Wollogorang Cobalt Project – Geological setting and exploration

David Rawlings[1] & Greg Swain[2]

1 - RR Consulting
2 - Northern Cobalt Ltd ("N27")

N27's Wollogorang Cobalt Project is a sediment hosted cobalt mineralisation system which has potential for low CAPEX and OPEX options due to:

- Non-refractory mineralisation (predominantly siegenite - a cobalt sulphide mineral)
- Cobalt dominant mineralisation occurs from surface
- Flat lying sediment hosted mineralisation - likely open pit operations
- Occurs in a supportive first-world mining jurisdiction

THE STANTON COBALT DEPOSIT IS IN THE NORTHERN TERRITORY, AUSTRALIA

NORTHERN COBALT has recognised the growing importance of cobalt sourced from developed world jurisdictions

DISCLAIMER AND COMPETENT PERSONS STATEMENT

This presentation has been prepared by Northern Cobalt Limited (Northern Cobalt). This document contains background information about Northern Cobalt current at the date of this presentation. The presentation is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained in this presentation.

This presentation is for information purposes only. Neither this presentation nor the information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sales of shares or other securities in any jurisdiction. This presentation is not a prospectus, product disclosure statement or other offering document under Australian law (and will not be lodged with the Australian Securities and Investments Commission (ASIC)) or any other law.

This presentation does not constitute investment or financial product advice (nor tax, accounting or legal advice) and has been prepared without taking into account the recipient's investment objectives, financial circumstances or particular needs and the opinions and recommendations in this presentation are not intended to represent recommendations of particular investments to particular persons. Recipients should seek professional advice when deciding if an investment is appropriate. All securities involve risks which include (among others) the risk of adverse or unanticipated market, financial or political developments.

To the fullest extent permitted by law, Northern Cobalt, its officers, employees, agents and advisors do not make any representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of any information, statements, opinions, estimates, forecasts or other representations contained in this presentation. No responsibility for any errors or omissions from this presentation arising out of negligence or otherwise are accepted.

This presentation may include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of Northern Cobalt. Actual values, results or events may be materially different to those expressed or implied in this presentation. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this presentation speak only at the date of issue of this presentation. Subject to any continuing obligations under applicable law, Northern Cobalt does not undertake any obligation to update or revise any information or any of the forward-looking statements in this presentation or any changes in events, conditions, or circumstances on which any such forward looking statement is based.

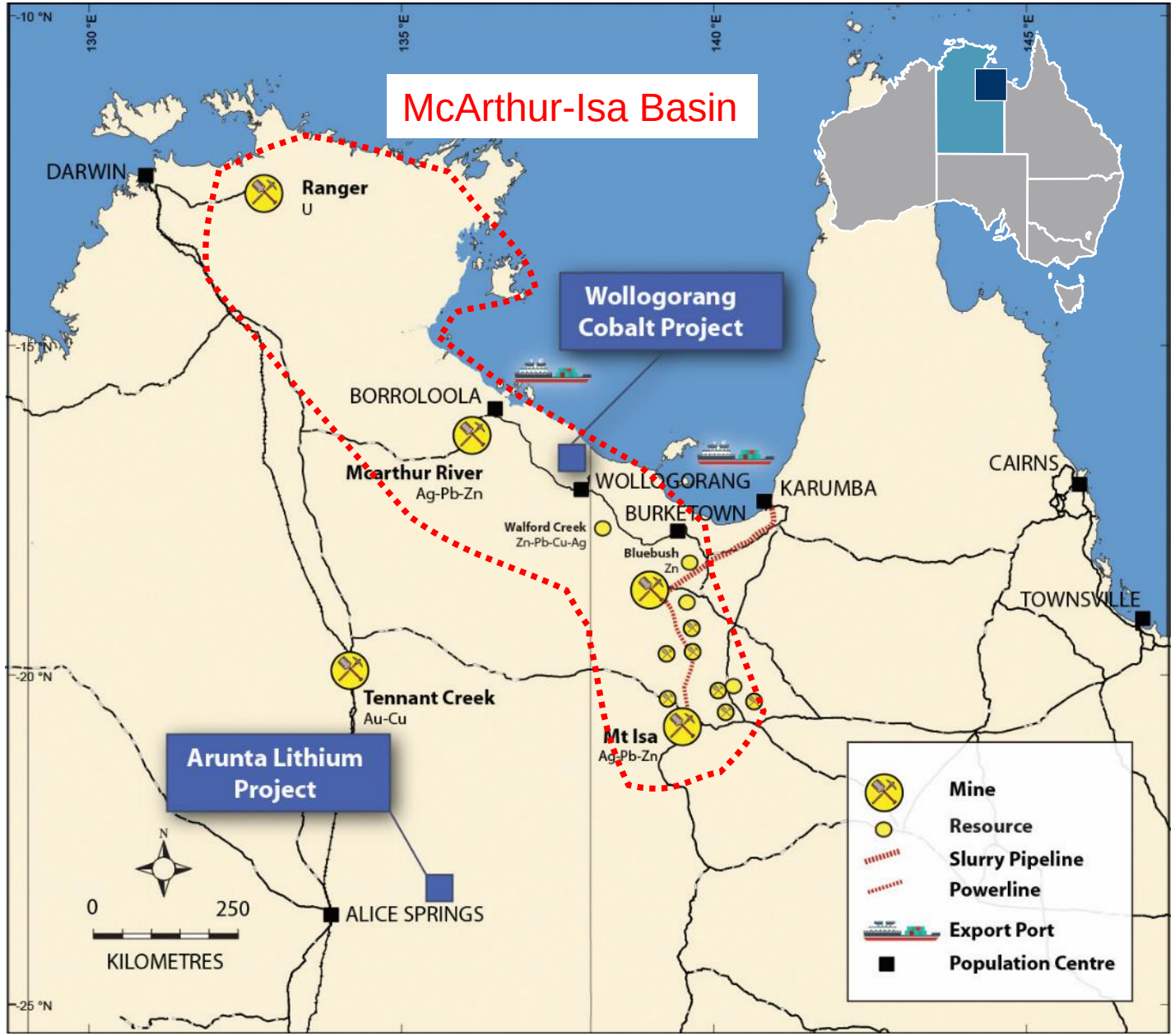
The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Michael Schwarz who is a member of the Australian Institute of Geoscientists. Mr Michael Schwarz is a full-time employee of the company and 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 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Michael Schwarz consents to the inclusion in the report of the matters based on his information in the form in which it is appears.

This report contains historical exploration results announced on 20 September 2017 as "Prospectus" (historical estimate). The Company confirms it is not in possession of any new information or data relating to the historical estimate that materially impacts on the reliability of the estimates or the Company's ability to verify the historical estimate. Supporting information provided in the announcement of 20 September 2017 continues to apply and has not materially changed. This report also contains exploration results announced on 24 November 2017 as "High Grade First Drill Results - Stanton Cobalt Deposit", 29 November 2017 as "Further High Grade Cobalt Results - Stanton Cobalt Deposit", 7 December 2017 as "Stanton Cobalt Resource Remains Open in Multiple Directions", 22 December 2017 as "Detailed Magnetic Survey over Stanton Cobalt Deposit" and on the 5 February 2018 as "Final Drilling Results 2017 Drilling Program"

The exploration results reported in this announcement are publicly available and have been obtained from the Mineral Deposits and Mines database at the Northern Territory Geological Survey. https://dpir.nt.gov.au/mining-and-energy/STRIKE/strike-help/nt-wide-geoscience-datasets. This information is collated and maintained by a government department and is not reported under the JORC 2012 Code and are considered reliable by the Company.

Location

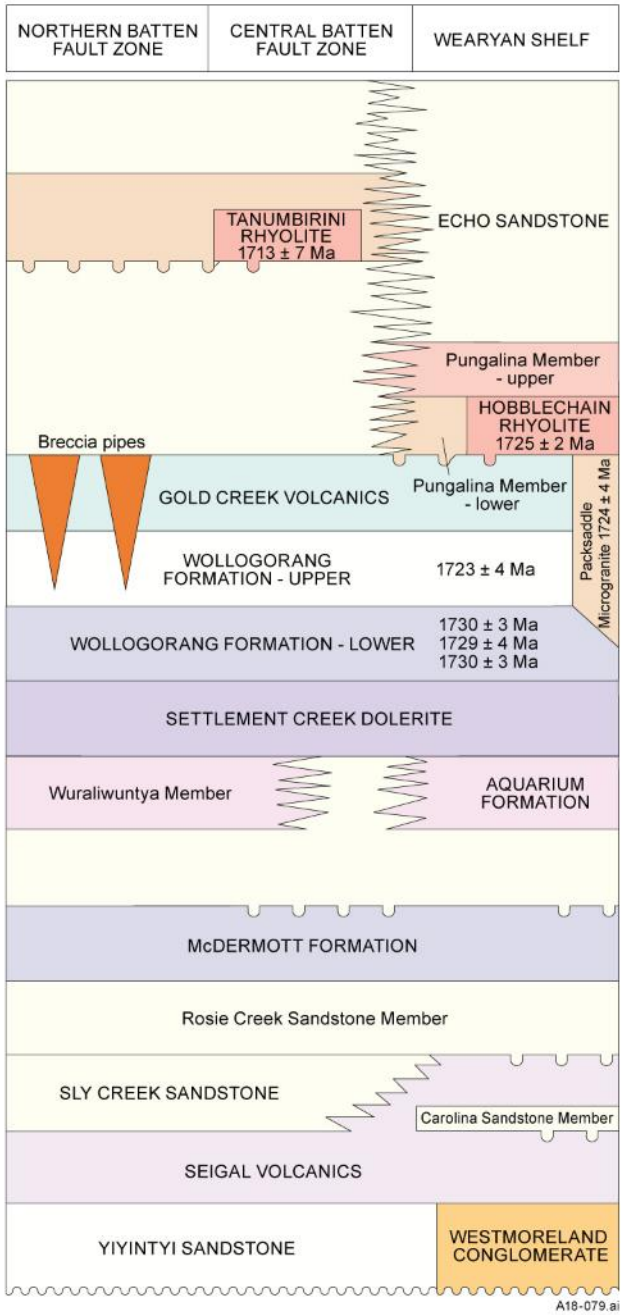
- NT-QLD border, Gulf of Carpentaria
- Redbank package – basal component of McArthur-Isa Basin
- Wearyan Shelf – distal and down-stratigraphy to the zinc "package" (HYC, Century, Mt Isa, Walford Ck)



Geological Setting

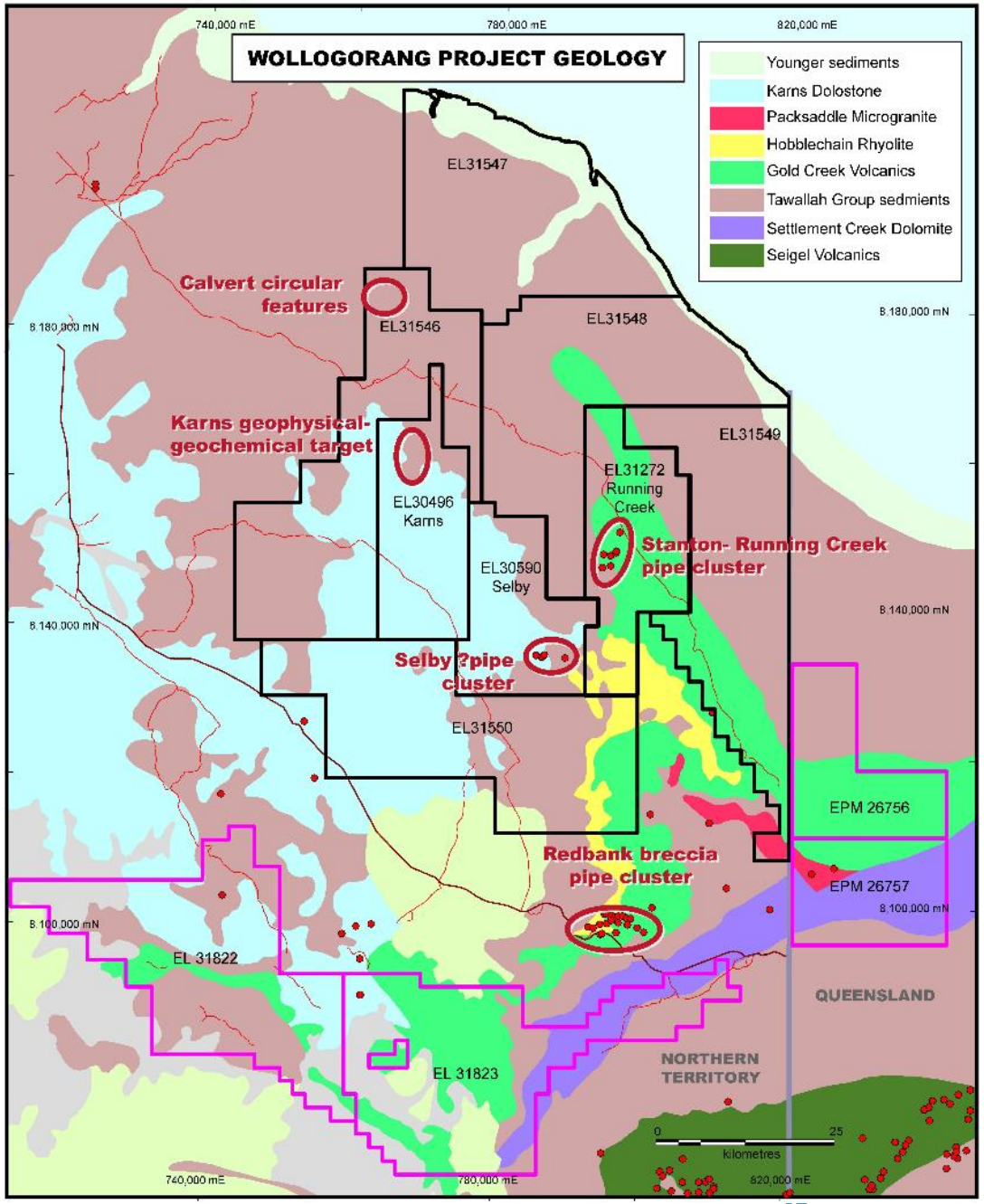
- Upper Tawallah Group – interlayered basalt, sandstone, shale, dolostone and felsic volcanics – “platform” can be traced regionally northwest into Arnhem Land.
- Small shallow co-magmatic felsic intrusions
- Ductile CGVs and Wollogorang folded locally in Jura-style – disharmonic lateral slide on decollement surface (salt bed at base of Wollogorang Formation)
- Discordant breccia pipe clusters in Gold Creek Volcanics
- Synchronous with folding and bimodal magmatism

Tawallah Group = Redbank package



Exploration & Mining History

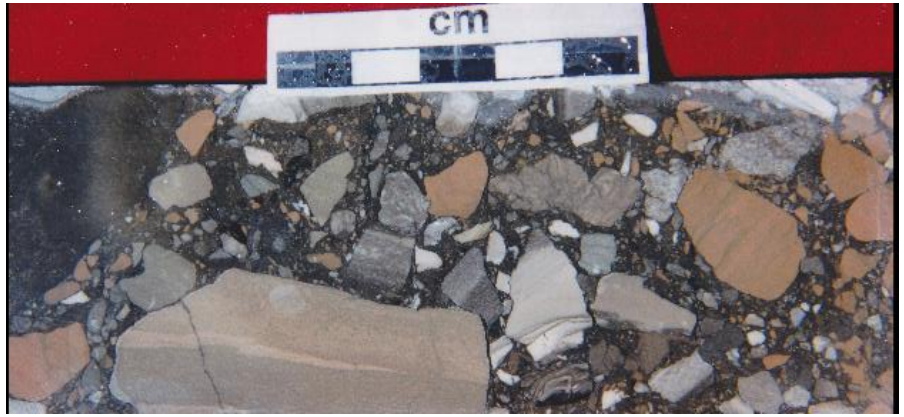
- Historically attracted CRAE, MIM & BHP based on stratiform Cu (Wollogorang Formation) – Kupferschiefer/Copper Belt model
- NT prospectors attracted by Redbank breccia pipes, small high grade, surficial secondary Cu and Cu sulphides. Mined periodically over decades
- Joe Fisher discovers Running Creek, then Stanton and other breccia pipes at Wollogorang Project to north
- CRAE farm in and spend $5m+ exploring, then recognise Co potential in buoyant market in mid 1990's
- Exit for commercial reasons, having just begun regional appraisal
- Other probable breccia pipe clusters recognised at Selby and Karns – cursory exploration
- Overall immature for exploration
- Northern Cobalt ("N27") listed in mid 2017 and commenced exploration in late 2017

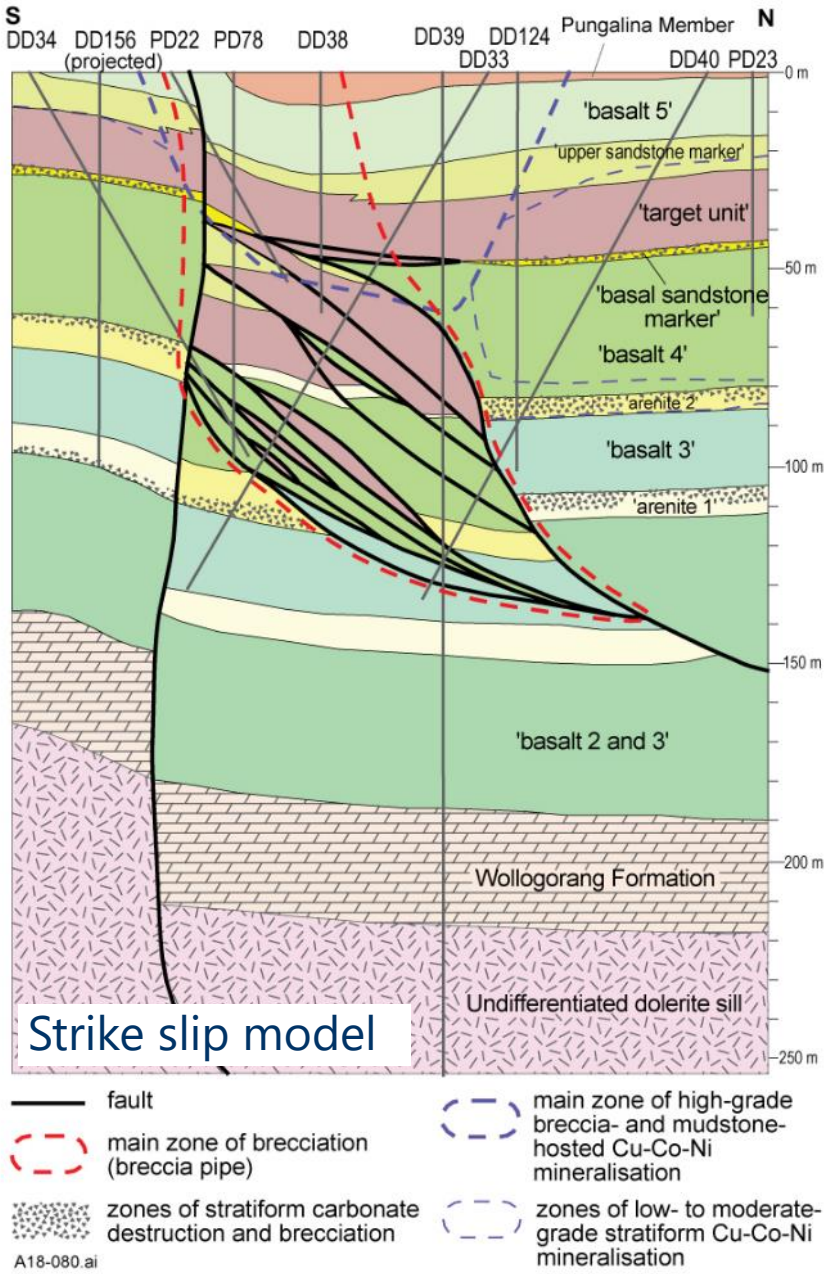


NORTHERN N27 COBALT

Breccia Pipes

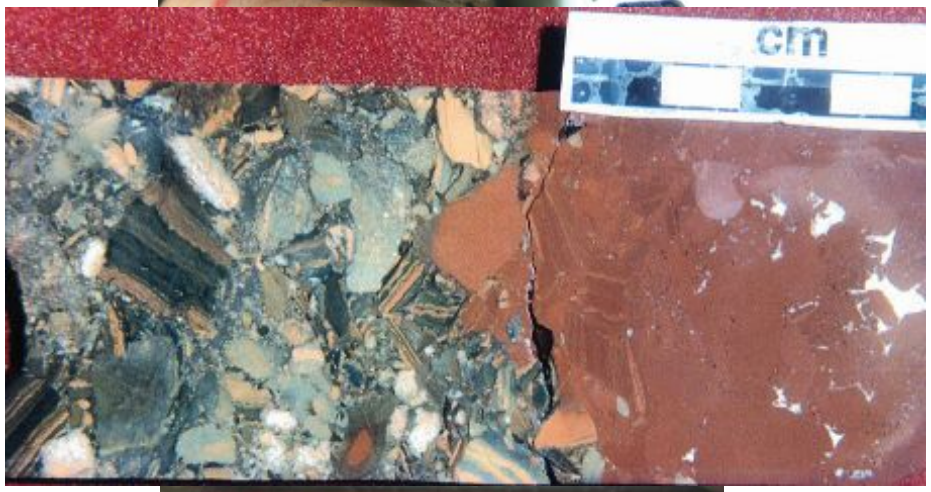
- Vertical cone-shaped to 150m diameter and >100m tall
- Terminate below into Wollogorang Formation TOC shales and dolostones
- Upper boundary ill-defined and merges into Pungalina siltstones – subtle disconformity
- Filled with in situ to mixed clast breccia of host – various lithologies in silt-sand matrix – Not "milled"
- Stratigraphy-preserving in the most part
- Debris flows laterally indicate breaching at surface
- Genesis is contentious: Strike-slip pull-apart vs point-source disruption from sill below





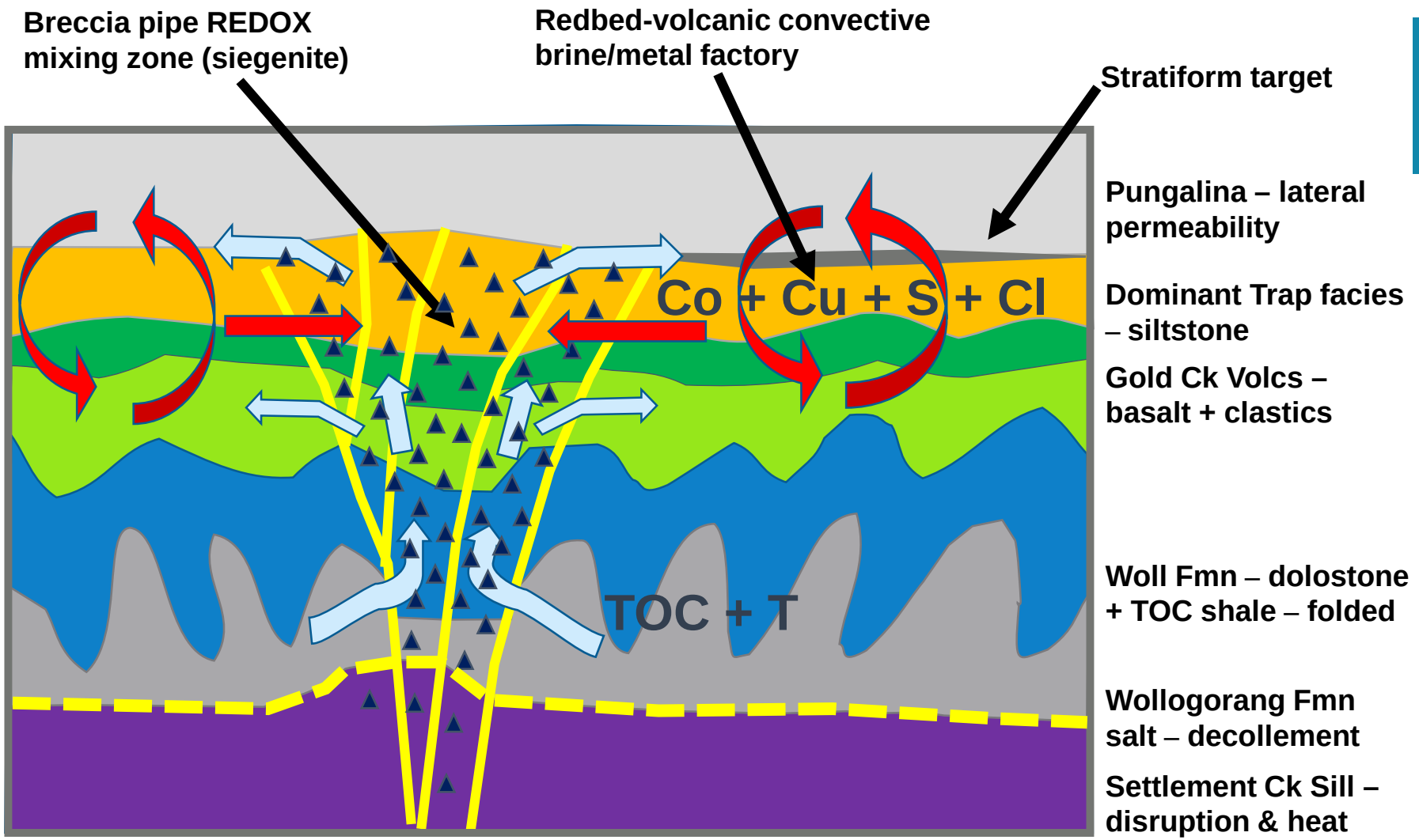
Mineralisation & Alteration

- Co-Ni-Cu sulphides (**Siegenite** $(Ni,Co)_3S_4$) +/- chalcopyrite) disseminated in breccia matrix
- Minor pyrite
- Pyrobitumen + live oil
- Complex REDOX phenomena
- Well-developed secondary zone in top 10-20m with Mn-Co oxide (**Asbolane** "wads")
- Lesser stratabound mineralisation along permeable dolomitic sandstone units
- Pipe is conduit for diverse fluids and mixing:
  - Reduced hydrocarbon bearing fluid derived from underlying Wollogorang Formation
  - Oxidised metalliferous ambient brine in volcanic package
- Finely balanced REDOX cell
- Timing is contentious, but constrained by low-temp fluid chemistry and mineralogy



Metallogeny

- 150^{0}C hydrocarbon fluids emanating from Wollogorang Formation during thermal maturation
- Migrate upwards via prepared pipes that are dominated by ambient saline oxic metalliferous brine
- Mixing system persists over significant period within a thermodynamic regime that favours Co precipitation
- Vertical zonation predicted but not demonstrated - higher up, dominated by Cu, then Pb-Zn then U
- Prospect scale analogue: Arizona Strip (U)



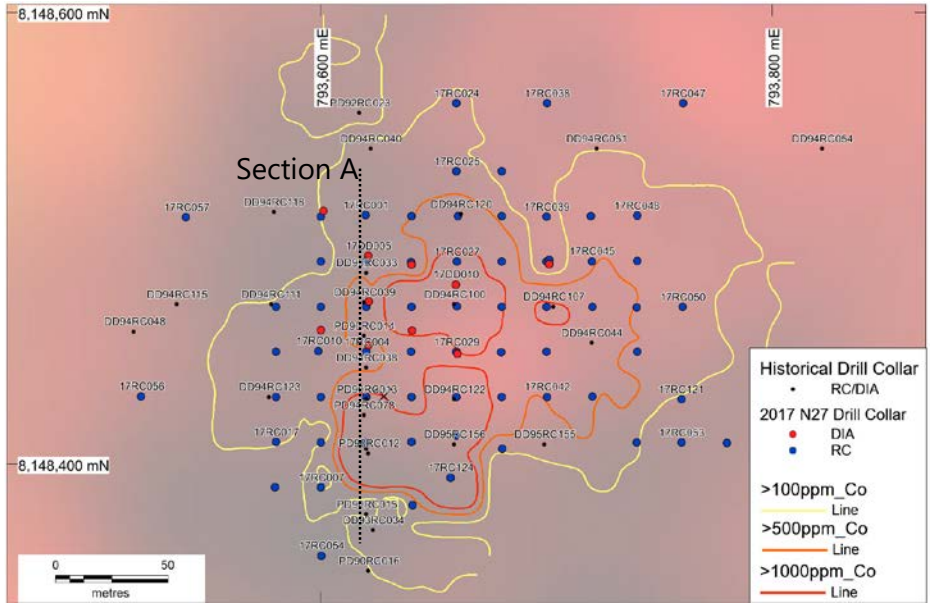
Regional Significance

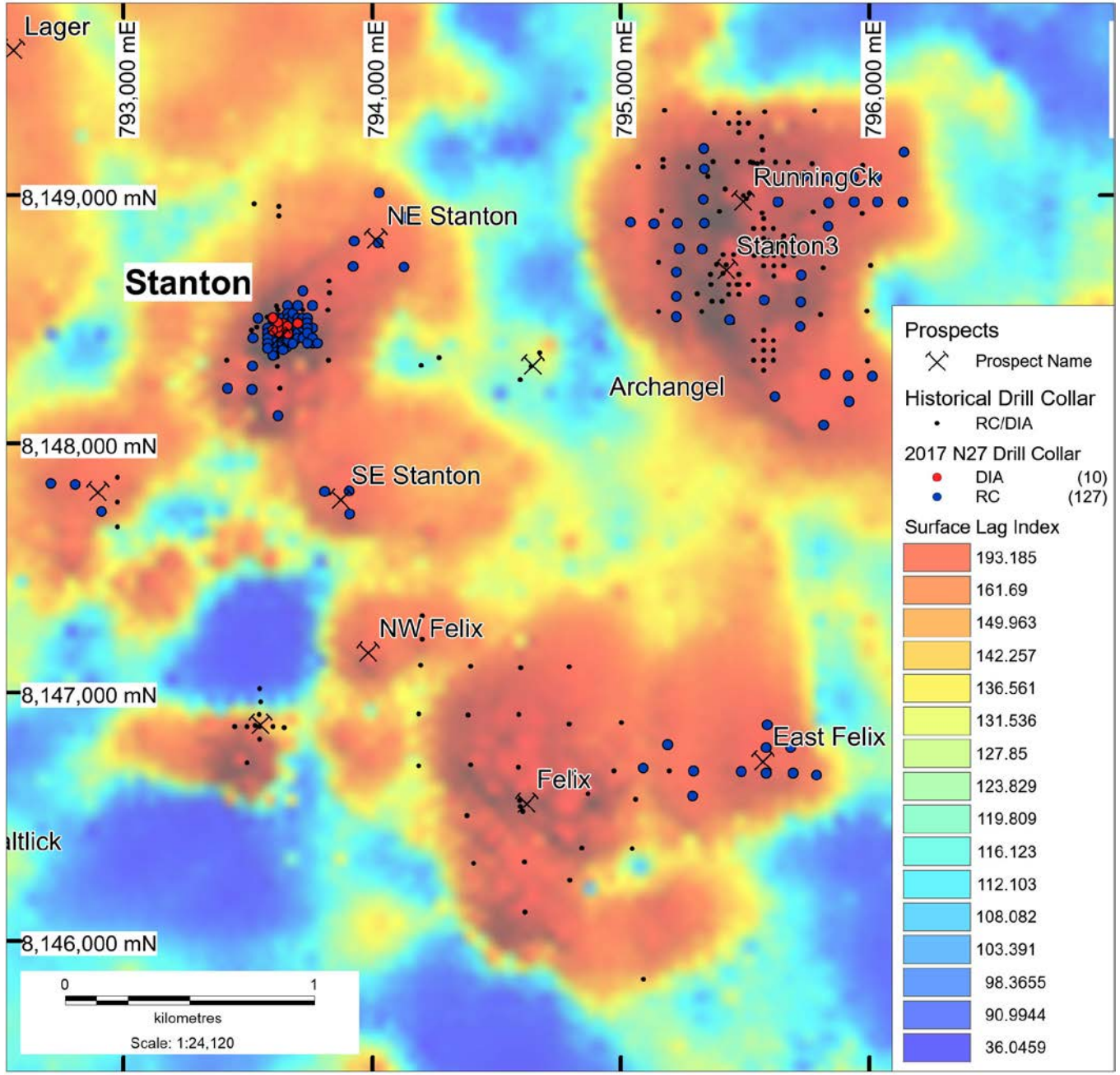
- Fertile hydrothermal system exists beyond the pipes, which are simply a conduit
- Hydrogeology of overlying package determines how the fluid mixing behaves vertically and laterally
- Karns Prospect is a phosphatic sandstone 200-300m upsequence where U is dominant
- This level of stratigraphy is currently untested – can't yet demonstrate connection to concealed breccia pipe cluster and reductant plume below
- Permeable conglomerate at base of Pungalina – lateral transport of reductants to promote stratiform mineralisation
- Part of the broader "Engine Room" for stratiform base metal deposits in Batten Trough (HYC etc)
- Regional scale analogues: DRC & Dzhezkazgan sandstone-hosted petroleum-system Cu deposits in Kazakhstan

Reduction of Pungalina redbed siltstones distal to breccia pipes shows fluids have moved laterally

2017 Field Exploration

- Stanton resource and in-fill drilling of historical regional prospects
- Stanton
  - 66 RC 6,213m
  - 10 DIA 773.4m
- Regional
  - 61 RC 4,870m
- Existing prospects primarily based on surface geochemistry anomalies

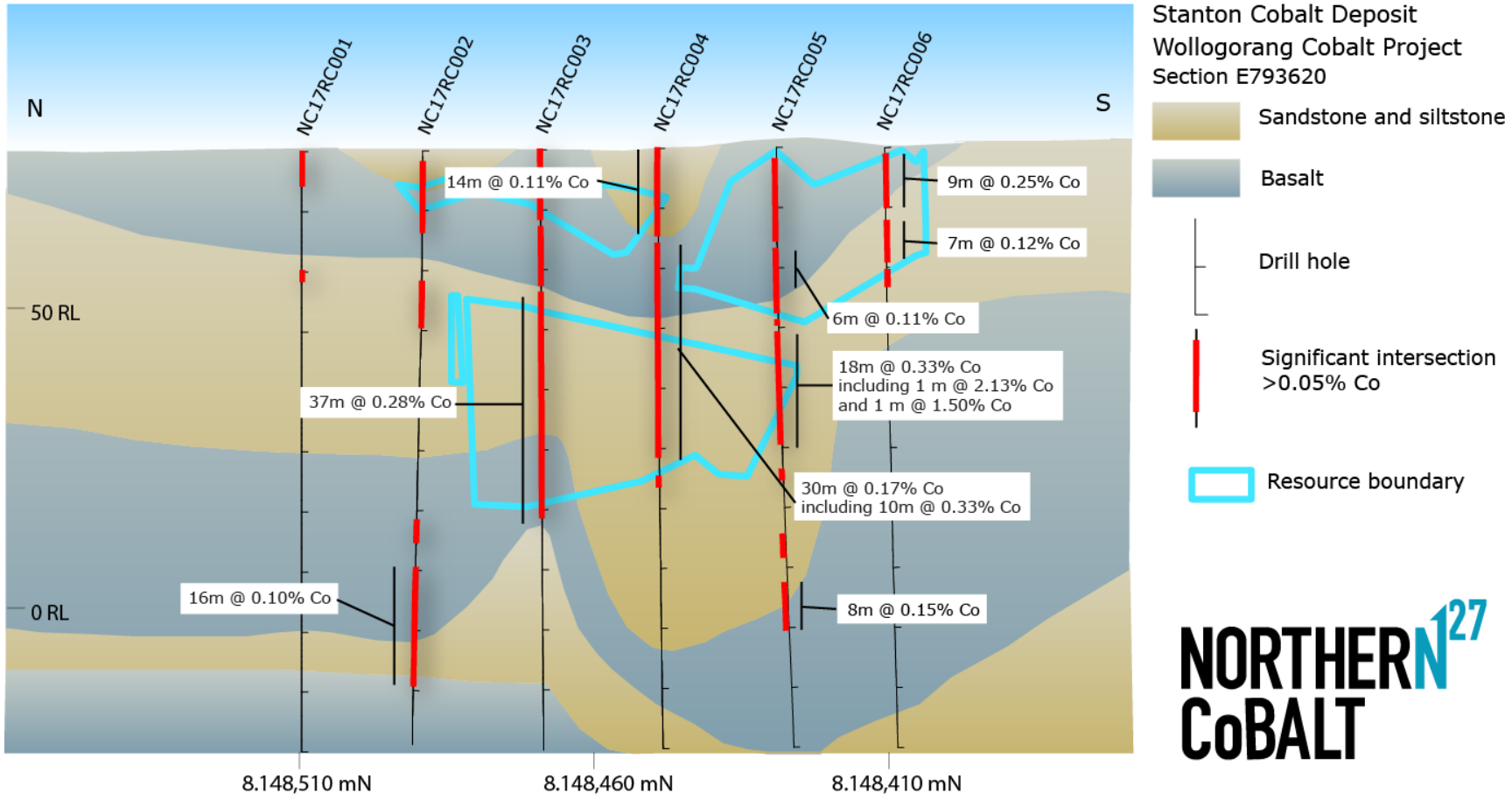




2017 Drilling Results

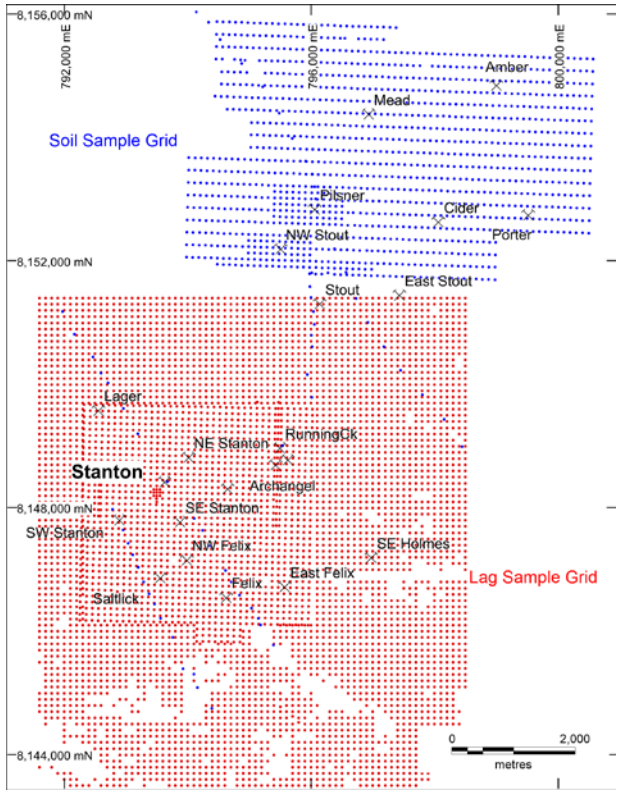
- Significant drill hole intersections
  - 37m @ 0.28% Co
    from 25m (NC17RC003)
  - 30m @ 0.17% Co
    from 20m (NC17RC004)
  - 18m @ 0.33% Co
    from 32m (NC17RC005)
  - 20m @ 0.31% Co
    from 27m (NC17RC021)
  - 19m @ 0.29% Co
    from 11m (NC17RC126)

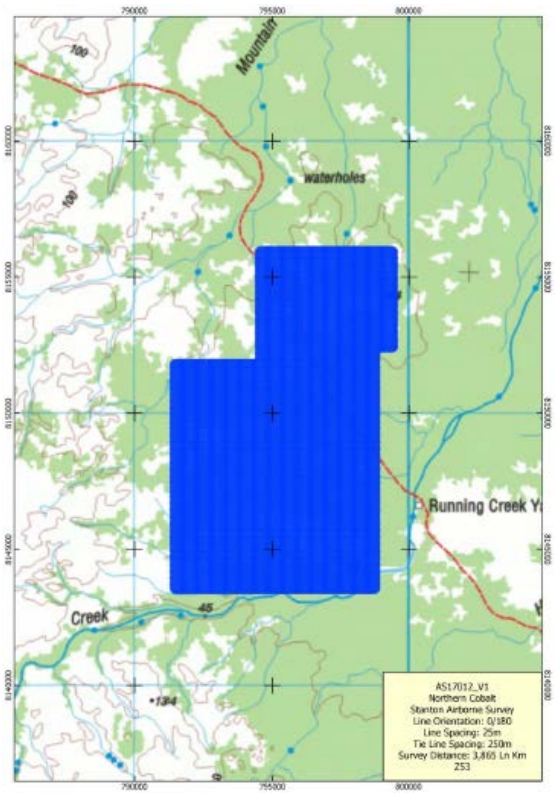
Section A - showing Northern Cobalt drill holes without historic drill holes

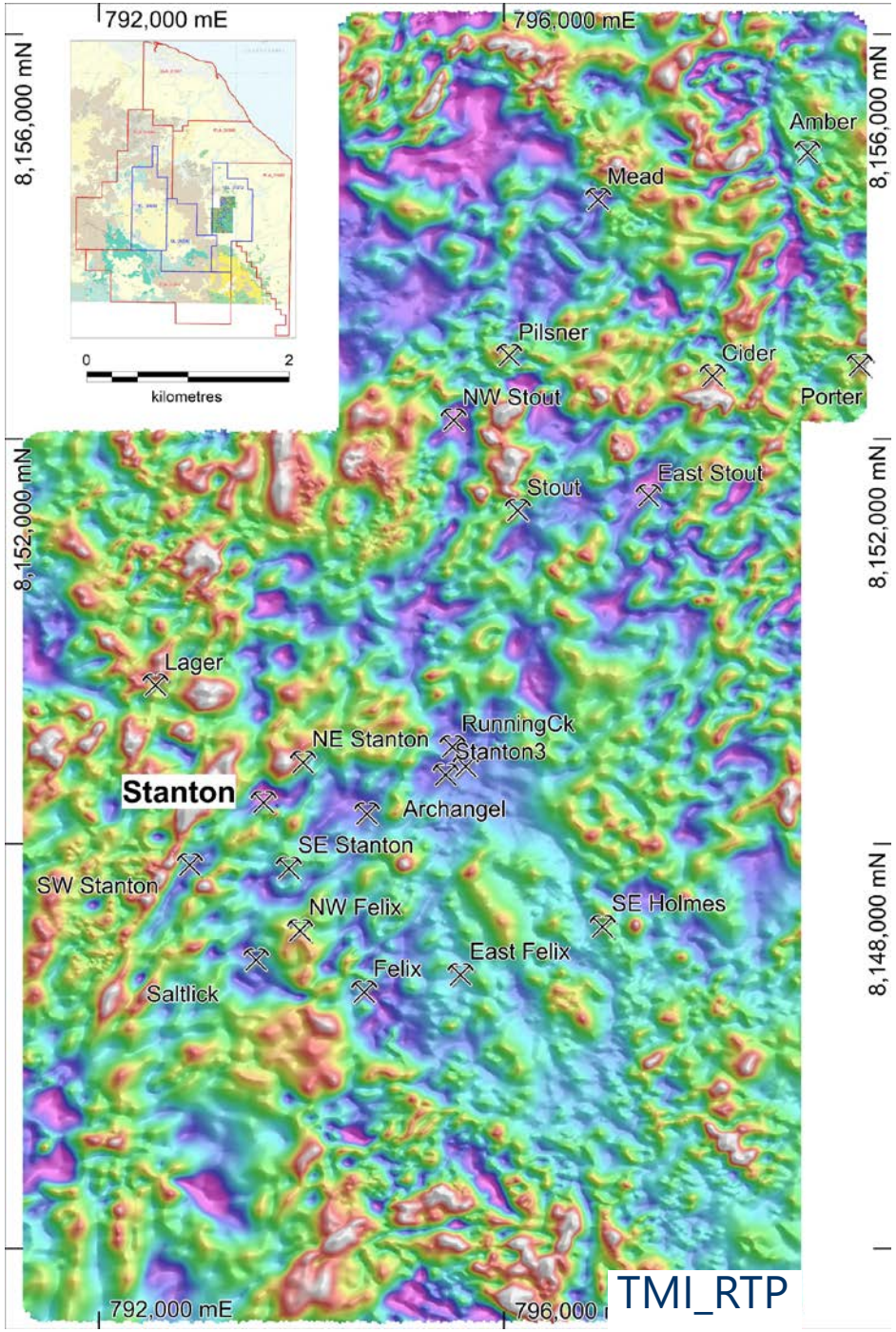


2017 Field Exploration

- Helicopter magnetic/radiometric survey
  - Line orientation 0/180
  - Line spacing 25m
  - Tie line spacing 250m
  - Survey distance 3,865km
- Survey designed to overlap the existing surface lag and soil geochemistry grids

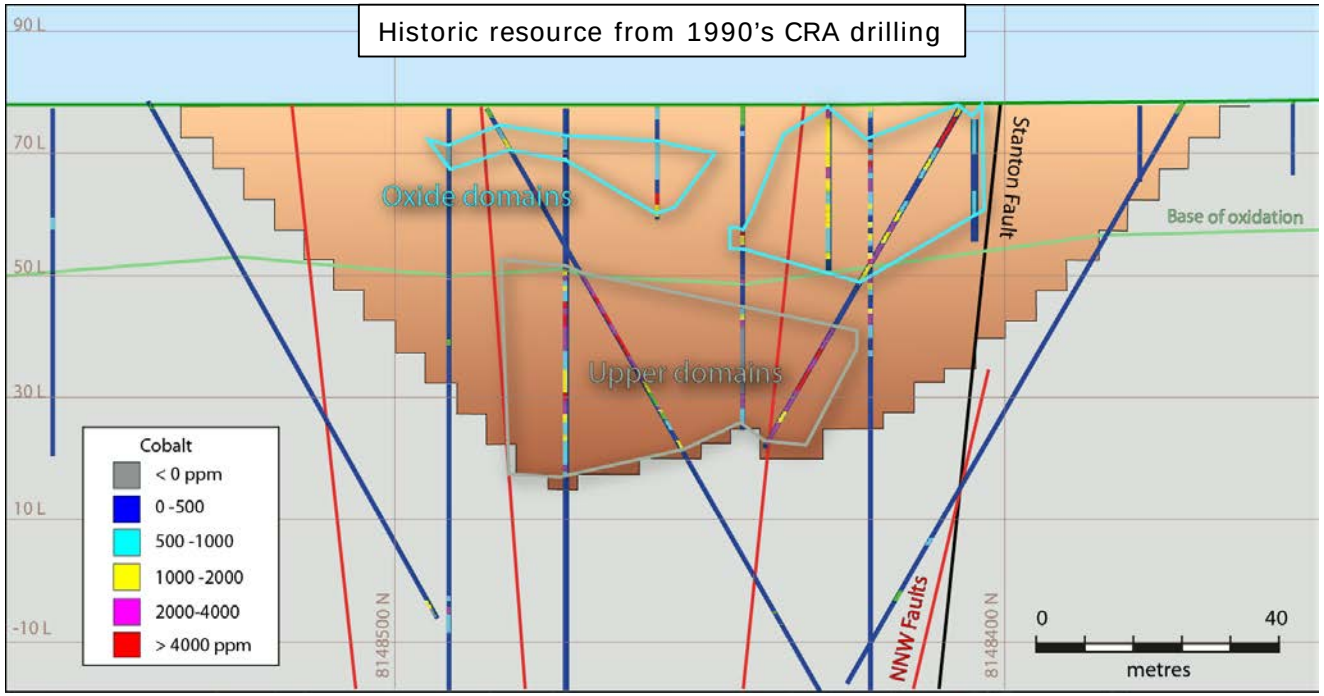




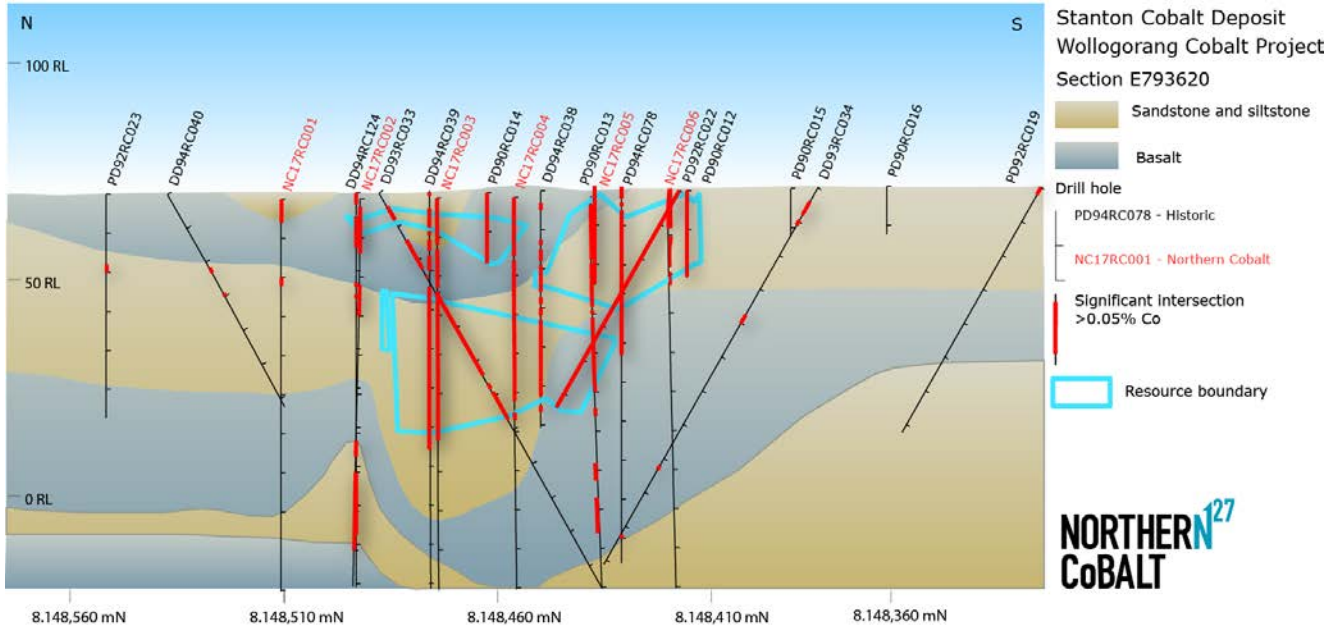


2017 Resource Modelling

- Due to be completed late March 2018
- Historic JORC 2012 resource of 500,000t @ 0.17% Co, 0.09% Ni and 0.17% Cu
- Calculated using a cobalt price of $US 47,000/tonne
- Current price is $US 82,000/tonne
- Drilling has intersected mineralisation outside of the current resource boundary
- A second, deeper, zone of mineralisation, has been well defined
- Mineralisation remains open to the NW and S-SE



Section A - Cross section showing Northern Cobalt drill holes with historic CRA drill holes



2018 Resource Activities

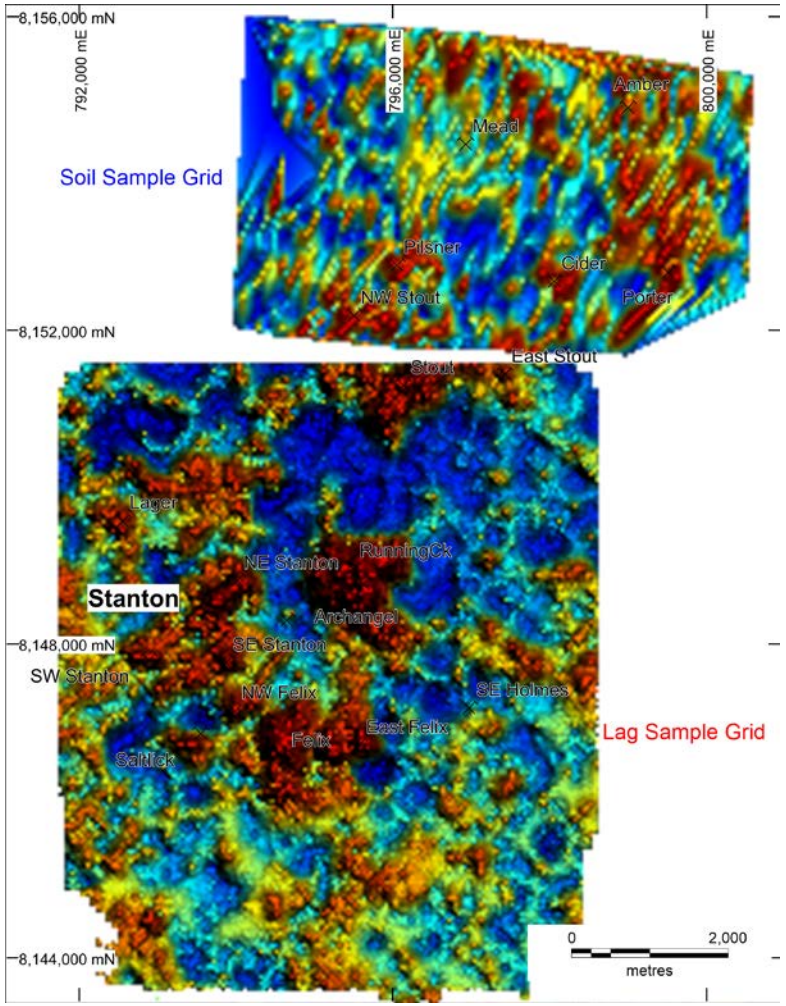
- Diamond Core Assay
  - Due to be received late March 2018
  - Results from 10 drill holes mainly through the high grade core of the deposit
  - Used to select samples for metallurgy
- Metallurgical Test Work
  - Due to be completed mid June 2018
  - Aim to initially undertake a dense media separation (DMS) from oxide zone to produce a concentrate with low initial CAPEX and footprint
  - Next stage is to look at enhanced recovery of sulphide zone and consider value adding to intermediate products rather than producing a concentrate
- Scoping Study
  - Due to be received late June 2018
  - Will provide a basis for determining the minimum resource required for a viable economic operation

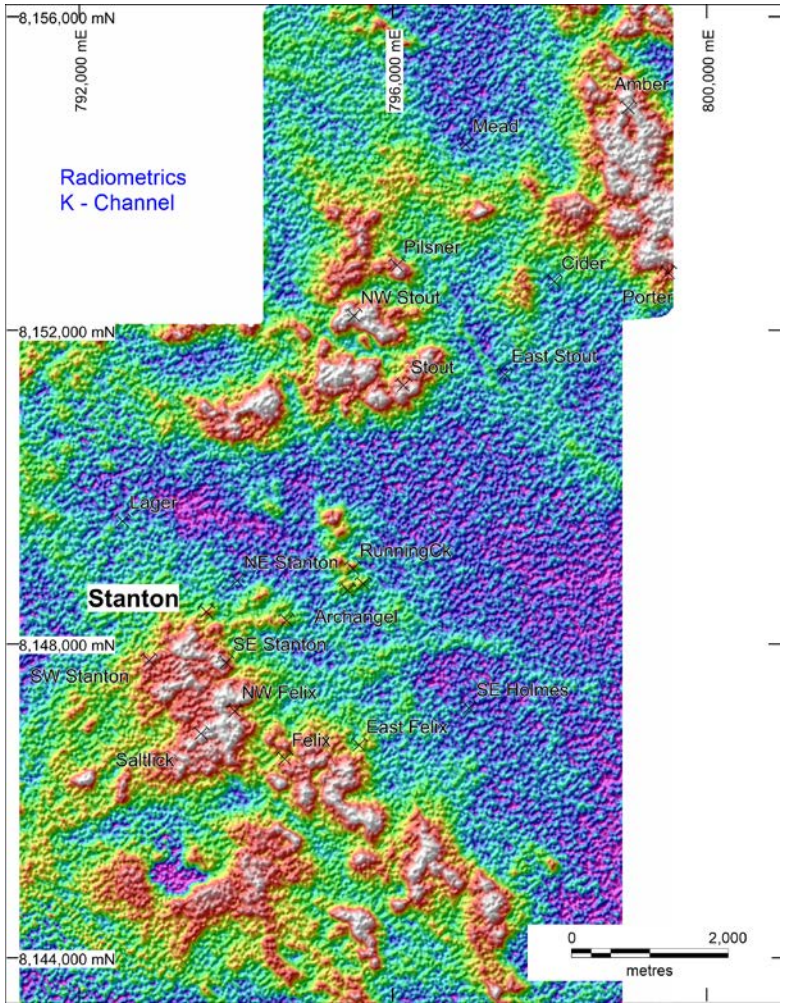
Oxide mineralisation (Asbolane)

Sulphide mineralisation (Seigenite)

2018 Exploration Methodology

- Understanding surface geochemistry data
  - Many anomalies coincide with sub-crop & outcrop, supported by potassium channel in radiometric data
  - Transported sedimentary cover may be masking underlying mineralisation, caution when downgrading prospectivity

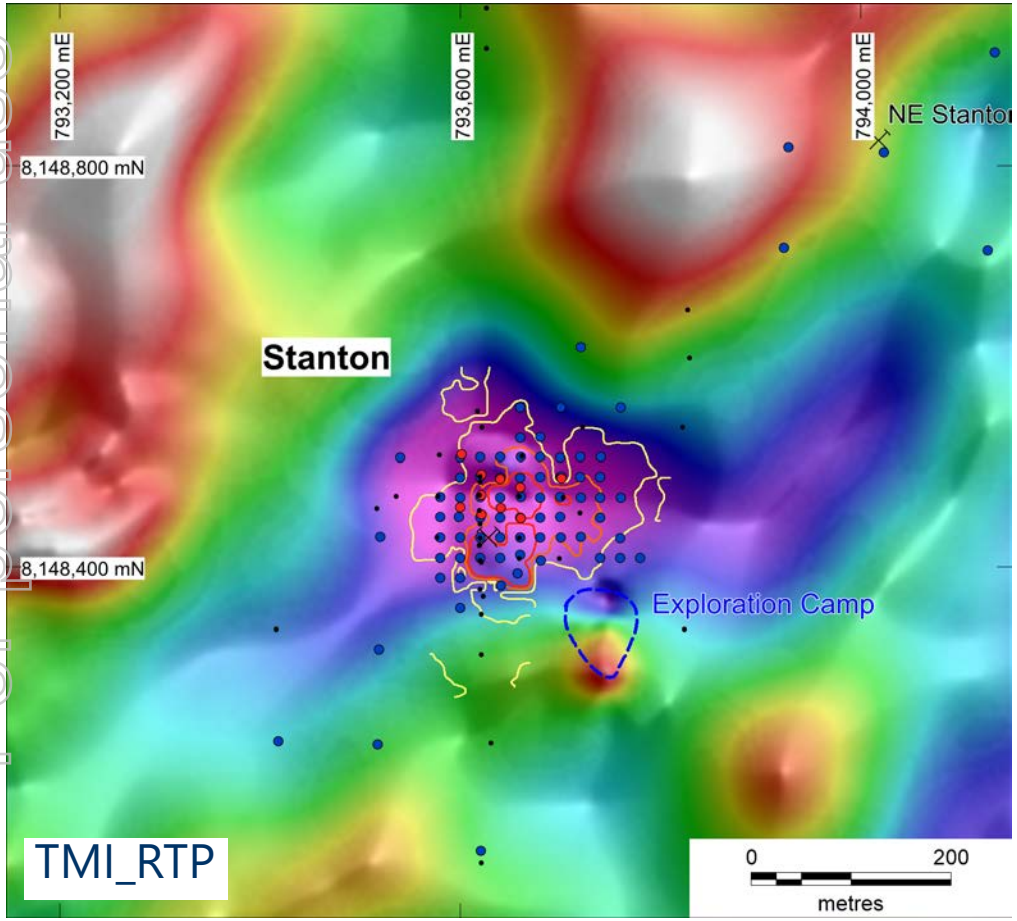


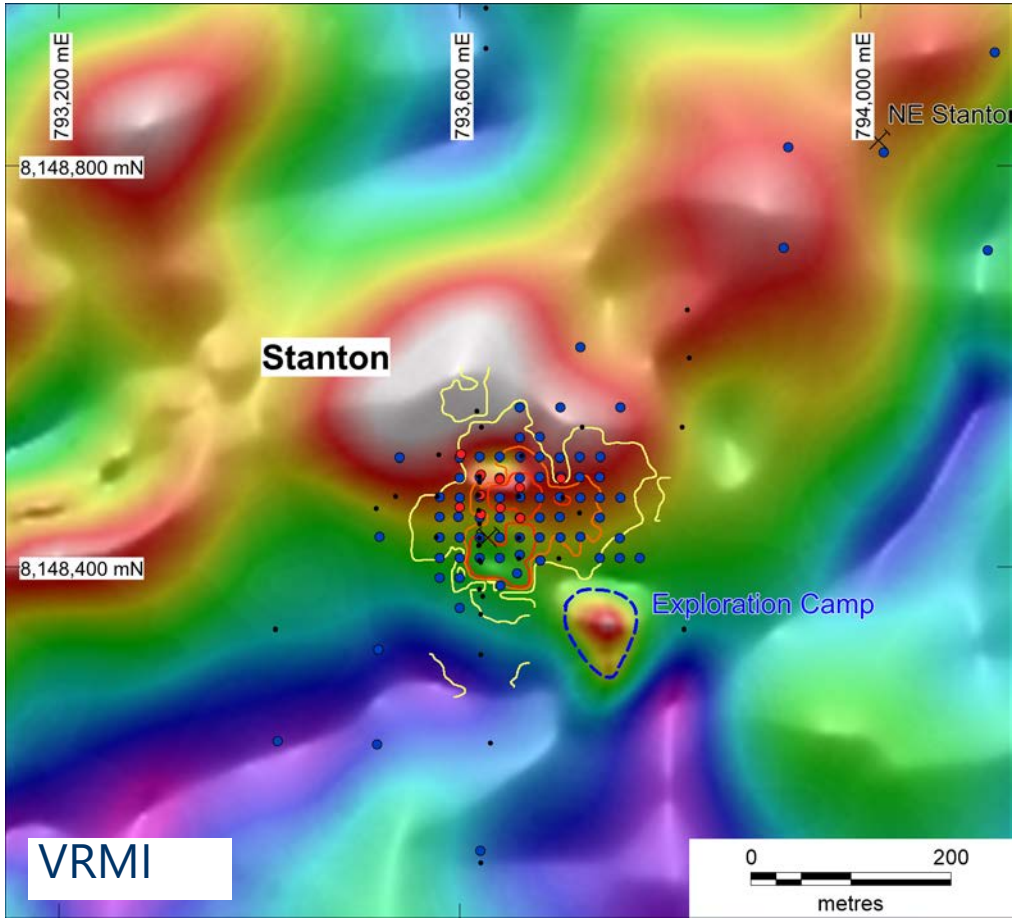


NORTHERN127 CoBALT

2018 Exploration Methodology

- Stanton geophysical signature
  - Pronounced reduced to pole magnetic low (TMI_RTP)
  - Semi-coincident vector residual magnetic intensity high (VRMI)





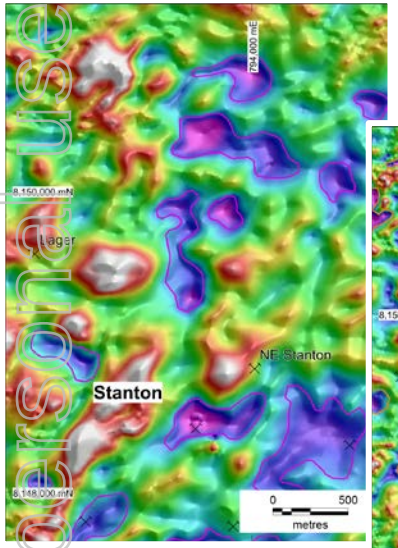
Historical Drill Collar
- RC/DIA

2017 N27 Drill Collar
- DIA
- RC

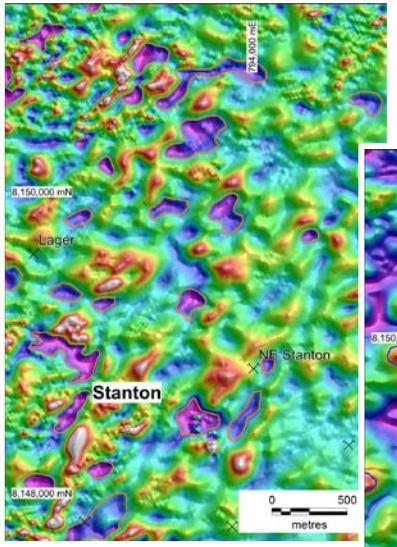
>100ppm_Co Line
>500ppm_Co Line
>1000ppm_Co Line

2018 Exploration Methodology

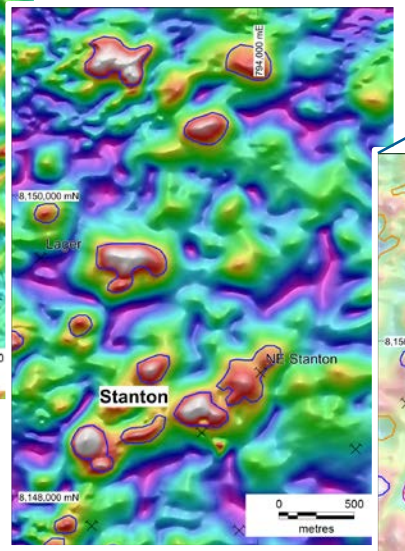
- Regional geophysical anomalies
  - Empirical synthesis of magnetic dataset
  - Identified and ranked anomalies with signatures comparable to Stanton



TMI_RTP

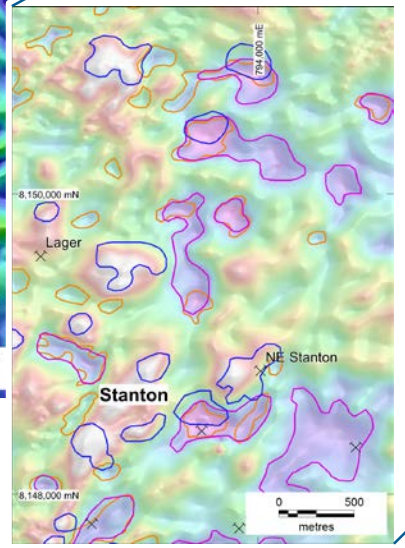


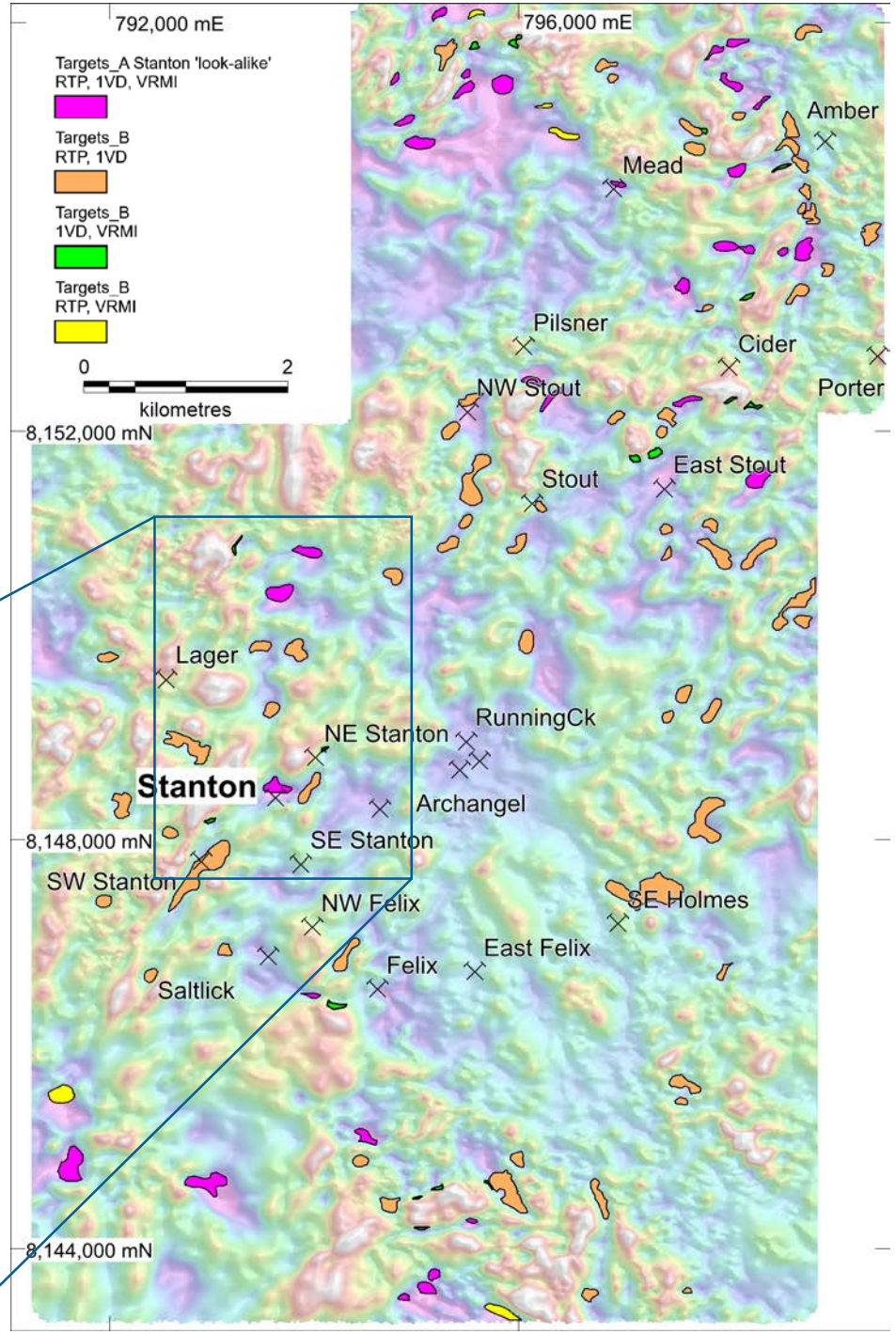
TMI_RTP_1VD



VRMI

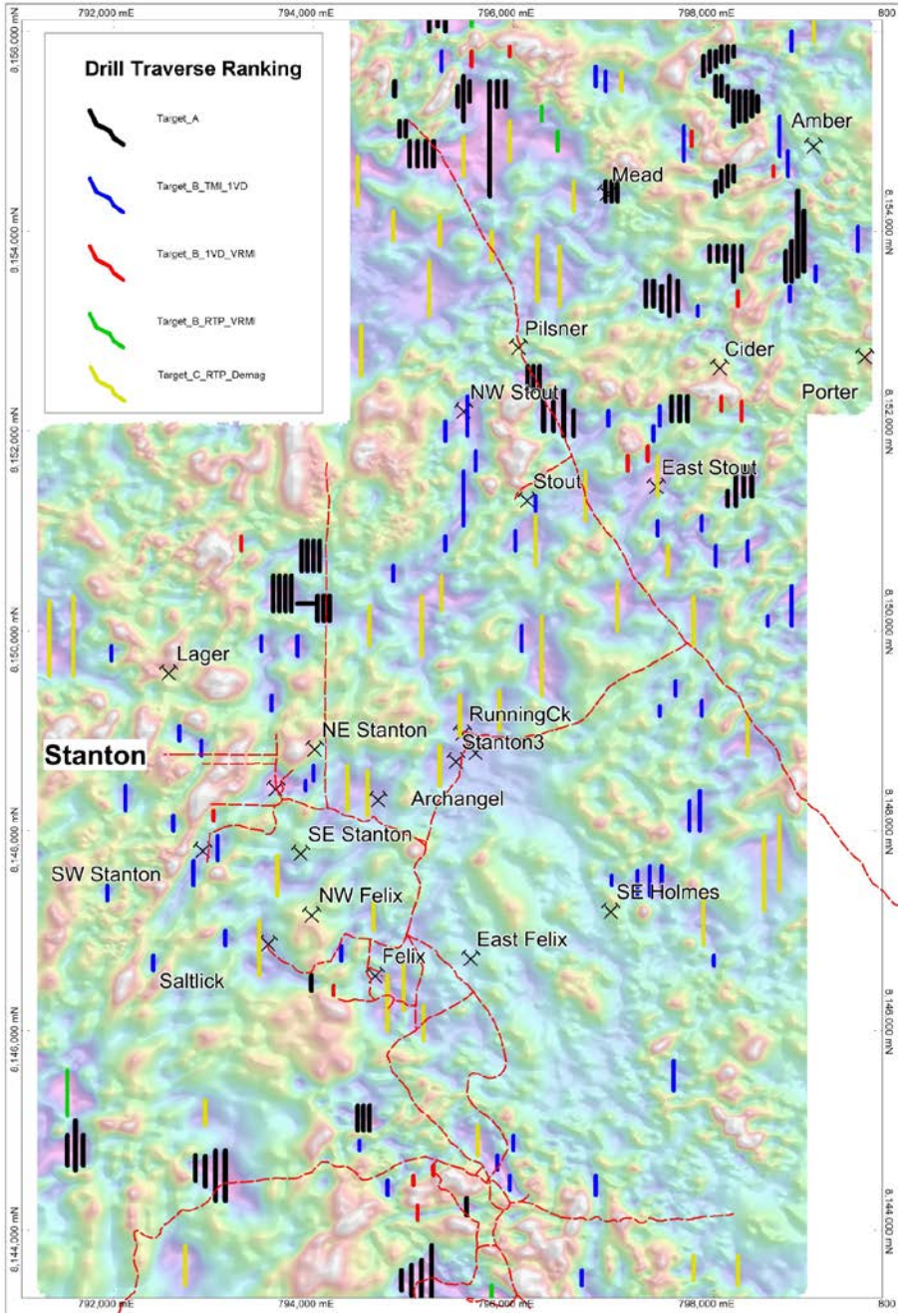
Merged



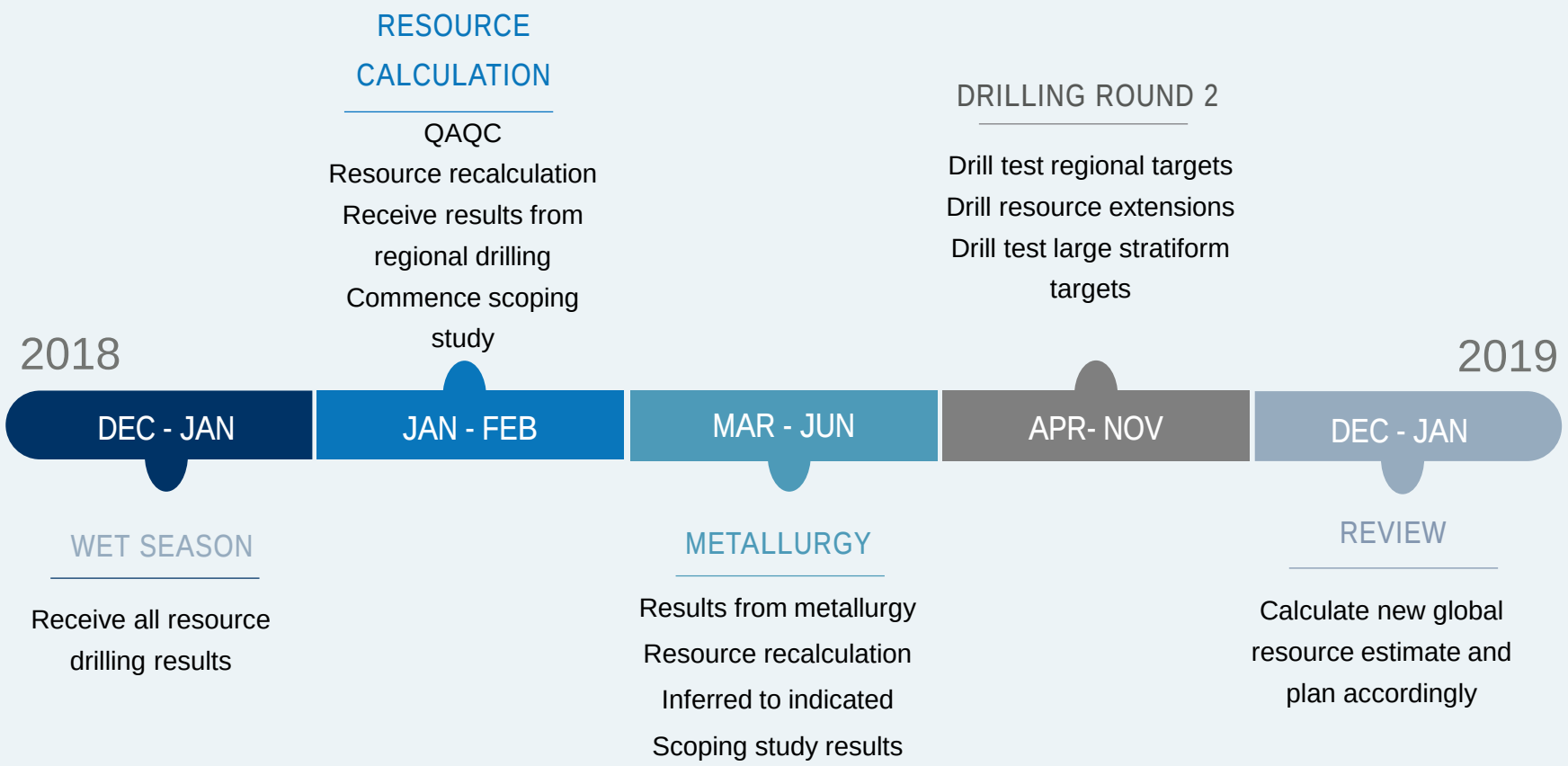


2018 Exploration Plans

- Rapid, low cost, target assessment
  - Use Toyota air core rig for initial shallow drilling
  - Traverses of 50m spaced drill holes over targets
  - Acquire results real time with pXRF
  - Identify new mineral systems and define footprints
  - Aim to commence mid April, weather permitting
- Results dependant, undertake additional resource drilling with larger RC drill rig



2018 Summary



Appendix 2. The following tables are provided to ensure compliance with the JORC Code (2012) requirements for the reporting of the exploration results for the Wollogorang Cobalt Project

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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 warrant disclosure of detailed information.*	• Reverse Circulation (RC) drilling using standard equipment. • Sampling was undertaken at one metre intervals when mineralisation was visually identified and as four metre composites when not. • Drilling was designed to intersect the mineralised ore zone based historical drilling
Drilling techniques	• *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).*	• Reverse circulation percussion (RC) with a 137mm diameter hammer. • Diamond drilling (DD) HQ triple tube.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative*	• Recovery generally good, with poor recovery in a small number of samples due to groundwater.

Criteria	JORC Code explanation	Commentary
	nature of the samples. • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Drilling logged in detail on a metre by metre basis. • Lithology, alteration and oxidation logged qualitatively. • Sulphide content and type logged quantitatively and qualitatively.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• RC drill samples split using a rig mounted cone splitter. • Sample duplicates collected, and standards used to confirm representivity of sampling. • DD samples were cut with an Almonte core saw, halved and quartered and quarter core sent for analysis on a single meter basis
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of*	• Sample Preparation - The samples have been sorted and dried. Primary preparation has been by crushing the whole sample. The samples have been split with a riffle splitter to obtain a sub-fraction which has then been pulverised in a vibrating pulveriser. • Analytical Methods - The samples have been analysed by Firing a 40 g (approx) portion of the sample. Lower sample weights may be employed for samples with very high sulphide and metal contents. This is the classical fire assay process and will give total separation of Gold

Criteria	JORC Code explanation	Commentary
	accuracy (ie lack of bias) and precision have been established.	Platinum and Palladium in the sample. • Au, Pt, Pd determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry. • The sample(s) have been digested and refluxed with a mixture of acids, including Hydrofluoric, Nitric, Hydrochloric and Perchloric Acids. This extended digest approaches a Total digest for many elements, however, some refractory minerals are not completely attacked. • Ca, Cr, Fe, K, Mg, Mn, Na, P, S, V, Co, Cu, Ni and Zn determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry. The sample(s) have been digested and refluxed with a mixture of acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric Acids. This extended digest approaches a Total digest for many elements however some refractory minerals are not completely attacked. • Ag, As, Ba, Bi, Cd, Li , Mo, Pb, U, Th • Standards (OREAS 181), blanks and duplicates have all been applied in the QAQC methodology. Sufficient accuracy and precision have been established for the type of mineralisation encountered.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• An electronic database containing collars, geological logging and assays is maintained by the Company.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Holes have been surveyed using Differential GPS (DGPS). • UTM grid MGA94 Zone 53 was used • A majority of holes have had down hole surveys completed.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing, and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• RC drill hole spacing approximately every 20m on a grid across the existing mineral resource. • DD drill holes were drilled at 60 degrees to the south along traverses across the deposit from west to east. • Spacing and distribution is considered to be appropriate.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Sample relationship to mineralisation and structure is unknown at this stage.
Sample security	• *The measures taken to ensure sample security.*	• Samples are bagged and sealed on pallets on site and transported to the analytical laboratories by commercial transport companies.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits undertaken at this stage as the drilling program has only recently commenced.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• Wollogorang Cobalt Project exploration area occurs on EL 31272 which is 100% owned by Mangrove Resources Pty Ltd a wholly owned subsidiary to Northern Cobalt Ltd. • The licence is currently in good standing with the relevant authorities.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Stanton Cobalt deposit and surrounding prospects were discovered by CRA Exploration Pty Ltd in the period 1990-1996 period under a farm in arrangement with W J (Joe) Fisher.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The local geology is dominated by the Gold Creek Volcanics of the Tawallah Group. This formation is a series of basaltic lavas and shallow intrusives, interlayered with thin oxidised sandstone, carbonate and siltstone units. It is conformably underlain by reduced sedimentary facies of the Wollogorang Formation, which includes dolostones, sandstones and carbonaceous shales. A regional dolerite sill, the Settlement Creek Dolerite, was emplaced synchronous with effusion of the Gold Creek Volcanics. The Wollogorang Formation and Settlement Creek Dolerite do not outcrop on the Stanton prospect area, but are however intersected in a number of drill holes on the tenement. Within the district, the Gold Creek Volcanics are disconformably overlain by a felsic volcanic package that includes a rhyolitic rheoignimbrite sheet (Hobblechain Rhyolite), proximal epiclastics (Pungalina Member) and distal reworked clastics (Echo Sandstone). • Mineralisation is interpreted to be largely controlled by stratigraphy

Criteria	JORC Code explanation	Commentary
		within the flat lying interbedded sediment and volcanic rock units of the Proterozoic Gold Creek Volcanics. Brecciation and faulting has a strong control on the intensity and limits of mineralisation. In fresh rock the cobalt-nickel is located in disseminated siegenite (cobalt-nickel sulphide). Chalcocite and pyrite are also noted. Weathering to a variable depth of approximately 30m has resulted in cobalt oxide secondary mineralisation in a large proportion of the deposit.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• This information was reported on 5 February 2018 as "Final Drilling Results 2017 Drilling Program".
Data aggregation methods	• *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.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values*	• Simple length weighted averages were used for reporting of significant drill intercepts with a cut-off grade of 0.05% (500ppm) Co and a maximum internal dilution of 1m.

Criteria	JORC Code explanation	Commentary
	should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Any observations made are down hole length and true width is not known.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• This information was reported on 5 February 2018 as "Final Drilling Results 2017 Drilling Program". • Also see attached release.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All significant drill intersections have been reported and it has been noted when no significant intersection has been encountered.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• No other relevant data to report.
Further work	• *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.*	• Planned further work detailed in this, and previous releases, and in figures. This work includes comprises drill testing along a significant portion of the surface geochemical anomaly.