the fused mass is cooled the lead separates from the impurities (slag) and is placed in a cupel in a furnace at approximately 900°C. The lead oxidizes to lead oxide, being absorbed by the cupel, leaving a bead (prill) of gold, silver (which is added as a collector) and other precious metals. The prill is dissolved in aqua regia with a reduced final volume. Gold content is determined by flame AAS using matrix matched standards. For samples which are difficult to fuse a reduced charge may be used to yield full recovery of gold. This technique approaches total dissolution of most minerals and is considered an appropriate assay method for detecting gold mineralisation.

Criteria	JORC Code explanation	Commentary
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	
	<i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i>	<b>Stavelly Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavelly Minerals' Diamond and RC Drilling</b> Laboratory QAQC involved the submission of standards and blanks. For every 20 samples submitted either a standard or blank was submitted. The analytical laboratory provide their own routine quality controls within their own practices. The results from their own validations were provided to Stavelly Minerals. Results from the CRM standards and the blanks gives confidence in the accuracy and precision of the assay data returned from ALS.
<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	<b>Stavelly Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavelly Minerals' Diamond and RC Drilling</b> Either Stavelly Minerals' Managing Director or Technical Director has visually verified significant intersections in the core and RC chips at Thursday's Gossan.
	<i>The use of twinned holes.</i>	No twinned holes have been drilled.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	<b>Stavelly Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavelly Minerals' Diamond and RC Drilling</b> Primary data was collected for drill holes using the OCRIS logging template on Panasonic Toughbook laptop computers using lookup codes. The information was sent to a database consultant for validation and compilation into a SQL database.
	<i>Discuss any adjustment to assay data.</i>	No adjustments or calibrations were made to any assay data used in this report.
<b>Location of data points</b>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	<b>Stavelly Project</b> <b>Thursday's Gossan &amp; Mount Stavelly Prospects</b> <b>Stavelly Minerals' Diamond and RC Drilling</b> Drill collar locations were pegged before drilling and surveyed using Garmin handheld GPS to accuracy of +/- 3m. Collar surveying was performed by Stavelly Minerals' personnel. This is considered appropriate at this early stage of exploration. For the diamond holes, down-hole single shot surveys were conducted by the drilling contractor. Surveys were conducted at approximately every 30m down-hole.

Criteria	JORC Code explanation	Commentary
	<i>Specification of the grid system used.</i>	The grid system used is GDA94, zone 54.
	<i>Quality and adequacy of topographic control.</i>	At the Thursday's Gossan and Mount Stavely prospect topographic control is achieved via use of DTM developed from a 2008 airborne magnetic survey conducted by UTS contractors measuring relative height using radar techniques.  For Stavely Minerals' exploration, the RL was recorded for each drill hole and soil sample location from the GPS. Accuracy of the GPS is considered to be within 5m.
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	The drill hole spacing is project specific, refer to figures in text.
	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	No Mineral Resource and Ore Reserve estimation procedure(s) and classifications apply to the exploration data being reported.
	<i>Whether sample compositing has been applied.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond Drilling</b> Sample intervals were based on lithology but in general were 1m. No intervals were less than 0.4m or greater than 1.2m. <b>Stavely Minerals' RC Drilling</b> No sample compositing has been applied.
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> The orientation of RC and diamond drill holes is tabulated in the Drill Hole Collar Table included in this report. As best as practicable, drill holes are designed to intercept targets and structures at a high angle. Some practical limitations apply in the context of collars being sited to avoid poor drilling conditions / bad ground. In the case of SMD044, the hole was drilled 180 degrees opposite (250° grid rather than 070° grid) to avoid known bad ground.
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	<b>Stavely Project</b> <b>Thursday's Gossan &amp; Mount Stavely Prospects</b> <b>Stavely Minerals' Diamond and RC Drilling</b> With SMD047 drilled to 070° grid azimuth, the drill hole has intersected the NSS and the CLS approximately perpendicularly.



Criteria	JORC Code explanation	Commentary
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> <b>Stavely Minerals' Diamond and RC Drilling</b> Samples in closed poly-weave bags were collected from the Company's Glenthompson shed by a contractor and delivered to either Ararat or Hamilton from where the samples are couriered to ALS Laboratory in Adelaide, SA.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No audits or reviews of the data management system has been carried out.

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i>	<b>Stavely Project</b> The diamond drilling and RC drilling at Thursday's Gossan and Mount Stavely are located on EL4556, which forms the Stavely Project. The mineralisation at Thursday's Gossan is situated within exploration licence EL4556. The Stavely Project was purchased by Stavely Minerals (formerly Northern Platinum) from BCD Resources Limited in May 2013. Stavely Minerals hold 100% ownership of the Stavely Project tenements. The Stavely Project is on freehold agricultural land and not subject to Native Title claims. New Challenge Resources Pty Ltd retains a net smelter return royalty of 3% in EL4556, although there is an option to reduce this to 1% upon payment of \$500k.
	<i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	<b>Stavely Project</b> A retention licence, RL2017, was applied for over the majority of EL4556 in May 2014. The tenement is in good standing and no known impediments exist.
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b> Exploration activity became focused on Thursday's Gossan and the Junction prospects following their discovery by Pennzoil of Australia Ltd in the late 1970s. North Limited continued to focus on Thursday's Gossan in the 1990s. North's best drill result at Thursday's Gossan came from VICT1D1 which gave 161m of 0.26% Cu from 43m, including 10m of 0.74% Cu from 43m from a supergene-enriched zone containing chalcocite.

Criteria	JORC Code explanation	Commentary
		<p>The tenement was optioned to CRA Exploration between 1995 and 1997. CRAE drilled several deep diamond drill holes into Thursday's Gossan, including DD96WL10, which intersected 186m from 41m of 0.15% Cu and DD96WL11, which intersected 261.7m from 38.3m of 0.13% Cu.</p> <p>EL4556 was further explored by Newcrest Operations Limited under option from New Challenge Resources Ltd between 2002 and 2004. Their main focus was Thursday's Gossan in order to assess its potential as a porphyry copper deposit. One of their better intersections came from drill hole VSTD01 on the northern edge of the deposit which gave 32m at 0.41 g/t Au and 0.73% Cu from 22m in supergene-enriched material.</p> <p>The Stavely Project was optioned to Beaconsfield Gold Mines Pty Ltd in 2006 who flew an airborne survey and undertook an extensive drilling programme focused on several prospects including Thursday's Gossan. One of their diamond drill holes at Thursday's Gossan, SNDD001, encountered zones with quartz- sulphide veins assaying 7.7m at 1.08 g/t Au and 4.14% Cu from 95.3m and 9.5m at 0.44 g/t Au and 2.93% Cu from 154.6m along silicified and sheared contacts between serpentinite and porphyritic intrusive rocks.</p> <p>Once Beaconsfield Gold Mines Pty Ltd had fulfilled their option requirements, title of EL4556 passed to their subsidiary company, BCD Metals Pty Ltd, who undertook a gravity survey and extensive drilling at prospects including Thursday's Gossan. They also commissioned a maiden Mineral Resource estimate for Thursday's Gossan.</p> <p>All work conducted by previous operators at Thursday's Gossan is considered to be of a reasonably high quality.</p>
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p>The Thursday's Gossan and Junction prospects are located in the Mount Stavely Volcanic Complex (MSVC). Intrusion of volcanic arc rocks, such as the Mount Stavely Volcanic Complex, by shallow level porphyries can lead to the formation of porphyry copper ± gold ± molybdenum deposits.</p> <p>The Thursday's Gossan Chalcocite deposit (TGC) is considered to be a supergene enrichment of primary porphyry-style copper mineralisation. Mineralisation is characterised by chalcopyrite, covellite and chalcocite copper sulphide mineralisation within a sericite, illite and kaolin clay alteration assemblage. Copper mineralisation is within a flat lying enriched 'blanket' of overall dimensions of 4 kilometres north-south by up to 1.5 kilometres east-west by up to 60 metres thick with an average thickness of approximately 20 metres commencing at an average depth below surface of approximately 30 metres. The majority (circa 60%) of the Mineral Resources reside within a</p>

Criteria	JORC Code explanation	Commentary
		<p>higher-grade zone of approximate dimensions of 1 kilometre x 300 metres by 35 metres thick.</p> <p>The Thursday's Gossan area hosts a major hydrothermal alteration system with copper-gold mineralisation over a 10 kilometre long corridor. The Junction porphyry target is defined by a coincident magnetic high, strong soil copper geochemistry, RAB drilling copper anomalism. Stavely Minerals believes the technical evidence indicates there is significant porphyry copper-gold mineralisation potential at depth at Thursday's Gossan.</p>
<b>Drill hole Information</b>	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <p><i>easting and northing of the drill hole collar</i></p> <p><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></p> <p><i>dip and azimuth of the hole</i></p> <p><i>down hole length and interception depth</i></p> <p><i>hole length.</i></p>	Included in the drill hole table in the body of the report.
	<p><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></p>	No material drill hole information has been excluded.
<b>Data aggregation methods</b>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></p>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p>Exploration results are nominally reported where copper results are greater than 0.1% Cu over a down-hole width of a minimum of 3m.</p> <p>No top-cutting of high grade assay results have been applied, nor was it deemed necessary for the reporting of significant intersections.</p>
	<p><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used</i></p>	<p><b>Stavely Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p>In reporting exploration results, length weighted averages are used for any non-uniform intersection sample lengths. Length weighted average is (sum product of interval x</p>

Criteria	JORC Code explanation	Commentary
	<i>for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	corresponding interval grade %) divided by sum of interval length.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are used for reporting exploration results.
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p>	<p><b>Stavelly Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p>There is insufficient drilling data to date to demonstrate continuity of mineralised domains and determine the relationship between mineralisation widths and intercept lengths.</p>
	<i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i>	Refer to the Tables and Figures in the text.
<b>Diagrams</b>	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	Refer to Figures in the text. A plan view of the drill hole collar locations is included.
<b>Balanced reporting</b>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	<p><b>Stavelly Project</b></p> <p><b>Thursday's Gossan Prospect</b></p> <p>All copper and gold values considered to be significant for porphyry mineralisation have been reported. Some subjective judgement has been used.</p>
<b>Other substantive exploration data</b>	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater,</i>	All relevant exploration data is shown on figures and discussed in the text.



Criteria	JORC Code explanation	Commentary
	<i>geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	
<b>Further work</b>	<i>The nature and scale of planned further work (eg 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.</i>	<b>Stavely Project</b> <b>Thursday's Gossan Prospect</b>  Diamond drilling has been planned to test the mineralised structures at shallower depths along the ultramafic contact.

# APPENDIX 1

## DAILY DRILLING REPORT

### 02 September 2019

#### SUMMARY

Rig	Hole ID	Prospect	Easting	Northing	Dip	Azimuth (Mag)	Planned EOH depth (m)	Current Depth (m)
15	SMD049	Thursdays Gossan	641601	5837002	-70	185.5	1500	1767.6 EOH

#### SMD049

This hole is targeting a south plunging zone of hydrothermal alteration zone mapped out by the V/Sc ratio and 2200nm SWIR wavelength feature. Drilling will test continuity of M vein downwards below the strong phyllic alteration intersected in SMD044, SMD045, SMD045W1, SMD045W2. It is anticipated this hole will hit the LAS at around 275m and swing into the NSS testing for bornite/chalcocite mineralisation at around 1450m.

0-0.6	Surface soil
0.6-39	Saprolite after porphyry. Remnant feldspar phenocrysts completely altered to clay. Possible dacite porphyry. Hornblende laths altered to chlorite. Trace to weak quartz stockwork veining. Trace pyrite veining. Trace chalcocite.
39-162.5	Quartz Diorite porphyry. Clay altered. Hornblende laths altered to chlorite. Trace epidote alteration. Weak to intense quartz-magnetite+-chlorite stockwork veining. Zones of massive quartz magnetite veining. Trace railroad track quartz magnetite veins. Weak laminated M veins. Trace A veins cut M veins. Trace pyrite veining. Trace chalcocite. Some quartz veins are core parallel. Rare trace chalcopyrite.
162.5-162.8	Microgabbro.
162.8-164	Quartz Diorite porphyry. Clay altered. Hornblende laths altered to chlorite. Trace epidote alteration. Weak to intense quartz-magnetite+-chlorite stockwork veining. Zones of massive quartz magnetite veining. Trace railroad track quartz magnetite veins. Weak laminated M veins. Trace A veins cut M veins. Trace pyrite veining. Trace chalcocite. Some quartz veins are core parallel. Rare trace chalcopyrite.

164-165.5	Microgabbro. Contains a clast of M veined QDP showing MG cuts both QDP and M veins.
165.5-197.8	Quartz diorite porphyry. Intense quartz-magnetite+-chlorite veining, cut by A veins. Trace pink alteration of groundmass. Trace pyrite occurs as disseminations and veins. Rare trace chalcopyrite.
197.8-197.9	Microgabbro. Cuts M veins.
197.9-204.5	Quartz diorite porphyry. Moderate to trace quartz-magnetite+-chlorite veining, cut by A veins. Reducing M vein intensity. Trace pink alteration of groundmass. Trace epidote alteration. Some chlorite selvages have trace hematite alteration. Trace pyrite occurs as disseminations and veins. Rare trace chalcopyrite.
204.5-205	Clay gouge fault.
205-227	Quartz diorite porphyry. Trace to moderate sericite alteration with chlorite alteration of mafic and plagioclase sites. Trace to weak well developed massive pyrite D veins 5-50cm in width. Trace A veins persist. Hematite vein with chlorite selvage cuts pyrite.
227-269	Quartz diorite porphyry. Variable sericite chlorite alteration with zones of well developed pinking of the groundmass. Some disseminated magnetite alteration. Trace quartz magnetite +- chlorite veining. Mostly wispy but also some 3-10mm wide veins. Trace D veins. Trace A veins. Trace chalcopyrite veins.
269-280.8	Quartz diorite porphyry. Moderate to strong pervasive sericite. Trace pyrite±quartz veins, trace chalcopyrite.
280.8-283.0	LKD dyke. Weak to moderate pervasive chlorite. Flow-banding and strong pervasive carbonate+hematite over lowermost 30cm.
283.0-284.2	Low Angle Structure. Microdiorite. Strong to intense pervasive clay+sericite, patchy shear fabric. Trace to 1% quartz+pyrite vein fragments.
284.2-285.5	Microdiorite / Dacite porphyry. Strong pervasive sericite+clay±carbonate. Trace to 1% quartz and quartz+pyrite veins.
285.5-299	Dacite Porphyry. Coarse to very coarse grained, sparsely feldspar phyric, massive. Moderate to weak patchy sericite over chlorite, becoming weaker downhole. Trace quartz+pyrite and clay+pyrite fracture veins, with or without sericite selvages.
299-331.4	Dacite porphyry. Coarse to very coarse grained, sparsely feldspar phyric to feldspar crystal-rich. Fractured broken core. Moderate to strong patchy clay+sericite. Clay on fractures. Rare quartz veins. Trace-1% pyrite±chalcopyrite veins and pyrite patches with sericite selvages. 5mm quartz+chalcopyrite vein at 311.5m. 100mm massive pyrite+chalcopyrite vein at 317.7m.
331.4-~347	Dacite porphyry. Coarse to very coarse grained, 20-25% 0.5-3mm feldspar phenocrysts, trace chlorite-altered mafics. Weak to moderate patchy

- sericite+clay over chlorite. Fractured core. Clay on fractures. Moderate sericite+clay selvages on pyrite±chalcopyrite veins. >10cm wide pyrite±chalcopyrite veins at 337.4m and 346.7m. Rare quartz veins.
- 347-372.7 Quartz Diorite Porphyry, very coarse grained, crowded texture, 40-60% feldspar phenocrysts 1-5mm. Solid core. Weak patchy sericite+clay over weak pervasive chlorite. Clay on fractures. Rare quartz veins.
- 372.7-382.95 Dacite porphyry / Quartz Diorite Porphyry, coarse grained, 20-30% feldspar phenocrysts. Weak patchy sericite+clay over chlorite.
- 382.95-386.65 Siltstone, massive cherty. Weak to moderate pervasive sericite. Weak sericite selvages on pyrite+clay veins.
- 386.65-389.5 Quartz Diorite Porphyry, very coarse grained. Sheared uphole contact. Strong pervasive sericite+clay. Trace quartz veins.
- 389.5-398.4 Quartz Diorite Porphyry, crowded, 50-60% 1-6mm feldspar phenocrysts and glomerocrysts, trace quartz. Moderate to locally strong pervasive sericite. Trace to 2% vuggy quartz+pyrite veins with sericite+clay selvages
- 398.4-411.5 Start of HQ. Quartz Diorite Porphyry. Weak pervasive sericite. Patchy clay+sericite selvages on pyrite fracture veins, becoming stronger downhole. 0.5-2% quartz and quartz+pyrite stockwork veins. Rare pyrite veins with sericite selvages.
- 411.5-414.7 Intermixed zone of very coarse grained Quartz Diorite Porphyry and fine to medium grained, sparsely quartz phyric diorite. Weak to moderate pervasive sericite. 0.5-1% quartz veins.
- 414.7-423.9 Quartz Diorite Porphyry. Moderate to strong pervasive sericite+chlorite, strong patchy clay+sericite associated with quartz+carbonate fractures and shears. 1-2% quartz stockwork veins. Trace hematite+carbonate+chalcopyrite veins.
- 423.9-433.2 Quartz Diorite Porphyry. Strong patchy clay+sericite. 5-6% quartz stockwork veins, fractured and cut by later pyrite veins and hematite+carbonate+chalcopyrite veins. Rare chalcopyrite veins. Trace hematite infill.
- 433.2-438 Quartz Diorite Porphyry. Strong to intense pervasive sericite+clay associated with multiple massive pyrite±chalcopyrite D veins. 2-5% quartz stockwork veins. Trace hematite+quartz veins.
- 438-527 Quartz Diorite Porphyry. Weak to moderate pervasive chlorite+sericite. Weak sericite+clay selvages on pyrite veins. 0.5-1% fine magnetite and quartz+magnetite stringer veins. 0.5-2% quartz stockwork veins. Trace pyrite on fractures. Trace chalcopyrite as disseminations. Zones of pyrite D veins with sericite-hematite alteration halos. Trace red hematite+carbonate+chalcopyrite veins. Rare trace molybdenite on fracture surfaces.
- 527-536 Sandstone and siltstone. Moderate quartz+-pyrite+-magnetite veins with sericite-hematite halos. Occasional quartz-pyrite-molybdenite veins. Trace white clay.



- 536-548.5 Quartz Diorite Porphyry. Structural zone – Strong pervasive sericite alteration. Trace hematite+-anhydrite alteration. Trace white clay. Starting to see orange anhydrite veins. Weak to moderate pyrite veining.
- 548.5-587 Quartz diorite porphyry. weak sericite alteration. Weak anhydrite and gypsum veining. Weak quartz veining. Trace pyrite veining. Trace disseminated chalcopryrite.
- 587-599.5 Sandstones, siltstones and high magnesium basalts. Weak to moderate anhydrite veining with variable amounts of pyrite, chalcopryrite, magnetite, and hematite. Trace to locally strong disseminated and veined chalcopryrite. Magnetite is seen as a halo around chalcopryrite in places. This unit is similar to what is seen in SMD028 at 607-650m and SMD044 at 587m-689m.
- 599.5-625.1 Late Mineral Dacite dyke. Sericite and trace anhydrite alteration. Anhydrite and carbonate veins crosscutting the dyke. This is a flat lying Late Mineral Dacite dyke and corresponds to the dykes in SMD026 at 643m, SMD028 at 623m, SMD036 at 621m, and SMD038 at 608m. None of these dykes have copper lodes on their margins. It has an approximate orientation of Dip 35 degrees Dip Direction 254.
- 625.1-639.0 Sandstones, siltstones and high magnesium basalts. Weak to moderate anhydrite veining with variable amounts of pyrite, chalcopryrite, magnetite, and hematite. Patches of strong specular hematite-magnetite-chalcopryrite alteration. Trace to locally weak disseminated and veined chalcopryrite. This unit is similar to what is seen in SMD028 at 607-650m and SMD044 at 587m-689m.
- 639.0-700.5 Sandstone and siltstone. Possible faulted contact with unit above. Weak sericite+-epidote alteration. Trace pyrite veining with sericite halos. Trace disseminated pyrite. Trace anhydrite-carbonate-pyrite+-chalcopryrite veins. Trace quartz veins.
- 700.5-737 Late mineral dacite. Strong sericite alteration at margins. Trace pervasive hematite alteration at margins. Trace carbonate-anhydrite veins. This unit has weak pyrite+-chalcopryrite veining in the hangingwall and footwall.
- 737-776 Fine grained porphyritic quartz diorite porphyry. Weak to moderate sericite-chlorite alteration. Patchy strong sericite alteration. Patchy trace pervasive hematite alteration. Trace quartz-carbonate-pyrite-chalcopryrite veins. Trace anhydrite veins with chalcopryrite and galena. Trace fine pyrite veins with ?silica halos. Trace disseminated chalcopryrite and pyrite.
- 776-901.8 Fine grained porphyritic quartz diorite porphyry rare quartz ‘eyes’ – as above but a later phase with much less veining. Weak to moderate sericite-chlorite alteration. Patchy strong sericite alteration on the margins of larger anhydrite veins. Trace anhydrite veins with chalcopryrite – in some instances overgrowing earlier pyrite. Trace fine pyrite veins with sericite halos. Trace disseminated chalcopryrite and pyrite – locally moderate disseminated chalcopryrite replacing mafic minerals.
- 901.8-944.8 Interbedded sandstone/siltstone and andesite breccia. Breccia hosts variable trace to moderate disseminated epidote alteration with variable likely pink albite

alteration groundmass and clasts. Trace patchy magnetite and alteration and veining occurs within the breccia. Very trace wormy quartz magnetite + actinolite selvage? veins with pyrite and chalcopyrite also occur. Trace quartz + epidote +/- bornite +/- carbonate veins with occur. Trace disseminated and vein hosted chalcopyrite occurs throughout with trace vein and disseminated bornite occurring within breccia units between 930-933.5m. 943.1-944.8m. Trace disseminated pyrite and chalcopyrite occur in the more porous sandstone units. Sandstones occurs dominantly sericite altered with trace anhydrite chalcopyrite and pyrite veins and trace D veins.

- 944.8-947.8 Dacite porphyry. Medium grained plagioclase in a grey groundmass. Trace disseminated pyrite and chalcopyrite. Trace pervasive epidote alteration. Trace D veins.
- 947.8-966 Late mineral dacite. Foliation on contacts. Trace disseminated pyrite and anhydrite veining.
- 966-973.1 Sandstone with interbedded andesite. Trace to weak sericite chlorite alteration. Trace pinking in some zones. Trace disseminated pyrite and chalcopyrite.
- 973.1-987.7 Andesite. Not brecciated like previous unit. Weak chlorite alteration. Anhydrite epidote veinlets persist. Trace quartz pyrite veins without selvages. Trace pyrite and chalcopyrite throughout with very trace bornite intergrown with some chalcopyrite and epidote. Last very trace visible bornite at 973.5m.
- 987.7-1033.7 Dacite porphyry or possible andesite. Fine grained plagioclase phenocrysts in a grey groundmass. Not as fine grained and homogeneous as previous dacite. Variable epidote alteration with patchy magnetite. Trace Anhydrite veins with occasional epidote. Trace D veins. Well-developed anhydrite hematite vein at 1011.7m. Trace disseminated pyrite and ccp.
- 1033.7-1054.2 Sandstone siltstone. Variable sericite alteration intensity from trace to moderate. Trace quartz epidote pyrite veins. Trace anhydrite veining persists. Trace disseminated pyrite and chalcopyrite more well developed in course grained sandstones. Broken ground in places.
- 1054.2-1055.6 Andesite breccia. Chlorite alteration throughout with trace epidote. Weak pyrite as disseminated blebs. Trace quartz carbonate veining.
- 1055.6-1081.2 Dacite porphyry. Trace disseminated epidote alteration and veins. Clots of well epidote alteration, sometimes associated with pink albite? alteration, trace chalcopyrite and very trace bornite in places. Trace molybdenite veining with pink selvages. Trace anhydrite veins persist with very trace chalcopyrite.
- 1081.2-1097 Sandstone and siltstone. Fine grained. Occasional small andesite units. Trace to weak epidote alteration and veining. Trace disseminated and vein pyrite and chalcopyrite. Trace quartz-carbonate veins.

- 1097-1108 Dacite porphyry. Trace patchy disseminated epidote alteration and veins. Trace patchy hematite alteration. Trace disseminated pyrite and chalcopyrite. Trace anhydrite veins persist with trace pyrite.
- 1108-1244.4 Sandstone and siltstone. Fine grained. Occasional small andesite units. Trace to weak epidote alteration and veining. Epidote alteration is more noticeable in coarser sandstone units. Trace disseminated and vein pyrite. Trace molybdenite veining. Patchy skarnoid (epidote-garnet) alteration. Starting to see magnetite alteration in coarser sandstone units. Rare trace anhydrite veins. Trace carbonate+-chalcopyrite veins. Starting to see a minor increase in chalcopyrite both disseminated and in veins. Anhydrite veins are becoming more common. Epidote is becoming less common. Occasional anhydrite-magnetite-specular hematite-chalcopyrite-pyrite veins. Common anhydrite-pyrite+-chalcopyrite veins. Patchy weak disseminated pyrite often in the sericite halos to veins. Trace chalcopyrite with veins and disseminated. Some anhydrite-pyrite veins have trace molybdenite.
- 1244.4-1297.5 Quartz diorite porphyry. Trace anhydrite-pyrite+-chalcopyrite veins. Trace disseminated epidote. Trace disseminated pyrite and chalcopyrite. Patchy chlorite alteration. Trace patchy biotite at 1254.3m. Trace chalcopyrite replacing some mafic sites and 3-4mm belbs. Trace white/green radiating? crystals in hornblende sites. Either chlorite or actinolite.
- 1297.5-1300.2 Sandstone siltstone. Trace chlorite sericite alteration. Trace disseminated pyrite and very trace chalcopyrite.
- 1300.2-1314.4 Quartz diorite porphyry. Variable trace to strong white alteration roughed up by drill bit. Anhydrite or white mica alteration. Trace anhydrite veining persists. Trace disseminated pyrite and very trace chalcopyrite.
- 1314.4-1342 Sandstone siltstone. Trace chlorite sericite alteration. Trace D veins. Trace quartz A veins with chalcopyrite and pyrite. Trace anhydrite veining with pyrite and chalcopyrite. Very trace disseminated pyrite and chalcopyrite. Increasing from trace to weak D, A and anhydrite veins from 1328.2m. Quartz veins contain increasing molybdenite, pyrite with minor chalcopyrite. Some quartz A veins have been re-opened and pyrite/minor chalcopyrite deposited.
- 1342-1438.3 Quartz diorite porphyry. Trace to weak A veins persist with molybdenite, pyrite and minor chalcopyrite. Molybdenite is significant in this interval. Variable trace to strong sericite alteration. Could be coming into the strong sericite alteration mapped out by the 2200nm wavelength feature. Chlorite alteration selvages contain trace pyrite and minor chalcopyrite. Anhydrite and D veining persist in trace to weak intensity. Trace chalcopyrite occurs in 2-5mm blebs in places. Increasing pyrite veining between s. Dark sulphide is consistently molybdenite. Appears very similar to the style of pyrite found in the NSS without the high sulphidation minerals. Fault gouge zone at 1423 and 1427.8m. Trace pink alteration with green plagioclase phenocrysts associated with trace blebby chalcopyrite mineralisation.

- 1438.3-1443 Fine grained andesite. Chlorite alteration pervasive throughout. Trace to weak anhydrite only veining. Very trace pyrite disseminated. Broken ground.
- 1443-1443.5 Shear. 40cm clay shear followed by sheared quartz diorite porphyry. The clay shear looks similar to the North South Structure in other holes. It's possible this is part of the footwall structure of the North South Structure.
- 1443.5-1448 Quartz diorite porphyry. Trace pinking of feldspar phenocrysts. Sericite altered. Weak disseminated pyrite. Trace quartz-pyrite veins. Rare chalcopyrite in quartz veins.
- 1448-1458.4 Sandstone. Weak to moderate sericite alteration. Patchy ankerite alteration associated with some pyrite veins. Trace to locally weak pyrite veining. Weak disseminated pyrite.
- 1458.4-1464.5 Quartz diorite porphyry. Trace pink alteration of feldspar phenocrysts. Possible actinolite retrogressed to chlorite. Trace disseminated pyrite. Trace epidote.
- 1465.5-1473.3 Sandstone. Trace quartz+-?actinolite A veins. Trace pyrite D veins. Trace patchy magnetite alteration.
- 1473.3-1474.8 Quartz diorite porphyry. Trace pink alteration of feldspar phenocrysts. Possible actinolite retrogressed to chlorite. Trace disseminated pyrite. Rare trace chalcopyrite.
- 1474.8-1508.2 Sandstone. Trace quartz+-?actinolite A veins. Rare trace magnetite veins. Starting to see hematite selvages to the A veins from 1486m as well as patchy trace pervasive hematite alteration. Trace vein and disseminated chalcopyrite. Patchy trace disseminated magnetite.
- 1508.2-1508.6 Quartz diorite porphyry. Sodic alteration. Trace epidote replacing ferromags and as fine veins. Weak patchy pinking of feldspar phenocrysts. Trace A veins
- 1508.6-1508.8 Mafic dyke. Probably the micro gabbro. Trace to weak pervasive hematite alteration. Epidote replacing mafic phenocrysts.
- 1508.8-1509.0 Quartz diorite porphyry. Sodic alteration. Weak patchy pinking of feldspar phenocrysts. Trace A veins. Trace quartz-pyrite-carbonate veins with sericite-pyrite halos.
- 1509.0-1509.1 Mafic dyke. Probably the micro gabbro. Trace to weak pervasive hematite alteration. Epidote replacing mafic phenocrysts.
- 1509.1-1509.3 Quartz diorite porphyry. Sodic alteration. Weak patchy pinking of feldspar phenocrysts. Trace A veins. Trace quartz-pyrite-carbonate veins with sericite-pyrite halos.
- 1509.3-1509.6 ?Sandstone. Patchy weak hematite alteration. Purple anhydrite veining with trace chalcopyrite.
- 1509.6-1509.8 Mafic dyke. Probably the micro gabbro. Trace to weak pervasive hematite alteration. Epidote replacing mafic phenocrysts.



- 1509.8-1510.0 Quartz diorite porphyry. Sodic alteration. Weak patchy pinking of feldspar phenocrysts. Trace epidote replacement of ferromags. Possibly ?actinolite alteration of some ferromags. Trace disseminated magnetite in groundmass. Weak laminated style quartz-magnetite veins. Rare trace chalcopyrite in veins. Trace disseminated and vein pyrite.
- 1510.0-1510.2 Mafic dyke. Probably the micro gabbro. Trace to weak pervasive hematite alteration. Epidote replacing mafic phenocrysts.
- 1510.2-1556 Quartz diorite porphyry. Sodic alteration. Weak patchy pinking of feldspar phenocrysts and as halos to some veins. Trace epidote replacement of ferromags and as fine veins. Possibly ?actinolite alteration of some ferromags. Trace disseminated magnetite in groundmass. Weak quartz-magnetite and quartz only stockwork and ?sheeted A veins. Rare trace chalcopyrite in veins. Trace disseminated and vein pyrite. Trace molybdeite. Rare trace ~~Bornite~~ biotite. Rare trace vein and disseminated galena and sphalerite. Patchy magnetite-actinolite alteration.
- 1556-1568 Sandstone siltstone. Trace pervasive sericite alteration. Very patchy magnetite+biotite? alteration. Trace to weak fine D veins. Trace to weak 2-5mm wide quartz A veins. One example of a quartz B vein with pyrite centre seam. Trace anhydrite veining contains chalcopyrite and very minor white sphalerite and galena. Trace disseminated pyrite and chalcopyrite.
- 1568-1632.9 Quartz diorite porphyry. Anhydrite-pyrite-chalcopyrite veins with sericite halos on the margin of the QDP. Trace pervasive pink alteration away from the sericite alteration. Trace to weak actinolite and rare epidote alteration overprinted by chlorite in places. Trace to weak quartz A veins. Trace magnetite only veins. Trace railroad M veins with trace chalcopyrite in the margins, trace weakly developed laminated M veins. Trace B veins with pyrite centre seams and pink/sericite selvage. Quartz molybdenite pyrite veining starts at 1588m and corresponds to zones of more intense sericite alteration.
- 1632.9-1633.1 Microgabbro. Fine grained chlorite altered mafic with typical sericite alteration on margins.
- 1633.1-1767.4 Quartz diorite porphyry. Increasing pink/red rock alteration likely combination of hematite/albite/?kfeldspar to 1659.6m. Reducing and becoming less red after a fault in this position. Actinolite alteration continues in mafic sites in places, variably retrogressed to chlorite. Fine disseminated magnetite alteration. Trace D veins and patches of sericite alteration alteration. Trace to moderate quartz magnetite veining, mostly railroad track style and wispy occur with actinolite hosting trace pyrite and minor chalcopyrite in places. Trace A veins cut M veins. Chlorite vein selvages appear to be increasing. Dominant sulphide species remains pyrite. Anhydrite veining persists with minor pyrite and chalcopyrite. Faults at 1658.4-1659.6m and 1677m. Magnetite veins have reduced. Still seeing trace to weak A veins and sodic alteration. Trace pyrite-anhydrite+-quartz veins. Patchy trace brown biotite being retrogressed to chlorite.



Well-developed M veining in QDP at 126m.



Quartz magnetite veined QDP cut by Microgabbro at 197.8m.



Massive pyrite D vein at 220.4m.



Subparallel quartz and partially demagnetised magnetite veins at 310.7m



Probable actinolite vein cut by quartz A vein in QDP. 406.6m





Contact between QDP (top) and finer grained quartz phyric diorite. 414.7m

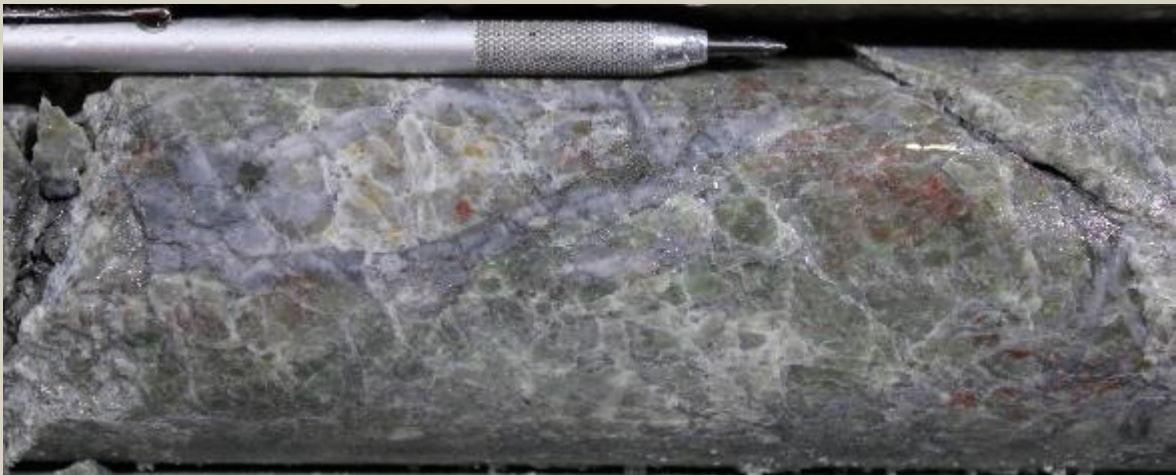


Chalcopyrite vein in QDP. 426.3m



Wispy magnetite stringers in QDP. 452.4m





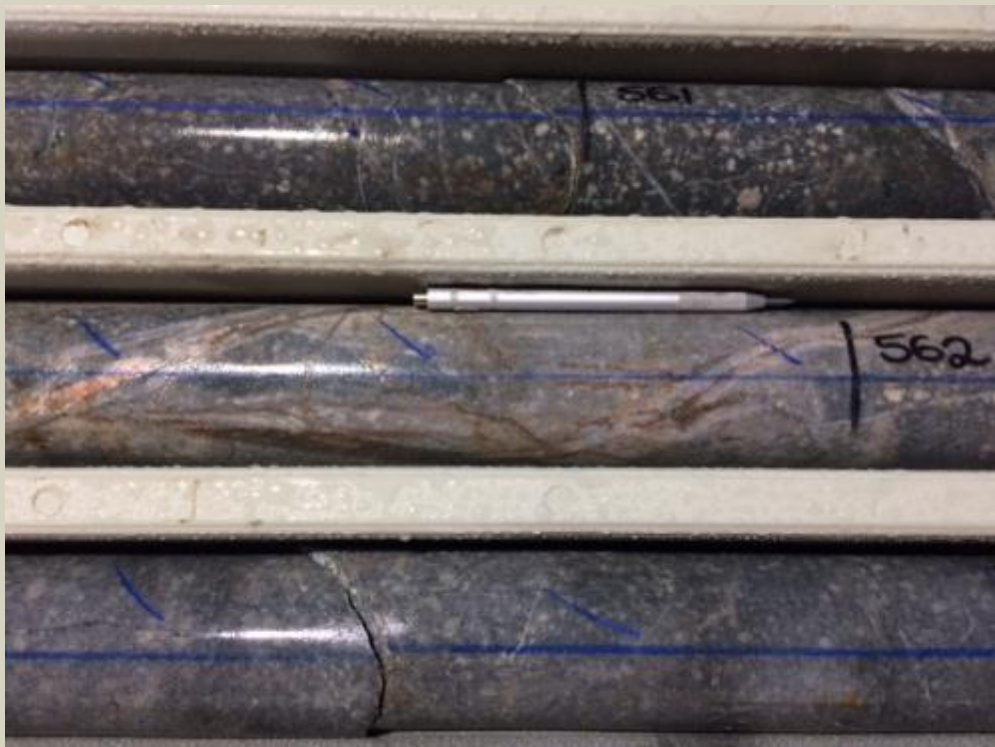
Quartz pyrite chalcopyrite vein with sericite-hematite alteration halo at 474m.



Sericite altered QDP with massive pyrite veining in a fault zone at 544m.



Quartz pyrite veining with later anhydrite at 548m.



Quartz and anhydrite veining at 562m.

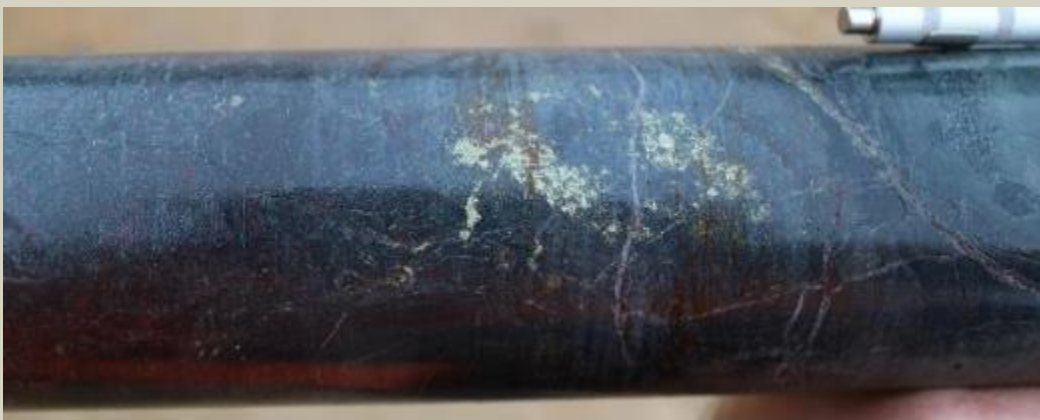




Chalcopyrite veining in sediments at 592.4m.



Anhydrite-magnetite-chalcopyrite veining in sediments at 594.9m.



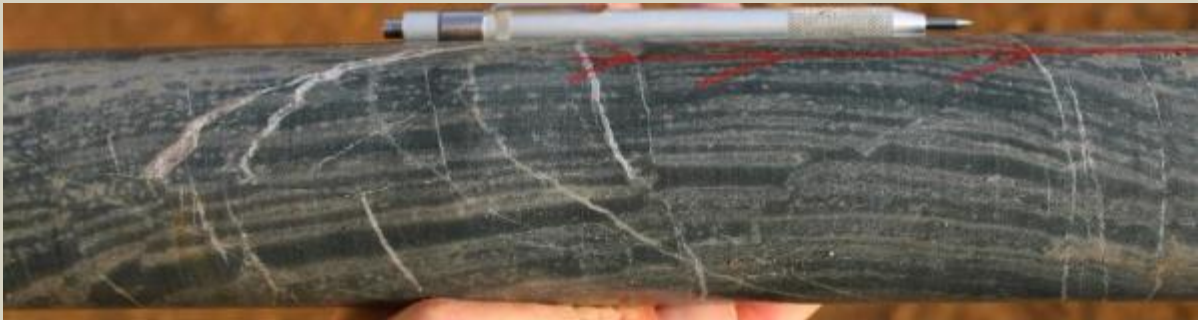
Chalcopyrite-magnetite-hematite in sediments at 595.2m



Late Mineral Dacite at 607.3m.



Specular hematite-chalcopyrite-magnetite-red hematite in sediments at 633.0m



Sandstone unit with sericite-?epidote alteration at 643.0m



Late Mineral Dacite at 700.6m

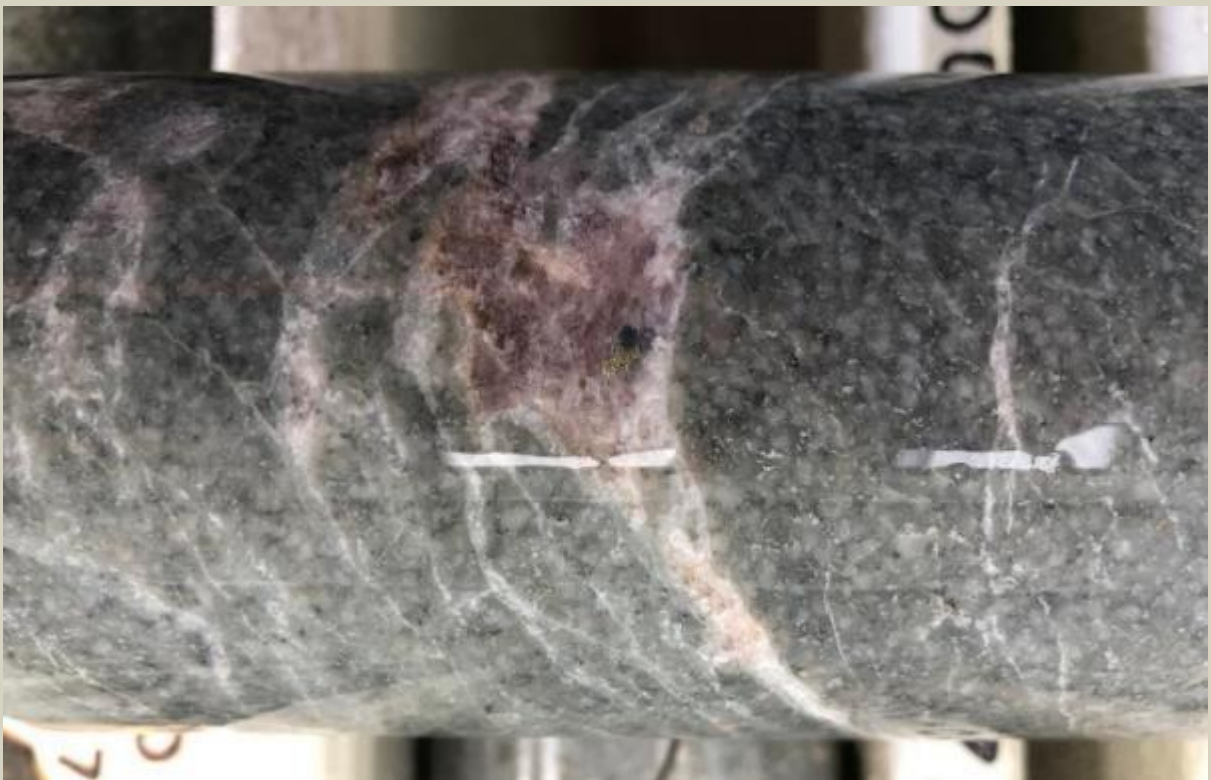


Chalcopyrite overgrowing pyrite in a D vein from 737.5m





Biotite selvages to late veins and fractures with pyrite / trace chalcopyrite fill. Disseminated pyrite / chalcopyrite in biotite alteration from 746m.



Anhydrite vein with trace chalcopyrite and galena from 771m.



Anhydrite veins with chalcopyrite overgrowing earlier pyrite from 801m.



Trace quartz epidote bornite vein at 932.7mm





Dacite porphyry with disseminated epidote alteration and hematite dusting at 1007m.



Anhydrite hematite vein at 1011.8m



Sericite altered sandstone with quartz anhydrite pyrite vein at 1047m.



Epidote vein at 1087m.



Carbonate-hematite-anhydrite vein cutting pyrite D veins in siltstone at 1190.5m.





Epidote-pyrite+chalcopyrite in a sandstone at 1196.1m.



Anhydrite-magnetite-chalcopyrite-pyrite-epidote vein in sandstone at 1200.3m.



Anhydrite-pyrite veining in siltstone at 1221.9m



Anhydrite-chalcopyrite vein at 1234.2m.



Quartz diorite porphyry with trace epidote-pyrite alteration at 1247m.



Very trace biotite alteration in quartz diorite porphyry at 1254.3m.



Chalcopyrite replacing some mafic sites at 1265.3m





Quartz pyrite chalcopyrite A vein with centre seam 1333.6m.



Quartz molybdenite pyrite A vein at 1339.6m



Pyrite vein in strongly sericite altered QDP. Similar in character to the NSS pyrite veining without the high sulphidation minerals at 1396.6m.



Fault gouge zone at 1423m trends steeply NNW.

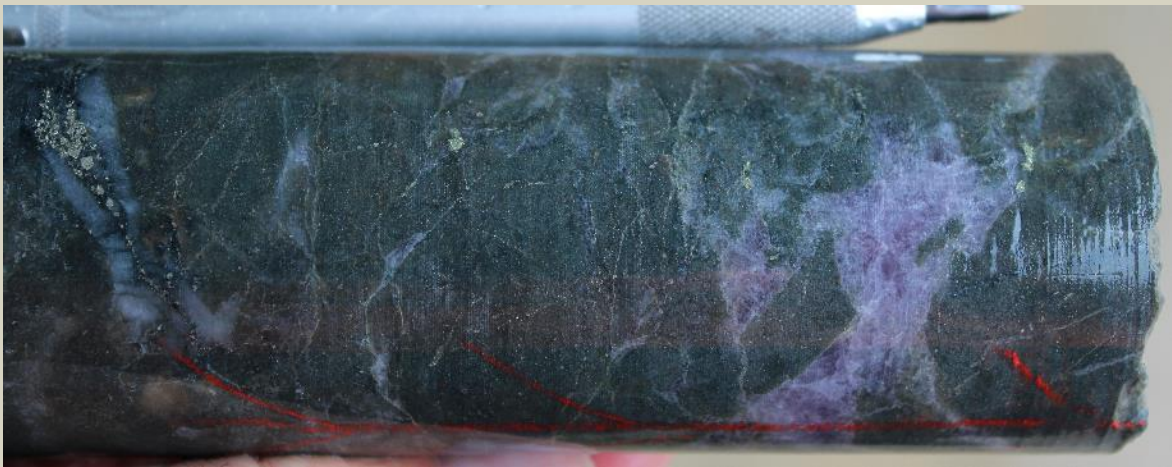


Quartz diorite porphyry with pinking of feldspar phenocrysts at 1467.8m

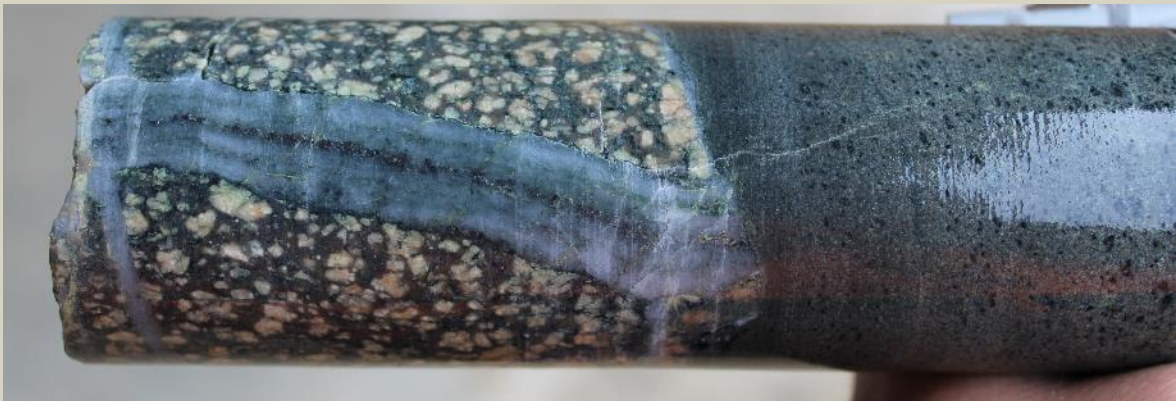




Hematite alteration halo to quartz veining in a sandstone at 1487.9m.



Anhydrite-chalcopyrite vein in sandstone at 1509.5m



Laminated quartz-magnetite vein (with central magnetite seam) in QDP cut by a micro gabbro dyke at 1510.0m



Quartz+-magnetite veining in sodic altered QDP at 1511.0m





Quartz B vein with pyrite centre seam at 1560m.



Railroad M vein with trace chalcopyrite in margin at 1581.4m.



QDP with well developed disseminated actinolite magnetite epidote alteration at 1605.8m.



B vein with pyrite centre seam and sericite/ankerite? selvage at 1610.8m.



Quartz pyrite anhydrite molybdenite vein at 1622.3m.



Quartz magnetite veining in a sericite altered QDP at 1623.5.





Microgabbro dyke at 1633m.



Hematite magnetite albite actinolite altered QDP with well developed M veins hosting pyrite and very trace chalcopryite at 1652.6m.



Red rock altered QDP with quartz magnetite veining hosting pyrite and chalcopryite at 1653.6m.





Quartz magnetite actinolite vein with pyrite and minor chalcopyrite in an actinolite albite pink altered QDP at 1667.2m



5cm wide fault zone with sericite alteration at 1673m.



Railroad M vein with pyrite on margin, crosscut by quartz A vein at 1683m.



Quartz magnetite veining in an albite, actinolite magnetite altered QDP at 1692m.



40cm wide quartz pyrite molybdenite vein at 1702.4m.