**ASX ANNOUNCEMENT**
**9 April 2020**
**ASX: PIO**

# Broad nickel sulphide zones intersected at Leo Dam

***Off-hole EM anomalies identified from down-hole electromagnetic (DHEM) surveying completed over a 500m strike length provide a target for deeper follow-up drilling***

## HIGHLIGHTS

⇒ Encouraging results received from the recently completed RC drilling programme and down-hole electromagnetic (DHEM) survey at the Leo Dam Prospect, located 2km north of the Company's 100%-owned Blair Nickel Mine in WA.

⇒ Broad disseminated nickel sulphide intercepts, including several narrower high-grade zones, were returned from six stratigraphic reverse circulation (RC) drill holes:

- 40 metres @ 0.54% Ni from 85m (GRRC039)
- 4 metres @ 0.91% Ni from 151m (GRRC039), including;
  - **2 metres @ 1.20% Ni from 152m**
- 15 metres @ 0.73% Ni from 165m (GRRC039), including;
  - **4 metres @ 1.35% Ni from 175m, and;**
  - **1 metre @ 3.11% Ni from 178m**
- 11 metres @ 0.71% Ni from 191m (GRRC041), including;
  - **1 metre @ 1.12% Ni from 192m**
- 12 metres @ 0.56% Ni from 196m (GRRC042)
- 6 metres @ 0.70% Ni from 269m (GRRC040)
- 6 metres @ 0.64% Ni from 168m (GRRC041)
- 2 metres @ 0.89% Ni from 172m (GRRC043), including;
  - **1m @ 1.21% Ni from 173m**
- 1 metre @ 0.79% Ni from 173m (GRRC044)

⇒ The DHEM results indicate that all the holes appear to be approaching a large low-to-moderate conductive source consistent with a stratigraphic conductor.

⇒ The nature of the conductive source is not known and could be attributed to deeper sulphide mineralisation or to sulphidic shales beyond the depth of the recent drilling.

⇒ Accordingly, one of the six drill holes will be extended to test for potential nickel sulphides along the highly prospective interpreted basal contact between ultramafic komatiite flows, black shales and mafic basalts.

Pioneer Resources Managing Director, Tim Spencer, said: *"We are very encouraged by the results from the recent drilling and DHEM survey at Leo Dam. The fact that nickel sulphides were encountered in all six holes, including some broad strongly anomalous zones, is a significant development. The results confirm that Leo Dam sits in a prospective channel for nickel sulphides – and there appears to be a strong EM conductor, which can indicate massive sulphides, below the depth of this drill programme."*

Pioneer Resources (ASX: PIO; "Pioneer" or "the Company") is pleased to advise that it has received encouraging results from a recently completed six-hole Reverse Circulation (RC) drill programme and down-hole electromagnetic (DHEM) survey undertaken at the Leo Dam prospect, located on the Company's 100%-owned Blair-Golden Ridge Nickel Project.

The results, which are outlined in more detail below, confirm the prospectivity of the Leo Dam prospect for massive nickel sulphide mineralisation, with the results of geophysical surveys together with geological interpretation of the drilling results providing a clear vector for deeper follow-up drilling.

The Blair-Golden Ridge Project is located approximately 25km south-east of Kalgoorlie within one of Australia's most productive gold and nickel belts (Figure 1).

The Blair nickel sulphide deposit is classed as "Kambalda-style", with nickel sulphides accumulating at the 'Basal Contact' of turbulent komatiite lava channels as thin, but very elongate, ribbon-like lenses of sulphide mineralisation. The Blair Nickel Mine was developed by WMC and production commenced in 1990. There were three separate mining periods, with the most recent ending in December 2008 due to the effects of the Global Financial Crisis and the low nickel price.

Mineralisation is interpreted to extend below the mined-out ore. Life-of-Mine production totalled 1.26 million tonnes at 2.62% Ni for 32,900 tonnes of contained nickel. The ore was processed by Nickel West in Kambalda, 30km south of the project.

The Leo Dam prospect is located approximately 2km north-north-east of the Blair Nickel Mine.

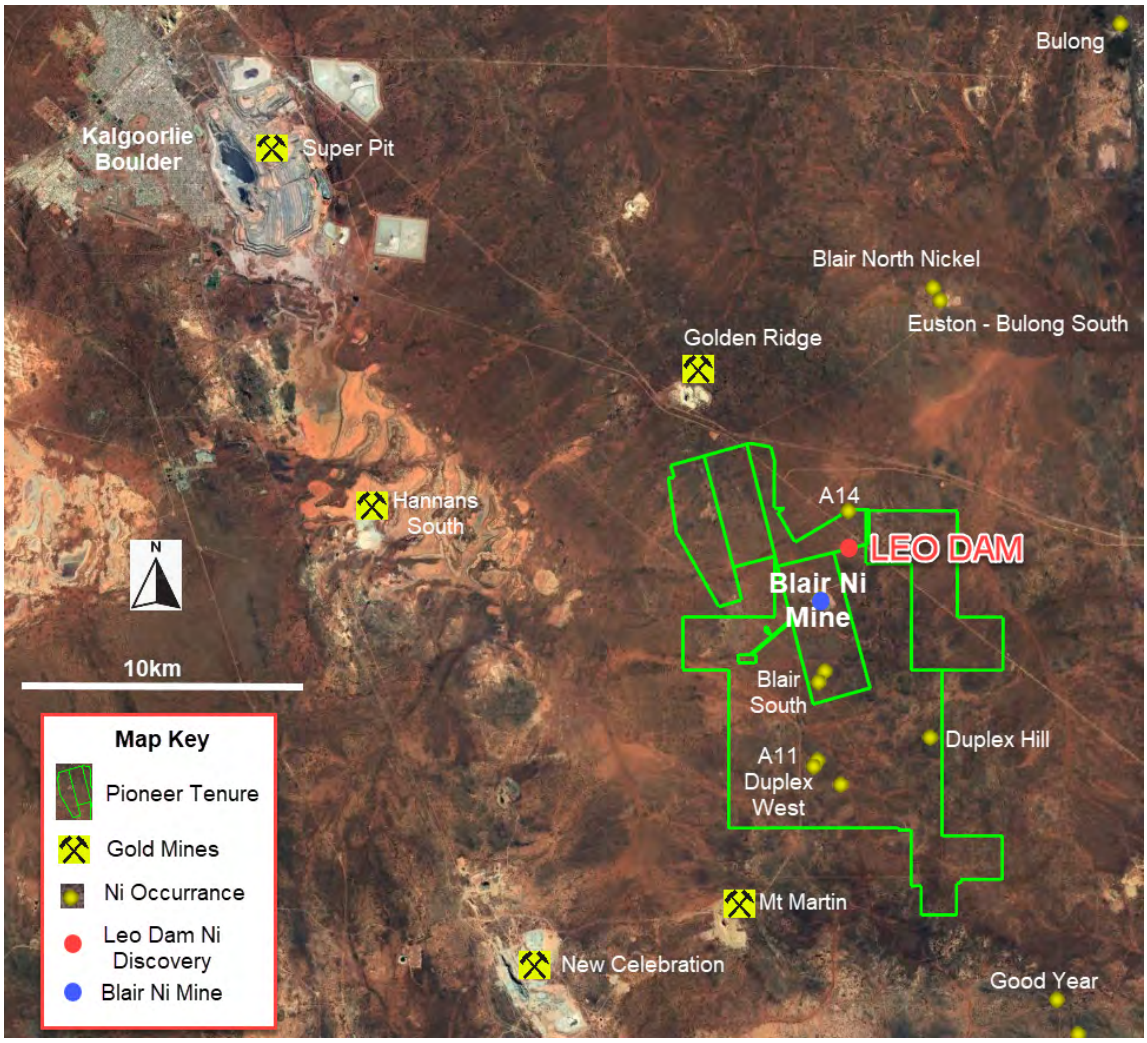


*Figure 1: Location map of the Golden Ridge Nickel Project.*

## Drilling programme

The drilling programme at Leo Dam consisted of six reverse circulation (RC) holes totalling 1,771m with an average depth of 295m and the deepest hole reaching 403m. Drilling was carried out on 150m spaced panels with the holes 80-100m apart.

The geology of the Leo Dam Prospect is mostly under cover but consists of a package of ultramafic komatiites, sulphidic sediments and basalts that strike broadly north-south and dip to the west at approximately 65-80 degrees in the north to 45 degrees in the south.

The holes were angled at 55 degrees to the east on 090° azimuth and targeted the modelled basal contact, testing approximately 600m of strike length including DHEM search radius.

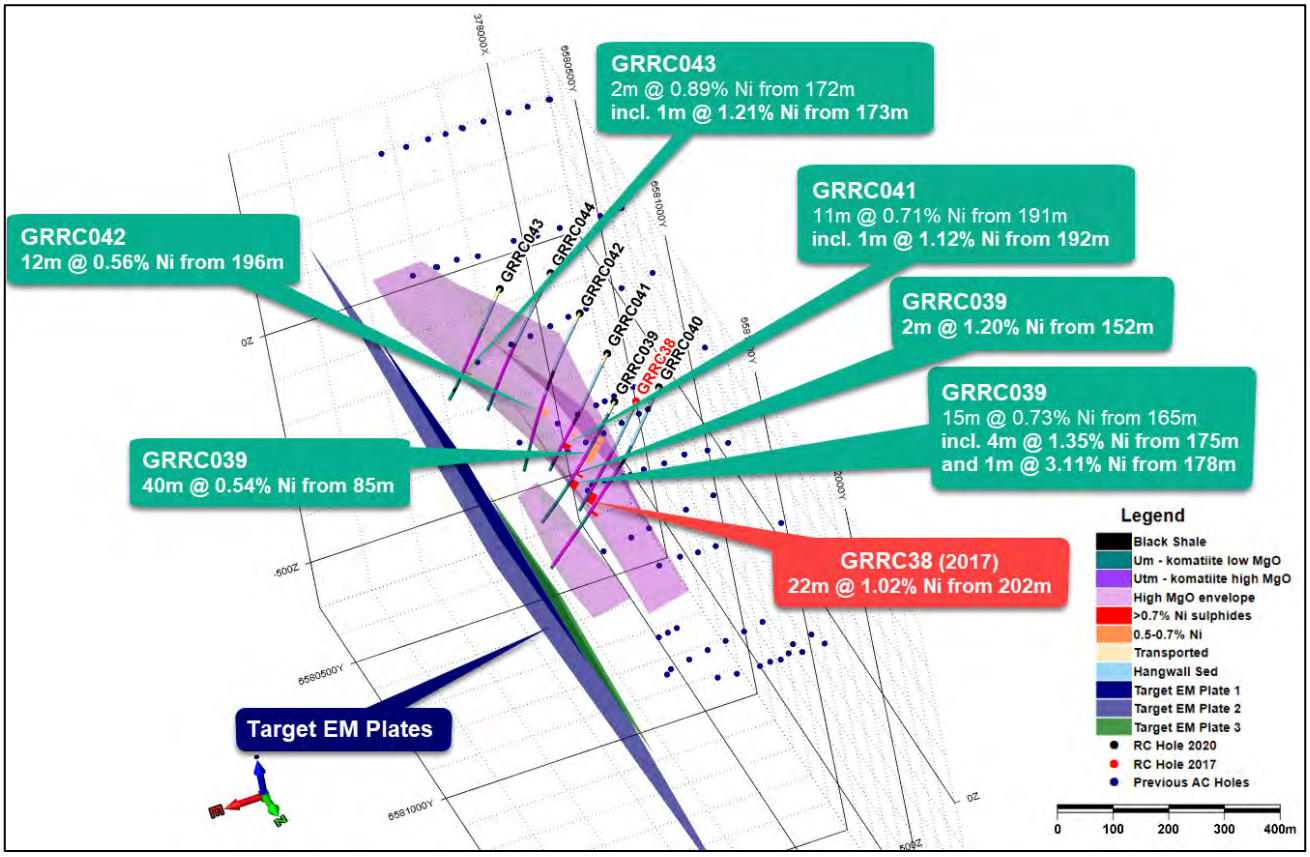


*Figure 2: Oblique long-section looking SW of the Leo Dam Prospect with significant drilling intersections from the February 2020 RC drilling program in relation to the nickel sulphide discovery hole GRRC38 (2017).*

The objective of this programme was to test for the presence of massive nickel sulphides within the vicinity of hole GRRC38, drilled in December 2017 (*refer ASX release 25 January 2018*), which included an intersection of **22m @ 1.02% Ni and 475ppm Cu** (including disseminated sulphides).

The six holes drilled as part of this programme also served as a platform for a down-hole electromagnetic (DHEM) survey.

While the holes did not intersect the basal contact or any massive sulphides, broad disseminated zones of nickel sulphides were encountered in every drill hole with five high grade intersections >1% Ni with a maximum of 3.11% Ni (high tenor) returned over 1 metre.

The nickel intersections are in fresh rock and are associated with two rock types, a high MgO (~30+%) peridotite and a pyroxenite. Anomalous copper and cobalt are commonly associated with nickel, and maximum grades of 924ppm and 1,255ppm respectively were intersected.

*Table 1: Selected high-grade nickel sulphide intersections at a 1% Ni cut-off, minimum width 1m and maximum 2m internal dilution.*

| Hole_ID | Depth From | Depth To | Interval Width | Grade Ni_% | Intercept Description | Grade Cu_ppm | Grade Co_ppm |
|---|---|---|---|---|---|---|---|
| GRRC039 | 152 | 154 | 2 | 1.20 | 2m @ 1.20 % Ni | 153 | 341 |
| GRRC039 | 175 | 179 | 4 | 1.35 | 4m @ 1.35 % Ni | 159 | 337 |
| including | 175 | 176 | 1 | 1.10 | 1m @ 1.10 % Ni | 193 | 265 |
| **and** | **178** | **179** | **1** | **3.11** | **1m @ 3.11% Ni** | **311** | **672** |
| GRRC041 | 172 | 173 | 1 | 1.01 | 1m @ 1.01 % Ni | 148 | 295 |
| GRRC041 | 192 | 193 | 1 | 1.12 | 1m @ 1.12 % Ni | 924 | 264 |
| GRRC043 | 173 | 174 | 1 | 1.21 | 1m @ 1.21 % Ni | 22 | 1255 |

The geology intersected in the drilling programme consists of a thick hanging wall sediment package (~170m thick) +/- ferrous sulphides, komatiite ultramafic "channel" rocks (~230m thick) +/- disseminated nickel sulphides and black shales +/- ferrous sulphides (1-10m thick).

The interpreted basal footwall contact or basalt was not intersected and is now considered to lie in close proximity further to the east.

The base of oxidation varies from 80m to 120m in depth. The prospective high magnesium komatiite channel facies rocks with broad zones of disseminated nickel sulphides were intersected in all six holes, including several discrete pockets of high-grade mineralisation (1-3% Ni).

This enhances the potential for massive nickel sulphides to be discovered at the Leo Dam Prospect.

## Down-hole Electromagnetic Survey

The DHEM survey was coordinated and interpreted by leading geoscientist consultancy, NEWEXCO.

DHEM surveys expand the effectiveness of a drill hole by detecting 'off-hole' conductor responses within a field surrounding the drill hole from which the survey is conducted.

A total of 15 plates were modelled in all holes, with most interpreted to be associated with sediments intersected, however several off-hole EM anomalies have been identified below the deepest drill holes.

Broad positive responses were observed in holes GRRC039 to GRRC042 and are interpreted to be sourced by a weak but large off-hole conductive source located mostly below and to the east of the holes.

It is uncertain whether this response is from the prospective basal ultramafic/mafic contact that potentially hosts massive nickel sulphides or black shales/sediments (Figure 4). However, the anomalous response observed at early to mid-delay times at the top part of the hole is quite a complex response, suggesting the presence of multiple weak conductive sources associated with hanging wall sediments.

It is likely that any minor sulphide EM response could have been masked by the stronger positive responses emanating from the hanging wall sediments above the target areas and the black shales intersected within the ultramafic sequence itself.

A few high frequency responses were identified within the ultramafic zone, particularly in holes GRRC042 and GRRC043. These high frequency responses are thought to be associated with stringer sulphides and/or magnetite intersected in the holes.

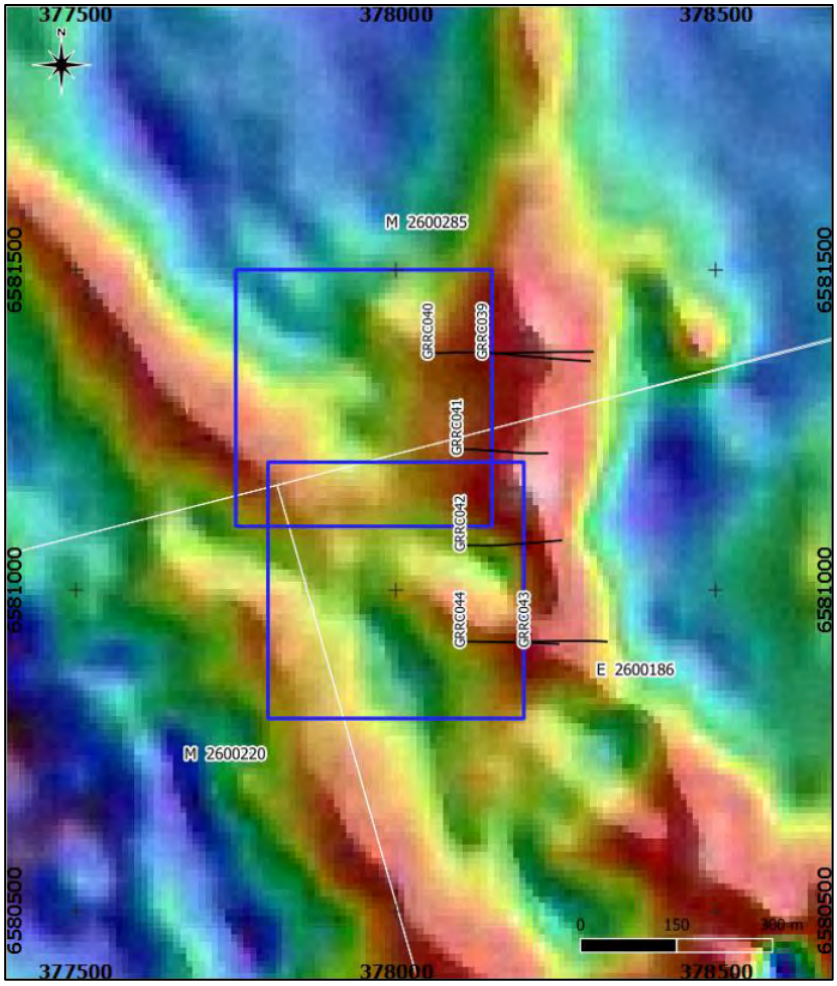


*Figure 3: Leo Dam drill holes and DHEM loops over regional magnetics TMI 1VD image.*

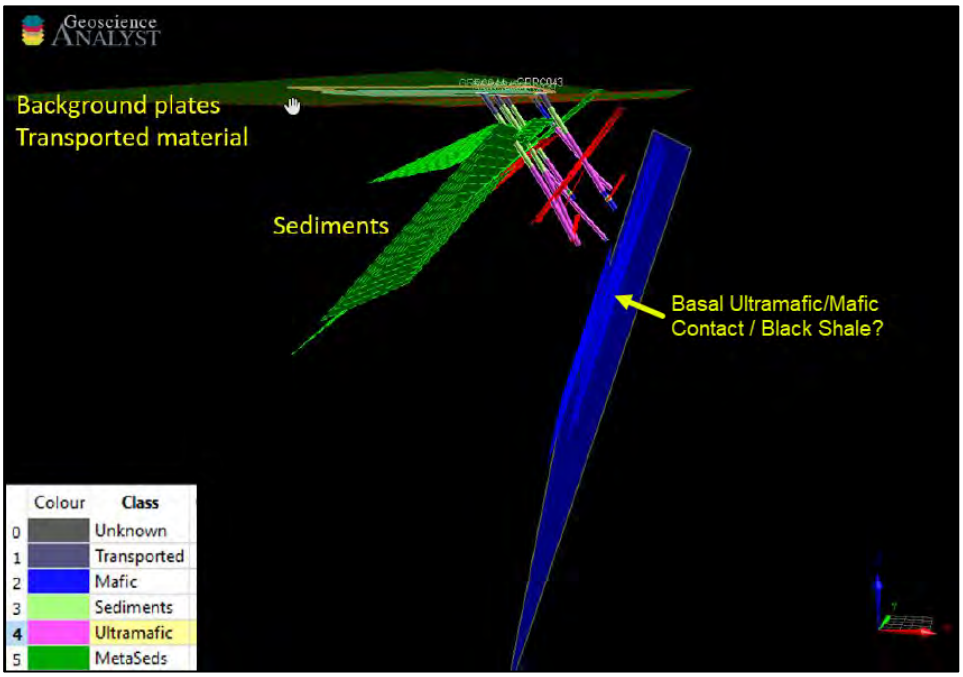


*Figure 4: Leo Dam DHEM loops and drill-holes and DHEM modelled plates in section view looking north.*

Further work is planned within the next three to six months, subject to the impact of COVID-19, with at least one of the drill holes to be extended through the modelled EM plates to test for potential nickel sulphides along the interpreted basal contact between ultramafic komatiite, black shales and mafic basalts.

Tim Spencer
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*This ASX release has been approved by the Board of Directors*


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## About Pioneer Resources Limited

Following successful completion of the Sinclair Caesium Mine, Pioneer is now a well-funded and active explorer focused on key global demand-driven commodities, looking for its next opportunity to create shareholder wealth through exploration and project development.

The Company operates a portfolio of strategically located lithium, caesium, nickel, cobalt and gold projects in mining regions in Western Australia, plus a high-quality lithium asset in Canada.

**Lithium**: In addition to the Pioneer Dome LCT Project, the Company holds a 51% Project interest in the Mavis Lake Lithium Project, Canada where Company drilling has intersected spodumene.

**Nickel**: The Company owns the Golden Ridge Project which includes the suspended Blair Nickel Sulphide Mine, located between Kalgoorlie and Kambalda, WA. Near-mine target generation is continuing, with the Company announcing a new disseminated nickel sulphide drilling discovery at the Leo Dam Prospect in 2018, highlighting the prospectivity of the greater project area and this work has now been progressed by this latest drilling.

**Cobalt:** Also found as a wide-spread hydromorphic layer throughout the eastern Golden Ridge Project, cobalt is another commodity with demand expanding in response to its requirement in the manufacture of cobalt-based batteries in certain electric vehicles and electricity stabilisation systems (powerwalls). Other uses for cobalt include in the manufacture of super-alloys, including jet engine turbine blades, and for corrosion resistant metal applications.

**Gold**: Pioneer's key gold projects are free-carried with well credentialed JV partners:

- Acra JV Project near Kalgoorlie W.A.: Northern Star Resources Limited (ASX:NST) has earned a 75% Project Interest and continues to fully fund exploration programmes until a decision to mine with Pioneer retaining a 25% interest.
- Kangan Project in the West Pilbara W.A: A farmin & JV agreement with Novo Resources Corp (TSXV.NVO) and Sumitomo Corporation will fully fund gold exploration programmes until a decision to mine is made, with Pioneer retaining a 30% interest.
- Balagundi Project: A farmin & JV agreement with where Black Cat Syndicate Limited (ASX:BC8) is earning a 75% interest in the Project located at Bulong, near Kalgoorlie, W.A. Black Cat will then fully fund gold exploration programmes until a decision to mine is made, with Pioneer retaining a 25% interest.

**COMPETENT PERSON**

*The information in this report that relates to Exploration Results is based on information supplied to and compiled by Mr Stuart Kerr. Mr Kerr is a fulltime employee of Pioneer Resources Limited and holds shares/equity based securities in Pioneer Resources Limited. Mr Kerr is a member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the exploration processes undertaken to qualify as a Competent Person as defined in the 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

***Caution Regarding Forward Looking Information***

*This document may contain forward looking statements containing estimates based on specific assumptions.*

*Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward-looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, variations to sales agreements, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.*

*Forward looking statements in this document would be based on the Company's beliefs, opinions and estimates as of the dates the forward-looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.*

*Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements.*

## APPENDIX 1 – DRILL HOLE COLLAR LOCATIONS

| Prospect | Hole ID | Hole Type | Total Depth (m) | Grid ID | Easting | Northing | RL | Dip | Azimuth | Date Completed |
|---|---|---|---|---|---|---|---|---|---|---|
| Leo Dam | GRRC039 | RC | 264 | GDA94_Zone 51 | 378135.39 | 6581369.21 | 356.08 | -55.2 | 89.05 | 28-February-2020 |
| Leo Dam | GRRC040 | RC | 403 | GDA94_Zone 51 | 378049.81 | 6581369.60 | 355.23 | -55.1 | 91.78 | 29-February-2020 |
| Leo Dam | GRRC041 | RC | 252 | GDA94_Zone 51 | 378096.24 | 6581217.46 | 356.38 | -55.7 | 91.81 | 01-March-2020 |
| Leo Dam | GRRC042 | RC | 324 | GDA94_Zone 51 | 378098.26 | 6581070.79 | 357.50 | -55.7 | 90.01 | 02-March-2020 |
| Leo Dam | GRRC043 | RC | 234 | GDA94_Zone 51 | 378199.45 | 6580920.04 | 359.70 | -56.4 | 89.87 | 03-March-2020 |
| Leo Dam | GRRC044 | RC | 294 | GDA94_Zone 51 | 378102.64 | 6580922.33 | 358.79 | -54.8 | 93 | 04-March-2020 |

* Hole locations are recorded as MGA94 Zone 51 co-ordinates taken from RTK_DGPS (Real Time Kinetic Differential Global Positioning System)
* Hole Azimuth survey is recorded as MGA94 Zone 51 with Declination and Convergence applied. Azimuth and dip were recorded on Axis gyroscopic tool (True North)

## APPENDIX 2A – REVERSE CIRCULATION DRILL HOLE STATISTICS – Minimum grade 0.5% Ni.

**Criteria**

- Minimum width 1m.
- Maximum waste 2m.
- Included Co/Cr/Cu/Fe/Mg/Mn/S/Zn as Co-Elements

| Hole_ID | Depth From (m) | Depth To (m) | Interval Width (m) | Ni_% | Co_ppm | Cr_ppm | Cu_ppm | Fe_% | Mg_% | Mn_ppm | S_% | Zn_ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRRC039 | 71 | 82 | 11 | 0.58 | 330 | 2662 | 98 | 8.37 | 14.45 | 6488 | 0 | 405 |
| GRRC039 | 85 | 125 | 40 | 0.54 | 155 | 2499 | 195 | 7.62 | 18.6 | 614 | 0.2 | 80 |
| GRRC039 | 151 | 155 | 4 | 0.91 | 259 | 1442 | 113 | 5.51 | 19.84 | 535 | 0.7 | 31 |
| GRRC039 | 165 | 180 | 15 | 0.73 | 203 | 1573 | 162 | 10.1 | 10.53 | 4377 | 0.6 | 134 |
| GRRC040 | 229 | 233 | 4 | 0.43 | 146 | 1423 | 43 | 5.64 | 19.68 | 586 | 0.3 | 29 |
| GRRC040 | 253 | 258 | 5 | 0.50 | 151 | 1551 | 504 | 6.02 | 18.54 | 794 | 0.3 | 38 |
| GRRC040 | 269 | 275 | 6 | 0.70 | 149 | 2597 | 326 | 6.56 | 12.9 | 1266 | 1 | 39 |
| GRRC041 | 155 | 156 | 1 | 0.59 | 198 | 1516 | 227 | 6.39 | 18.88 | 942 | 0.7 | 47 |
| GRRC041 | 160 | 162 | 2 | 0.53 | 176 | 1740 | 98 | 6.09 | 19.35 | 839 | 0.4 | 55 |
| GRRC041 | 168 | 174 | 6 | 0.64 | 191 | 1492 | 94 | 6.13 | 19.08 | 713 | 0.5 | 29 |
| GRRC041 | 184 | 185 | 1 | 0.52 | 160 | 1388 | 375 | 6.47 | 19.91 | 603 | 0.3 | 33 |
| GRRC041 | 191 | 202 | 11 | 0.71 | 162 | 902 | 851 | 6.1 | 19.89 | 652 | 0.7 | 30 |
| GRRC041 | 212 | 213 | 1 | 0.77 | 219 | 1114 | 334 | 6.07 | 19.12 | 817 | 0.6 | 34 |
| GRRC041 | 216 | 217 | 1 | 0.51 | 155 | 1188 | 347 | 6.37 | 19.07 | 816 | 0.5 | 39 |
| GRRC042 | 196 | 208 | 12 | 0.56 | 147 | 1801 | 281 | 6.48 | 19.48 | 463 | 0.5 | 30 |
| GRRC042 | 213 | 214 | 1 | 0.54 | 167 | 1537 | 204 | 5.71 | 19.23 | 538 | 0.9 | 31 |
| GRRC043 | 76 | 86 | 10 | 0.45 | 210 | 1282 | 50 | 14.9 | 7.72 | 6156 | 0 | 186 |
| GRRC043 | 92 | 93 | 1 | 0.50 | 159 | 1146 | 36 | 11.6 | 14.4 | 979 | 0 | 162 |
| GRRC043 | 150 | 153 | 3 | 0.59 | 273 | 4027 | 63 | 11.3 | 13.34 | 282 | 0.1 | 587 |
| GRRC043 | 172 | 174 | 2 | 0.89 | 986 | 2192 | 18 | 6.48 | 15.79 | 195 | 1 | 497 |
| GRRC044 | 156 | 157 | 1 | 0.52 | 184 | 1159 | 138 | 5.74 | 16.21 | 1129 | 0.6 | 31 |
| GRRC044 | 173 | 174 | 1 | 0.79 | 191 | 1326 | 158 | 4.98 | 14.62 | 1726 | 1 | 38 |

**APPENDIX 2B – REVERSE CIRCULATION DRILL HOLE STATISTICS – Minimum grade 1.0% Ni.**

**Criteria**

- Minimum width 1m.
- Maximum waste 2m.
- Included Co/Cr/Cu/Fe/Mg/Mn/S/Zn as Co-Elements

| Hole_ID | Depth From (m) | Depth To (m) | Interval Width (m) | Ni_% | Co_ppm | Cr_ppm | Cu_ppm | Fe% | Mg_% | Mn_ppm | S_% | Zn_ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRRC039 | 152 | 154 | 2 | 1.20 | 341 | 1453 | 153 | 5.69 | 19.71 | 535 | 0.97 | 31 |
| GRRC039 | 175 | 179 | 4 | 1.35 | 337 | 2272 | 159 | 15.70 | 6.10 | 6135 | 1.33 | 180 |
| ***including*** | **175** | **176** | **1** | **1.10** | **265** | **2362** | **193** | **14.29** | **5.72** | **5147** | **1.14** | **99** |
| ***and*** | **178** | **179** | **1** | **3.11** | **672** | **2353** | **311** | **18.73** | **5.87** | **7258** | **3.24** | **403** |
| GRRC041 | 172 | 173 | 1 | 1.01 | 295 | 1550 | 148 | 6.51 | 18.76 | 649 | 0.92 | 26 |
| GRRC041 | 192 | 193 | 1 | 1.12 | 264 | 887 | 924 | 6.08 | 19.36 | 864 | 1.12 | 31 |
| GRRC043 | 173 | 174 | 1 | 1.21 | 1255 | 2675 | 22 | 6.91 | 14.96 | 229 | 1.42 | 638 |

**APPENDIX 3 – Leo Dam Prospect, Blair – Golden Ridge Nickel Project – JORC Code 2012 Table 1 Criteria**

The table below summaries the assessment and reporting criteria used for the Leo Dam Prospect and reflects the guidelines in Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012).

**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 Faces, 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. | • Reverse circulation (RC) samples from holes drilled from surface reported.<br>• Single metre samples were collected in calico bags via a cone splitter directly from the cyclone on the RC drill rig. Three-metre composite samples for intervals that were considered to have low Ni and Cu element concentrations from the pXRF data were collected from the sample piles via an aluminium scoop.<br>• pXRF analysis was undertaken on each 1m sample using a Bruker S1 Titan 600 handheld portable XRF analyser for internal use, and not reported herein. |
| | • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. | • Industry-standard reverse circulation drilling, using a face-sampling hammer with a booster and auxiliary compressors used to ensure dry samples.<br>• Individual one metre samples were collected using a cyclone and a cone splitter into sub samples of approximately 3.0kg weight, the cyclone was regularly cleaned to minimise contamination.<br>• Duplicate samples and Certified Reference Standards were inserted at regular intervals to provide assay quality checks. The standards and duplicates reported within acceptable limits.<br>• Samples are considered 'fit for purpose'. |
| | • 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 (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. | • RC drilling was used to obtain 1 m samples from which approximately 3.0 kg sampled.<br>• 3.0kg samples were crushed then pulp milled to a nominal P80/75um to produce a 50g charge for analysis.<br>• Standard exploration package of elements were analysed by a four acid digestion with a Mass Spectrometer (MS) determination (Intertek analysis code 4AM/OE33). The quoted detection limits for this method are a lower detection limit of 5ppm and an upper detection of 5% Ni. Most other significant and relevant elements have a similar analytical range. Any over range samples were re analysed by a sodium peroxide zirconium crucible fusion analysed by inductively coupled plasma optical (atomic) emission spectrometry (Intertek analysis code FP1/OE). |
| **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 Drilling, 4.5-inch drill string, 5.25 – 5.75-inch face-sampling hammer, auxiliary and booster compressors used to exclude ground water. |
| **Drill sample recovery** | • Method of recording and assessing core and chip sample recoveries and results assessed. | • During RC drilling the geologist recorded occasions when sample quality is poor, sample return was low, when the sample was wet or compromised in another way |
| | • Measures taken to maximise sample recovery and ensure representative nature of the samples. | • Sample recovery is good for RC drilling using the equipment described. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • RC Sample recovery is mostly under the control of the drill operator and is generally influenced by the experience and knowledge of the operator. |
| | • 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. | • Because the sample recoveries are assumed to be high, any possible relationship between sample recovery and grade has not been investigated. |
| **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. | • Lithological logs exist for these holes in a database. Fields captured include lithology, mineralogy, sulphide abundance and type, alteration, texture, recovery, weathering and colour.<br>• The detail captured is considered high and fit for purpose. |
| | • Whether logging is qualitative or quantitative in nature. Core (or costean, Face, etc) photography. | • Logging is qualitative but includes quantitative estimates on mineral and sulphide abundance.<br>• Qualitative litho-geochemistry based on pXRF analyses is used to confirm rock types.<br>• A representative sample of each RC drill metre is sieved and retained in chip trays for future reference.<br>• Petrography and XRD analysis on drill chips has not yet been undertaken. |
| | • The total length and percentage of the relevant intersections logged. | • The entire length of the drill holes were geologically logged. |
| **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. | • Individual one metre samples were collected via a cone splitter directly attached to the cyclone dry and wet. Individual samples were approximate 3.0kg. The bulk residue was laid out in order on the drill pad.<br>• Individual metre samples of anomalous Ni (>0.5%) as determined by the pXRF (Bruker S1 Titan 600) were submitted to the laboratory. Three metre composites were collected for the remainder of the drillhole and sent to the laboratory.<br>• The sample collection, splitting and sampling for the types of drilling used is considered standard industry practise. |
| | • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. | • Cyclones are routinely cleaned after each 6m rod.<br>• Geologist looks for evidence of sample contamination, which was recorded if seen and discussed at the time of drilling with the drill operator to rectify.<br>• The use of booster and auxiliary compressors ensures samples are dry, which best ensures a quality sample. |
| | • 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. | • Standard Reference Material is included at a rate of approximately 1 per 30 samples.<br>• Blanks (coarse crush 8-12mm silica) are inserted approximately 1 per 30 samples.<br>• Duplicate samples were collected from a second calico sample taken directly off the cone splitter attached to the drill rig. Duplicates are routinely inserted at approximately 1 per 30 samples for RC drilling.<br>• Laboratory quality control samples were inserted in accordance with the laboratory procedure with the performance of these control samples monitored by the laboratory and the company. |
| | • Whether sample sizes are appropriate to the grain size of the material being sampled. | • The sample size is considered industry-standard and appropriate for the style of deposit 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. | • The sample preparation and assay method used is considered standard industry practice and is appropriate for the style of deposit being sampled. |
| | • For geophysical tools, spectrometres, handheld XRF instruments, etc, the parametres used in determining the analysis including instrument make | • Pioneer owns a Bruker S1 Titan 600 handheld XRF instrument which it used to provide the geologist with basic, qualitative litho-geochemistry data and may be used to assist with selecting zones |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | and model, reading times, calibrations factors applied and their derivation, etc. | for sampling. Zones have been selected due to elevated nickel, and copper.<br>• Intervals during RC drilling identified as not obviously mineralised have been sampled with three metre composites.<br>• Standards and blanks are routinely analysed with the Bruker pXRF to ensure the instrument is operating as expected and correctly calibrated. |
| | • 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. | • Standards and laboratory checks have been assessed. The standards show results within acceptable limits of accuracy, with good precision. Internal laboratory checks indicate very high levels of precision. |
| **Verification of sampling and assaying** | • The verification of significant intersections by either independent or alternative company personnel.<br>• The use of twinned holes. | • Significant intersections are calculated by experienced staff with these intersections checked by other staff.<br>• No holes have been twinned. |
| | • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. | • Pioneer has a digital SQL drilling database where information is stored.<br>• The Company uses a range of consultants to load and validate data and appraise quality control samples. |
| | • Discuss any adjustment to assay data. | • There has been no adjustment to any 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. | • The collar locations of the holes have been surveyed by a licenced surveyor using an RTK differential GPS. The collar surveys provide very accurate positions for all holes including the RL of each drill collar.<br>• Downhole surveys were collected every 10m from surface to bottom of hole by the AXIS Mining Technology north seeking gyro tool, surveys were carried out by an experienced drilling operator. |
| | • Specification of the grid system used. | • MGA94 (Zone 51). |
| | • Quality and adequacy of topographic control. | • Topographic control is by RTK DGPS, carried out by a licensed surveyor.<br>• A surface DTM was created locally using the surveyed drill collars. |
| **Data spacing and distribution** | • Data spacing for reporting of Exploration Results. | • Exploration RC drilling was designed to serve as a DHEM platform and drilled on panels spaced 150m apart with drill holes 80m apart. |
| | • 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. | • There has been insufficient work conducted to allow the estimation of a mineral resource.<br>• The drilling complete is an early stage exploration phase. |
| | • Whether sample compositing has been applied. | • In most cases reported assays are of 1m samples. Where 3m composite samples are reported, samples are noted in table of results. |
| **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. | • The strike of the mineralisation at the Leo Dam Prospect is estimated at to be broadly north-south, and dipping west at 45-65 degrees, therefore angled drillholes at -55° have been drilled towards $090^0$ to intersect the mineralisation as close to perpendicular as possible.<br>• There are only a limited number of drillholes at the Leo Dam Prospect, but where possible down hole intersection widths of the intersected lithologies suggest the lithological units are intersected close to perpendicular to the drillholes.<br>• Not enough information has been obtained on drill sections to determine the exact orientation of mineralisation and or mineralised structures. |
| **Sample security** | • The measures taken to ensure sample security. | • Pioneer uses standard industry practices when collecting, transporting and storing samples for analysis.<br>• Drilling pulps are retained by Pioneer off site at a designated storage container. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **Audits or reviews** | • The results of any audits or reviews of sampling techniques and data. | • Sampling techniques for assays have not been specifically audited but follow common practice in the Western Australian exploration industry.<br>• The assay data and quality control samples are periodically audited by an independent consultant. |

## 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 | • The drilling reported herein is within Mining Lease M26/285 and E26/186 which is a granted Exploration Licence.<br>• The tenement is located approximately 25km SE of Kalgoorlie WA.<br>• Pioneer Resources Limited is the registered holder of the tenements and holds a 100% unencumbered interest in all minerals within the tenements.<br>• The tenements are on the Mount Monger Pastoral Lease.<br>• The Maduwongga Native Title Claimant Group has a registered Native Title Claim that covers the Golden Ridge Project. |
| | • 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. | • At the time of this Statement, Mining Leases M26/285 and Exploration Licence E26/186 is in Good Standing. To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to Pioneer's operations within the tenements. |
| **Exploration done by other parties** | • Acknowledgment and appraisal of exploration by other parties. | • There has been previous exploration drilling and sampling on the Golden Ridge project. Previous work by Western Mining Corporation (WMC) began in the 1960's Nickel boom and identified the project area as prospective for Ni-Sulphide systems, discovery of the Blair Ni-Sulphide Deposit lead to it's opening in 1990 and produced 32,900t of contained Ni treated in Kambalda before closure in 2008. Australian Mines acquired the Blair Ni Mine and surrounding tenure from WMC in 2005 prior to Pioneer. These Ni-sulphide targets were not systematically explored for Cobalt-Nickel laterite systems. |
| **Geology** | • Deposit type, geological setting and style of mineralisation. | • The work herein is for nickel sulphide mineralisation. Currently the model is unclear. Most Ni$ mines in the Kalgoorlie area are komatiite-hosted, "Kamabalda style" nickel sulphide deposits, however geochemical interpretations suggest that the rock that hosts the Leo's Dam mineralisation may be more mafic, such as a pyroxenite. |
| **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, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.<br>• 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. | • Refer to Appendix 1 of this announcement. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| **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.<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. | • Intercepts noted are from 1m sample intervals unless stated as three metre composite samples.<br>• Intersections are based on a 0.5% (lower) cut-off for Nickel, with supporting copper (nickel sulphide indicator) with a minimum width of 1m, a maximum of two metres internal dilution and no external dilution.<br>• Higher grade intersections are based on a 1% (lower) cut-off for Nickel, with supporting copper and sulphur (nickel sulphide indicator) with a minimum width of 1m, a maximum of two metres internal dilution and no external dilution.<br>• No metal equivalent values have been used. |
| **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 drill hole angle is known, its nature should be reported.<br>• 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'). | • Downhole lengths are reported in Appendix 1.<br>• The mineralisation reported is down hole length, true width unknown.<br>• There may be some geological complexity that is unknown and cannot be modelled due to the very limited number of drill holes. |
| **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 this report. |
| **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. | • Comprehensive reporting of drill details has been provided in Appendix 2 of this announcement. |
| **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 and material exploration data has been reported.<br>• Downhole electromagnetic modelling (DHEM) has been used to support geological interpretation where available and produce new target areas at the Leo Dam Prospect. |
| **Further work** | • The nature and scale of planned further work (eg 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. | • Planned further work includes geological modelling – 3D modelling of the geology and mineralisation.<br>• Additional drilling will be undertaken but is not yet defined.<br>• DHEM plates have provided a single high priority target to the east of the completed RC program reported herein. |