Multiple Compelling EM Conductors at Newleyine PGE-Ni-Cu Prospect

Date: 7 September 2020

ASX Code: MAN

Capital Structure
Ordinary Shares: 274,441,510
Unlisted Options:
198,575,077 (3c exercise)
Current Share Price: 6c
Market Capitalisation:
$16.5M
Cash: $3.3M (June 30 2020)
Debt: Nil

Directors

Patrick Burke
Non-Executive Chairman

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Highlights

- **Three discrete late-time EM bedrock anomalies identified from Fixed Loop Electromagnetic (FLEM) survey at the Newleyine PGE-Ni-Cu Prospect**
- **Geophysical interpretation suggests the EM conductor plates could be the response of massive sulphide mineralisation with drill testing for Julimar-style PGE-Ni-Cu mineralisation now required**
- **Newleyine is located 30km from Chalice's (ASX:CHN) exciting Julimar discovery - never previously been assessed for PGEs**

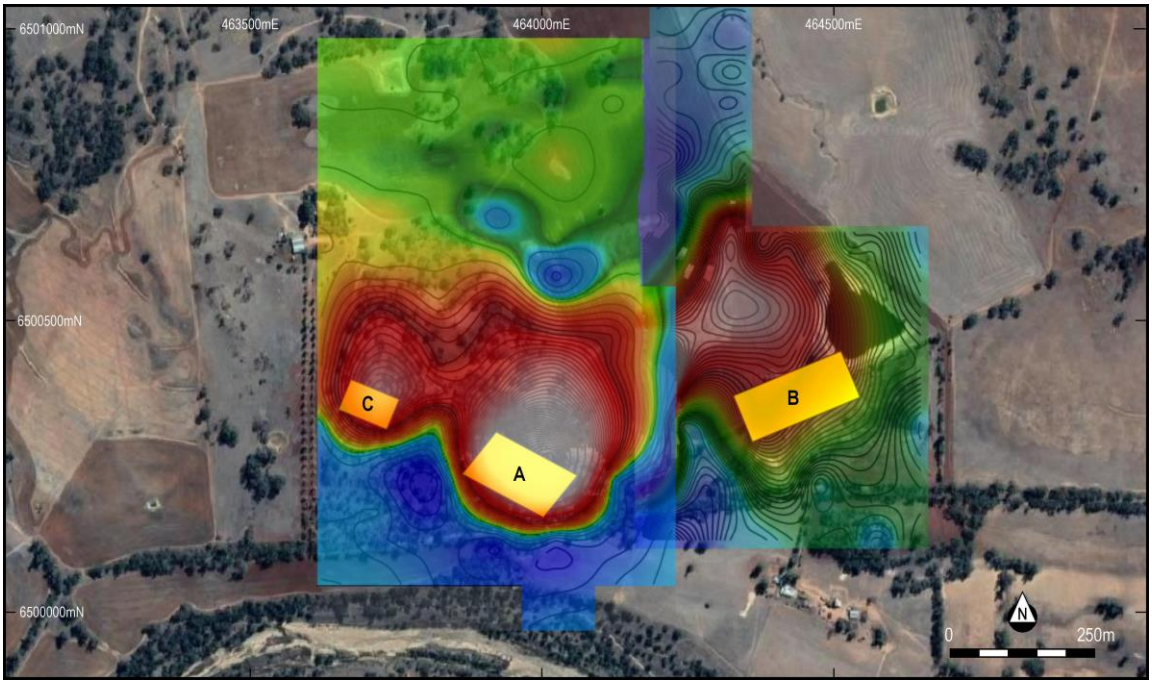

Figure 1 – Newleyine Plan View - FLEM data (channel 23 Z component images) showing conductor plates A, B and C

Mandrake Managing Director James Allchurch commented:

'Mandrake has been methodically advancing exploration at Newleyine, with ground magnetics, surface rock chips and historical drilling indicating good potential for a mineralised system. The recent detailed FLEM survey has now identified three compelling late-time bedrock anomalies that demand drill testing. Given the proximity and similarities with the Julimar discovery, Newleyine represents an extremely exciting drill target and we will now move to obtaining all approvals required to drill in Q4 2020.'

Mandrake Resources Limited (ASX:MAN) (Mandrake or the Company) is pleased to provide the results of a Fixed Loop Electromagnetic (FLEM) survey conducted at the Newleyine Prospect located in the Jimperding Metamorphic Belt, 70km north east of Perth, Western Australia.

The Jimperding Project lies approximately 30km east of Chalice Gold Mines Limited's (Chalice) Julimar PGE-Ni-Cu discovery in the same geological terrane.

Table 1. Comparison between Newleyine and the Julimar discovery (CHN)

Attributes	Julimar Discovery (CHN)	Newleyine Prospect (MAN)	Comments
1. Jimperding Metamorphic Belt 2. Serpentinite ultramafic interlayered with gabbro sub-units with BIF	✓	✓	• Newleyine 30km east of Julimar • Newleyine pegged prior to Julimar discovery
Distinct high intensity ovoid magnetic anomaly in airborne and ground magnetics	✓	✓	• Magnetic bullseye feature • Distinct internal complexity/character of ground mag at Newleyine
Surface rock chips highly anomalous for PGEs, Ni and Cu	✓	✓	• 186 rock chip samples collected at Newleyine up to 0.36g/t Pd, 0.27g/t Pt, 0.65% Ni and 0.19% Cu[1]
Broad drilling intersections carrying Ni grades above 1,000ppm	✓	✓	• Historical drilling at Newleyine not assayed for PGEs • Historical Newleyine drilling to 1.18% Ni and 1,200 ppm Cu • Broad mineralised intersections at Newleyine: ○ 240m at 2,400 ppm Ni and 300ppm Cu[2]
Multiple discrete moderately to highly conductive ground EM anomalies	✓	✓	• Newleyine EM anomalies yet to be drilled
Significant PGE discovery	✓	?	• Drill planning and application for approvals underway

The recently completed FLEM survey has successfully identified three confined late-time bedrock conductors located within a distinct bullseye magnetic complex that contains layered ultramafic intrusion units and banded iron formation. The conductors are of moderate to high conductance, moderately dip north (consistent with mapped outcrop) and are located between 125 – 210m below surface. Conductors A, B and C are summarised in Table 2.

The distinct bedrock conductors may represent massive sulphide accumulations and drill testing for Julimar-style mineralisation is now required.

[1] *See ASX releases dated 6 July 2020 and 28 July 2020*

[2] *Second Quarter Report - North Flinders Mines Limited Joint Venture Prospecting Programme (Fehlberg, 1978).*

FLEM survey design and data interpretation were undertaken by Southern Geoscience Consultants (SGC).

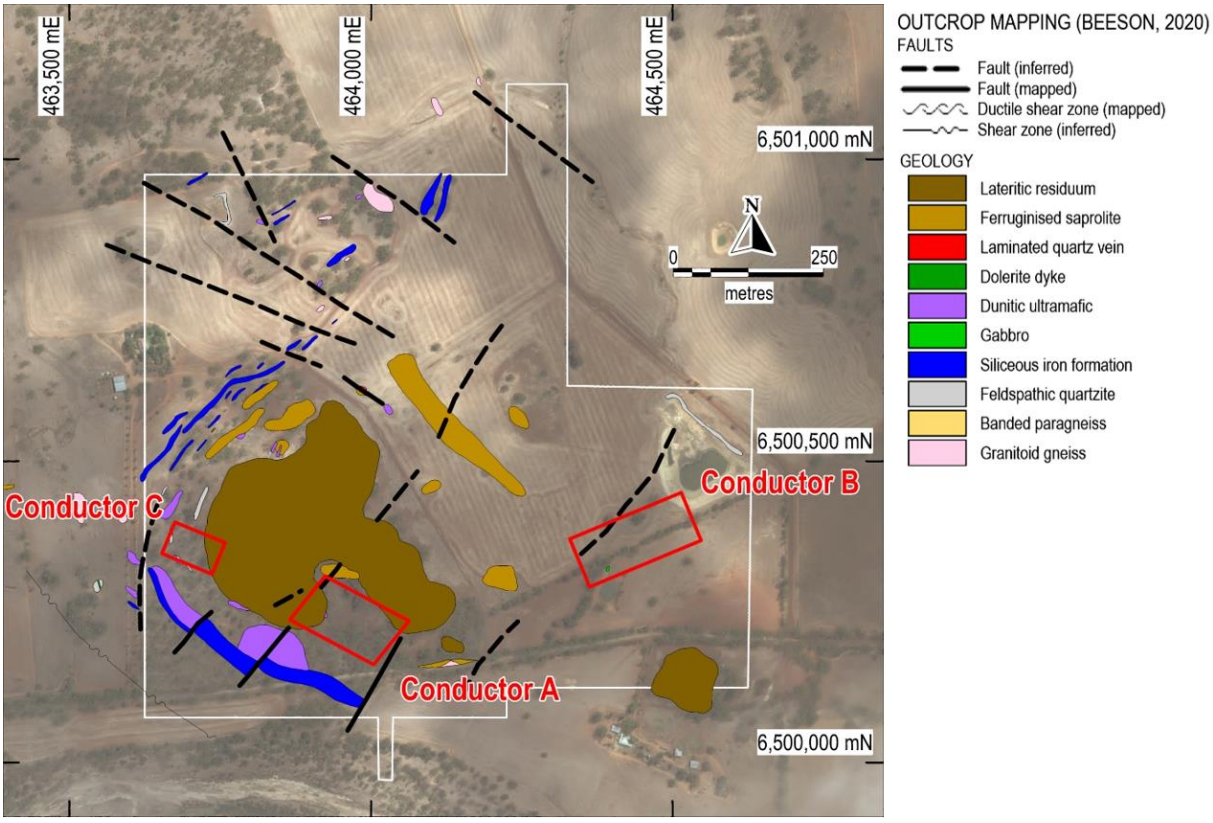

Figure 2: Newleyine 1:5,000 outcrop mapping (John Beeson, 2020). FLEM survey outline in white and FLEM modelled conductor plates (red)

Table 2. Conductor Plate Dimensions

	Conductor A	Conductor B	Conductor C
Depth below surface (m)	125	210	130
Dip (°)	50	55	55
Dip direction (°)	20	337.5	22.5
Strike length (m)	160	200	90
Depth extent (m)	140	150	98.3

Mandrake note that the projected up-dip (southern) edge of conductor plates A and C sit approximately within the mapped dunitic ultramafic unit with the plates also consistent with nearby structural dip and strike observations collected during recent mapping. Both Conductors A and C sit within non-magnetic zones of the broader magnetic complex.

Conductor A, considered the most compelling and highest priority target, is bound by two mapped NNE trending faults (Figure 2).

Conductor B is located in the eastern half (paddock) of the survey area where no outcrop has been observed.

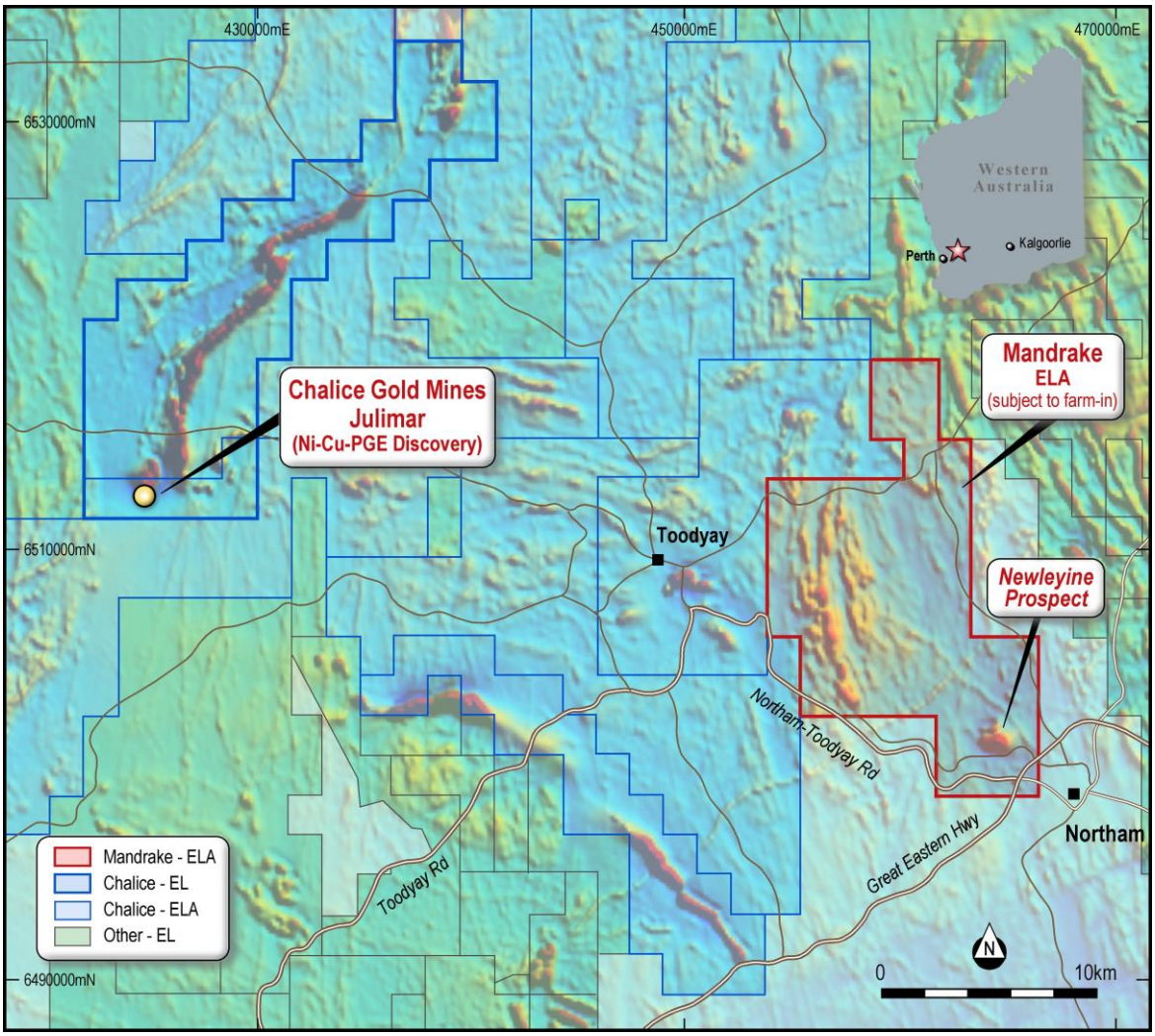

Figure 4 - Regional aeromagnetics – Jimperding Project

This announcement has been authorized by the board of directors of Mandrake.

About Mandrake Resources

Mandrake is a junior exploration company established with the purpose of exploring and developing gold, nickel, copper and PGE opportunities. The Company has entered into an agreement to earn-in to exploration tenure prospective for PGE-Ni-Cu in the exciting Jimperding Metamorphic Belt, 70km NE of Perth (Jimperding Project). The 140km^2 exploration licence application (ELA) comprising the Jimperding Project was applied for on 4 March 2020, prior to the Julimar discovery hole announcement and prior to Chalice pegging over 2,000km^2 of ELAs contiguous to the Jimperding Project.

Mandrake also owns a 100% interest in a mineral exploration project located in the prolific Pine Creek Orogen of the Northern Territory prospective for gold, silver and base metals.

For further information visit www.mandrakeresources.com.au

Competent Persons Statement

The technical information in this announcement complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Mr James Allchurch, Managing Director of Mandrake Resources. Mr Allchurch is a Member of the Australian Institute of Geoscientists. He 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 JORC Code. Mr Allchurch consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Geophysical Results and Interpretation is based on information compiled and reviewed by Anne Tomlinson, who is a is a Member of the Australian Institute of Geoscientists and an employee of Southern Geoscience Consultants. Anne Tomlinson has sufficient experience that is relevant to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Anne Tomlinson consents to the inclusion in this announcement of the matters based on her information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 Report Template

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.*	• A Fixed Loop Electro-Magnetic (FLEM) survey was undertaken at the Newleyine Prospect, Jimperding Project. • The FLEM survey was designed by Southern Geoscience Consultants (SGC) to assess the magnetic complex and ultramafic units for potential bedrock conductors that may be the response of massive sulphide accumulations associated with Ni-Cu-PGE. • GEM Geophysics undertook the survey in August 2020 with the following specifications: • 3 (400x400m) overlapping loops for a total of 318 stations on a 100x50m grid (21 lines) • 1 Hz base frequency • Receiver: SMARTem24 • Sensor: 3-component B-field fluxgate • Current: 40-80A • Min. 2 repeatable readings / 128 stacks
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 undertaken

Criteria	JORC Code Explanation	Commentary
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.*	• No drilling undertaken
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.*	• No drilling undertaken
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*	• No drilling undertaken

Criteria	JORC Code Explanation	Commentary
	material being sampled.	
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 accuracy (ie lack of bias) and precision have been established.*	• 3 (400x400m) overlapping loops for a total of 318 stations on a 100x50m grid (21 lines) • 1 Hz base frequency • Receiver: SMARTem24 • Sensor: 3-component B-field fluxgate • Current: 40-80A • Min. 2 repeatable readings / 128 stacks
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.*	• No drilling undertaken
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.*	• All locations are recorded with a Garmin handheld GPS which has an accuracy of +/- 3m. Coordinates are in GDA94 MGAz51.
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*	• No drilling undertaken

Criteria	JORC Code Explanation	Commentary
	classifications applied. • *Whether sample compositing has been applied.*	
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.*	• Three fixed loops were designed to provide full coverage across the magnetic feature, which only outcrops in the western half, and test various potential target geometries.
Sample security	• *The measures taken to ensure sample security.*	• No drilling undertaken
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Data is managed and processed by Perth geophysical consultants, Southern Geoscience Consultants (SGC). All data collected and interpretations are peer reviewed.

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 security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Newleyine Prospect is located on exploration licence application ELA 70/5345 which is held 100% by AER • The tenure is in application – application lodged 4 March 2020. • Requisite landholder agreement negotiations underway.
Exploration done by other	• *Acknowledgment and appraisal of exploration by other parties.*	• Various geophysical surveys, surface sampling and limited drilling undertaken by previous explorers as detailed in

Criteria	JORC Code Explanation	Commentary
parties		previous releases.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Ultramafic intrusive associated with a banded iron formation. Ni-Cu-Fe mineralisation within a serpentinised dunite. Archaean Jimperding Metamorphic Belt
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.*	• No drilling undertaken
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 values should be clearly stated.*	• No drilling undertaken

Criteria	JORC Code Explanation	Commentary
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').*	• No drilling undertaken
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.*	• Refer to figures in announcement.
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 practised to avoid misleading reporting of Exploration Results.*	• The accompanying document is a balanced report with a suitable cautionary note. Reporting of the FLEM results is considered balanced considering the nature of the technique.
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.*	• All meaningful information provided.
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.*	• Mandrake intends to drill the Newleyine conductors as soon as the exploration licence is granted and approvals received.