**12 February 2019**

# COBALT AND BASE METAL TARGETS IDENTIFIED ALONG STRIKE FROM THE WHALE MINE AREA AT GOODSPRINGS, NEVADA, USA

## Highlights

- **3D IP/resistivity processing and interpretation completed**
- **Mineralised strike extension of Cobalt and Base Metals mine identified**
- **IP targets generated in same stratigraphic position as the Whale Mine**
- **Priority drill targets are beneath untested cobalt, copper and zinc surface geochemical anomalies**

Tyranna Resources Limited (ASX: TYX) **("Tyranna"** or the **"Company"),** is pleased to announce the processing and interpretation of the 3D Induced Polarization (IP)/ resistivity survey has been completed at the Company's Goodsprings Project area approximately 40km southwest of Las Vegas, Nevada, USA.

The Goodsprings Cobalt and Base Metals Project comprises 329 mining claims covering 6,580 acres located within the Goodsprings mining district in southern Nevada, 48 kms southwest of Las Vegas. Tyranna's decision to advance exploration coincides with New World Cobalt's recent exploration activity (refer NWC's ASX announcement on 19 February 2018), and the lack of any modern exploration around the historical underground workings near the Whale Mine (Figure 1).

Tyranna Resources Managing Director, Bruno Seneque commented on the results. "Given the nature of historical Cobalt mining at Whale, we are highly encouraged by the results from this survey which indicates a much larger system than the old miners tapped. They pulled out very high grade Cobalt from near surface, visible rock. We have modern techniques to look deeper and broader to find the bulk system origin of their successful mining.

These results indicate the potential for a much larger Cobalt and Base Metals mineralised system across the immediate ground around the Whale Mine. We will now use the IP results to target drill sites to test the extent of the mineralisation for its grade and scale as we advance our schedule for the Goodsprings Project which we believe has significant upside for Tyranna."

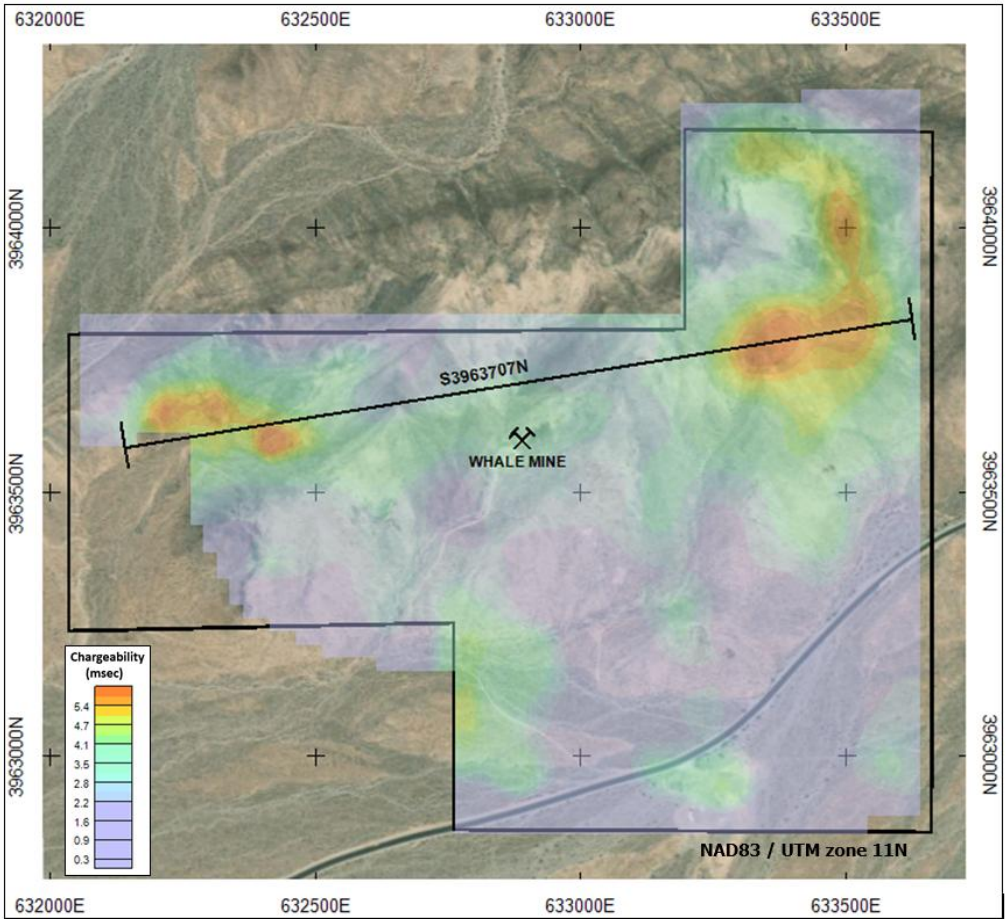


**Figure 1 - Map of survey area showing RL1000m depth slice of the IP, the location of the Whale Mine and the location of cross section shown in Figure 3**

Tyranna commissioned leading geo-scientific exploration consultants, Terra Resources Pty Ltd, to supervise acquisition and interpretation of the 3D IP/resistivity survey around the Whale Mine. As the Whale deposit is associated with Cobalt, Zinc, Lead and Copper, IP/resistivity was used to try and identify possible extensions to mineralisation at depth and under cover.

The 3D IP/resistivity survey was conducted in December 2018, in a north-south survey configuration with 200m spaced transmitter lines and 100m spaced receiver lines. The transmitter and receiver spacing along lines were 50m. Transmitter lines have end-of-line offset for increase depth penetration. Processing was completed in January 2019.

The survey successfully mapped down to 450m below surface. It has identified chargeable zones which could be attributed to mineralisation. These zones are shown in orange in Figure 2. Some of the chargeable zones have coincident geochemical responses (Cu, Co and Zn) and are considered high priority targets. Drilling has been proposed in the best parts of the target (Figure 3 and Figure 4). Targets range in depth from 50m to 300m below surface.

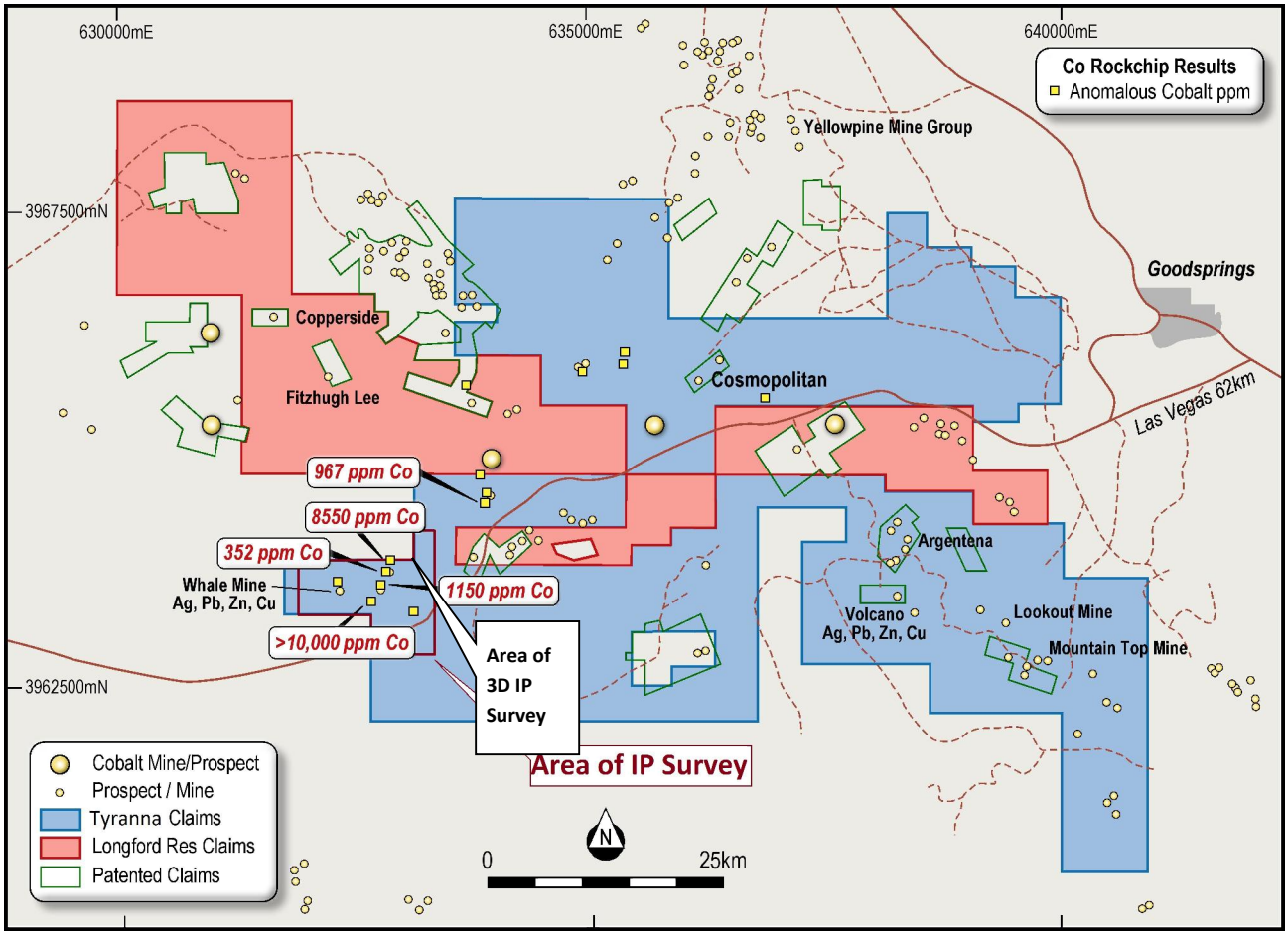


**Figure 2 – Tyranna's Goodsprings Project (blue) showing deposit locations and anomalous Cobalt geochemistry (Cobalt assay results - please refer to TYX ASX announcement dated 11 April 2018 [1])**

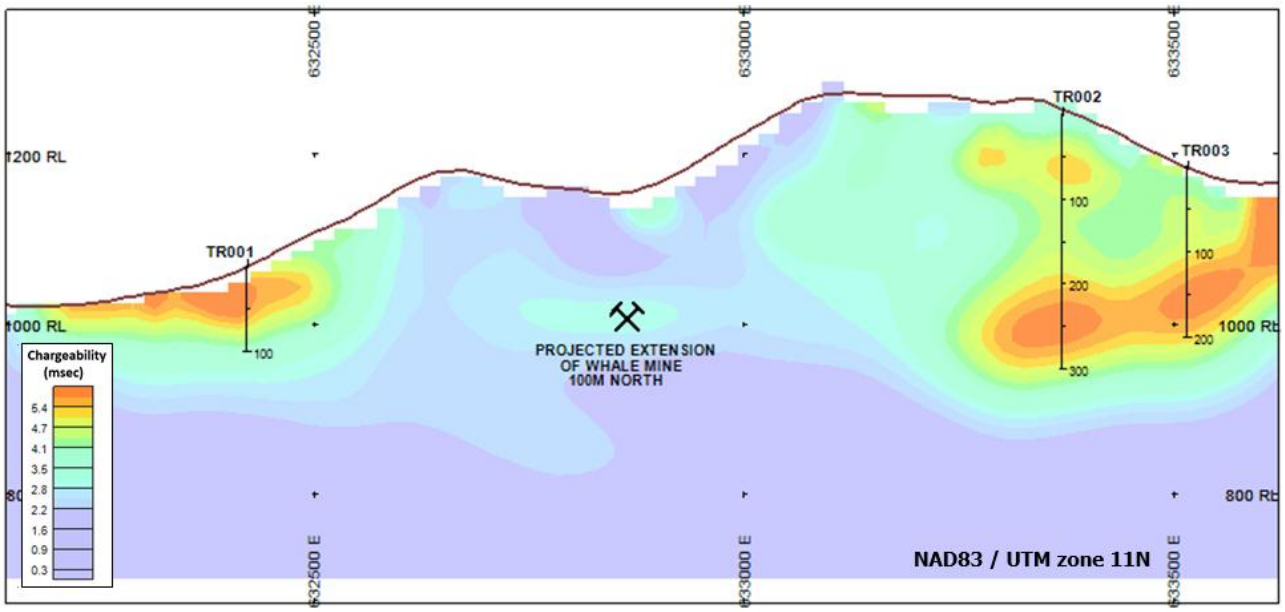


**Figure 3 - Cross-section through 3D IP model with proposed drill holes**

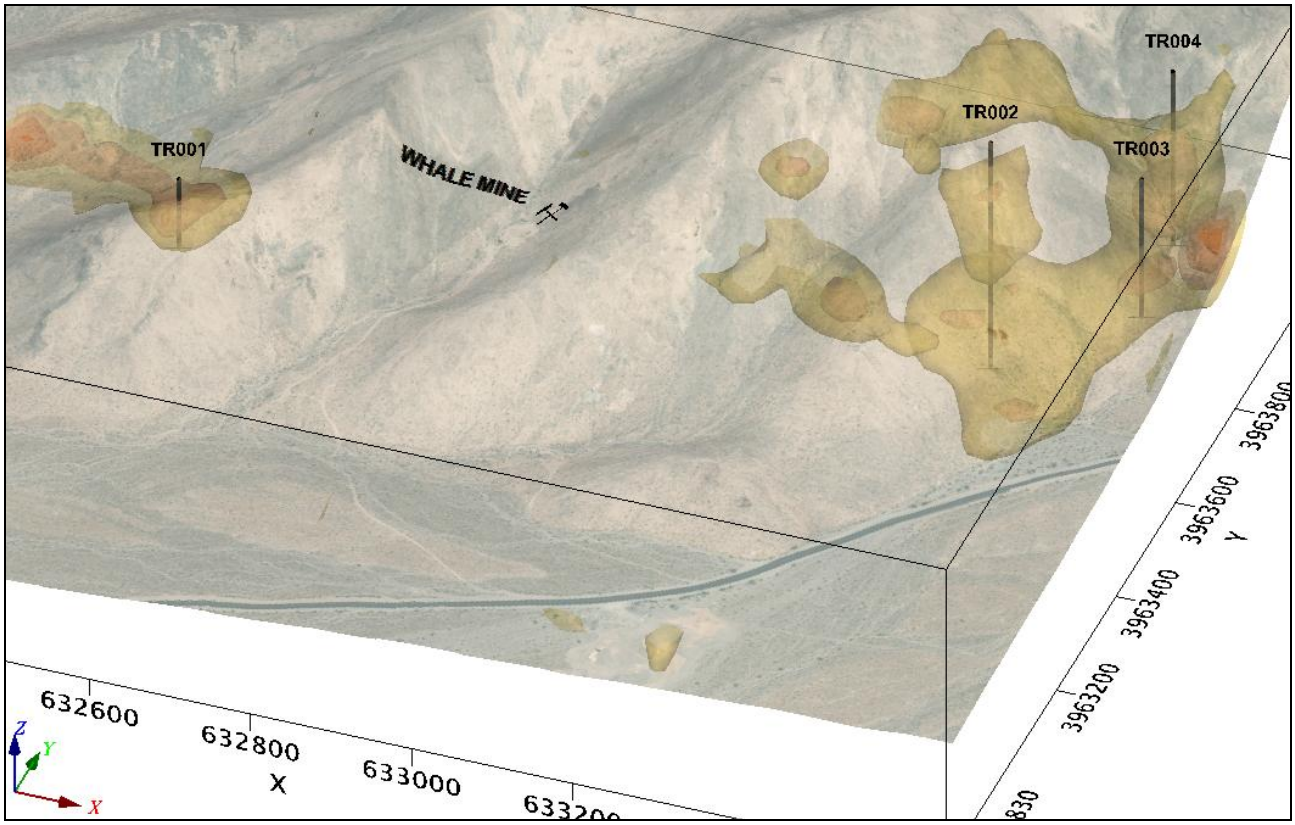


**Figure 4 - 3D view of IP model with proposed drill holes (chargeability isosurfaces >5 msec)**

The Goodsprings Project is now considered to have good potential for the discovery of new mineralisation in the district.

The next stage of the exploration program is to site the drill locations and plan for a drill program in 2019. Tyranna looks forward to providing additional information as works progress.

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Competent person statement: The information in this announcement that relates to Exploration Results is based on information compiled by Nicholas Revell, who is a Member of The Australian Institute of Geoscientists and who has more than five years' experience in the field of activity being reported on. Mr. Revell is the Technical Director of the Company. The information in the market announcement is an accurate representation of the available data and studies for the material mining project.

Mr. Revell has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Revell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

*[1] This information is extracted from the report entitled 'Exceptional Polymetallic Rock Chip Assays from Goodsprings Cobalt & Base Metals Project' created on 11 April 2018 and is available to view on https://www.asx.com.au/asx/statistics/displayAnnouncement.do?display=pdf&idsId=01970067 The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

**JORC Code, 2012 Edition – Table 1**

**Section 1: Sampling Techniques and Data – Goodsprings Project**

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| Sampling Techniques | • Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.<br>• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tool or systems used.<br>• Aspects of the determination of mineralisation that are Material to the Public Report.<br>• In cases where 'industry standard' work has been done, this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 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 (e.g. submarine nodules) may warrant disclosure of detailed Information. | Pole-dipole IP surveying was undertaken on parallel grid lines spaced 100m and 200m apart, with transmitters spaced 50m and 100m apart along lines and receivers spaced 100m apart along lines. IP (chargeability) and resistivity readings were acquired in a 3-dimensional array both in-line and off-line (on adjacent lines). |
| Drilling Techniques | • Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc.). | No drilling conducted. |

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| Drill Sample Recovery | • Method of recording and assessing core and chip sample recoveries and results assessed.<br>• Measures taken to maximise sample recovery and ensure representative nature of the samples.<br>• 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 | No drilling conducted. |
| 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.<br>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.<br>• The total length and percentage of the relevant intersections logged | No drilling conducted. |
| Sub-Sampling techniques and sample preparation | • If core, whether cut or sawn and whether quarter, half or all core taken.<br>• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.<br>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.<br>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.<br>• 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.<br>• Whether sample sizes are appropriate to the grain size of the material being sampled. | No sampling conducted. |

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| 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.<br>• 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.<br>• Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established | No sampling conducted. |
| Verification of sampling and assaying | • The verification of significant intersections by either independent or alternative company personnel.<br>• The use of twinned holes.<br>• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.<br>• Discuss any adjustment to assay data | No sampling conducted. |
| Data Spacing and distribution | • Data spacing for reporting of Exploration Results.<br>• 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.<br>• Whether sample compositing has been applied. | Stream samples were taken along the natural drainage. No sample compositing has been applied. |

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| 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.<br>• 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. | Stream samples were not oriented along any known geological orientation. |
| Sample Security | • The measures taken to ensure sample security | Company personnel collected and analysed the samples. |
| Audits or reviews | • The results of any audits or reviews of sampling techniques and data | The Competent Person and other company personnel have reviewed the data contained the data |
| **Section 2: Reporting of Exploration Results**<br><br>(Criteria listed in section 1 also apply to this section) | | |
| **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.<br>• 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 | US Cobalt's projects are located on unpatented Federal mining claims in the USA. The Competent Person has accessed the USA Federal government websites to confirm that all of the mining claims are held by the party indicated in the agreement.<br>US Cobalt will obtain local, state and/or federal permits to operate in their project areas as required. |

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| Exploration done by other parties | • Acknowledgment and appraisal of exploration by other parties. | Limited information is available on the exploration and development of the Goodsprings Project. There are numerous small, historic mines in the region. The US Bureau of Mines and the US Geological Survey have published reports, circulars and bulletins over the years and these provide the bulk of the information.<br><br>'Reconnaissance of Mining Districts in Clark County, Nevada', USBM Information Circular 6964, 1937.<br><br>'Geologic Controls on Lead-Zinc Mineralisation in Goodsprings (Yellowpine) District, Nevada', USGC Bulletin 1010, 1954.<br><br>'Geology and Ore Deposits of the Goodsprings Quadrangle, Nevada', US Department of the Interior, Professional Paper 162, 1931. |
| Geology | • Deposit type, geological setting and style of mineralisation | Mineralisation within the Goodsprings Project appears to be closely associated with limestones, while also appearing to have strong structural controls. A spatial relationship between intrusive granite-porphyries and mineralisation is apparent. But the importance of this association is not yet known. |

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| Drillhole Information | • A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:<br>-Easting and northing of the drillhole collar<br>-Elevation or RL (Reduced Level elevation above sea level in metres) of the drillhole collar<br>-Dip and azimuth of the hole<br>-Downhole length and interception depth<br>-hole length. | No drilling conducted. |
| Data aggregation methods | • In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.<br>• 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.<br>• The assumptions used for any reporting of metal equivalent values should be clearly stated | The assay results are based on stream samples. No data aggregation methods, weighting of results or top cuts have been applied. |
| Relationship between mineralisation widths and intercept lengths | • These relationships are particularly important in the reporting of Exploration Results.<br>• If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.<br>• If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). | The exploration result being reported is a stream sample so the mineralisation 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 drillhole collar locations and appropriate sectional views | These are contained in the announcement. |

| Criteria | JORC Code Explanation | Commentary |
|---|---|---|
| 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 results have been reported, unmodified. |
| 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. | This is an early stage exploration project so there is no other substantive exploration data available. |
| Further Work | • The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step- out drilling).<br>• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. | US Cobalt plans to conduct exploration including geochemical and geophysical surveys. If warranted drilling will focus on targets generated from the initial exploration phase. |