Superior Resources Limited
ACN 112 844 407

ASX Release
16 May 2018

BOTTLETREE COPPER PROSPECT
COMPLETION OF IP SURVEY – LARGE, STRONG CHARGEABILITY ANOMALY IDENTIFIED UNDER NEAR-SURFACE COPPER MINERALISATION

- **Completion of MIMDAS IP survey at Bottletree Prospect.**
- **Identification of a large and high order IP chargeability anomaly beneath surface copper geochemical anomaly and near-surface copper mineralisation in drill holes.**
- **Chargeability anomaly 1.4 kms in length and open to the north and south.**
- **Confirmation of potential for a large porphyry copper mineralised system.**

Superior Resources Limited (ASX Code: **SPQ**) (**Superior** or **Company**) confirms the completion of an induced polarisation (**IP**) geophysical survey at its 100%-owned Bottletree Copper Prospect located within the Greenvale Project area (Figures 1 and 2).

The IP survey has identified a large and high order IP chargeability anomaly located beneath extensive copper-in-soil surface geochemical anomalism and near-surface copper mineralisation (Hole SBTRC001 from 24m to 178m drill-hole depth) intersected during the 2017 phase 1 drilling program. The chargeability anomaly appears on each of the six IP lines over a distance of 1.4 kilometres with moderate to very high (up to 48mV/V) amplitude response (Figures 3 to 15). Each of the six IP lines was 2.5 kilometres long and oriented approximately NE – SW covering an area of 3.5 km^2 (Figure 2). The anomaly remains open to the north and south.

The purpose of the IP survey was to utilise the MIMDAS IP and magnetotelluric system (which was instrumental in the discovery of the world-class Carrapateena copper deposit in SA) to identify whether a large intrusive body or porphyry system is the source of the extensive copper mineralisation observed at Bottletree.

The Company considers that preliminary modelling of the geophysical data supports the potential for a large porphyry copper system to be the cause of copper mineralisation at Bottletree.

Superior's Managing Director, Peter Hwang commented: *"The results from the recently completed IP survey are outstanding and have provided us with further confidence of the potential for the Bottletree and greater Greenvale Project area to host large polymetallic deposits such as the world-class deposits in the central NSW porphyry region. We will now finalise the modelling of the IP data and determine optimal drill hole collar locations for a Phase 2 drilling program at Bottletree.*

The results represent a positive progression of the Company's Tier 1 projects, which include the large Mount Isa-style lead-zinc projects in NW Qld, in parallel with our developing battery metals projects such as the nearby Lucky Creek and Big Mag cobalt-nickel prospects and the Walford Creek West Project in NW Qld."

The Bottletree Prospect

The Bottletree Prospect lies within Superior's Greenvale Project which is located some 200km northwest of Townsville in north Queensland. The Greenvale Project covers a region of volcanic and intrusive rocks of Ordovician age that are similar in type and age to the porphyry copper belt in New South Wales. The New South Wales belt of rocks hosts the large Cadia and North Parkes porphyry copper mines.

Superior's Greenvale Project is considered highly prospective for porphyry copper, VMS copper-zinc and gold-silver deposits and contains at least eight known prospects. The project is located within an area of notable economic significance being proximal to the Kidston, Balcooma, Surveyor and Greenvale deposits (Figure 1).

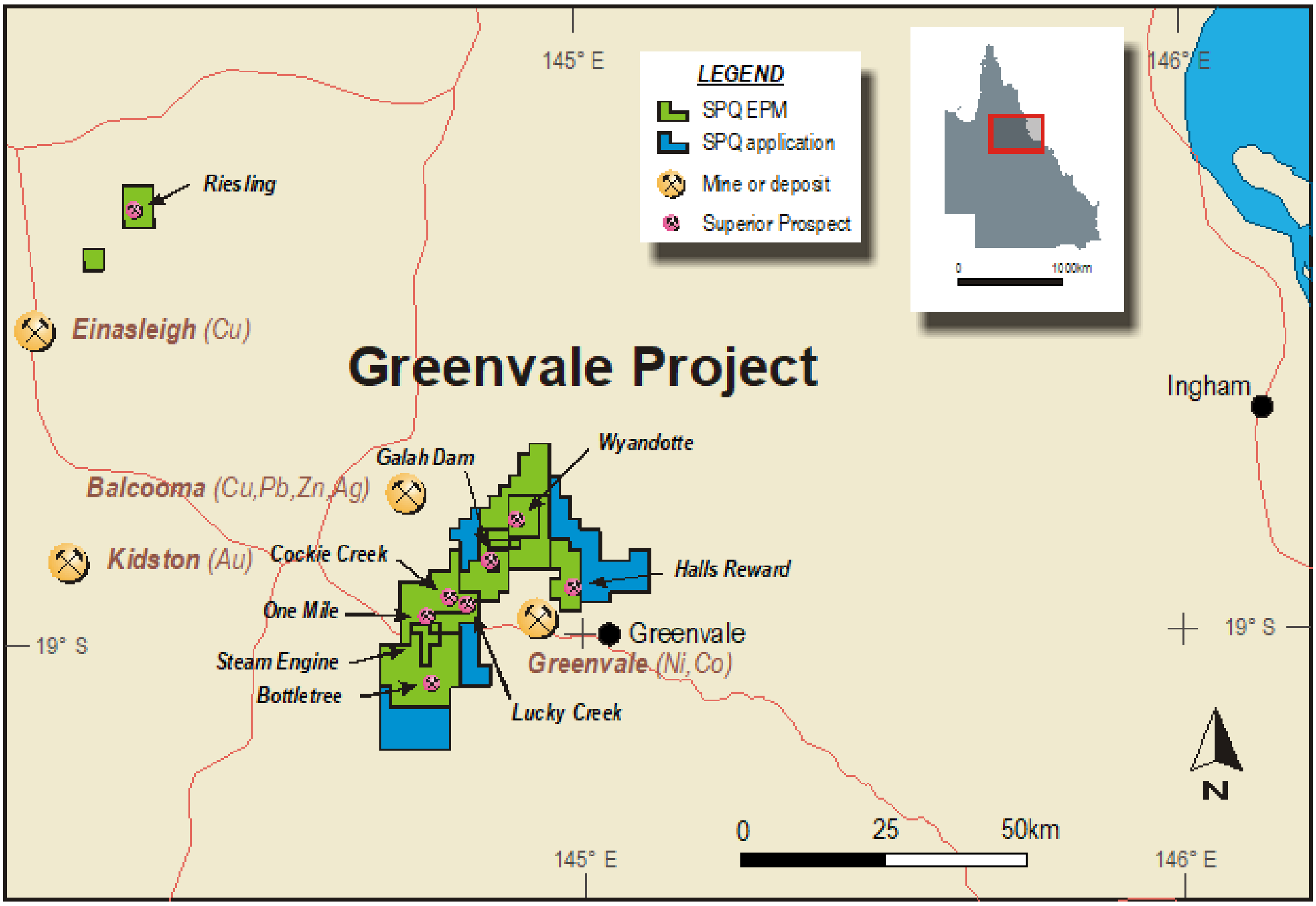

Figure 1. Location of the Bottletree Prospect within the 100%-owned Greenvale Project tenements and tenement applications.

The Bottletree Prospect covers an area of extensive anomalous copper soil geochemistry within a deformed and metamorphosed package of andesitic and basaltic volcanic rocks intruded by tonalite and granodiorite. The rocks are interpreted to be of mantle origin and probably of early Ordovician age.

Superior drilled four relatively shallow holes at Bottletree in 2017 with hole SBTRC001 reporting a total intersection from 24m to 178m of 154m @ 0.25% Cu (ASX Release - 20/09/2017) indicating potential for large tonnages of low-grade copper mineralisation in the prospect area.

Superior has recently contracted an IP survey over the Bottletree Prospect area. The purpose of the IP survey and associated modelling of the results was to determine if a substantial chargeable zone lay beneath the extensive area of surface copper mineralisation which might represent a porphyry copper deposit within or associated with a possible intrusive beneath the area. Delineation of any such chargeable zone would make an attractive target for further focussed drilling for a large body of copper-gold mineralisation at the prospect.

To achieve its aims of outlining large targets at depth beneath the Bottletree Prospect, the IP survey was completed with long lines (2.5km) and with a dipole spacing of 100m. Both these allowed detection of chargeable zones to 1000m depth.

The field component of an IP survey over the Bottletree Copper Prospect has recently been completed. The survey involved the completion of four 2.5km lines of pole-dipole Induced Polarisation at 400m spacing (1400N, 1800N, 2200N and 2600N) followed by a further two 2.5km lines of pole-dipole Induced Polarisation (2400N and 2800N) (Figure 2). The initial four lines of the survey were across the principal area of surface copper mineralisation as determined from the historical soil copper geochemistry. The further two lines were completed 200m either side of the most northerly of the initial four lines (2600N) which showed the strongest chargeability anomaly.

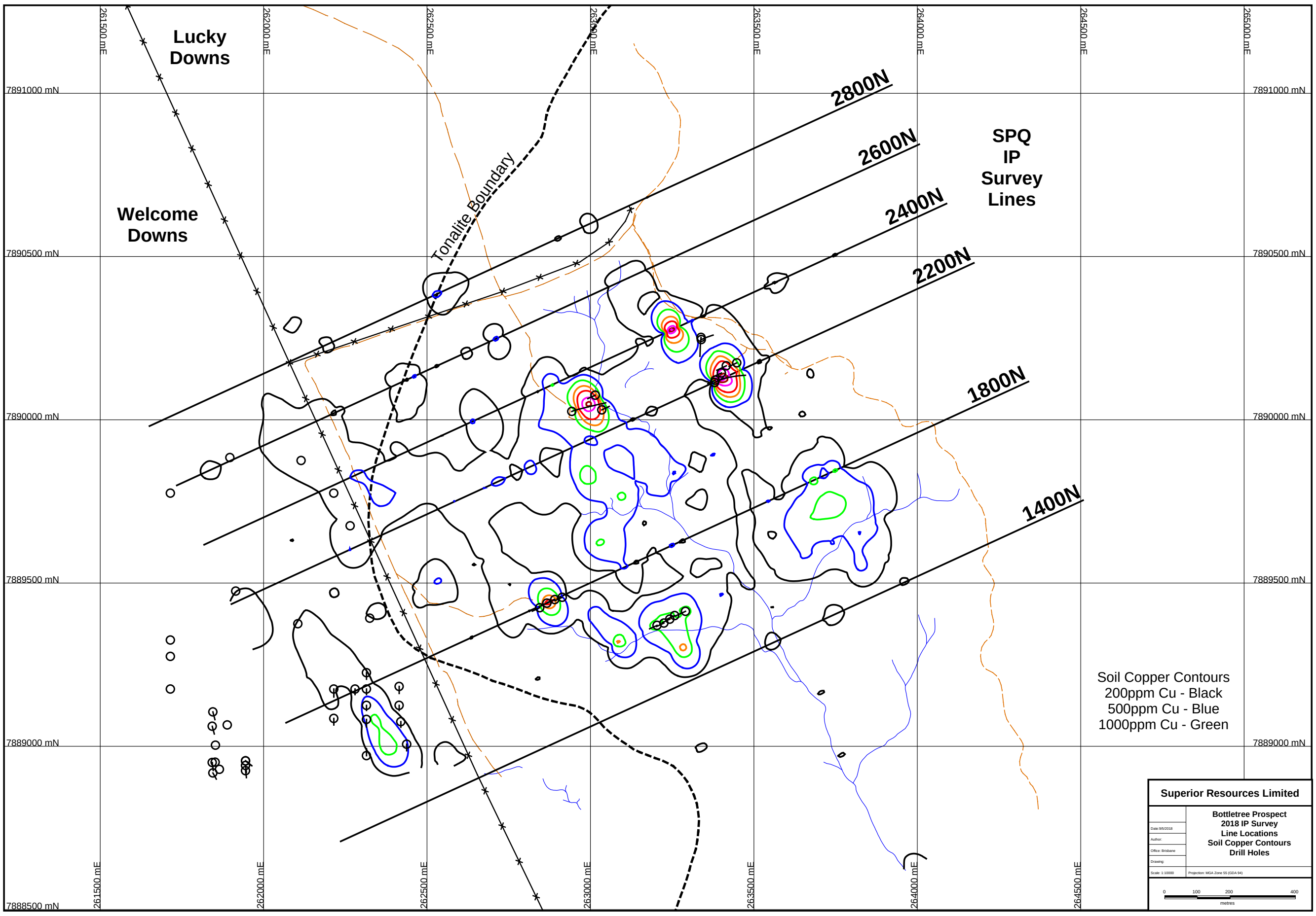

Figure 2. IP survey line locations with respect to soil copper geochemistry and drill holes at the Bottletree Prospect.

The survey was completed by Geophysical Resources and Services Pty Ltd (GRS) using the MIMDAS geophysical equipment. MIMDAS is a modern advanced high-quality electrical geophysical acquisition system capable of acquiring Induced Polarisation (IP), Magnetotellurics (MT), Electromagnetics (EM) and Controlled Source Audio-frequency Magnetotellurics (CSAMT) data.

Preliminary 2D modelling of chargeability and conductivity for all lines has now been received from GRS. The apparent significance of the modelling results has resulted in this release of the preliminary modelling by Superior. While further modelling may be completed to fine tune the models no significant variations of the models are expected.

The survey achieved it aims with a large zone of moderate to strong chargeability outlined. This zone represents an attractive target for a large copper deposit.

Interpretative sections of the modelled chargeability on all lines are included in the attached figures 4 to 9. These show a prominent 1.4km long moderate to high-order chargeability anomaly which occurs on all lines towards the eastern side of the area surveyed. The anomaly is open both to the north and south. The anomaly indicates a large chargeable source that is generally located at depth but which comes to surface on line 2200N and is near to surface on line 2400N. The area around 2200N shows considerable surface copper mineralisation and was subjected to shallow drilling by Superior in 2017 with hole SBTRC001 reporting a total intersection from 24m to 178m of 154m @ 0.25% Cu (ASX Release - 20/09/2017). A more detailed section through the modelled chargeability anomaly and the drilling is shown in Figure 3.

The modelled chargeability increases to the north of section 2200N and reaches its highest level on the northern lines. Drilling of the area between 2200N and 2800N is of high priority.

Preliminary 2D interpretations of conductivity (Figures 10 to 15) indicate substantial areas of very low conductivity beneath the western side of the area surveyed with the chargeability anomaly lying adjacent to or just within this area of low conductivity. This area of low conductivity is likely to be an intrusive body forming an easterly extension of a tonalite body which outcrops in the western portion of the area surveyed. If this is the case, copper mineralisation would appear to be associated with this intrusive and the porphyry copper model that Superior is using in exploration at Bottletree appears valid.

Substantial deformation and metamorphism, which post-dates the copper mineralisation, affects the Bottletree area. Any application of a porphyry copper model to the area will require consideration of the deformation and metamorphism that has occurred.

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The information in this report that relates to Exploration Results is based on information compiled by Mr Ken Harvey, who is a Member of the Australian Institute of Geoscientists. Mr Harvey 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 Harvey consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

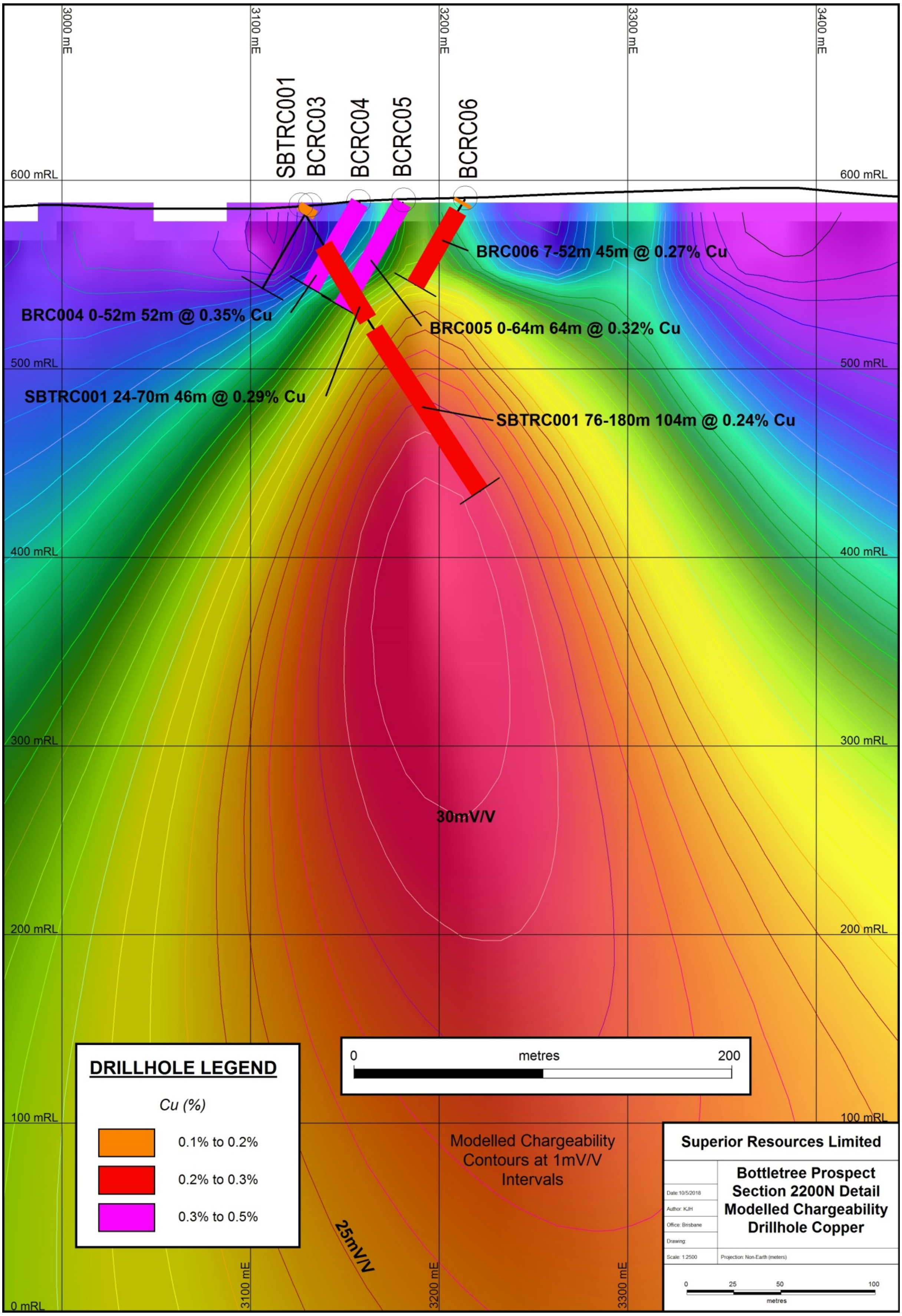

Figure 3. Bottletree Prospect – Detailed Section 2200Nshowing the relationship between the modelled chargeability anomaly and copper intersections in shallow drilling in this area.

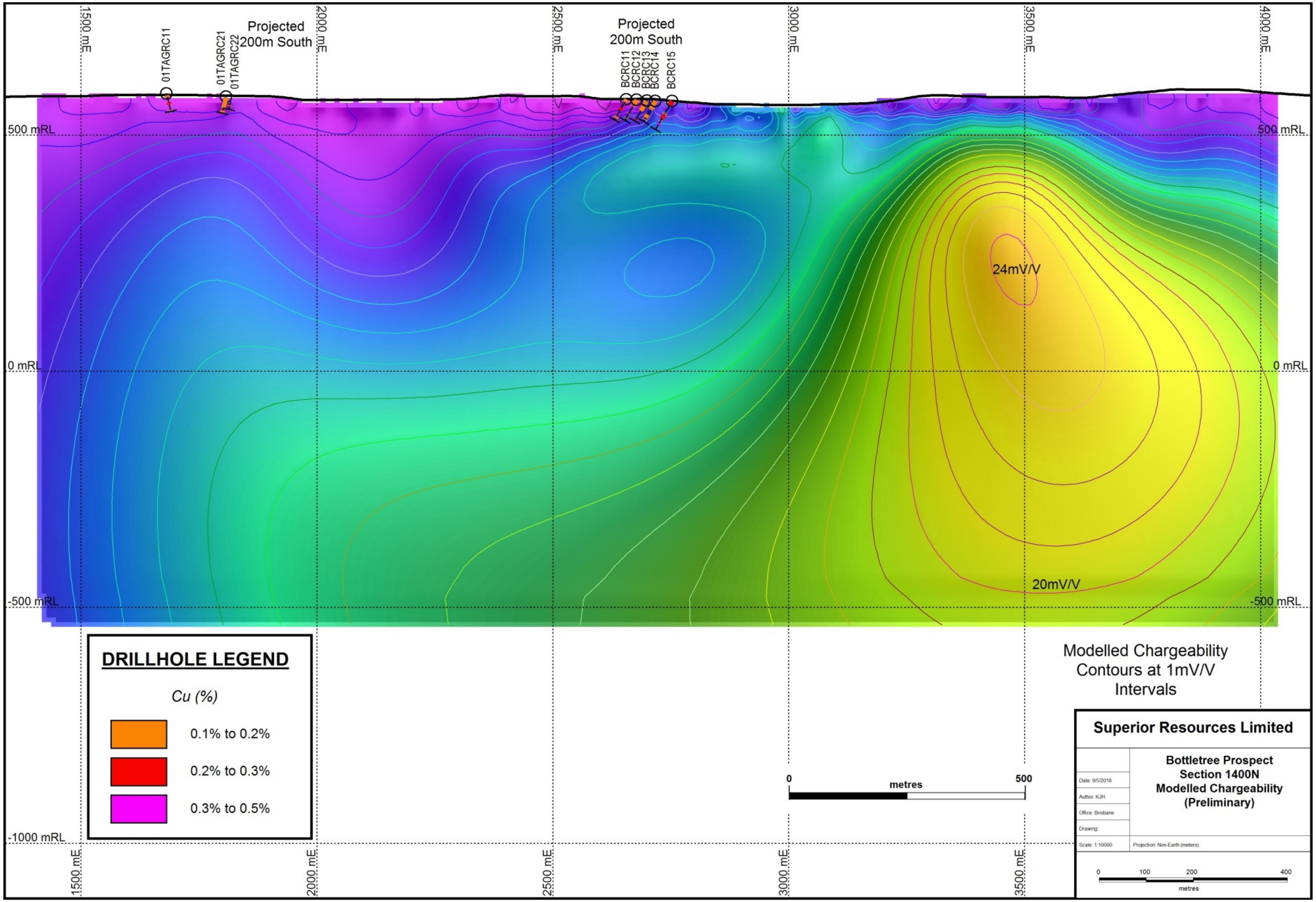

Figure 4. Bottletree Prospect Section 1400N Modelled Chargeability

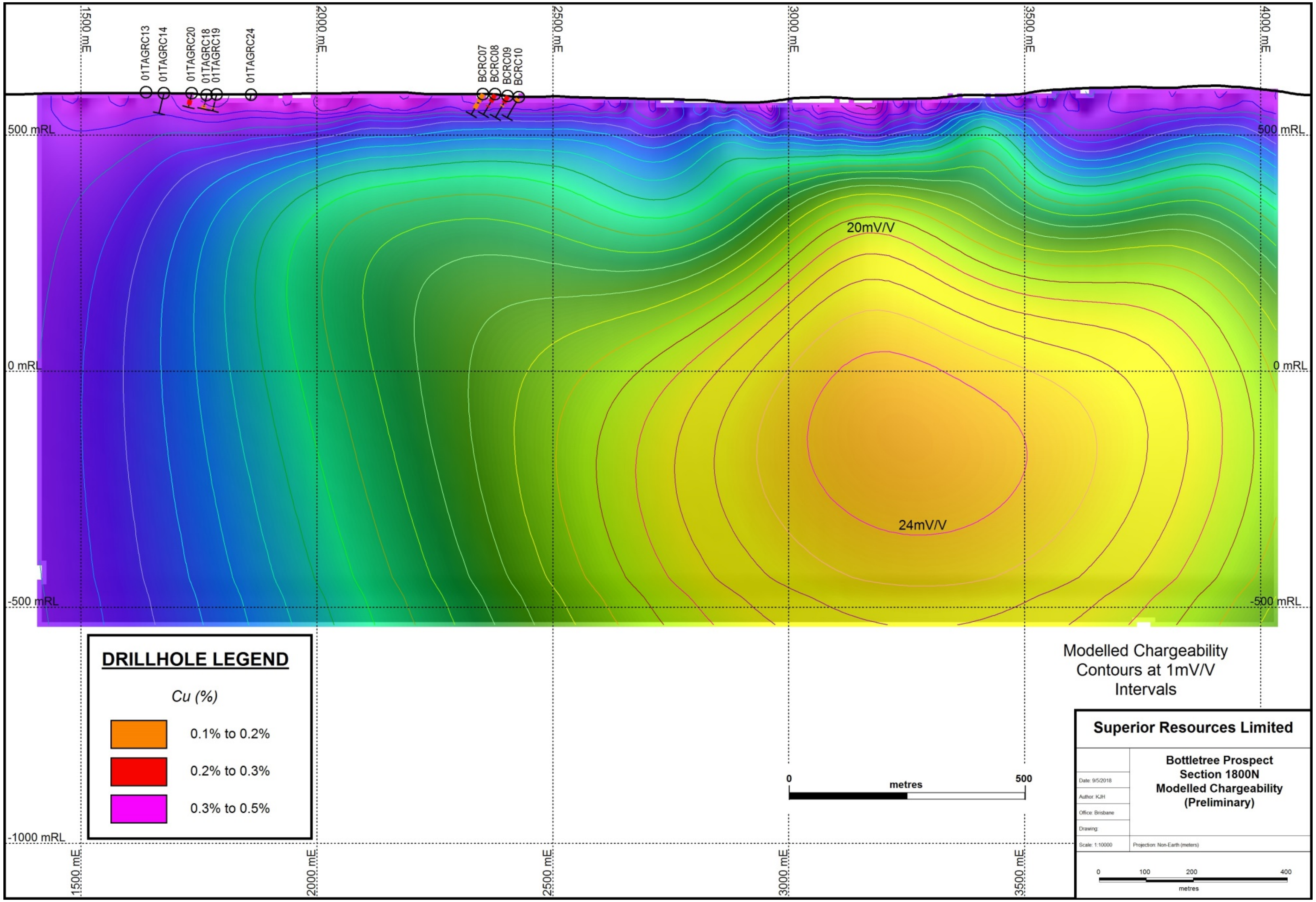

Figure 5. Bottletree Prospect Section 1800N Modelled Chargeability

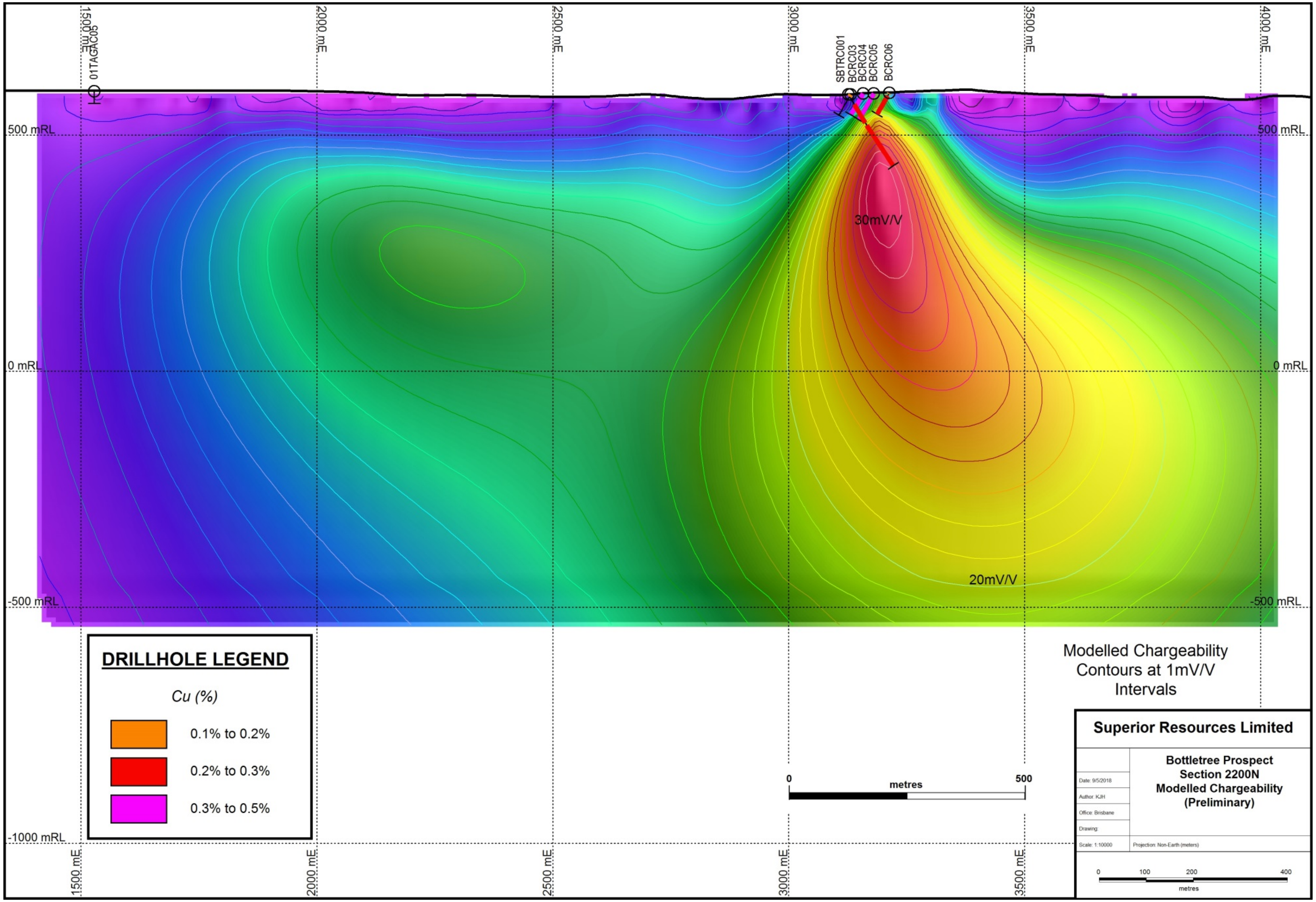

Figure 6. Bottletree Prospect Section 2200N Modelled Chargeability

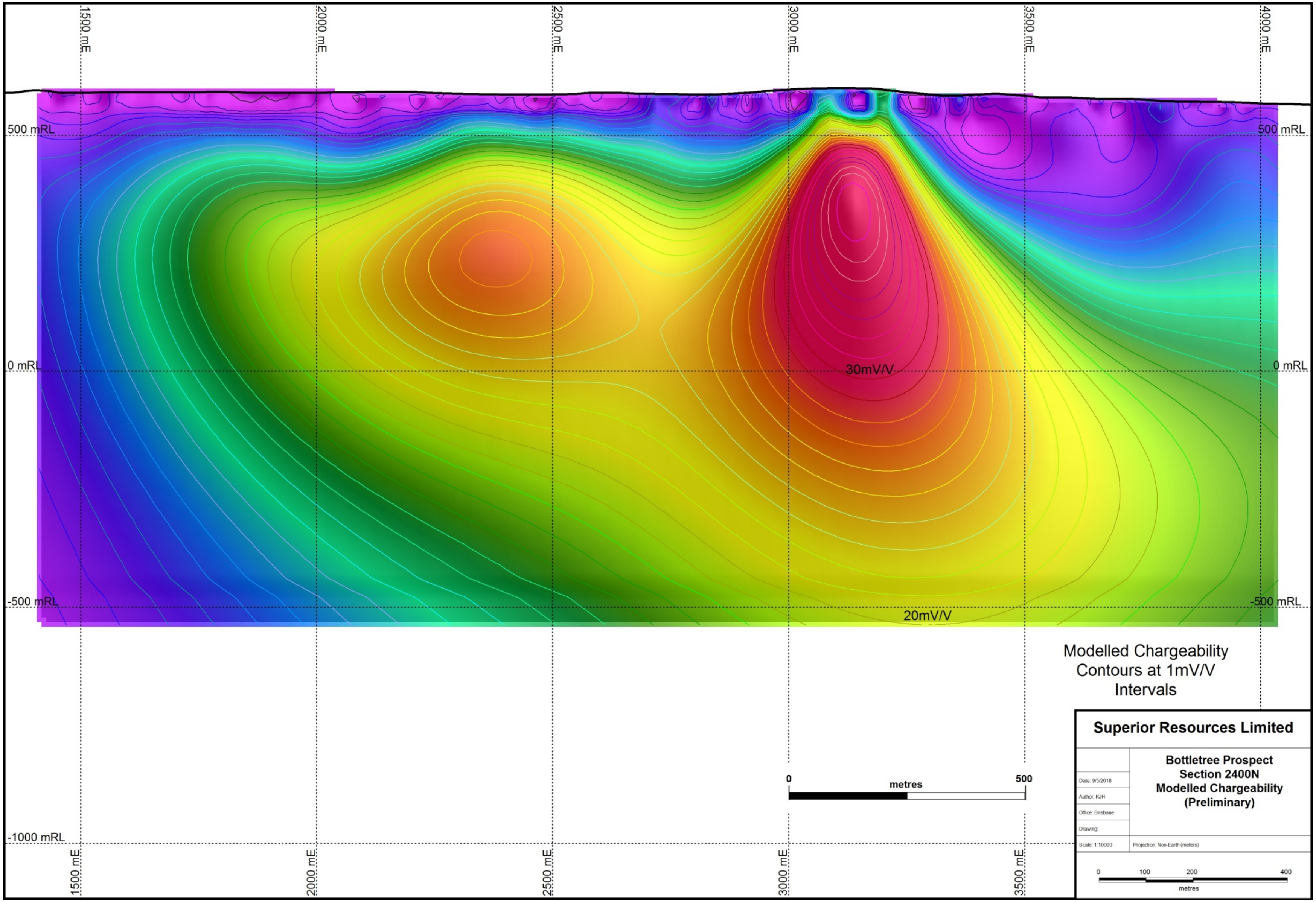

Figure 7. Bottletree Prospect Section 2400N Modelled Chargeability

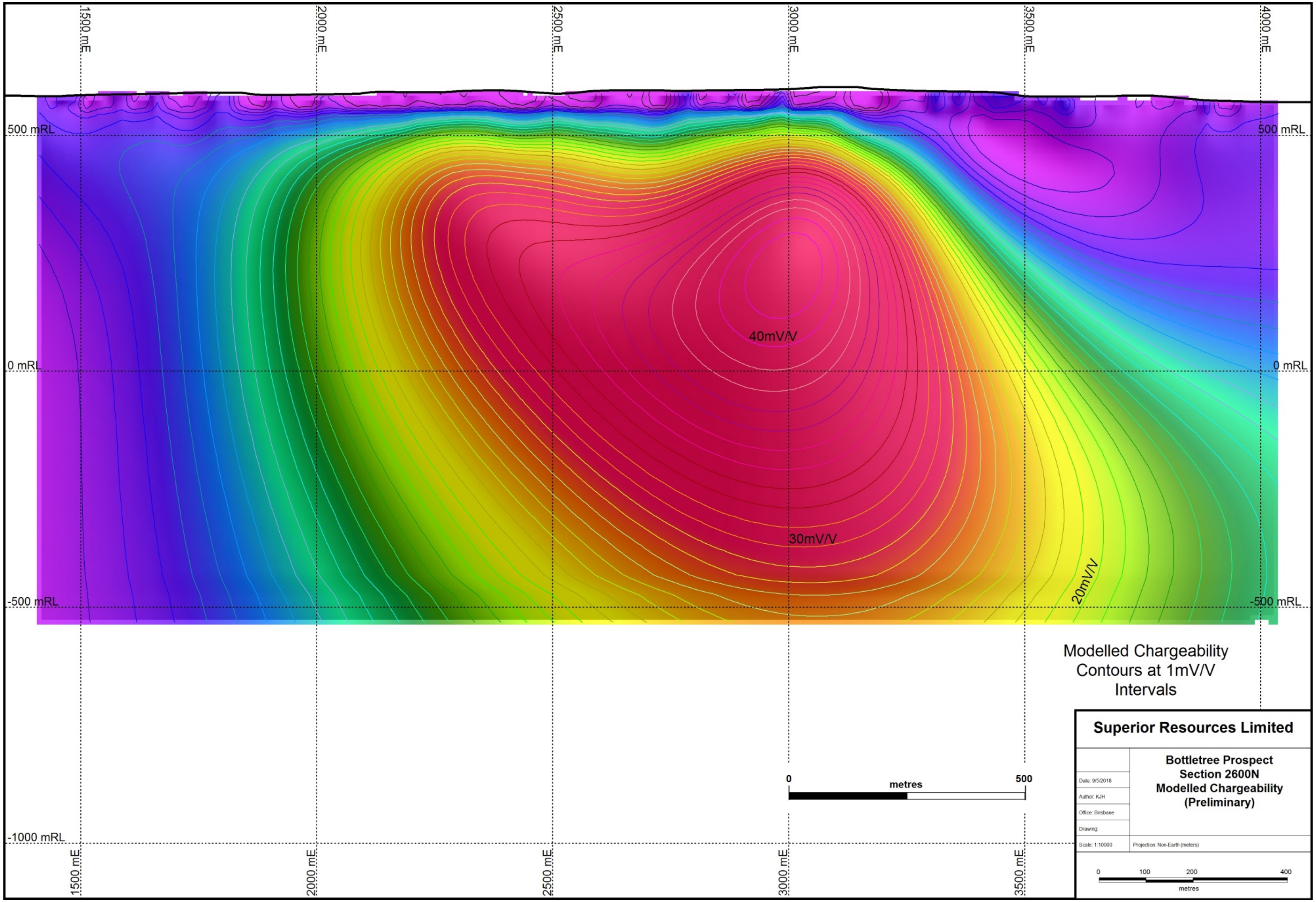

Figure 8. Bottletree Prospect Section 2600N Modelled Chargeability

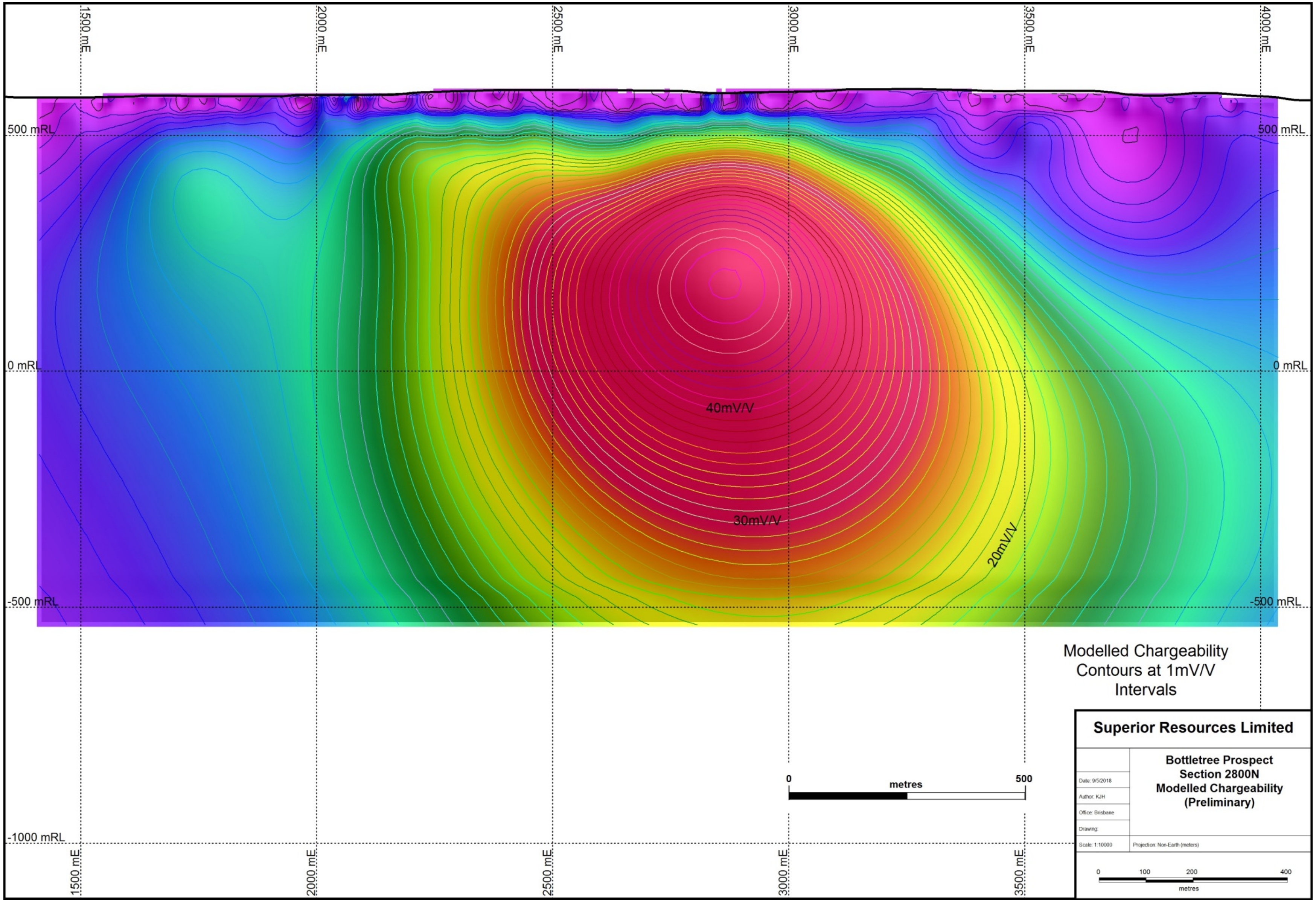

Figure 9. Bottletree Prospect Section 2800N Modelled Chargeability

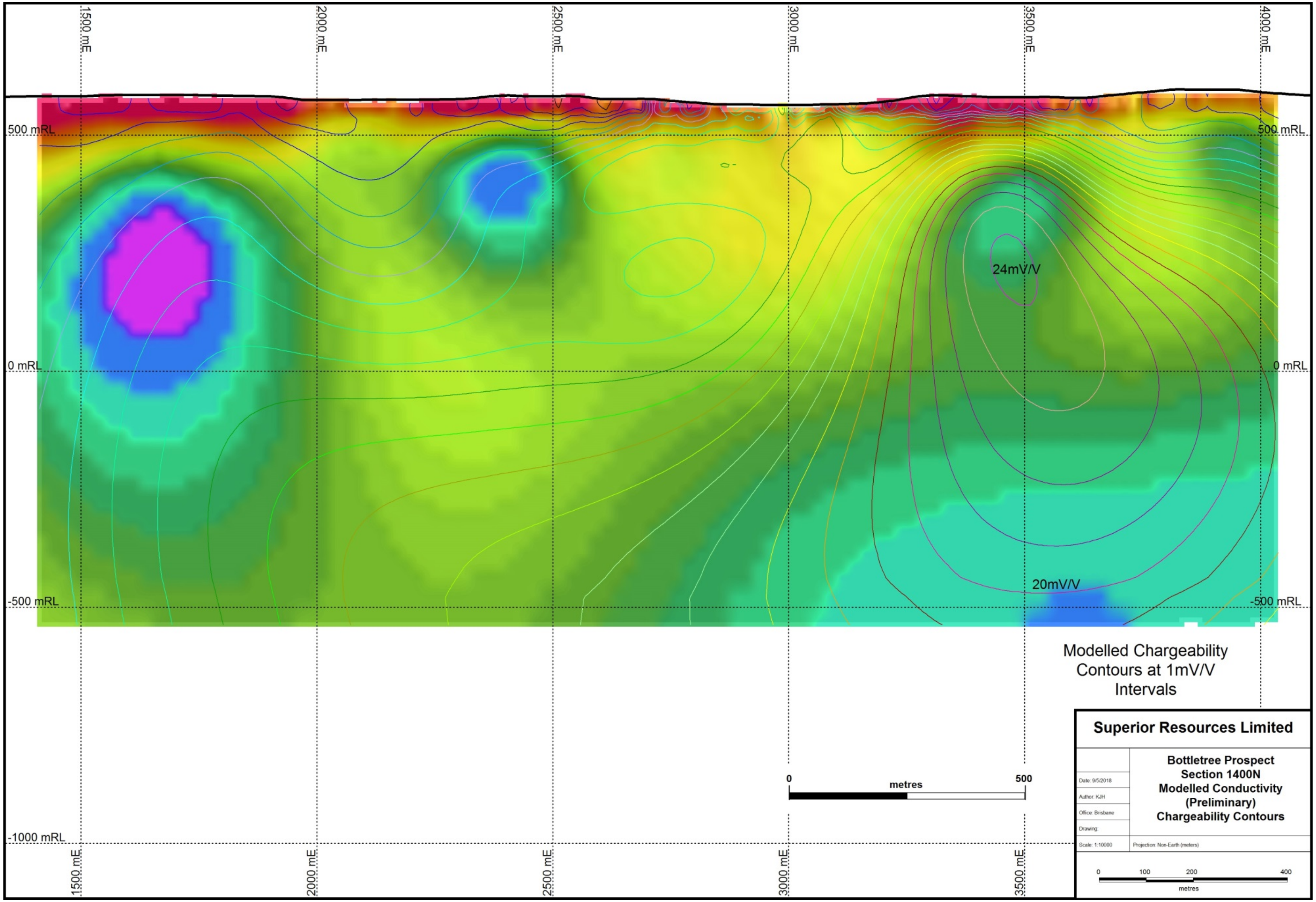

Figure 10. Bottletree Prospect Section 1400N Modelled Conductivity

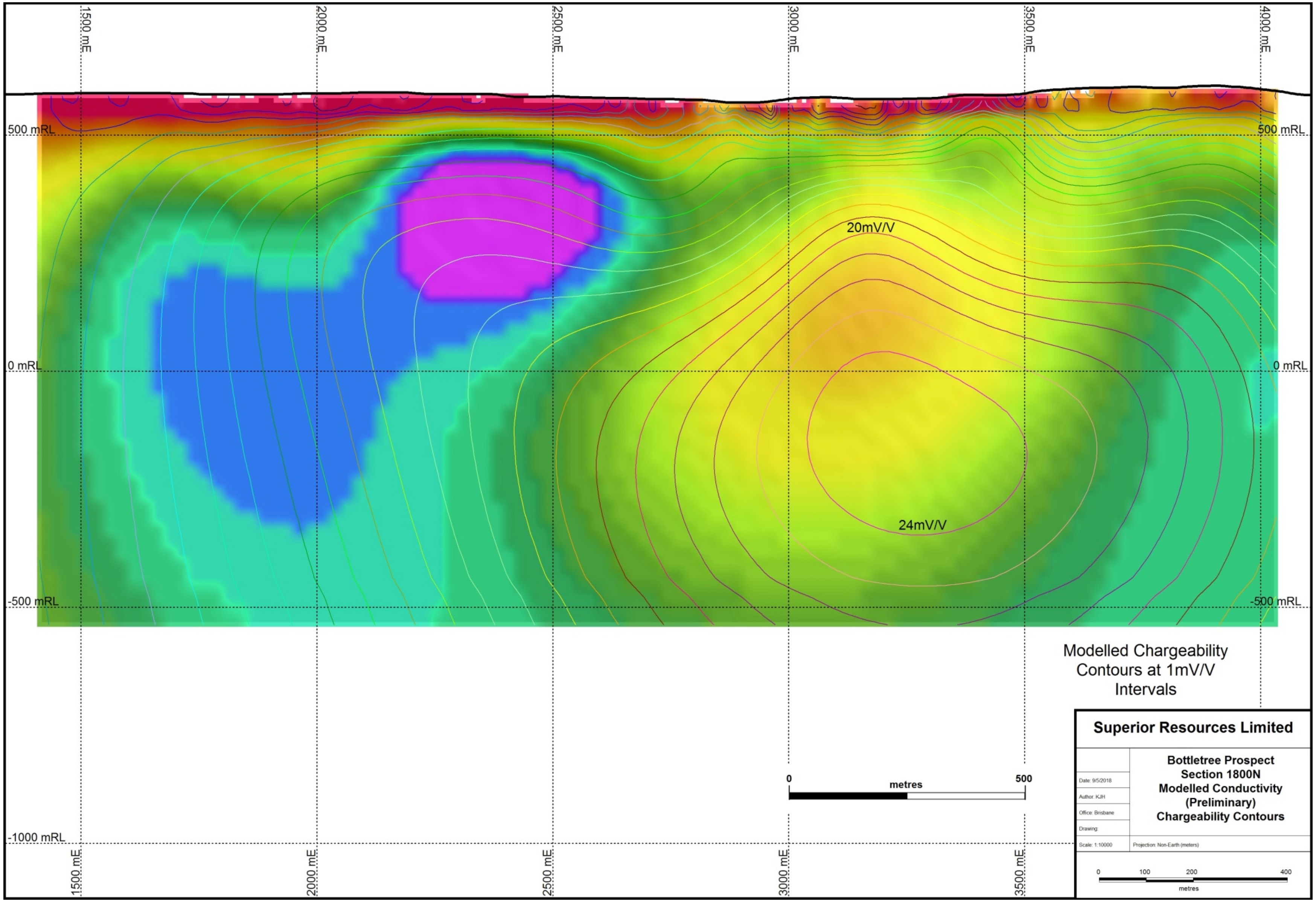

Figure 11. Bottletree Prospect Section 1800N Modelled Conductivity

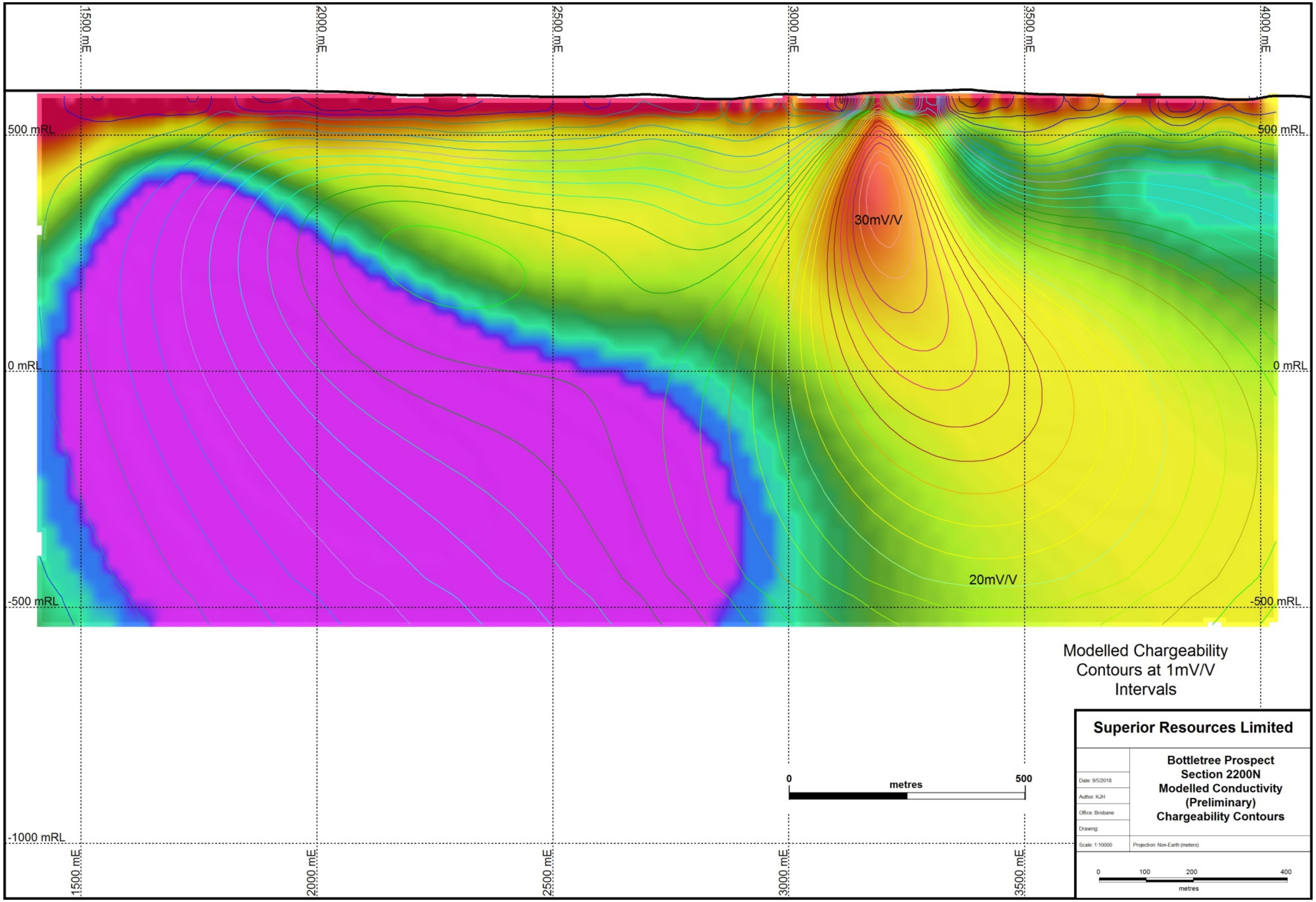

Figure 12. Bottletree Prospect Section 2200N Modelled Conductivity

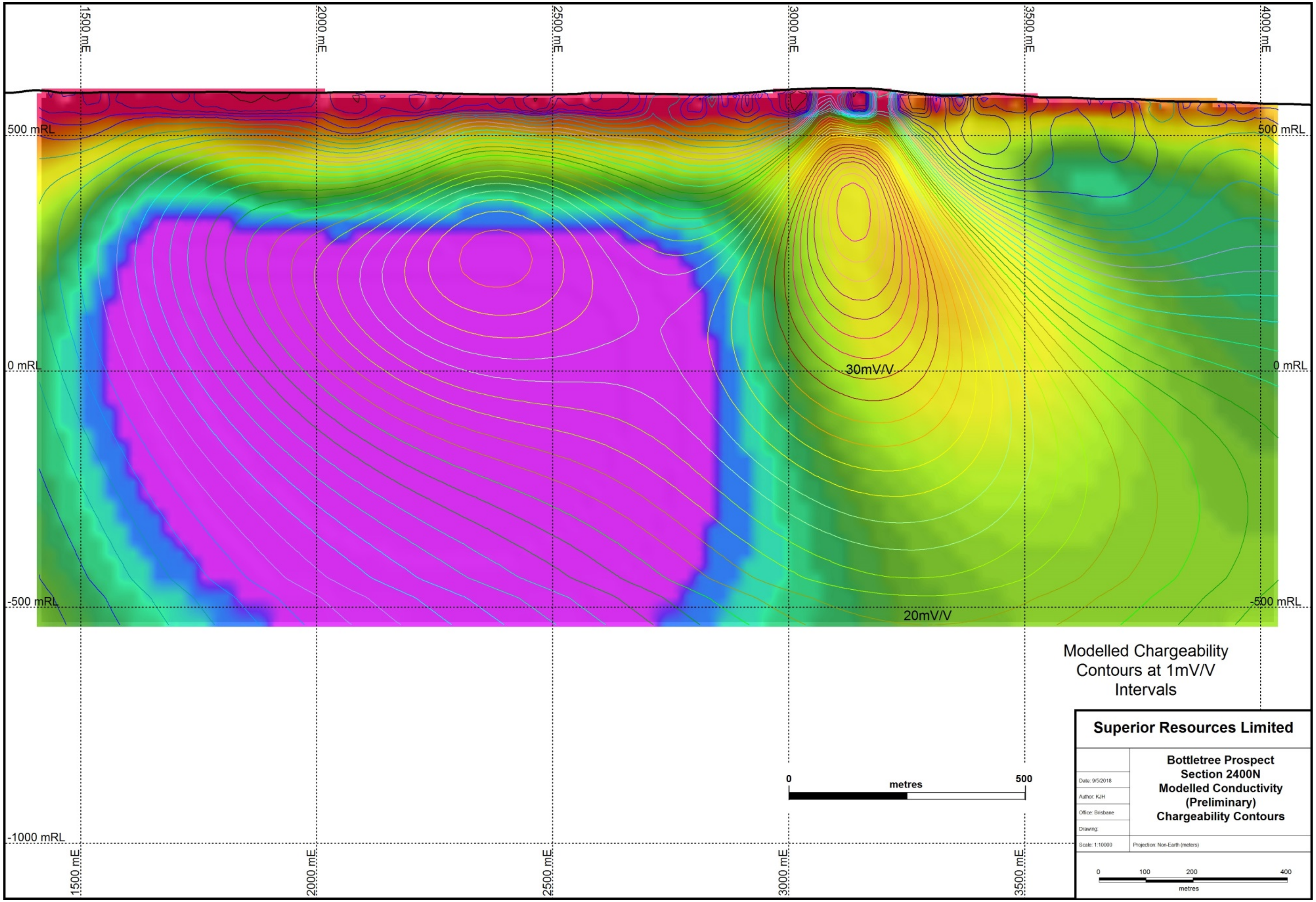

Figure 13. Bottletree Prospect Section 2400N Modelled Conductivity

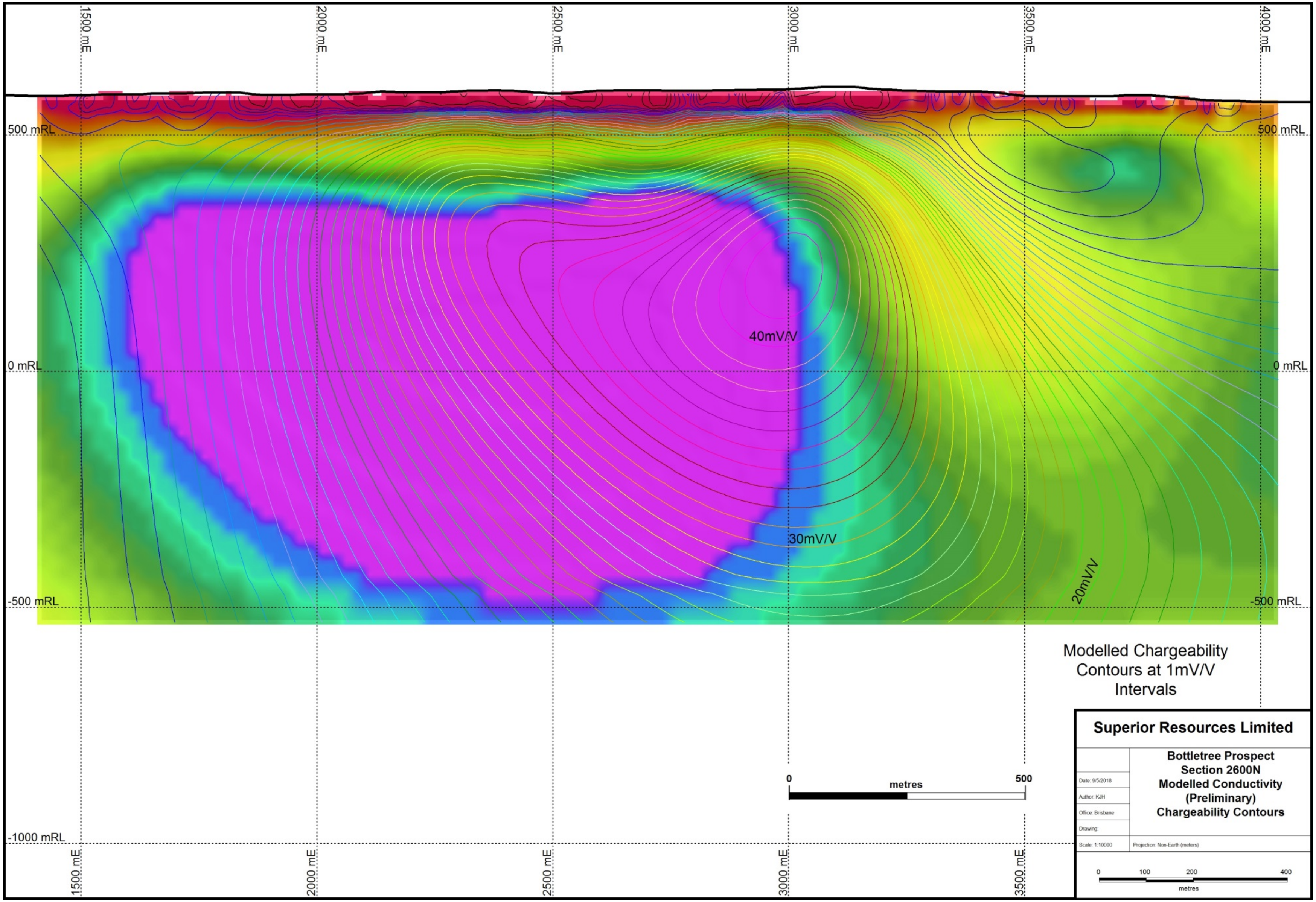

Figure 14. Bottletree Prospect Section 2600N Modelled Conductivity

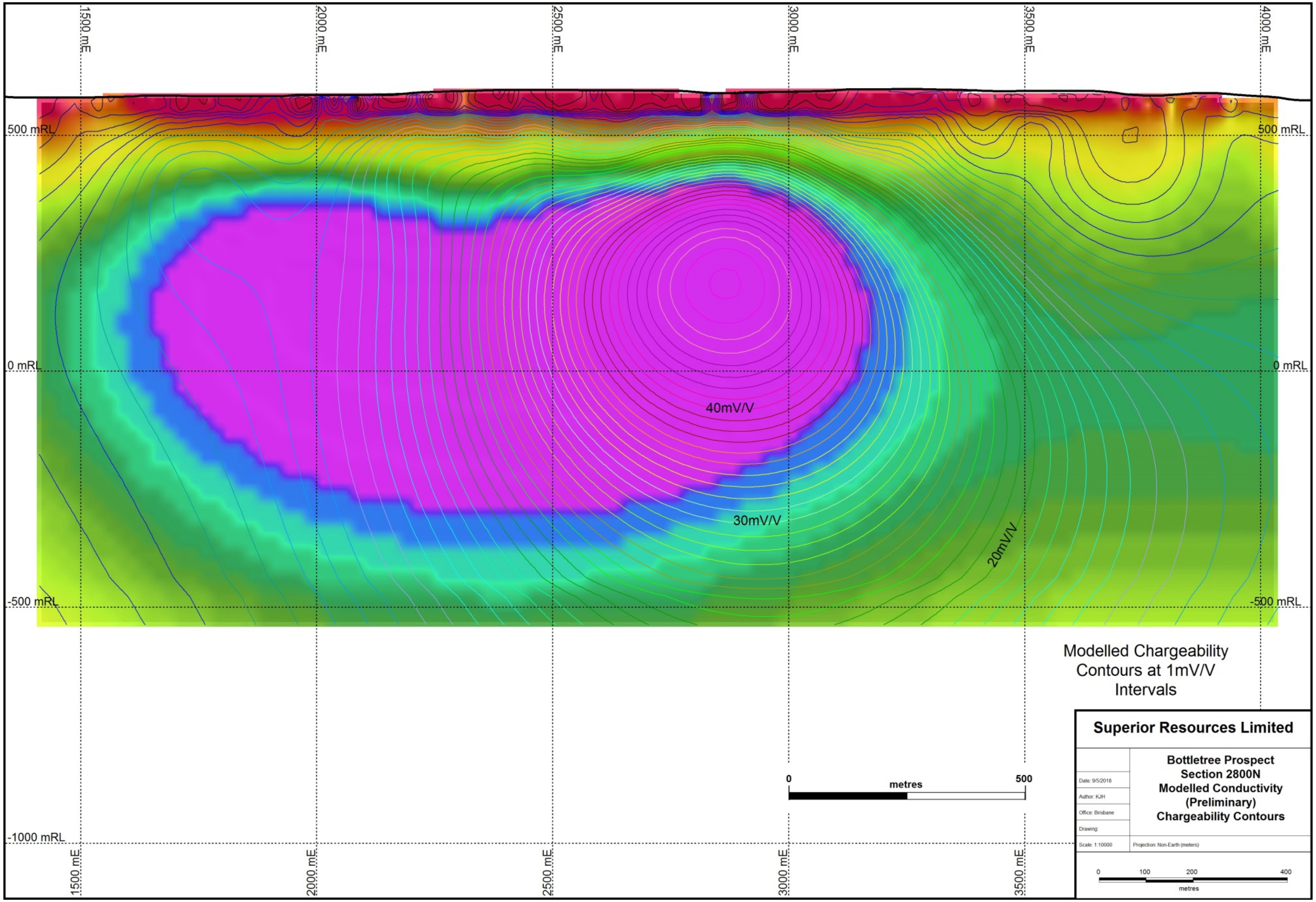

Figure 15. Bottletree Prospect Section 2800N Modelled Conductivity

Appendix 1: JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems 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 (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.*	• No new sampling is reported.
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 new drilling is reported.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Not Applicable (N/A).

Criteria	JORC Code explanation	Commentary
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.*	• N/A
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.*	• N/A.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• N/A
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*	• N/A

Criteria	JORC Code explanation	Commentary
	verification, data storage (physical and electronic) protocols. • *Discuss any adjustment to assay data.*	
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.*	• N/A.
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.*	• N/A
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.*	• N/A
Sample security	• *The measures taken to ensure sample security.*	• N/A
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• N/A

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section 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.*	• The area reported lie within Exploration Permit for Minerals 25659 which is held 100% by Superior Resources Limited. • Superior also holds much of the surrounding area under granted exploration permits and exploration permit applications.

Criteria	JORC Code explanation	Commentary
	• *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.*	• Superior has agreements or other appropriate arrangements in place with landholders and native title parties with respect to work in the area. • No regulatory impediments affect the relevant tenements or the ability of Superior to operate on the tenements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Exploration drilling, mapping, geophysical surveys and soil sampling has been completed previously on the Bottletree Prospect and surrounds by Pancon and Glengarry. • The data from the historical work has been reported to the Mines Department as required by Exploration Permit terms. • Compilation in digital form and interpretation of the results of that work in digital form has been completed by the Competent Person.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• As reported, the geology consists of metamorphosed and deformed andesitic and basaltic volcanics which have been intruded by tonalite and granodiorite. The age of the rocks are interpreted to be Ordovician.
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) 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.*	• Drill hole information which is plotted on some sections in this report was reported to the ASX in a previous ASX Announcement dated 20 September 2017.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent*	• Copper intersections shown on sections within this report were aggregated using a 0.1% Cu cutoff and by inclusion of intervals of a maximum of 4m of sub-0.1% Cu where doing so did not reduce the intersection grade below 0.1% Cu. • This is a valid approach as the purpose of the intersection grades was to show the location of the broader zones of copper mineralisation with respect to geophysical anomalies.

Criteria	JORC Code explanation	Commentary
	values 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 (e.g. 'down hole length, true width not known').*	• The copper mineralised zones appear to dip steep easterly but further drilling will be required to determine the orientation and nature of this mineralisation. • All drill hole intervals reported in this report are down-hole intervals.
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.*	• Included.
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.*	• Drill hole intersections are included in previous ASX Announcement dated 20 September 2017.
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.*	• The purpose of this report is to report on the results of a modern advanced deep sounding IP survey conducted over the Bottletree Prospect and of modelling of the results from that survey. • Full details of the survey and results are provided in the report including chargeability and conductivity sections showing the relationship of drill hole copper intersections to the modelled chargeability anomalies.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• While further work is likely to be carried out, a program of further work has not been decided at this preliminary stage.