CEI0036

FINAL REPORT ON THE 2019 ESPERANZA FAULT DRILL PROGRAM

CAPRICORN COPPER PROJECT, GUNPOWDER, NORTHWEST QUEENSLAND

TITLE:	**EPM 26421, Round 2, CEI0036 – Esperanza Fault Drilling Program, Final Report**
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DATE OF REPORT:	**6/9/19**

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1. Executive Summary

In May 2019 Capricorn Copper Pty Ltd (CCPL) commenced drilling of the SAM02 geophysical anomaly. The anomaly was identified as a significant conductor located on the Esperanza Fault through an airborne Sub-Audio Magnetics survey completed in 2018. This structural location, together with encouraging stratigraphy and soil geochemistry designated the SAM02 conductor as a high priority with the potential to host sulphide mineralisation. To test the target, CCPL has competed two diamond core drill holes separated by a north-south strike of approximately 250m. Funding assistance has been granted by the Department of Natural Resources, Mines and Energy for the first of these drill holes, SD661A. The drill holes did not intersect significant mineralisation and it has been interpreted that the source of SAM02 anomaly is primarily stratigraphic. The target has been downgraded, however further SAM conductors remain and should be reviewed on a case-by-case basis to account for local geology, structure and geochemistry.

2. Introduction

The Capricorn Copper Mine (CCM) is located 115 kilometres North of the mining township of Mount Isa. CCM has been a sporadic operation from 1927 - 2013 with reported production estimated at 12.9Mt at an average grade of 3.67% Cu for a total of 521,178 tonnes of copper. Mining operations at CCM are currently being undertaken at the Mammoth, Greenstone and Esperanza South deposits.

In late 2018, the State of Queensland acting through the Department of Natural Resources, Mines and Energy (the Department) approved partial funding of one drill hole of 450m depth through its Collaborative Exploration Initiative scheme. The funding approved totalled 75% of the direct activity costs up to a cap of $54,000 AUD if completed by 9th August 2019, plus an incentive payment of $27,500. Drill pad preparation commenced in late April 2019, with the final program activities (drill pad rehabilitation) completed on 21st July 2019. This report details the drilling activities undertaken and analyses the results of the program.

3. Tenure

The CCPL tenure package comprises 4 Exploration Permits (EPMs) and 31 Mining Leases (MLs). The current tenements cover a total area of 678 sub-blocks. On 27 October 2015, Capricorn Copper Holdings Pty Ltd (“CCH”) acquired all of the issued shares of Birla Mount Gordon Pty Ltd. On 1 November 2015, Birla Mount Gordon Pty Ltd changed its name to Capricorn Copper Pty Ltd (CCPL) and is owned by EMR Capital. The EPMs and current MLs are in good standing with no known impediment to the granted mining permit. Activities for this program were restricted to EPM 26421.

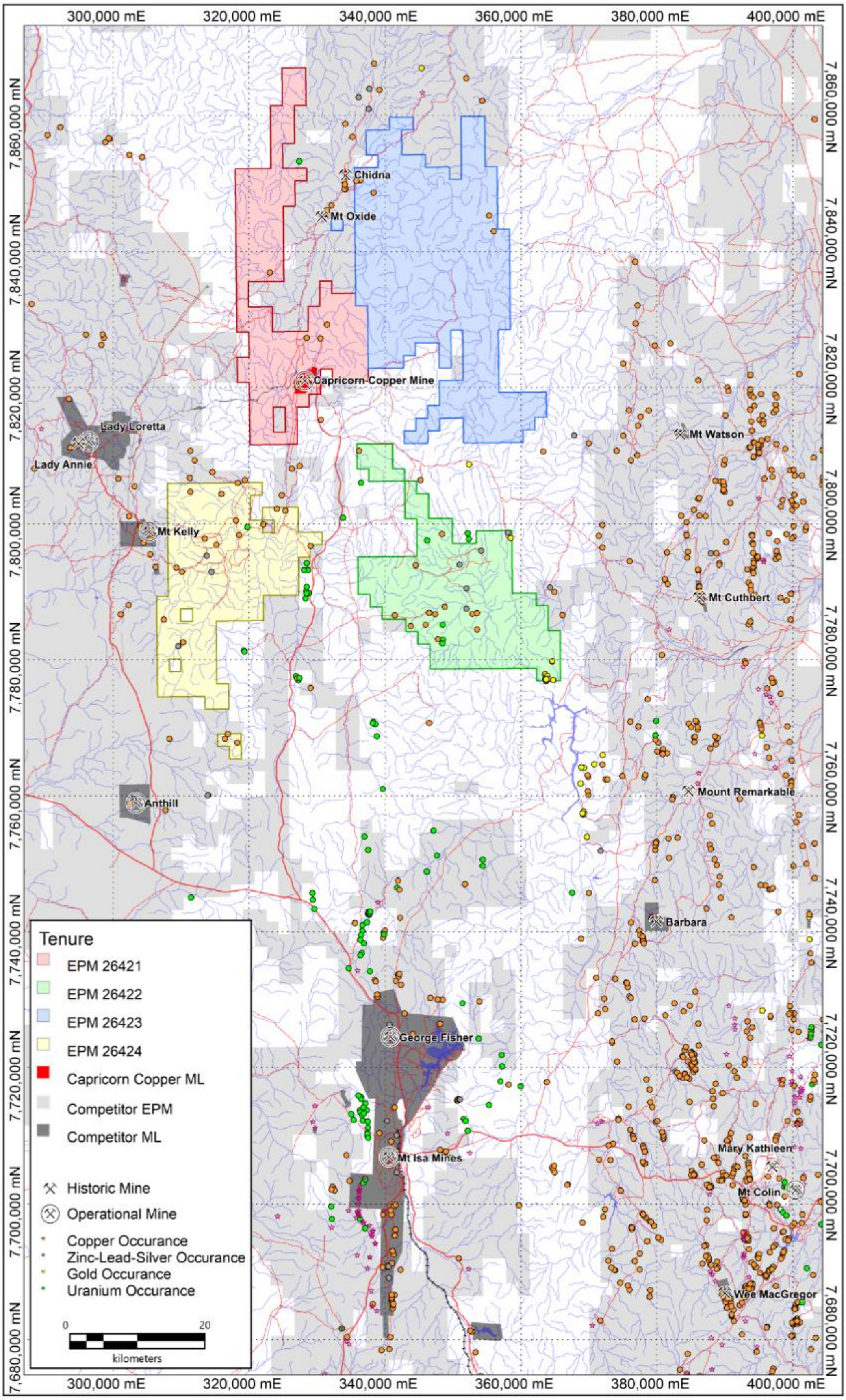

Figure 1. Location of the Capricorn Copper Mine and associated Mining Leases and Exploration Permits

4. Geology, Structure and Mineralisation

4.1 Regional Geology, Structure and Mineralisation

The copper deposits of the CCM occur within the Western Fold Belt of the Mount Isa Inlier, specifically within the Leichhardt River Fault Trough (LRFT) tectonic sub-domain. The LRFT is a is a ~300km x 50km belt of variably deformed and metamorphosed sediments and volcanics deposited in a succession of rift-sag cycles between 1790Ma and 1645Ma. It is bounded to the West by the Mount Gordon (MGFZ) and May Downs Fault Zones, across which lies the Lawn Hill Platform tectonic sub-domain. It is bounded to the East by the Bull Creek High Strain Zone, across which lies the Ewen Block tectonic sub-domain, and by the Gorge Creek Fault Zone, across which lies the Kalkadoon-Leichhardt Belt tectonic sub-domain. The stratigraphy within the LRFT can be sub-divided into three groups representing distinct cycles of basin formation and sedimentation. The oldest is Leichhardt Super Basin (1790-1760Ma) which formed during intra-plate rifting caused by slab roll-back at the continental margin, far to the South West. The Haslingden Group, which includes the Eastern Creek Volcanics and Myally sub-group sediments was deposited during this event. This was followed by the formation of the Calvert Super Basin (1690-1670Ma), another major, rifting-related period of rapid sedimentation and bimodal volcanism. The Surprise Creek Group, Torpedo Creek Quartzite and lower units of the Gunpowder Creek Formation were deposited during this event. The formation of the regionally extensive sag basin, the Isa Super Basin (1670-1645Ma), followed the cessation of rifting, with the deposition of thick packages of carbonaceous and carbonate-rich sediments the Mount Isa group and McNamara Group. All the major Pb-Zn-Ag deposits within the Western Fold Belt are thought to have been formed during deposition of the Isa Super Basin.

The early rifting history of the region created numerous large faults that were subsequently reactivated during successive periods of rifting and orogeny. Major base metal deposits within the Western Fold Belt are always spatially associated with these structures, e.g. the Paroo Fault at Mount Isa, the Carlton and Swan Faults at Lady Annie and Lady Loretta, and the Mammoth Extended Fault at CCM.

The Isan Orogeny (1600Ma-1500Ma) broadly refers to 3 main deformation/metamorphism events (termed D1, D2 and D3) impacting the Mount Isa Inlier. D1 (1600-1570Ma) was characterised by N-S oriented crustal shortening and reactivation and inversion of the early E-W oriented, rift-related faults. D2 (1570-1520) was the peak metamorphic event, with ductile deformation and folding associated with E-W oriented crustal shortening. Major N-S oriented shears and folds were generated during D2, including the MGFZ and the Bull Creek High Strain Zone. D3 (1520-1500Ma) was the final major deformation event in the region, with ENE-WSW oriented compression generating wrench faulting and brittle deformation locally on pre-existing structures. Structurally-hosted copper mineralisation throughout the inlier is generally interpreted to have been emplaced during D3.

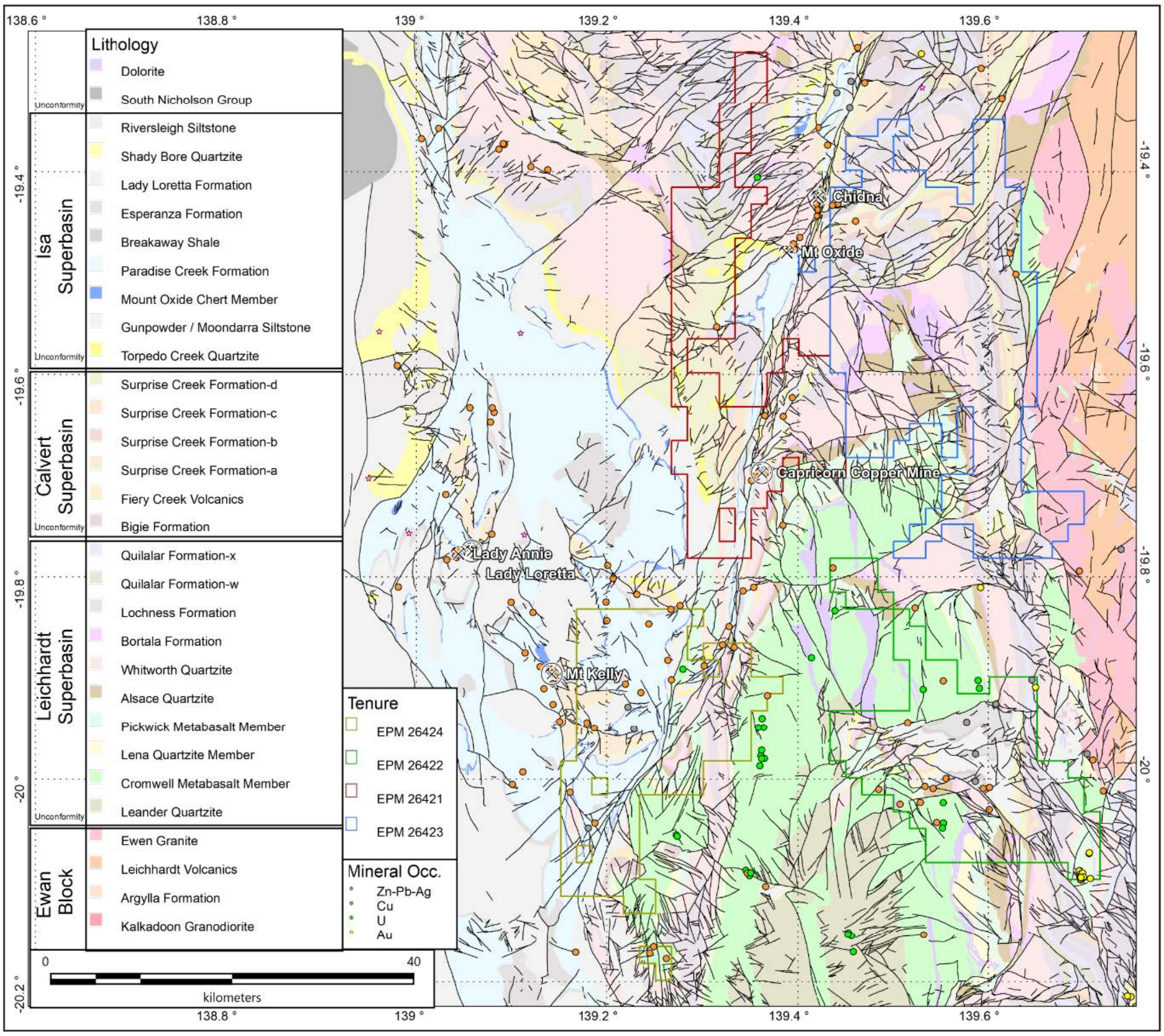

Figure 2. Regional Geology (100k) of the Capricorn Copper Mine area

4.2 Local Geology, Structure and Mineralisation

The target area (SAM02) is located along the Esperanza Fault, near the intersection with a northeast trending fault (Figure 3). The Esperanza Fault is a regional scale structure associated with the MGFZ, and hosts mineralisation at the Esperanza South deposit (ESS).

The ESS deposit itself is situated along the footwall of the West-dipping Esperanza Fault (Figure 4). Mineralisation at ESS occurs as a 25m to 75m wide, variably silicified, locally brecciated zone of pyrite, chalcopyrite, bornite, and chalcocite. Chalcocite appears to have a spatial relationship to pervasive oxidation (after weathering/hematite altered pyrite). The mineralisation also plunges at approximately 60 degrees towards the southwest.

The general stratigraphy of the area is shown in Figure 5. At both ESS and SAM02, the Esperanza Fault juxtaposes the older Eastern Creek Volcanics of the Haslingden Group (feldspathic quartzites, metabasalts, and phyllites) against the younger McNamara Groups rocks. These consist of Lady Loretta Formation (prominent stromatolitic dolomite, siltstone, sandstone, with a basal breccia layer), Esperanza Formation (siltstones and shales, sometimes stromatolitic and/or dolomitic), and Paradise Creek

Formation (well-laminated dolomitic siltstone with common carbonaceous laminae). This is in turn underlain by the Mount Oxide Chert Member and the Gunpowder Creek Formation, which consists of graphitic and dolomitic siltstones in the upper levels and red to green siltstones and sandstones lower in the formation.

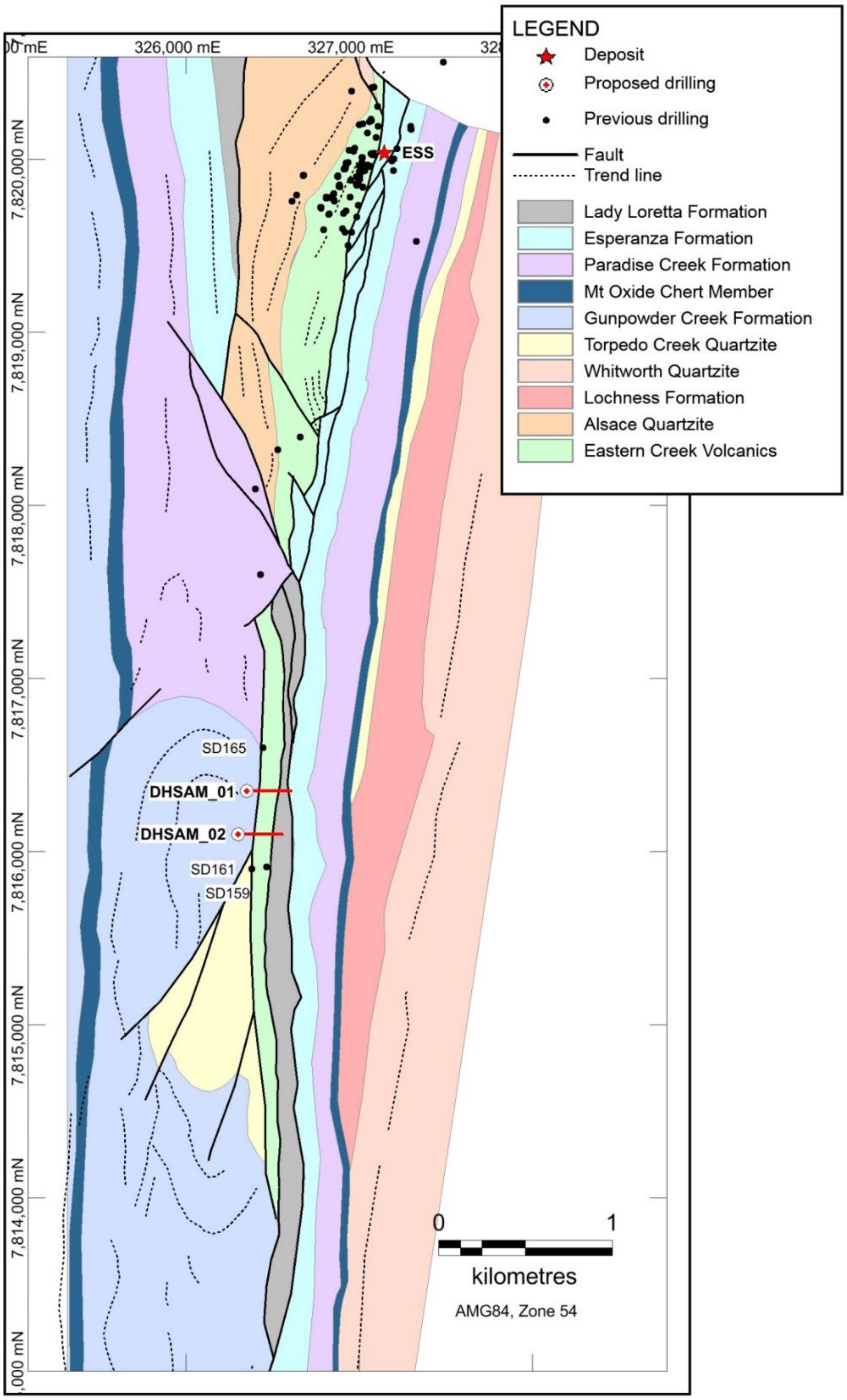

Figure 3. Local Geology of the SAM02 Anomaly area

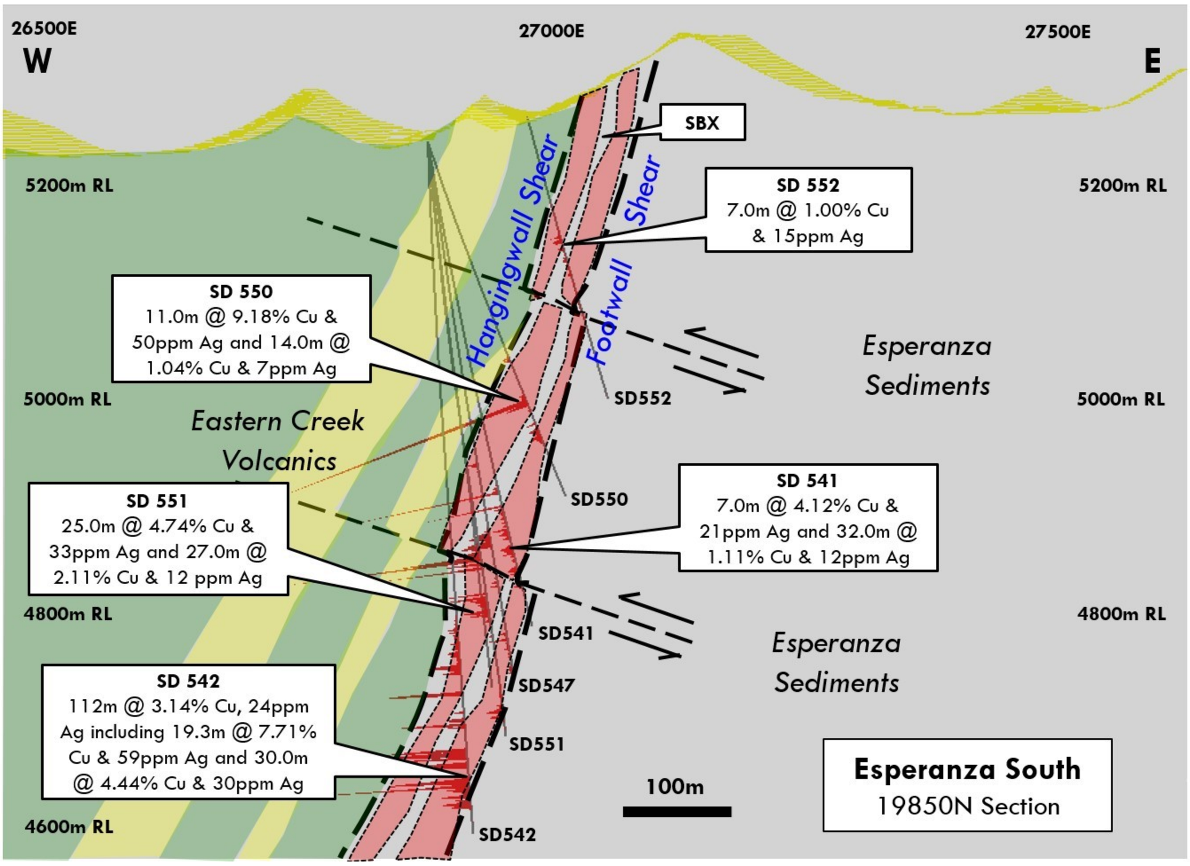

Figure 4. Esperanza South example cross section showing mineralisation within the Esperanza Fault Zone

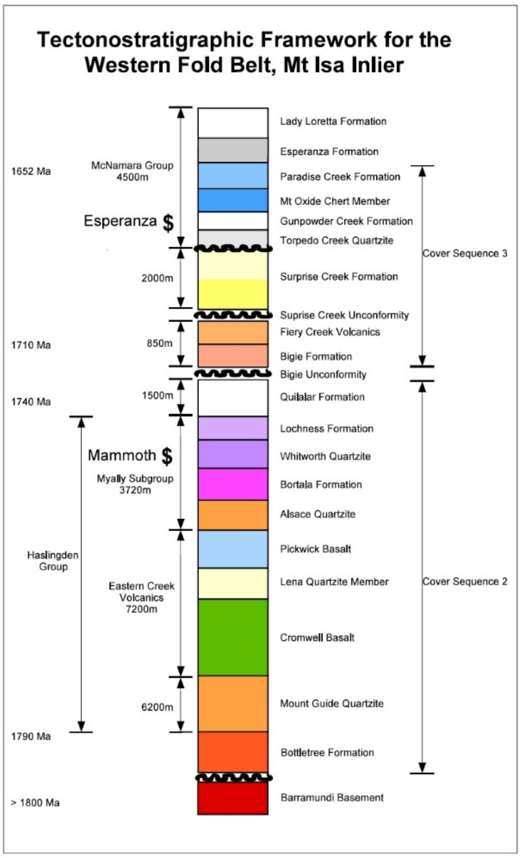

Figure 5: Basic stratigraphy of Western Fold Belt, Mount Isa Inlier, after O'Dea et al 1997, and Clarke 2003

5. Previous Exploration

5.1 Historical Exploration

There has been a long history of exploration in the region, with numerous EPMs held over the ground since the 1960s, although the bulk of the work has been focused within the mining leases. Key historical programs relevant to the proposal area are as follows:

- GEOTEM 25 survey flown by BHP minerals and Gunpowder Copper in 1995. This did not detect any significant conductivity features at the current target area.
- VTEM max survey flown by Birla Mt Gordon in 2010. This also did not detect any significant anomalies at the current target area.
- Soil sampling was completed twice – by Gold Fields/ Mitsubishi in 1973, and later repeated by Aberfoyle in the 1990s. This work defined a small copper anomaly near the fault intersection (NE trending fault with the Esperanza fault), immediately south of the SAM anomaly.
- Three diamond holes in the general area in 1973, to a maximum depth of 243m, none of which tested the SAM anomaly. Two of the holes (SD161 and SD159) targeted the geochemical anomaly; the target of the third hole (SD165) is not known.
- The holes failed to intersect any significant mineralisation (best result 9m @ 0.1% Cu in SD165 from 150m), however they did intersect "chert" and breccia.

Previous exploration in the region has relied very heavily on EM and soil geochemistry, and this area is no exception. These methods have been largely unsuccessful in delineating new targets outside of the known deposits of Mammoth, Esperanza, and Esperanza South, partly due to significant leached zones over some of the deposits, which hinders the geochemical response

5.2 CCM Exploration prior to the 2019 Drill Program

In May 2018, CCPL contracted GAP Geophysics to undertake a 640 line-km HeliSAM over the Esperanza Fault. The survey was partly funded under the Round 1 Collaborative Exploration Initiative ("CEI") scheme. The survey covered a 13km strike length along the Esperanza Fault, with east-west lines flown at 50m spacings. Due to the large area, the survey was completed in three grids with separate dipoles.

The SAM survey provides a measure of the conductivity (MMC and TFEM) as well as the total magnetic intensity (TMI). Montana GIS were also engaged to provide additional processing and 3d inversion of the data.

The survey successfully detected known mineralisation at ESS, and also defined a number of other targets, although the signature was complicated by mine infrastructure and conductive lithologies. The mineralisation is most visible on the 2nd vertical derivative MMC; an interpretation is shown in Figure 6. The prominent linear conductor likely corresponds to graphitic siltstones in the Esperanza Formation, immediately east of the silicified Esperanza Fault. ESS shows as a moderate strength feature located on the western side of the fault (Figure 7). The mineralisation dips to the west and plunges to the south; as a result the SAM anomaly sits west of the surface expression of the Esperanza Fault rather than directly underneath.

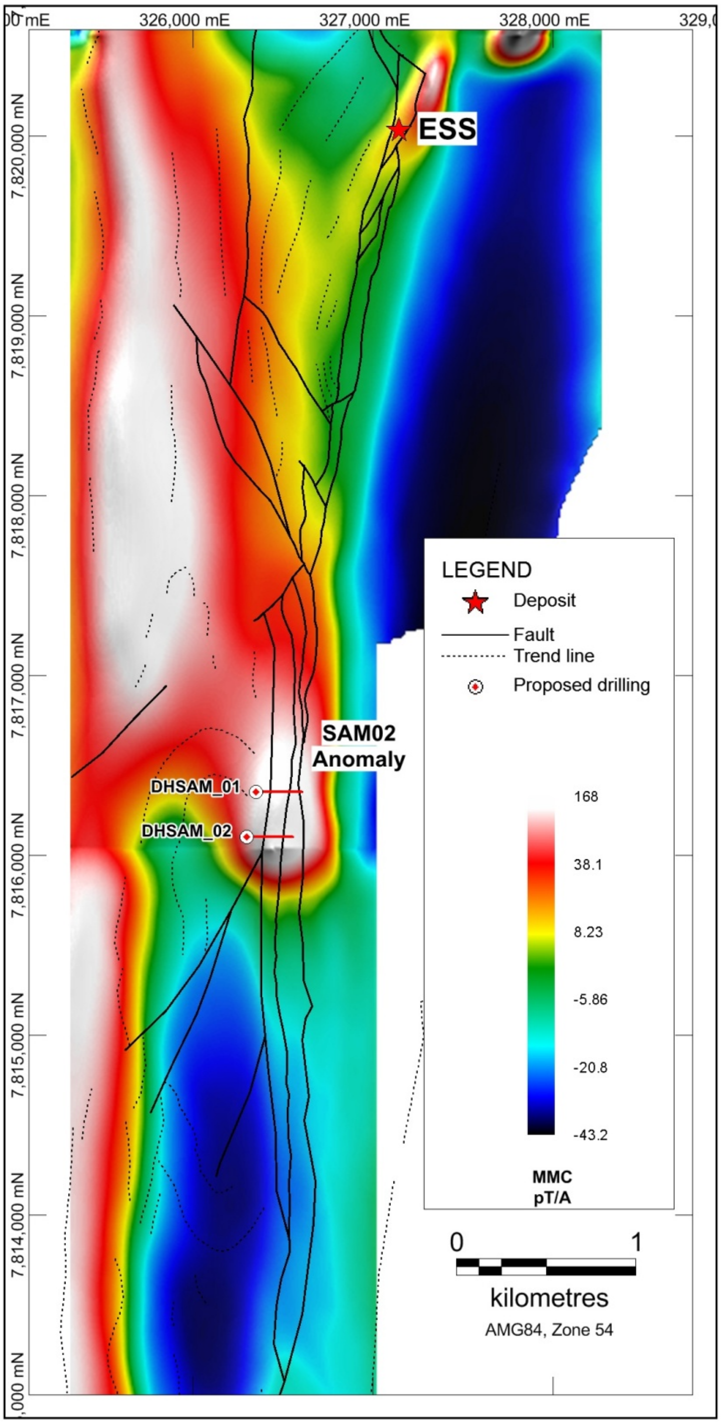

Figure 5. SAM MMC over Esperanza Fault, showing ESS and SAM02 anomaly with proposed drillholes

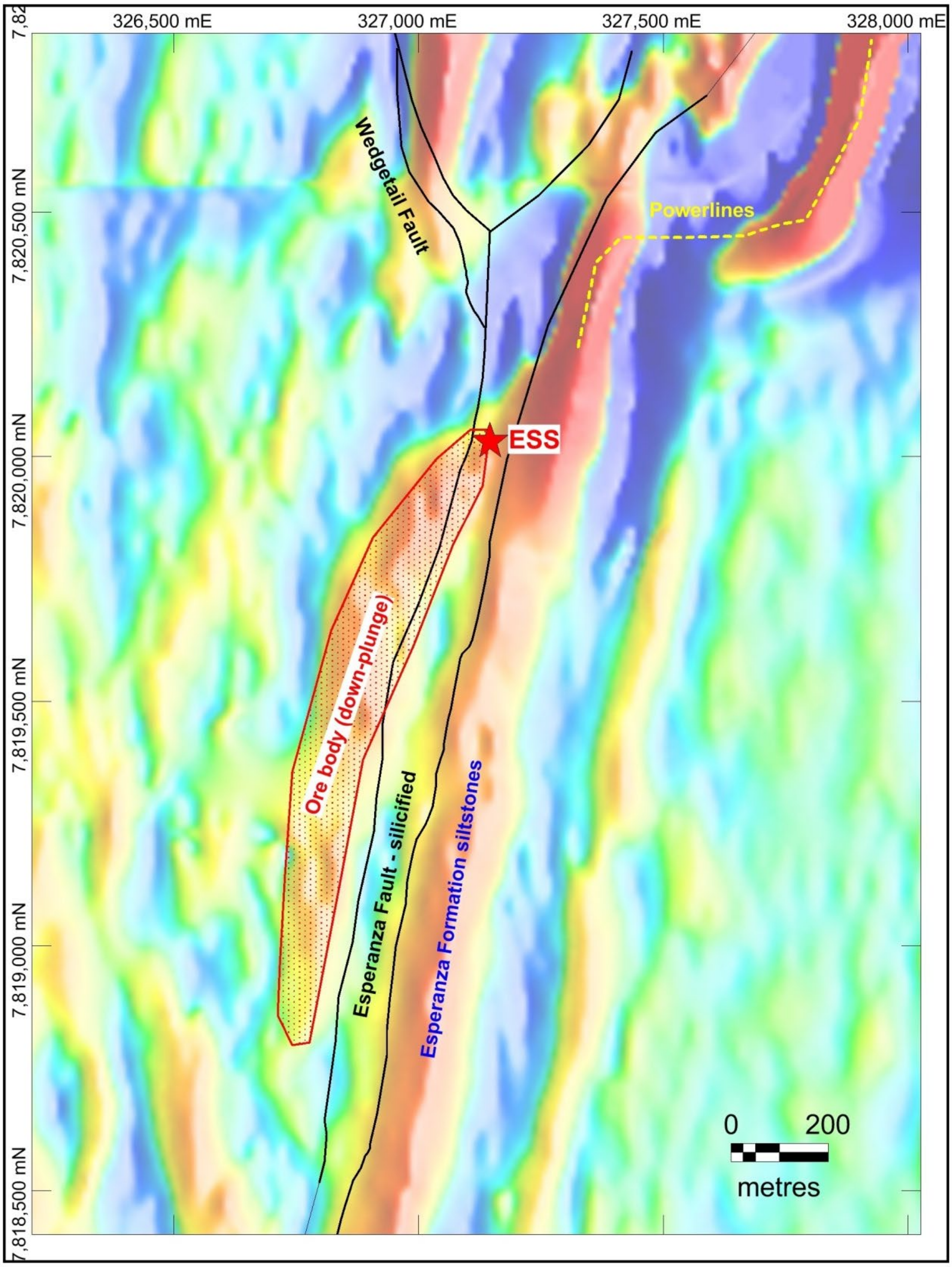

Figure 6. Detailed interpretation of SAM over ESS (background is MMC 2vd)

SAM02 is a prominent anomaly located 3.5km further south (Figure 8). The anomaly also sits on the western side of the fault. The horizontal break in the images immediately south of SAM02 is caused by levelling issues at the boundary between the two grids.

As with any geophysical survey, there is risk that the anomaly is not caused by underlying mineralisation. In the case of SAM02 the conductivity feature could be caused by a thicker package graphitic siltstone, however the location at a structural intersection and presence of nearby anomalous geochemistry is promising and the anomaly warrants drill testing.

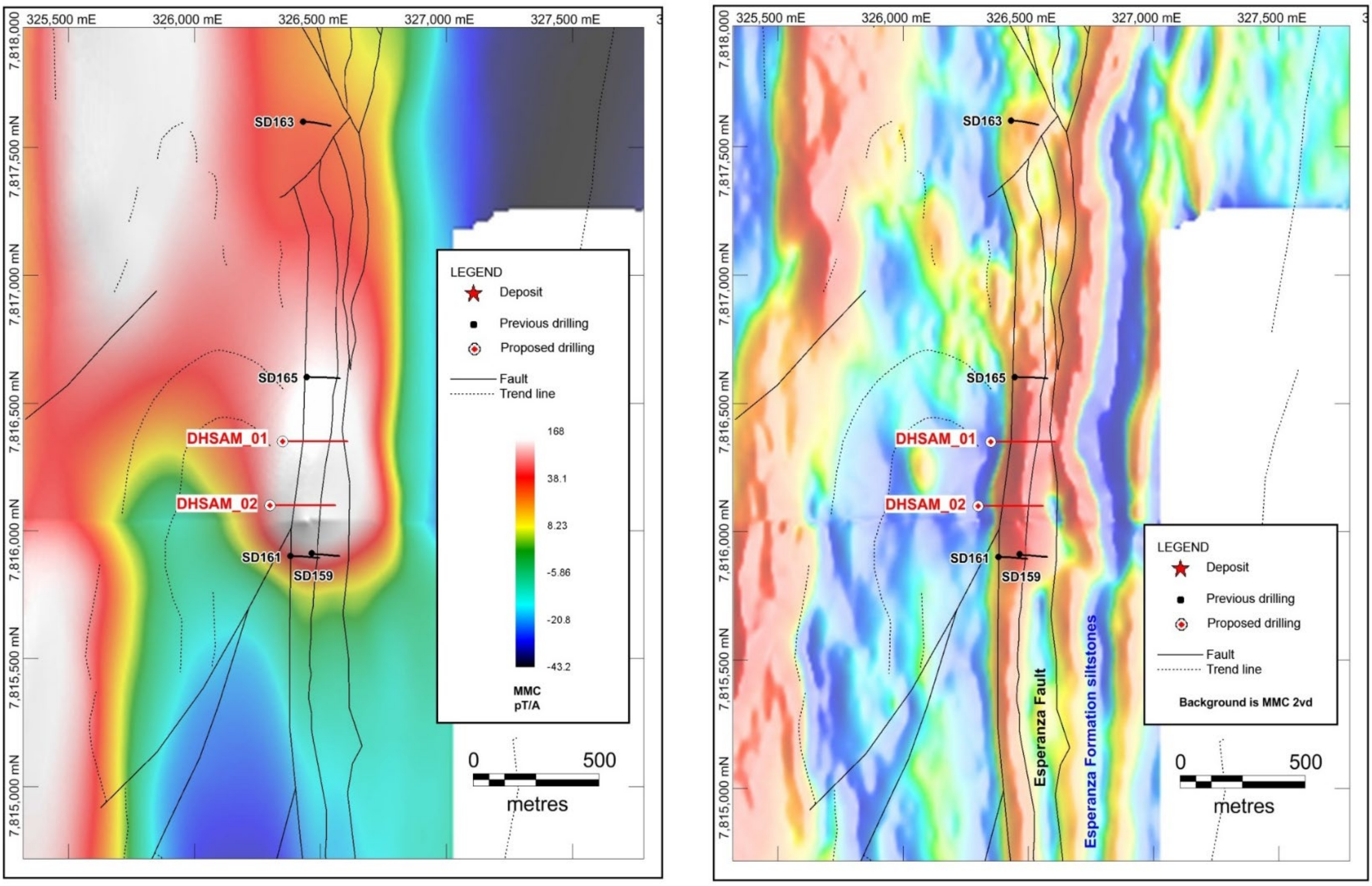

Figure 8: Detailed interpretation of SAM over SAM02 anomaly. a) background is MMC, b) background is MMC 2vd

6. CCM Diamond Drill Program 2019

6.1 CEI Proposal and Approval

In application for Round 2 of the Department's Collaborative Exploration Initiative, CCM proposed a total of two diamond core drill holes to target the 3d modelled conductor of the SAM02 anomaly. The holes were planned for 450m depth each and to be drilled as PQ3 and HQ3 core. The Department approved a partial program of 1 x 450m diamond core hole to test the anomaly in November 2018.

6.2 2019 Drilling Summary

In May 2019, CCM utilised contractor company DDH1 Drilling to complete two diamond drill holes totalling 900.96m as per the original proposal. One further hole was abandoned at 30.4m due to incorrect inclination set up by the drill crew. Drill collar details are outlined below in Table 1.

Table 1. Drill Hole Data from the 2019 SAM02 Drilling

Hole ID	East	North	RL	Depth	Dip	Azi_Grid	PQ3	HQ3	Comments
SD661	326350.62	7816348.28	256.4	30.4	-59	92	30.4	-	Abandoned due to incorrect dip set up
SD661A	326351.45	7816348.22	256.4	450.69	-56	92	101.4	349.29	Proposed Hole - DH_SAM_01
SD662	326301.07	7816094.40	268.4	450.27	-56	92	83.3	366.97	Proposed Hole - DH_SAM_02
*Note - Coordinates in AGD84 Zone 54			**Total**	**931.36**			**215.1**	**716.26**	

Drilling commenced on SD661A on 5th May 2019 and was completed on 14th May 2019. SD662 was collared on 15th May 2019 and was completed on 25th May 2019. Excluding abandoned hole SD661, the program totalled 41 shifts and averaged 22m per shift.

6.3 Earthworks and Logistics

In order to undertake the drilling at the proposed locations, two drill pads and a small access track linking the pads to the main existing access track were required to be constructed. CCM utilised Alonso Equipment Hire Pty Ltd (**Alonso**) of Mt Isa, QLD to undertake the earthworks due to the availability of an operator and required machinery. The earthworks were undertaken in April 2019 under the supervision of an Exploration Dept Field Technician. The surface drill pads were a minimum of 20m x 20m with two sumps on the downhill side used for water recirculation. Following completion of the earthworks, the Field Technicians lined the sumps using black plastic sheeting and tarpaulin to capture any potential leaks and minimise environmental impact, and barricaded them using pickets and plastic fencing to minimise the potential of cattle entering the sump area. A 40mm polypipe line was then run out south from the mining lease to the sumps to provide a water source for drilling.

6.4 Drilling Contractor

DDH1 Drilling Pty Ltd (**DDH1**) of North Fremantle, Western Australia was contracted to complete the 2019 drilling program for Capricorn Copper. The surface rig utilised for the drilling, Rig 38, was currently on site for resource drilling purposes at CCM and therefore logistically was the most viable option to conduct the SAM drilling program.
Rig 38 is a Sandvik UDR 1200 diamond drill rig and was accompanied by a lighting plant, an office/workshop caravan, an 8x8 rod truck, and a 4x4 fuel truck. PQ, HQ and NQ rods and triple tubes, standard and chrome barrels, drill bits, consumables, ACT orientation and AXIS survey tools were all supplied by DDH1.

All drilling personnel were equipped with required PPE by DDH1. Diesel fuel, power for UG rigs and water were supplied by Capricorn Copper, as were core trays and core blocks. Handheld VHF radios were supplied by DDH1. Food and accommodation for the drilling crew was provided at the CCM camp facilities.

The rig was staffed by a driller and two offsiders. Crews worked two 12 hour shifts with shift changes occurring at 05:30 and 17:30 each day. Drilling staff were rostered on a 14-days on, 7-days off rotation, switching from day shift on the first week to night shift in the second week of the stint.

Pre-start meetings were conducted at the start of each shift and a safety toolbox meeting was held with both DDH1 and Capricorn Copper staff weekly.

6.5 Drilling Methodology

The typical layout consisted of the drill rig aligned along the correct orientation, a rod slew in front of the drill collar, a support truck, a lighting plant for the night shift drilling and a caravan which was used as an office and workshop store. All drill rigs were underlain by black plastic sheeting to capture any leaks and minimise environmental impact.

The surface drill rigs were aligned along the correct azimuth by the site Geologist using a Suunto sighting compass, and drill hole information was passed on to the driller prior to the commencement of each drill hole via a printed out “Drill Hole Plan” sheet. Drill hole dip was checked by the Driller using an angle meter with spirit level.

Holes were collared at PQ3 size using a standard barrel from surface until competent, unbroken ground was reached. The holes were then reduced to HQ3 sized core using a 3m chrome barrel to end of hole. Triple tube was utilised in order to maximise recoveries should the ground conditions be poor in areas of potential mineralisation.

Surveys from all drill holes were routinely monitored for azimuth and inclination deviation whilst the drill hole was in progress. All holes were surveyed at 15 metres and 30 metres depth, and then every 30 metres thereafter using an industry standard AXIS Champ gyroscopic north-seeking survey tool. End of hole surveys were also taken for each hole. All HQ3 core was orientated using an industry standard REFLEX ACT orientation tool. Surveys were collected electronically by DDH1 and passed on to CCM on the daily drill plods. The drill plods recorded hole ID, survey depth, dip and azimuth (true north for gyro). If a recording appeared erroneous, the survey was flagged and checked against the electronic record.

Drill plods were emailed to Capricorn Copper Geology staff on a daily basis, recording the drilling activities of the previous day and night shifts. These plods were then entered into the Capricorn Copper Cost Tracking spreadsheet, which stored drilling metres, rig activity and consumables used. Invoices were sent by DDH1 to Capricorn Copper fortnightly and were checked against the Cost Tracking information to ensure there were no discrepancies prior to approval.
The chrome barrel was used in order to minimise deviation of the drill hole. The rig drilled a maximum of 3 metre runs, which were shortened in areas of poorer ground conditions. Recoveries were generally very good with SD661A reporting an overall recovery of 99.86% and SD662 reporting an overall recovery of 99.49%.

The core trays were marked with the Hole ID, Tray Number, Start Arrow and End Marker, core blocks were routinely put in the trays at the end of each drill run and noted hole depth, run length, recovery length and if the core was orientated successfully. Additional core blocks were inserted where core was lost or dropped/recovered, or if cave-in was suspected. Driller initials were also put on the side of the core block which was used as a check between shifts.

6.6 Diamond Core Processing and Sampling

The SAM drill program consisted of PQ3 and HQ3 diamond drill core. The industry standard core diameters for these core sizes are included in Table 2:

Table 2. Core sizes utilised in the 2019 SAM02 Drill Program

Core Size	Core Diameter (mm)
PQ3	83.1
HQ3	61.1

Surface drill core was collected from the rigs at the end of each drill shift. Upon arrival at the core shed, the core was laid out in sequence on the core racks. The core was reviewed prior to processing to ensure there were no discrepancies with factors such as drillhole depths, tray and block mark-up, core recoveries, and core quality.

6.6.1 Core Orientation

All HQ3 core was routinely orientated by the drilling crew using a Reflex Act III orientation tool (http://reflexnow.com/act-lll). To orientate, the core was jig-sawed back together in a holder made from L-section steel bar. If three consecutive successful orientation marks were aligned (within 10 mm) a continuous yellow line was drawn along the drill core. Arrows pointing downhole were then placed along the left side of the line. If only two orientation marks matched one another, a dashed orientation line was drawn. An asterix was marked at the start and end of a single continuous orientation line. If the orientation marks did not correlate to one another or if the orientation marks failed, the core was pieced together and a continuous solid black cut line was drawn.

6.6.2 Core Recovery, RQD, LUP, Rock Strength and Fracture Count

Core recoveries are recorded by measuring the total amount of core between each core block. This was then compared to the recovery noted on the core block by the driller and any errors were rectified. The Rock Quality Designation (**RQD**) value is calculated by summing the total length of core in the run composed of pieces of core greater than 10 cm in length. The recovery and RQD are both converted to a percentage of the recovery during the data entry phase. At this time, further geotechnical information is recorded such as Longest Unbroken Piece (**LUP**) and Rock Strength. The LUP is recorded as the longest piece of core within each block to block interval. The Rock Strength class is recorded as an average, also between core block to core block. Fracture count involved counting individual fractures within a drill run. If the core was crushed and fractures were too numerous to accurately count, it was given the designation "999" which indicated a highly fractured zone.

6.6.3 Core Mark-up

Once the core has been orientated and recoveries and RQD have been calculated, the core is measured and marked with metre intervals. Each metre is marked using a short, black line perpendicular to the core axis and crossing the orientation or cut line. The depth is labelled parallel to the core axis on the left hand side of the core and to the right of the metre mark. Once the geotechnical work and metre marking is completed, the core tray mark-up is completed by writing the Hole ID and Tray Number in green marker on the top of each tray (for photography) and the

Hole ID, Tray Number and From and To Depths of each tray are etched to provide a more durable record on the tray. See Figure 9 for an example of a marked-up core tray.

Figure 7. Example of marked up core and tray per CCPL standards

6.6.4 Geological and Structural Logging

The core is then logged for lithology, alteration, mineralisation and structural data by the site Geologist. This data was recorded in the same formatted logging sheets and utilised the same logging codes as used at the CCM site to ensure continuity and consistency. The geologist also completes a structural geotechnical log of joints required for engineering purposes. This log includes recording structural information such as joint sets, joint smoothness, undulation, alteration, infill and separation.

6.6.5 Specific Gravity and Bulk Density

Specific gravity (SG) measurements were taken on competent pieces of core between 10 and 30cm in length. Measurements were taken every 10m, however it is CCPL procedure to increase the SG sampling frequency in areas of mineralisation should it exist. Selected SG samples were weighed dry and then submerged in water and again weighed. The SG was then calculated using the formula SG = Dry Weight / (Dry Weight – Wet Weight). A bulk density (BD) study was also conducted to provide a check against the SG values. Relative to the SGs, BD weights were taken every 50m (approx. once per 15 trays) and consist of dry weighing a full core tray (no core loss) and recording the core size, length and number of core blocks to calculate a volume and subsequent bulk density using the formula BD = Mass / Volume.

6.6.6 Core Photography

All core was photographed using a Nikon digital camera mounted to an aluminium stand that consistently positioned the camera above the core trays. Two core trays were photographed together in both dry and wet states. These were then uploaded to the Geology Desktop computer and named with Hole ID, "From and To" Depth, and whether the core was Dry or Wet. See Figure 9 for an example of core photography.

6.6.7 Core Sampling

Once logged and photographed, a sample cut sheet was created by the logging geologist for each drillhole. The cut sheet listed the Hole ID, a sample interval (From and To), a sample ID, insert points of QA/QC samples and any further comments, such as if core loss was present within the sample. Capricorn Copper sampling protocols ensure that samples were to be a minimum of 0.5m length to a maximum of 1.5m, and that one QA/QC sample (Blank, Duplicate or Standard) is entered into the sample sequence every 10th sample. As a rule, this is increased within significant ore zones with additional standards and blanks inserted, however this was not extensively employed during the SAM drilling program due to the lack of mineralisation. Sample intervals were tailored to avoid including core loss where possible.
The cut sheet is then passed on to the Field Technicians for preparation and cutting. Calico sample bags stamped with a corresponding Sample ID were utilised, and QA/QC samples were inserted into the sequence prior to cutting. This was to ensure that upon sampling of the cut core, there would be no accidental mix up of QAQC and core samples being put into the incorrect bags. All core was cut in half using an Almonte automated core saw. Pre-start checks are conducted prior to operating the saws, with a minimum of two people at the core shed facility when cutting is taking place. Additional PPE for operating the core saw include clear safety glasses, hearing protection, gloves and dust masks. For the automated saw, core pieces were taken from the core trays and loaded into the respective-sized core cradles. These were then placed into the core saw feeder and fed through the saw until the cradle emerges into the exit tray. The core was then placed back into the core tray. The core was cut a few mm to the right of the orientation / cut line as to sample the right-hand side (RHS) of the core and to keep the left-hand side with the line intact. The core trays with cut samples were then pushed along roller racks out of the core shed to the sample station. Typically, the core samples were of 1m length and sampled consistently from the RHS with the samples placed into its designated calico sample bag. Once five samples were collected, they were placed into a polyweave bag and marked with the "From and To" Sample Numbers and placed on a pallet. The palletised samples were then shrink wrapped and loaded onto a truck and dispatched directly from site to the ALS Laboratory in Mount Is. Duplicate samples are collected in the lab by splitting preselected samples following crushing and prior to pulverising. The duplicate sample is then analysed at the end of the batch. The chain of custody for samples adopted by the company is secured and maintained from site directly to laboratory.

7. Collar Surveying

All spatial references within the CCM area are conducted within a local grid system, the "Mammoth Mine Grid" (MAM GRID). This grid can be loosely approximated by using a truncated version of the regional UTM datum AGD84 Zone 54, where 7,799,997m is subtracted from the northing and 299,997m subtracted from the easting. The Mine RLs are also a variance on the Australian Height Datum (AHD) with 5,000m added to produce Mine RLs for surface and underground. Regional work is therefore typically conducted in AGD84.

For the Esperanza Fault drilling program, drill collar positions were located by handheld GPS in AGD84 datum and marked with a wooden peg prior to drilling. The azimuth and dip at the collar of the drillhole was established using a line of sight Suunto compass clinometer by the site geologist and marked with a front and back site. The geologist marked the drill orientation with a length of flagging tape on the pad as a guide for alignment of the drill rig. The site geologist is present for rig set up to ensure the drill rig is properly aligned. The inclination of the drill mast is verified by the Driller using a clinometer.

Drill hole deviations were monitored during drilling in Micromine 3D software as the downhole surveys were reported in order to ensure no significant deviation occurred and the drill hole intercepted its proposed target.

Completed holes were subsequently located and surveyed by CCM Surveyors to a +/-0.02m accuracy, with topographic control established with a series of base stations established around the CCM. Final surveyed collar positions were collected in MGA94 and converted to both MAM and AGD84 grids.

8. Data Recording and Management

8.1 Geological Logging

The logging sheet template adopted by Capricorn Copper is based on the previous Aditya Birla (ABY) A3 paper logging format that was developed to record all detailed information relevant to each hole, including hole identification, coordinates, depth, relevant geological, geotechnical (core recovery, RQD measurements) and structural information (hardness, weathering, defects, Cα and Cβ) using a specified coding system.

The logging codes are primarily based on the logging codes established by previous explorer ABY for their diamond and RC drill programs but are continually being updated when new relevant information is encountered.

Lithology and colour are coded by a two letter alpha code. Alteration, Veining, Oxidation and Leaching were recorded in relative intensities from 1 – 5, where 1 is very weak and 5 is very strong. Mineralisation was recorded in absolute percentages of the minerals of interest and sulphide percentages were totalled to give a Total Sulphide value. Structural data and fault widths and fill are also recorded on the log sheet. A separate structural log was used for measurements taken on orientated structures.

8.2 Electronic Data Capture

Data from the field log and sampling sheets is entered into an Excel spreadsheet and subsequently converted in a DataShed SQL database maintained by Maxwell Geoservices at the completion of the hole. The Excel spreadsheet has been created with a series of validation criteria in the form of pulldown menus for each data entry that restricts what can be entered into each field and significantly reduces the error associated with data entry.

Assay results are received from ALS – Mount Isa in electronic (via email) format onsite and remote access is granted to Maxwell Geoservices for direct importing to the DataShed database. The electronic results are provided in CSV (comma delineated) and as secured pdf format. Laboratory duplicate sample assay values, laboratory replicate sample assay values and Capricorn Copper QA/QC assay values (field duplicate, standards and blanks) form part of the quality control/quality assurance program during the 2019 Esperanza Fault drilling program.

Processing software utilised during the drill program included Micromine, MS Excel and MapInfo Discover.

9. Analytical Services

9.1 Geochemical Laboratory

Sample preparation and analysis were undertaken at accredited commercial laboratories, Australian Laboratory Services ("ALS") with preparation carried out at ALS - Mount Isa and analytical determination at ALS - Townsville. A sample preparation and analysis flowchart is attached as **Appendix 1**. Industry standard analysis was undertaken with the entire half core crushed and pulverised to 90% passing <75µm, to produce 500g pulps. A 1g charge was taken for analysis for 12 elements (As, Ag, Bi, Co, Cu, Fe, Mg, Mo, Ni, Pb, S, Zn) utilising a four-acid digest with an ICP-AES determination. It was proposed that any over range Cu (>10,000ppm, i.e. 1% Cu) and Ag (>100g/t) would be re-analysed using a standard Ore Grade method utilising a four-acid digest producing a volumetrically precise digest analysed with an ICP-AES finish. However, no over range values were reported during the initial analyses. Gold and 48 elemental assays were taken at rate of 1 in 20 samples with gold determined using a 30g charge for fire assay with an AAS determination and a 1g charge taken for analysis of 48 elements utilising a four-acid digest with an ICP-MS determination.

9.2 Element Analysis

All analytical results have been received and are reported as standard length-weighted averages with intersections reported primarily as downhole length calculated for significant intersections over 10m. Significant intersections are reported here at a 0.1% Cu to define elevated mineralisation. A maximum of 3m internal dilution is used, acceptable for industry best practice for calculating the intersections at the various copper cut-offs.

9.3 Assay Results

Neither hole drilled at the SAM02 target returned significant intervals of mineralisation. The best recorded intercepts in both holes are listed below in Table 3.

Table 3. Significant Intercepts from the SAM02 Drill Program

Cutoff (Cu%)	HoleID	From	To	Interval (m)	Cu_%	As_ppm	Co_ppm	Pb_%	Zn_%
0.1	SD661A	257	259	2	0.10	11	3	0.00	0.00
0.1 Zn	SD661A	404	405	1	0.00	15	4	0.00	0.32
0.1	SD662	262	263	1	0.23	180	25	0.00	0.00
0.1	SD662	268	270	2	0.25	50	51	0.00	0.00
0.1	SD662	277	280	3	0.18	33	15	0.00	0.00

9.4 Quality Assurance/Quality Control Program

As standard, Capricorn Copper implements a rigorous QA/QC process that conforms to industry best practice for use in the reporting of a Mineral Resource estimate in compliance with the JORC 2012 Code. The QA/QC procedures are documented in CCM Core Yard Standard Operating Procedures. The staggered sample collection and insertion approach utilised by CCM ensures that 1 in 10 samples is a QC sample. In areas of visual high-grade mineralisation additional blank and CRM standards are randomly inserted into the sample stream.

The QA/QC results from both CCM protocols and laboratory internal QA/QC procedures are continually monitored and are supportive of the copper grades and assays returned. If any bias or errors were perceived, CCPL would require immediate follow up. This could include re-weighing and re-assaying from pulps and or bulk rejects to identify and resolve any issues. No such issues were identified within the reported drill program.

9.4.1 Standard Reference Samples

Analytical standards were inserted routinely every 30th sample using a certified reference material ("CRM") of sulphide or oxide material sourced from GeoStats Pty Ltd ("GeoStats"). All CRM's are in pulp form and each CRM standard packet is assigned a unique sample number conforming to the general sample stream used for the primary samples in the hole. Ideally CRM certified assay grades should be representative of the grade range of the sample stream in which they are placed. The following parameters are then reviewed against the assayed CRMs:

- Desirable accuracy levels for CRM standards range from precise within the ±95% confidence interval of the certified value to an upper limit of acceptable tolerance of ±10% (ideally ±5%) of the certified value based on the inherent accuracy of the analytical instrumentation as reported by the laboratories. The aim being to determine over time if there is a positive bias, negative bias, or an even spread in the analysis.
- A CRM standard that shows two consecutive results outsides the ±10% threshold is deemed to be uncontrolled. A standard that shows four consecutive results outside the ±5% but within the ±10% threshold is deemed to be reflecting an analytical bias.

During the 2019 SAM drilling program a total of 32 standard samples were assayed from three different CRM types. All three were sourced from Geostats Pty Ltd and were selected based on the interpreted Cu grade in the sample stream in which they were placed. As such, all three samples represent low Cu grade material. Table 4 below summarises the average grades expected from the three CRMs:

Table 4. Standard Reference Samples used

Std ID	Type	Cu_%	Ag_ppm	Co_ppm	Comments	Qty Used
GBM313-1	Low Grade	0.31	4.9	10	Low copper ore composite	10
GBM910-4	Low Grade	0.54	1.8	67	Copper sulphide ore	11
GBM915-8	Low Grade	0.59	6.5	1083	Low Cu and Ni filtercake blend with indurated sands	11

Analysis of the standards has shown that across the 32 assayed CRM standards, only two assayed outside of the 10% tolerance – Samples CCM18280 and CCM18550 (-12.3% Cu and +12.0% Cu respectively). Both CRM standards were of type GBM 313-1, however the program average variation from the certified Cu value for this type was +1.8% Cu (i.e. on average, assays returned Cu values 1.8% higher than the quoted CRM standard value) and is well within acceptable tolerances. The two out of tolerance results were not consecutive and one assayed positive and another negative, indicating that these do not show an intrinsic anomaly within the assaying procedure. The remaining two types of standards – GBM 910-4 and GBM 915-8 – assayed very close to the certified value with no assays out of tolerance. Variance for GBM 910-4 and GBM 915-8 were of -0.3% Cu and -0.8% Cu respectively, indicating assaying equipment were calibrated satisfactorily for the duration of the program.

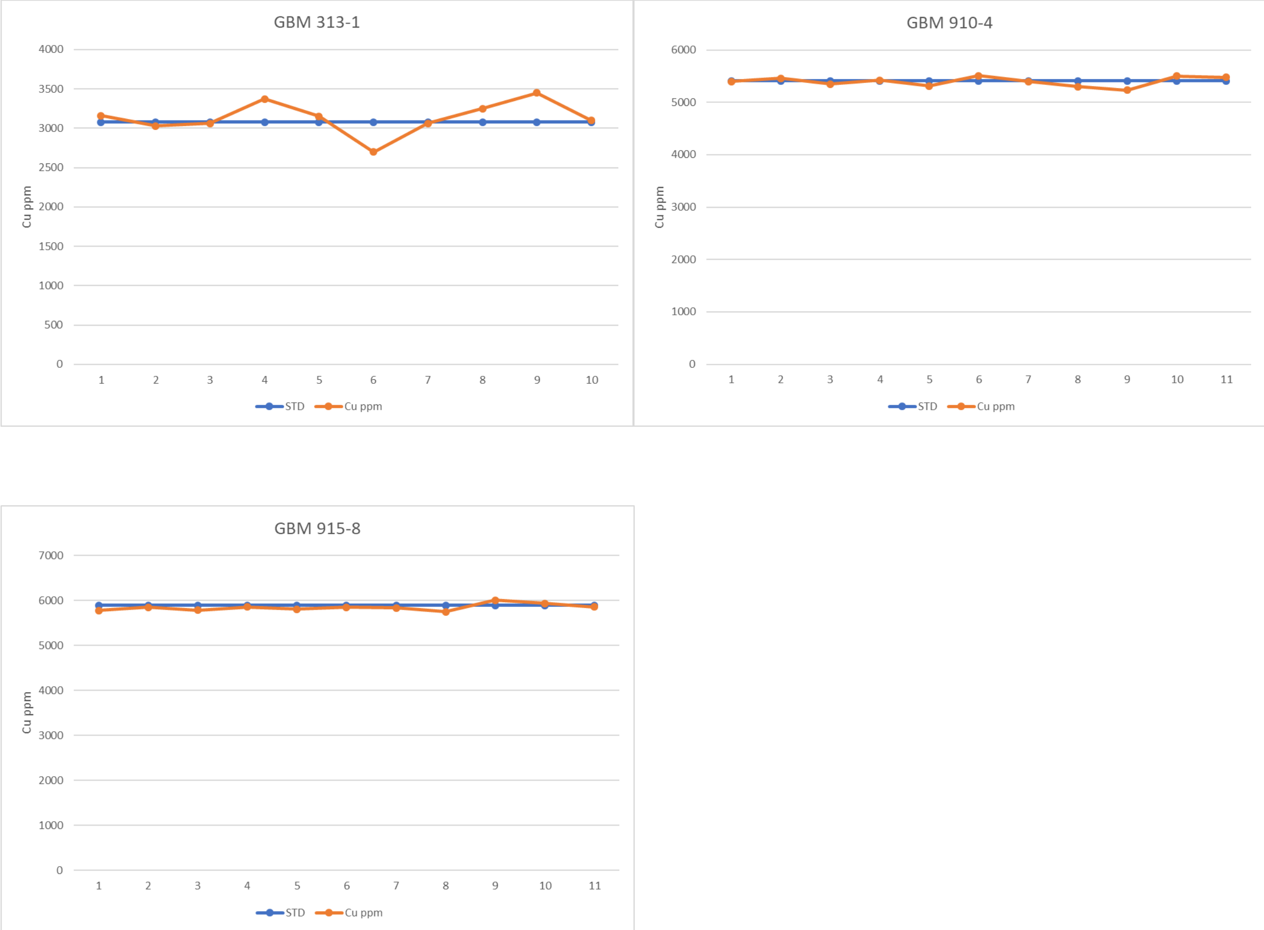

Figure 8. CRM performance for a) GBM 313-1; b) GBM 910-4; and c) GBM 915-8.

9.4.2 Duplicates

Duplicate diamond core samples are collected every 30th sample with the duplicate sample assigned a unique sample number and inserted at the end of the sample batch. Duplicate sampling allows an assessment of overall precision, reflecting total combined sampling and analytical errors (field and laboratory). For QC processes an acceptable precision/repeatability discrepancy level for duplicates range between 5% to 15% (preferably below 10%) for 90% of the duplicate samples.

During the drill program field duplicates were taken as coarse reject splits to identify any sampling bias as well as assay precision/repeatability. Duplicate assays returned results highly comparable to those of the original assay sample. A total of 85% of the duplicate samples sampled within a repeatability range of 15%, which although lower than the 90% recommended, is considered acceptable for largely barren material as differences in duplicate repeatability can be amplified in samples of low grade.

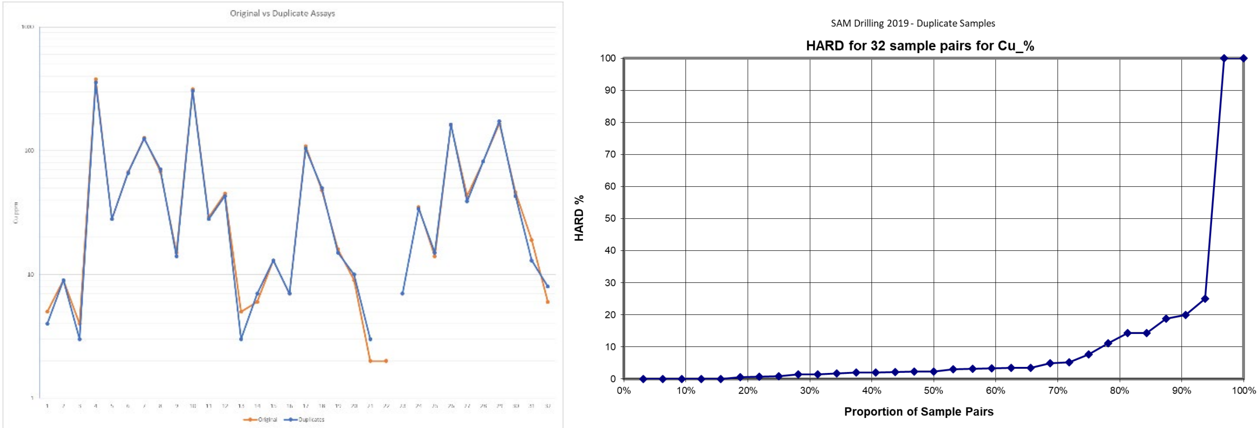

Figure 9. Duplicate Performance shown as a) Cu Assay; and b) HARD percentile

9.4.3 Blanks

Blanks were placed at the start of each diamond drill hole and inserted as routine control samples every 30th sample within the general sample stream. Should high grade mineralisation have been intersected, blanks would also have been inserted following the interval to ensure cleanliness of the equipment. Clean, pre-packaged quartz sand purchased from Bunnings Mount Isa was used as the blank material for the SAM drilling program. Samples were approximately 0.5kg in size. Analysis of the blank material showed no significant contamination, with only two samples assaying >10ppm Cu and a maximum of 20ppm Cu. Average Cu assay of the blank samples was 3.9ppm.

10. Specific Gravity (SG)

Capricorn Copper employed a procedure to measure Specific Gravity (SG) of the drill core throughout the entirety of the SAM drilling program.

1. Samples typically 10 – 30cm in length
2. Full core where possible
3. Selected at 10m intervals
4. Samples were not to cross assay sample boundaries

The instrumentation was stored and measurements undertaken in a climate controlled (24°C) room. As porosity was not deemed to be an influential factor on the ore characteristics, the "Dry – Wet Immersion" method was used, which involves Archimedes' Principle. This implies that a sample immersed in water will apparently reduce in mass by an amount equal to the mass of water displaced.

The equipment required for this technique were:

- A weighing balance which is able to be zeroed with the sling attached.
- A wire sample sling (minimum volume).
- A large container of clean water in which the sling is submersed.

The specific gravity calculation was made using the following procedure:

1. After selection, the sample is allowed to dry naturally.
2. The weighing balance is zeroed.
3. The sample is then weighed in air (M1) on the weighing balance.

4. It is then put into the wire sling and submersed. The weight in water (M2) is recorded.
5. The density (Specific Gravity) is calculated using the formula:
   Density (SG) = M1 / (M1 – M2)

Averaged SGs for various lithologies and stratigraphic units were as follows:

Table 5. Average Specific Gravity densities of logged lithologies and stratigraphy

Lith	SG	Strat	SG
Basalt	2.74	**ECV**	2.69
Breccia	2.59	**EFM**	2.69
Fault Zone	2.66	**GCF**	2.61
Graphitic Siltstone	2.63	**LLF**	2.72
Quartzite	2.57	**PCF**	2.77
Siltstone	2.72	**TCQ**	2.60

Lithologically the SGs appear reliable. Basalt has the highest SG which owes to the chlorite and remnant content of mafic minerals (although the basalts are heavily metamorphosed to chloritic schist, minor mafics do remain). Graphitic siltstone typically has a lower SG than less carbonaceous siltstone due to the low SG of graphite. Fault zones and breccias typically had a lower SG overall due to the high clay and oxide content as well as structural porosity. The lowest SG average was for quartzite, but the average was brought down by one sample of 2.26 in the oxidation zone. Two fresher samples averaged around 2.62. The stratigraphy reflects the lithology SGs reasonably well, however the highest SGs are attributed to the Paradise Creek Formation due to the dolomitic nature of the siltstones, which also affects the Lady Loretta Formation average SG. The lowest SGs here are attributed to the Gunpowder Creek Formation (due to weathering of the siltstones) and the Torpedo Creek Quartzite (due to the high quartz content).

11. Bulk Density (BD) Checks

Bulk Density (BD) measurements were taken throughout the drilling program with samples taken every 50 metres. The “Core Tray Method” was employed, which involves weighing one tray of full drill core once it had been measured and logged. For selection, the core trays must have no core loss or cave in identified. For the calculation, individual empty core tray and block types were weighed and averaged, and industry standard core size diameters were applied. The sample tray was allowed to dry naturally and all components were then weighed together on an electronic scale. The reported margin of error for the scale is 0.05kg (50g).

The following information was recorded:

- Hole ID and Tray Number
- Depth from and to
- Core Diameter
- Core Tray Type
- Number & Type of Core Blocks
- Total Weight (g)

A bulk density was then calculated using the following formulas:

1. Core Length (m) = Depth To – Depth From
2. Core Volume = (PI*((Core Diameter / 2)^2)/1000) * Core Length
3. Core Weight (g) = Total weight – Block Weight – Tray Weight

4. Bulk Density = Core Weight (g) / Core Volume (m^3) / 1000

A total of 20 bulk density measurements were taken, of which 19 had an associated SG sample taken within the same tray. These BD samples averaged 1.88% lower than the SGs, well within acceptable tolerances (approx. 5%). Full tray BDs are expected to be lower than direct SGs for a number of factors, such as inherent secondary porosity (fractures, etc), stripping of core and minor fragment loss, which are typically not accounted for during the SG method. Nevertheless, the BD and SG values do show a close correlation and as such the SGs can be considered reliable for the purpose here.

12. Geology Discussion and Interpretation

12.1 Drill Hole Geology

Both drill holes SD661A and SD662 were drilled to target depth. A geological summary of each drill hole is provided below:

SD661A
The drill hole collared in siltstones interpreted to belong to the Gunpowder Creek Formation (GCF). Here the siltstones are weakly to moderately oxidised, weakly bleached with clay minerals and commonly broken. Around 91.7m the siltstones become sheared and increasingly broken against at a fault contact with the Eastern Creek Volcanics (ECVs) at 117.6m. The ECVs here consist of a strongly sheared, locally haematitic metabasalt, with local metasediments and common shattered quartzite interbeds. At 147.2m the ECVs become strongly hematised with pervasive hematite-chlorite alteration of probable massive metasediment or fine-grained volcaniclastic. There is no discernible texture within the unit and can be fissile in places due to shearing. The ECVs are fault bounded with the McNamara Group sediments on the eastern side at 188m. The Lady Loretta Formation (LLF) here consists of matrix supported breccia consisting primarily of a haematitic matrix and stromatolitic siltstone clasts. The contact with the Esperanza Formation (EFM) at 249.6m consists of silicified siltstone and stromatolitic breccia (LLF) conformably overlying well-laminated moderately graphitic siltstone (EFM). From 296.42 to 324.4m the siltstone becomes notably more graphitic with uncommon bedding parallel pink tuffaceous bands up to 20mm thick. Following this unit, at 331.5m, the siltstone becomes significantly more dolomitic and is typically a light grey siltstone with common zones of rhythmically bedded graphitic layers and rare pink to orange tuffaceous beds. This has been interpreted to represent the Paradise Creek Formation (PCF). There are common sediment slump structures and sporadic breccia zones consisting of siltstone clasts within a chaotic siltstone matrix which are interpreted to be of sedimentary origin. This formation continues to end of hole at 450.69m.
Only trace pyrite mineralisation was recorded in the drill hole log starting from 275.75m and continuing sporadically to end of hole. However assays returned 2m @ 0.10% Cu from 257m, indicating trace amounts of chalcopyrite likely occurred here. A Zn assay of 0.32% Zn at 404 – 405m implies there could have been trace sphalerite at this location. The Paradise Creek Formation is known locally to contain trace amounts of Pb and Zn sulphide.

SD662
The drill hole collared in well-bedded, mottled red-green siltstone of the GCF, weakly to moderately oxidised and leached. The siltstone becomes heavily replaced with manganese oxide (MnOx) and clay altered between 45.65 – 52.2m and grades into a gossanous zone between 55.65 – 58.6m. Here, the siltstone becomes heavily oxidised and leached and comprises of pervasive goethite with MnOx

along and adjacent to fracture planes. Leaching has created an irregular boxwork, particularly in areas of quartz veinlet infill. At 72.5m, the siltstone contacts a massive quartzite unit which is interpreted to belong the Torpedo Creek Quartzite (TCQ). The quartzite is again oxidised and leached and contains minor siltstone laminations. At 165.3m the TCQ is in fault contact with ECVs consisting of sheared metabasalt and localised quartzite. The ECV is fault bounded by the main Esperanza Fault on the eastern side at 211m and brings the ECVs into contact with McNamara Group sediments on the eastern side. The siltstone is highly dolomitic throughout and shows soft sediment textures and crackle brecciation alternating with well-laminated zones. The siltstone typically consists of light grey dolomitic siltstone with occasional graphitic beds. Spotted and veined late coarse dolomite is common throughout. There are a number of hematite-dolomite replacement zones, the largest 8.2m wide, in which dolomite has significantly altered the siltstone and subsequently been dusted with hematite. The boundaries to these zones can be sharp, bounded by fractures or veins, but can bleed out into the surrounding siltstone. At 238.6m is a notable 30cm cherty band which appears rubbly in the drill core, but the siltstone either side does not appear to vary from one side of the chert to the other. Graphitic zones become more common from around 261.7m, primarily as occasional laminations or as sedimentary breccia clasts or veins. A notable zone of sheared graphitic siltstone is seen from around 270.9m. The siltstone becomes notably laminated at 377.4m and then heavily quartz veined with at 398.8m through a fairly graphitic zone. At 408.3m, the siltstone becomes strongly graphitic with local pink tuff beds before becoming more dolomitic again around 427m to end of hole.

The stratigraphy of the McNamara siltstone here is more difficult to place due to the absence of the Lady Loretta Breccia and the common dolomite throughout. The siltstone unit above 377.4m is notably more dolomitic and texturally chaotic than the siltstone below, which is well-laminated and carbonaceous. It is the author's interpretation here is that this upper dolomitic siltstone (i.e. between 210.8m and 377.4m) belongs to the Lady Loretta Formation and on the whole is a fairly high energy, intraclast dolomitic siltstone. The hematite-dolomite replacement zones are notable as being similar, albeit much less intense, than that seen in the "Lady Loretta Breccia" in SD661A, however no stromatolites or breccia are seen in association here. The well-laminated, locally graphitic siltstone which below this unit is interpreted to be Esperanza Formation, in which the drill hole terminates.

Minor mineralisation is noted within SD662, with localised pyrite breccia veins and disseminations common. Weak chalcopyrite is associated with the pyrite in places, most notably between 268 – 280m, where assays returned 2m @ 0.25% Cu from 268m.

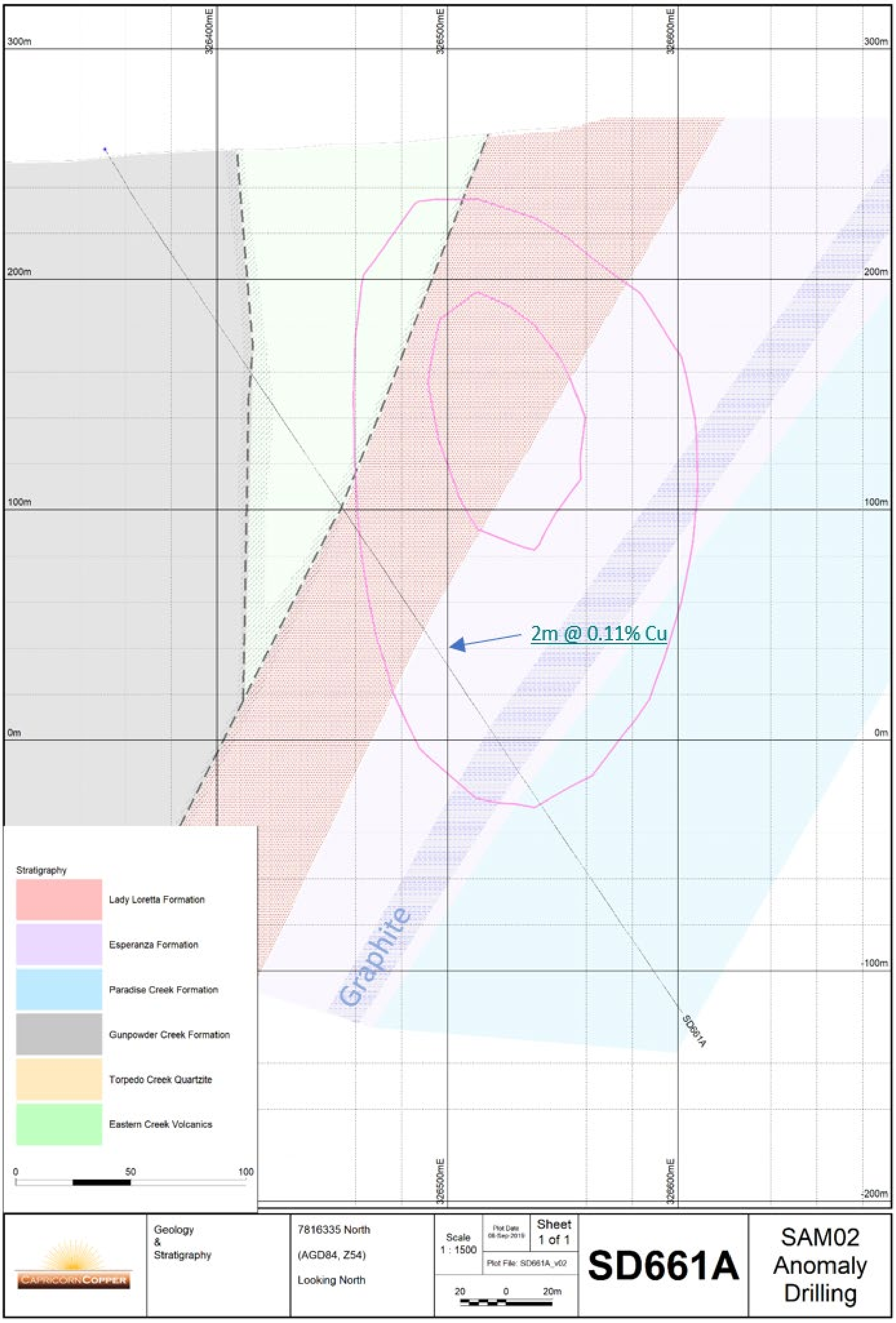

Figure 10. Stratigraphy section of SD661A, showing 3d Inversion conductors (Ch 8 and 12) (pink).

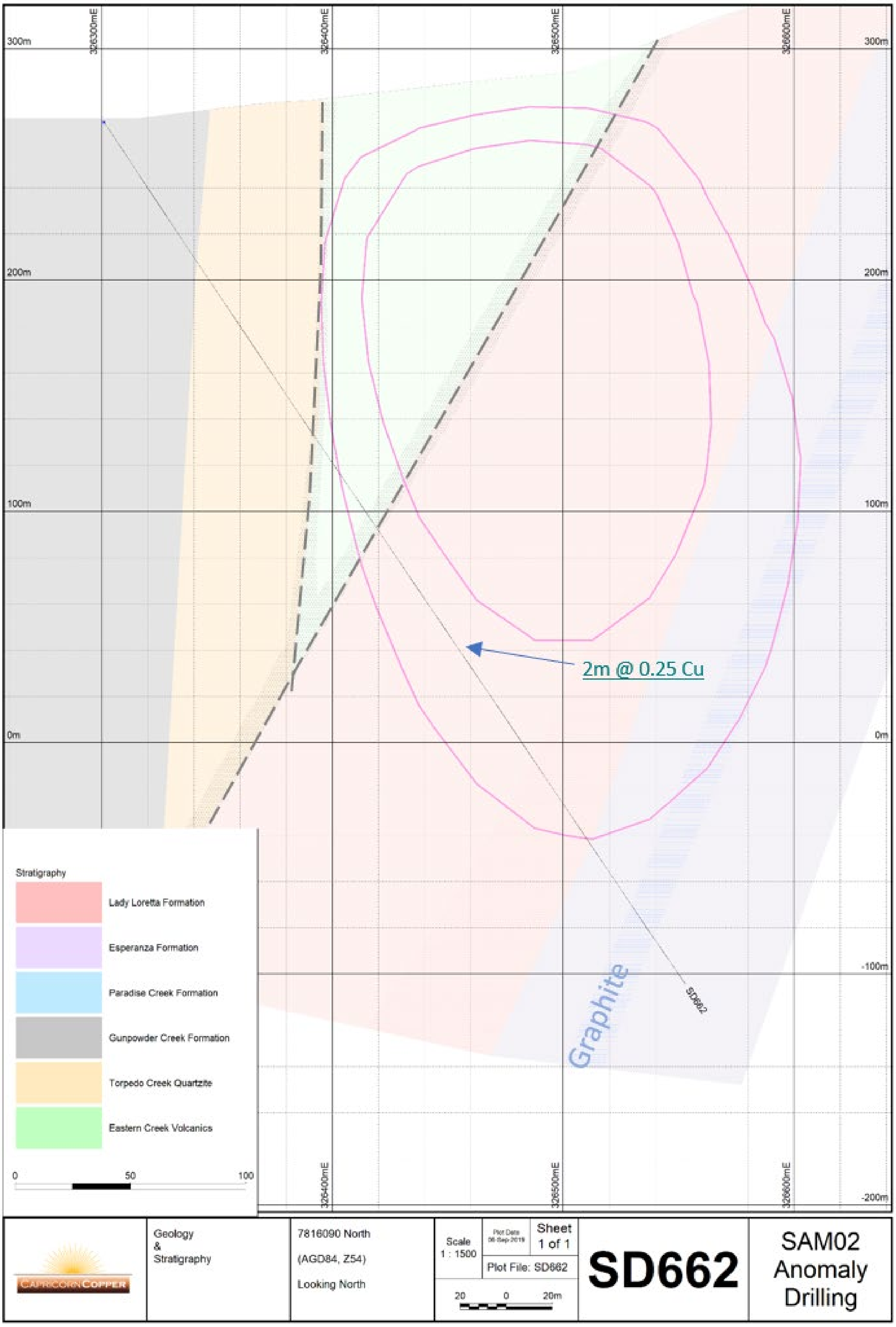

Figure 11. Stratigraphy section of SD662, showing 3d Inversion conductors (Ch 8 and 12) (pink).

12.2 Stratigraphic Geochemistry

Geochemically, the units show correlations which could assist future stratigraphic interpretation. The GCF units within both drill holes showed elevated Fe, Al, Ba and K assays in comparison to the other stratgraphies, however this is primarily due to weathering processes where Fe is related to iron oxides and Al and K to clays. As expected, the ECVs show elevations in Ni, Co, Fe and Al owing to the mafic nature of the basalts. The metasediment unit interpreted to be within the ECVs in contact with the Lady Loretta Breccia in SD661A is also notably elevated in Zn (average 280ppm). The Lady Loretta breccia is elevated in Fe and Mn, as expected in a heavily oxidised environment, but does not appear to be elevated in base metals contrary to the pre-drilling interpretation. As such, it could be interpreted that in the weathering environment, base metals may utilise the unit as a pathway but are not necessarily derived from the unit. The intraclastic LLF sediments interpreted in SD662 show significant Ca and Mg owing to the significant dolomite content. In addition, it does appear weakly elevated in Pb compared to the other siltstone units and shows comparable Cu elevations to the Esperanza Formation seen in SD661A. In general, EFM tends to show higher sulphur values than the other siltstones due to localised pyrite (and lesser Cu sulphide) minerals. The Mg content is typically lower than that seen in the LLF and PCF siltstones. The graphitic units are generally characterised by elevated sulphur and arsenic, owing to the pyrite content, and comparatively elevated Mo values (around 5ppm, rather than 1ppm elsewhere). The PCF units interpreted in SD661A are again elevated in Mg due to the dolomite content, and do not show base metal elevations in comparison to the dolomitic LLF siltstones. The table in Appendix 2 shows average elemental assays for stratigraphic units.

12.3 Lady Loretta Breccia

The Lady Loretta Breccia was seen only in drill hole SD661A. It consists of a laminated to clastic breccia with a haematite-goethite matrix hosting angular, stromatolitic siltstone clasts. In SD661A, the drilled thickness of the unit is 61m and was marked at the top by a sheared contact into oxidised metasediment and metabasalt (Esperanza Fault) and at the base by a silicified siltstone zone of approximately 4m drilled thickness. This silicified siltstone gradually becomes less silicified downwards into well-laminated graphitic and dolomitic siltstones of the EFM.

The Lady Loretta Breccia has been mapped on surface in the area and was flagged as a unit of interest due its common occurrence near the Esperanza Fault zone and anomalous base metal content. The origin of this breccia is under debate somewhat and has been described as a syn-sedimentary breccia related to uplift (Jones, 1993) or as a regolith / duricrust (Dunster, 1998).

A total of 8 thin section samples of the breccia were sent to Mintex Petrological Solutions for review of mineralogy. The samples typically show a very fine-grained silicic host rock (stromatolitic siltstone) exhibited as angular stromatolite clasts in an iron oxide/hydroxide replacement matrix. Later quartz veining is seen, which is also brecciated in places and as such is interpreted by Mintex to be a later tectonic brecciation event. Late chlorite and carbonate alteration is also noted throughout. The report from Mintex does not speculate in detail on the origin of the breccia but refers to iron oxide/hydroxide replacement of the stromatolitic siltstone with some preserved fabrics and later brecciation associated with and after quartz- and lesser carbonate-veining.

It can therefore be interpreted from this that the formation of the Lady Loretta Breccia was completed within two primary stages – the first being iron oxide/hydroxide replacement of the original stromatolitic siltstone; and the second being a tectonic to hydrothermal event syn- and post-quartz and carbonate infill. It is likely these phases overlapped, with the tectonic brecciation promoting further replacement. The Dunster report, 1998, argues the lack of current subsurface development of the breccia as validation for the duricrust hypothesis, however the presence of the breccia in SD661A at a vertical depth of 180 metres proves the breccia is significantly developed below the current surface.

Figure 12. Example of Lady Loretta Breccia in drill core, showing stromatolitic siltstone with pervasive hematite replacement. Cropped photo taken from SD661A, around 221.8m.

12.4 SAM02 Anomalism

The SAM02 anomaly is a conductive high centred at 326,500E / 7816170N (AGD84, Zone 54) identified during the 2018 airborne SAM survey. Subsequent 3D inversion modelling of this anomaly produced a 400m long conductor striking north-northeast with a central depth of approximately 200m below surface. Following completion of SD661A it was interpreted that the most likely cause of the anomaly is the highly carbonaceous unit attributed to the Esperanza Formation seen between 296.42 to 324.4m. However, review of additional filter channels to centre on higher conductivity suggest spatially this anomaly could be associated with the Lady Loretta Breccia zone. There could also be an affect from the metasedimentary package on the hangingwall side of the Lady Loretta Breccia, which have been pervasively hematite altered. Following drilling of the second hole, SD662, no significant highly graphitic material was drilled within the area of the modelled anomaly save for minor localised laminations or intraclasts. Spatially in 3D, the anomaly again coincides with interpreted Lady Loretta Formation, however in SD662 no breccia was identified. It is notable however that the minor elevated Cu grade contained within these drill holes do coincide well with the 3D anomalies, and as such sulphide content may play a minor role here. The most carbonaceous zone here is again attributed to the Esperanza Formation at 408.29 to 425.36m and sits below the modelled anomaly.
Review of the MMC (magnetometric conductivity) 2VD grid against the regional geology (2015, 100k) and that completed by Consultant Geologist John Crossing (2004) indicate that significant stratigraphic conductors are associated with the Esperanza and Gunpowder Creek Formations. What is notable however, is that the folded portion of Gunpowder Creek Formation, in which both SAM02 target drill holes are collared, is not particularly conductive. This could be due either the unit not being significantly graphitic, terminated by the Esperanza Fault at depth, the plunge of the anticline or a combination. The upper GCF seen elsewhere in the Capricorn area is typically strongly graphitic and as such fresher GCF here should be conductive. In the drill core, the siltstone is moderately weathered and as such any original graphitic content has been altered to clay, likely kaolinite. It is most plausible that the Esperanza Fault (ECV to LLF) terminates this GCF unit at depth, as the fault here dips approximately 68 degrees to the west in SD661A, shallower than that of the GCF to ECV fault which is sub-vertical, effectively wedging out both the ECVs and the GCF in the

west. The Esperanza Fault does shallow slightly in the south around SD662 where it dips approximately 61 degrees to the west.
The drill information coupled with the geophysical data suggests that SAM02 anomaly is likely caused by a number of factors – the carbonaceous content of the Esperanza Formation, the Lady Loretta Formation (both breccia and graphitic interclasts), the effect of this breccia mineralogically with the Eastern Creek Volcanics metasediment package on the hangingwall side, and arguably elevated sulphide content within the Lady Loretta and Esperanza Formations. Although these weakly elevated Cu content does coincide well, the tenor of the Cu grades and width of the intersections does not warrant follow up at this time.

13. Recommendations

The SAM02 drilling program has further highlighted that a combination of tools must be utilised for successful mineral exploration in the Capricorn area. The SAM02 target was significant due to its stratigraphic placement around the Esperanza Formation and its structural location adjacent to the Esperanza Fault. Any further anomalies which meet this criteria should be considered high priority targets even though no significant mineralisation was intersected in the SAM02 drill holes. Surface geochemistry is also a significant tool which can be utilised further. Whilst there are a number of localised elevations around the SAM02 area, the anomalies around the Esperanza South deposit are an order of magnitude stronger and as such soil anomalism should play a significant role in future prioritisation of geophysical targets. Any further exploration of the SAM02 anomaly area should include detailed surficial mapping and potentially shallower drill holes around the SD662 area to ensure the 2019 holes did not undercut any mineralisation plunge.

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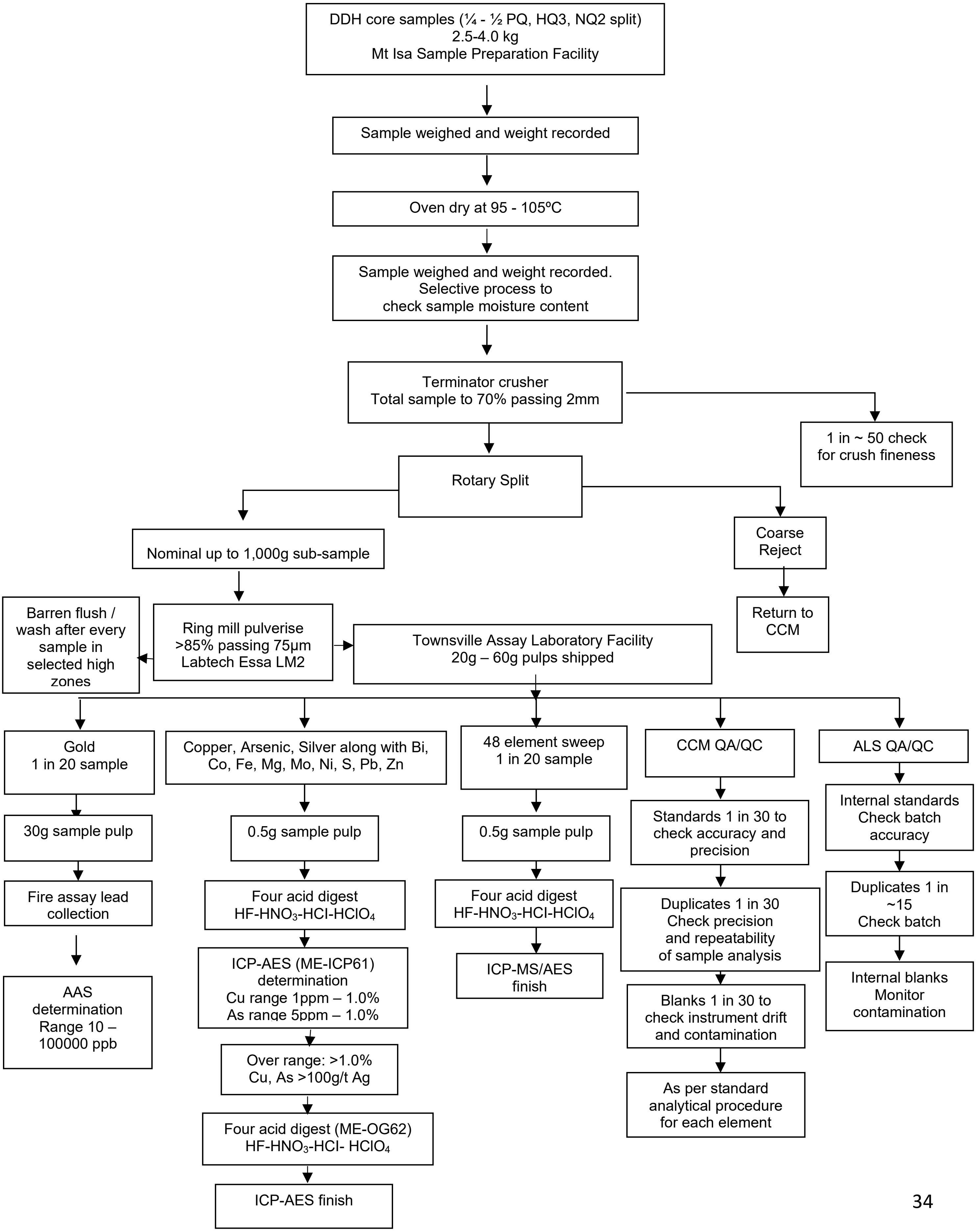
APPENDIX 1
Sample Preparation and Analytical Flowchart
Capricorn Copper Mine

Sample Preparation and Analytical Flowchart for the Capricorn Copper Mine
ALS Minerals Services, Mt Isa/Townsville Laboratories, Australia



APPENDIX 2
SD661a and SD662 element analysis

Drill Hole	Strat	Unit	Cu ppm	Al pct	As ppm	Ca pct	Co ppm	Fe pct	S pct	Pb ppm	Ba ppm	Cr ppm	K_pct	Mg pct	Mn ppm	Mo ppm	Na pct	Ni ppm	Zn ppm	Comments
SD661A	GCF	SL	10	8.13	25	0.14	9	3.31	0.02	9	5972	63	5.17	0.52	72	0	0.06	25	21	Weathered siltstone
SD661A	GCF	SL	147	-	194	-	59	10.02	0.01	5	-	-	-	1.31	-	1	-	49	95	Weathered siltstone
SD661A	ECV	BA	27	9.46	6	0.17	57	7.64	0.01	5	430	56	4.91	2.74	106	-1	0.07	66	87	Strongly sheared Metabasalt
SD661A	ECV	BA	6	2.25	0	0.05	10	2.68	0.01	2	1100	44	0.91	0.60	142	1	0.02	15	15	Metabasalt
SD661A	ECV	MS	80	6.69	29	0.49	54	11.97	0.01	7	610	71	3.41	3.81	2115	-1	0.03	57	280	Metasediment
SD661A	LLF	BX	60	0.38	56	0.15	17	9.62	0.02	9	300	8	0.13	0.16	4570	1	0.01	11	7	Lady Loretta Breccia
SD661A	LLF	BX	31	0.73	11	0.15	20	5.41	0.02	8	100	18	0.36	0.10	2441	1	0.02	6	20	Lady Loretta Breccia
SD661A	EFM	SL	215	3.09	20	4.29	7	2.79	0.30	7	290	18	2.44	2.82	3280	1	0.03	9	15	Laminated siltstone
SD661A	EFM	FZ	135	2.25	101	0.28	12	10.57	0.27	10	520	15	1.14	0.38	63	3	0.01	15	10	Local fault
SD661A	EFM	GL	41	-	41	-	10	2.01	0.96	15	-	-	-	0.64	-	6	-	24	10	Graphitic Siltstone
SD661A	PCF	SL	46	-	10	-	6	2.48	0.23	6	-	-	-	3.41	-	1	-	12	10	Dolomitic siltstone
SD661A	PCF	SL	31	-	13	-	5	1.98	0.33	12	-	-	-	6.29	-	1	-	13	62	Dolomitic siltstone
SD662	GCF	SL	74	6.90	30	0.11	19	4.86	0.00	7	1020	38	4.53	0.31	597	0	0.05	19	13	Weathered siltstone
SD662	GCF	GS	27	4.11	63	0.20	61	13.27	0.00	7	1280	23	3.84	0.39	2650	1	0.05	29	9	Gossan
SD662	TCQ	QT	5	2.80	12	0.06	6	1.03	0.00	4	2542	40	1.89	0.12	67	3	0.04	7	4	Quartzite
SD662	ECV	BA	8	8.42	-1	0.55	13	3.92	0.01	2	425	53	3.44	1.51	234	1	0.07	25	48	Metabasalt
SD662	ECV	BA	177	-	10	-	33	8.84	0.06	8	-	-	-	5.29	-	1	-	35	140	Metabasalt/Metasediment/QT
SD662	LLF	SL	197	0.43	23	12.07	7	2.41	0.52	32	46	7	0.17	7.23	1474	1	0.02	8	28	Dolomitic siltstone
SD662	EFM	SL	34	2.86	18	6.25	8	2.74	0.28	4	225	18	2.41	2.77	2290	1	0.03	10	7	Dolomitic siltstone
SD662	EFM	GL	57	3.17	166	0.26	26	2.75	0.67	8	190	36	2.24	0.89	540	5	0.03	20	8	Graphitic Siltstone

Further Appendices (External Datasets):

Appendix 3 – SD661A Drill Data
Appendix 4 – SD661A Core Photos
Appendix 5 – SD661A Raw Survey Data
Appendix 6 – SD661A Raw Assay Data
Appendix 7 – SD662 Drill Data
Appendix 8 – SD662 Core Photos
Appendix 9 – SD662 Raw Survey Data
Appendix 10 – SD662 Raw Assay Data
Appendix 11 – Finalised Drill Hole Assays
Appendix 12 – Mintex Petrological Report