Level 1, 141 Broadway
Nedlands WA 6009, AUSTRALIA

T +61 8 94239777 F +61 8 9423 9733
admin@abmresources.com.au
abmresources.com.au

**ASX ANNOUNCEMENT / MEDIA RELEASE** **ASX:ABU**

15 November 2017

# *Lake Mackay JV: Final Grapple Diamond Drilling Results*

**HIGHLIGHTS**

- A 6-hole 2,917 metre diamond drilling program was completed at the Grapple Prospect to further define the extent and grade of mineralisation
- Sulphide mineralisation was intersected in all six holes
- Plunge extent increased to 800 metres and open to the west
- Best result from the program is 17GRDD001 which (as previously announced) includes:
  - 11.4m @ 7.9g/t gold, 20.7g/t silver, 0.8% copper, 1.1% zinc, 0.5% lead and 0.1% cobalt from 284.9m
    - Including 3.5m @ 18.3g/t gold, 13.8 g/t silver, 1.1% copper, 0.3% zinc and 0.2% lead from 288.8m
  - 14.4m @ 1.8g/t gold, 6.0g/t silver, 1.1% copper, 0.3% zinc and 0.1% lead from 348m
    - Including 2m @ 7.2g/t gold, 1.0g/t silver, 0.2% copper and 0.1% zinc from 348m
- Soil sampling of areas adjacent to and surrounding EL24915 were completed in November

ABM Resources NL ("ABM" or the Company) is pleased to provide an update to the diamond drilling on the Lake Mackay Joint Venture ("JV") being managed by Independence Group ("IGO")[1].

ABM Managing Director Matt Briggs said *"The whole Lake Mackay Project area is at a very early stage of exploration and it is encouraging to get results such as seen in the first diamond hole, scale demonstrated with the downhole EM, and being able to explore through shallow cover."*

"*This Grapple diamond drilling program has confirmed 800m of plunge of mineralisation. The extension was detected with a moving loop EM survey to the west of the previous RC drilling program."*

*"Now the potential at Grapple has been defined with initial drilling and downhole EM, the joint venture partners are keen to screen the rest of the tenement package for similar or larger deposits. The imminent commencement of the orientation airborne EM survey, in combination with additional surface geochemistry, has the potential to provide a technique to screen the Lake Mackay Project for similar targets."*

*"The only exploration completed to-date is limited to EL24915 representing only 4% of the project area. The program planned for 2018 has the potential to rapidly and cost effectively identify additional Grapple and other style targets on the remainder of the Lake Mackay Project."*

## Background

The Lake Mackay Project is located 400km northwest of Alice Springs, adjacent to the Western Australian border, and includes 12,833km$^2$ of exploration licences and applications (11,933 km$^2$ IGO/ABM JV, 900 km$^2$ IGO/ABM/Castile JV). This emerging mineralised belt at Lake Mackay is at a very early stage of exploration. IGO is executing an exploration program as part of a joint venture with ABM to systematically evaluate the Lake Mackay Project. The Project has a consolidated tenure over the favourable Proterozoic margin between the Aileron and Warumpi Provinces, and is characterised by a continent-scale geophysical gravity ridge and the Central Australian Suture. The JV partners

[1] *IGO is earning 70% interest in ABM's Lake Mackay tenements by solely funding $6 million of exploration expenditure (ASX 6 May 2016).*

consider that the exploration potential will unlock a new metallogenic province hosting multiple styles of precious and/ or base metals mineralisation.

RC drilling in late 2016 included results of 6m at 9.0g/t gold, 1.45% Cu and 9m at 5.2g/t gold and 1.4% Cu towards the western end of the deposit (ASX Announcement 20 December 2016). A moving loop EM survey completed in August to the west of the RC drilling indicated the mineralisation extended for at least an additional 600 metres to the west.

**Grapple Diamond Drilling**

A program of 6 holes for 2,917 metres of diamond drilling was completed in late September. The core was sampled following a workshop with representatives from Geoscience Australia, the Northern Territory Geological Survey and other base metal industry experts.

The mineralisation consists of massive to semi-massive pyrrhotite-chalcopyrite-sphalerite-galena-arsenopyrite breccia sulphides and pyrrhotite and chalcopyrite stringers. The sulphide zones can be targeted with down hole electromagnetic (DHEM) surveys due to the high conductance of pyrrhotite. Drilling has confirmed that the mineralisation has an extensive plunge component that is presently confirmed over 800 metres and is still open to the west (Figure 1).

Hole 17GRDD001 intersected the thicker part of the mineralised shoot. The remaining holes intersected narrow zones of mineralisation (Table 1) that generated off hole conductors from DHEM. Modelling of this data suggests holes 17GRDD002 to 17GRD006 clipped the (mostly) upper edge of mineralisation and additional drilling downdip would be required to intersect the position of the DHEM modelled conductor interpreted to be the thicker zones of mineralisation.

At least two conductors were modelled in most holes which have been confirmed by multiple sulphide zone intersections and associated anomalous gold and copper results in holes 17GRDD001, 17GRDD003, and 17GRDD005.

***Table 1: Significant intercepts the Grapple Prospect 2017 Diamond Drilling***

| Hole Name | From (m) | To (m) | Interval (m)[1] | Au (g/t)[2] | Ag (g/t) | Cu (%)[2] | Zn (%) | Pb (%) | Co (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 17GRDD001 | 284.9 | 296.3 | 11.4 | 7.9 | 20.7 | 0.77 | 1.05 | 0.45 | 761 |
| **including** | **288.8** | **292.25** | **3.45** | **18.3** | **13.8** | **1.06** | **0.29** | **0.21** | **142** |
| 17GRDD001 | 348 | 362.4 | 14.4 | 1.8 | 6.0 | 1.05 | 0.32 | 0.13 | 268 |
| **including** | **348.0** | **350.0** | **2.00** | **7.2** | **1.0** | **0.17** | **0.05** | **0.02** | **48** |
| 17GRDD002 | 342.6 | 343.6 | 1 | 1.4 | 25.8 | 0.81 | 0.32 | 0.66 | 326 |
| 17GRDD002 | 346 | 346.5 | 0.5 | 1.3 | 8.5 | 0.05 | 0.63 | 0.20 | 368 |
| 17GRDD003 | 149.5 | 151 | 1.5 | 4.1 | 0.8 | 0.41 | 0.10 | 0.00 | 150 |
| 17GRDD003 | 214 | 215 | 1 | 1.2 | 5.6 | 0.84 | 1.64 | 0.11 | 200 |
| 17GRDD003 | 220.4 | 220.9 | 0.5 | 0.1 | 9.0 | 4.95 | 0.39 | 0.01 | 1420 |
| 17GRDD003 | 364.9 | 365.9 | 1 | 1.1 | 0.0 | 0.00 | 0.00 | 0.01 | 1 |
| 17GRDD004 | 382 | 382.8 | 0.8 | 2.8 | 10.7 | 3.08 | 0.50 | 0.18 | 589 |
| 17GRDD005 | 289.4 | 291 | 1.6 | 1.4 | 0.9 | 0.65 | 0.05 | 0.00 | 430 |
| 17GRDD005 | 377.7 | 378.3 | 0.6 | 2.3 | 0.5 | 0.47 | 0.00 | 0.00 | 1256 |
| 17GRDD006 | 337.4 | 338 | 0.6 | Interval is below intersection reporting cut-off grade | | | | | |

[1]Intervals are reported downhole. True widths are currently uncertain.

[2]Reporting cut-offs at >1.0 g/t Au or >1.0% Cu with maximum internal dilution of 2m.

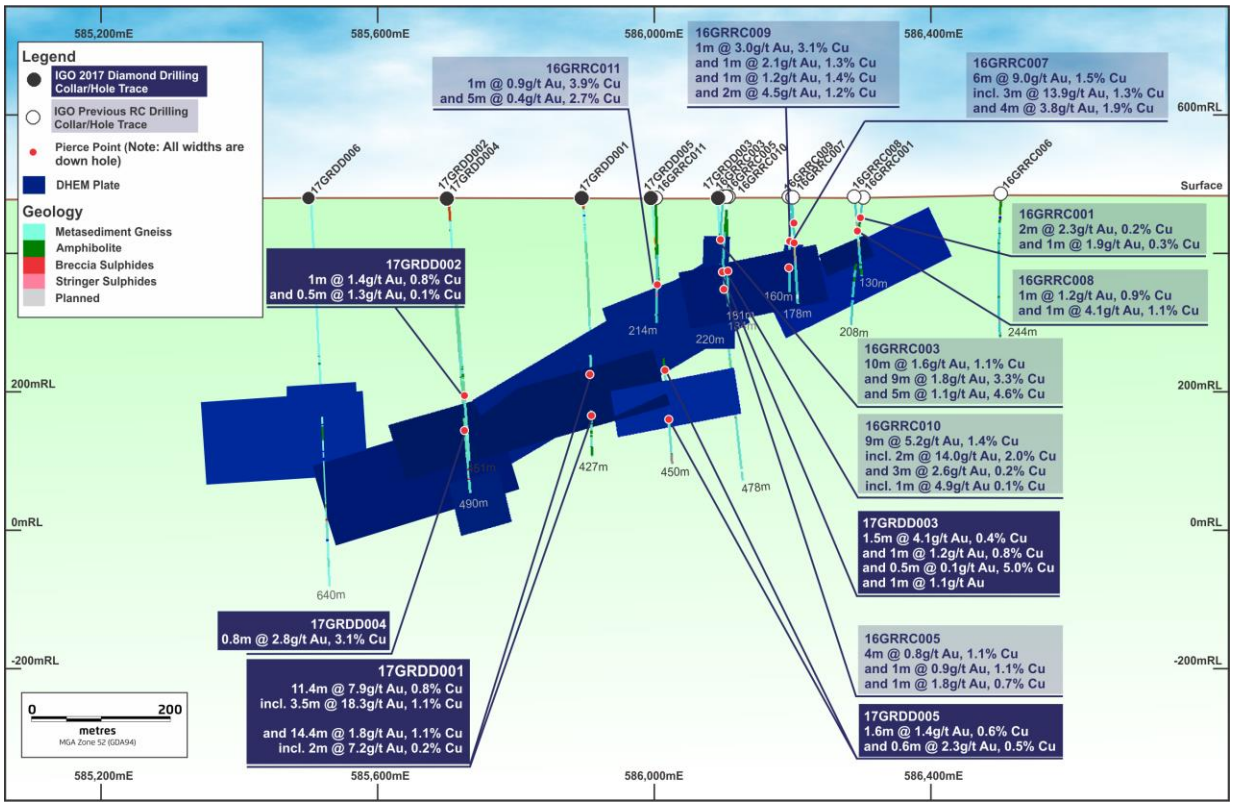


***Figure 1. Long section projection of Grapple Prospect looking north showing drilling and EM plates. Mineralisation has been identified over 800m down-plunge.***

**Other Activities and Future Work**

Samples were collected from Grapple drill core for petrography, sulphur isotope analysis and age dating. This will improve the understanding of the style and age of mineralisation once all results are available.

A sacred site clearance survey was completed in October 2017 to clear areas of interest adjacent to and surrounding EL24915. Soil sampling of these areas was subsequently completed with results pending.

An orientation airborne EM survey is also planned for the December quarter over the Grapple, Bumblebee and Springer prospects. If the orientation EM survey is successful the survey will likely be extended to systematically cover prospective areas within the tenement package in the first half of 2018. The trial is scheduled to commence in one to two weeks depending on aircraft availability and weather conditions.

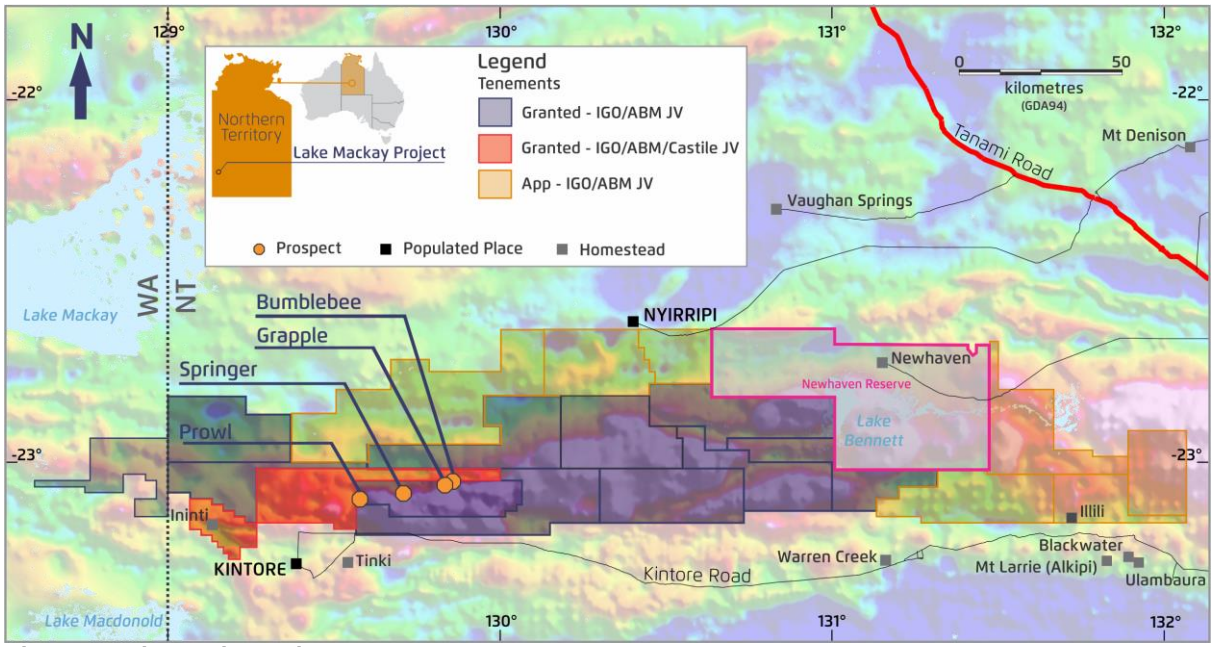


***Figure 2. Lake Mackay Joint Venture Area***

## About ABM Resources

ABM is an established gold exploration company with a successful track record of discovery in one of Australia's premier gold mining districts. The Company owns gold resources and extensive prospective land holdings in the Central Desert region of the Northern Territory. The Company leadership has implemented a strategy of aggressive cost management initiatives and is developing a disciplined, tightly focused exploration strategy. Activities are currently focused on the Company's under-explored 21,000 km$^2$ Tanami Project area[2] and includes:

- Systematic evaluation of high potential early stage targets
- Drilling of advanced prospects on the Suplejack Project
- Assessment of existing resources and

The Company is exploring opportunities for joint ventures and divestment of early stage targets.

**Matt Briggs**
**Managing Director**

**JORC Code (2012) Competent Persons' Statements**

*The information in this announcement relating to exploration results is based on information reviewed and checked by Mr Doug Winzar who is a Member of The Australian Institute of Geoscientists. Mr Winzar is a full-time employee and security holder of IGO. Mr Winzar has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they have undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC 2012). Mr Winzar consents to the inclusion in the documents of the matters based on this information in the form and context in which it appears.*

[2] Area managed by ABM excluding the Lake Mackay JV and North Arunta Projects

## Appendix 1. Grapple Prospect 2017 diamond drill hole details

| Hole ID | Zn GDA 94 | Easting | Northing | RL | EOH | Dip | Azi True | Program |
|---|---|---|---|---|---|---|---|---|
| 17GRDD001 | 52 | 585895 | 7449220 | 480 | 426.7 | -60 | 173 | Grapple |
| 17GRDD002 | 52 | 585700 | 7449220 | 480 | 450.6 | -61 | 174 | Grapple |
| 17GRDD003 | 52 | 586090 | 7449265 | 480 | 477.8 | -61 | 175 | Grapple |
| 17GRDD004 | 52 | 585701 | 7449227 | 480 | 489.9 | -63 | 175 | Grapple |
| 17GRDD005 | 52 | 585995 | 7449250 | 480 | 432.7 | -59 | 172 | Grapple |
| 17GRDD006 | 52 | 585500 | 7449240 | 480 | 639.7 | -63 | 172 | Grapple |

## Appendix 2. Grapple sulphide mineralisation summary

| Hole Name | From (m) | To (m) | Interval (m) | Description |
|---|---|---|---|---|
| 17GRDD001 | 281.8 | 282.3 | 0.5 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 284.9 | 285.7 | 0.8 | Narrow zone of bedded primary sulphides with cross-cutting chalcopyrite stringer sulphides |
| | 285.7 | 288.8 | 3.1 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 288.8 | 289.6 | 0.8 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 294.8 | 296.3 | 1.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 351.3 | 351.8 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 351.8 | 356.8 | 5 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 356.8 | 358 | 1.2 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 359.1 | 361.2 | 2.1 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 361.2 | 362.4 | 1.2 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 363.6 | 364.4 | 0.8 | Breccia pyrrhotite-pyrite massive sulphide in metasediments |
| | 365 | 367 | 2 | Breccia pyrrhotite-pyrite massive sulphide in metasediments |
| 17GRDD002 | 342.6 | 343.6 | 1 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 346 | 346.5 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| 17GRDD003 | 138.7 | 139.2 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 149 | 152.6 | 3.6 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 214 | 215 | 1 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 219.6 | 220.4 | 0.8 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 220.4 | 220.9 | 0.5 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 220.9 | 221.4 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 369.5 | 369.75 | 0.25 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| 17GRDD004 | 382 | 382.5 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 382.5 | 382.8 | 0.3 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| 17GRDD005 | 288.9 | 289.4 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 289.4 | 290.5 | 1.1 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 290.5 | 292.7 | 2.2 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 294.8 | 295.8 | 1 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 370.7 | 372.7 | 2.1 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 372.7 | 373.7 | 1 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| | 377.1 | 378.3 | 1.2 | Breccia pyrrhotite-chalcopyrite massive sulphide in metasediments |
| 17GRDD006 | 337.4 | 344.2 | 6.8 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |
| | 504.2 | 504.7 | 0.5 | Stringer sulphides- pyrrhotite, chalcopyrite in metasediments |

## Appendix 3: JORC Tables

### Section 1: Sampling Techniques and Data

| Criteria | Explanation |
|---|---|
| **Sampling techniques** | - Diamond drilling of the Grapple Prospect commenced in August and was completed in late September.<br>- The holes drilled from surface are generally oriented towards the south.<br>- DD core drilling has been used to obtain high quality samples that were logged for lithological, structural, geotechnical, density and other attributes.<br>- The diamond core was cut in half along the long axis using an automatic diamond blade rock saw. Half-core was sampled. The samples lengths ranged from 0.5m to 1m to within geological boundaries.<br>- Samples were dried, crushed and pulverised to -75um and split to produce a nominal 200g sub sample.<br>- The samples were analysed for gold using a 25g Lead collection fire assay with analysis by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES).<br>- Multi-element analysis was completed using a four-acid digest on a 0.2g prepared sample with analysis of 33 elements using ICP-OES.<br>- Representivity has been ensured by monitoring core recovery to minimise sample loss.<br>- Sampling was carried out under IGO protocols and QAQC procedures consistent with good industry practices. |
| **Drilling techniques** | - An LF90D diamond drill rig, owned and operated by West Core Drilling was used.<br>- The collar of the holes was drilled with HQ (63.5mm diameter) and the remainder of the hole was drilled with NQ2 (50.6mm diameter).<br>- Where possible, the core was oriented using Reflex Act III orientation tools. |
| **Drill sample recovery** | - DD recoveries are quantified by as the ratio of measured core recovered lengths to drill advance lengths for each core-barrel run.<br>- There are no core loss issues or significant sample recovery problems in the sampled intervals.<br>- RC samples were visually checked for recovery, moisture and contamination.<br>- For orientation marking purposes, the DD core is reconstructed into continuous runs on an angle iron cradle.<br>- Down hole depths are checked against the depth recorded on the core blocks and rod counts are routinely carried out by the drillers to ensure the marked core block depths were accurate. |
| **Logging** | - Qualitative logging of DD core included lithology, mineralogy, mineralisation, structural, weathering, colour and other features of the samples.<br>- Quantitative logging has been completed for geotechnical purposes.<br>- All DD core ore has been photographed in both dry and wet condition.<br>- The total lengths of all drill holes have been logged. |
| ***Sub-sampling techniques and sample preparation*** | - DD core was subsampled over lengths ranging from 0.5 m to 1.0 m using an automatic diamond-blade core saw as half-core.<br>- All subsamples were collected from the same side of the core.<br>- The sample preparation of DD core involved oven drying (4-6 hrs at 95°C), coarse crushing in a jaw-crusher to 100% passing 10 mm, then pulverisation of the entire crushed sample in Essa LM5 grinding mills to a particle size distribution of 85% passing 75 microns and collection of a 200 gram sub-sample.<br>- QC procedures involve insertion of certified reference materials, blanks, and collection of duplicates at the pulverisation stage.<br>- The primary tool used to monitor drill core representivity was monitoring and ensuring near 100% core recovery.<br>- The results of duplicate sampling are consistent with satisfactory sampling precision. |

| Criteria | Explanation |
|---|---|
| **Quality of assay data and laboratory tests** | - No geophysical tools were used to determine any element concentrations.<br>- The laboratory complete sample preparation checks for particle size distribution compliance as part of routine internal quality procedures to ensure the target particle size distribution of 85% passing 75 microns is achieved in the pulverisation stage.<br>- Field duplicates, CRMs and blanks are inserted routinely at a rate of 1:50 samples.<br>- Laboratory quality control processes include the use of internal lab standards using certified reference materials (CRMs), blanks, and duplicates.<br>- CRMs used to monitor accuracy have expected values ranging from low to high grade, and the CRMs were inserted randomly into the routine sample stream to the laboratory.<br>- The results of the CRMs confirm that the laboratory sample assay values have good accuracy and results of blank assays indicate that any potential sample cross contamination has been minimised. |
| **Verification of sampling and assaying** | - Significant intersections were checked by the Competent Person.<br>- No twinned holes were completed.<br>- The logging has been validated by onsite geology staff and compiled onto a SQL database server by the IGO Database Administrator.<br>- Assay data are imported directly from digital assay files and are merged in the database with sample information.<br>- Data is backed up regularly in off-site secure servers.<br>- No geophysical or XRF results are used in exploration results reported.<br>- There have been no adjustment to the assay data. |
| **Location of data points** | - The hole collar locations of surface holes were recorded using Garmin handheld GPS and averaging for 90 seconds. Expected accuracy is +/- 3m for easting and northing.<br>- Down hole drill path gyroscopic surveys have been completed every 6m down hole using a north seeking Reflex Ez-Gyro.<br>- The grid system is GDA94 Zone 52. |
| **Data spacing and distribution** | - The drilling is for exploration purposes and targeted on conductive plates generated from DHEM and MLEM. Line spacing have been maintained at a minimum of 100m.<br>- Samples have been composited to length weighted intervals for exploration reporting as necessary. |
| **Orientation of data in relation to geological structure** | - The drilling from surface is designed to cross the steeply north dipping conductive plates at a high angle.<br>- True-widths of the intervals are yet to be determined.<br>- The possibility of bias in relation to orientation of geological structure is currently not known. |
| **Sample security** | - The chain-of-sample custody is managed by IGO. Samples are stored on site and then cut in Alice Springs by IGO staff and contractors and delivered to the Intertek sample preparation laboratory in Alice Springs.<br>- A sample reconciliation advice is sent by the laboratories to IGO on receipt of the samples.<br>- Once the sample preparation is completed in Alice Springs the samples are transported to Perth for analysis using the laboratories standard chain of custody procedure.<br>- The risk of deliberate or accidental loss or contamination of samples is considered very low. |
| **Audits or reviews** | - No specific audits or reviews have been undertaken at this stage in the program. |

**Section 2: Reporting of Exploration Results**

| Criteria | Explanation |
|---|---|
| **Mineral tenement and land tenure status** | - The explored area of the Lake Mackay Project currently consists of EL24915.<br>- This tenement is in good standing and no known impediments exist.<br>- ABM and Independence Group NL ("IGO") entered into a multi-phase agreement covering the Lake Mackay Project on 21 August 2013.<br>- In May 2016 IGO triggered phase 2 of the agreement to earn a 70% interest in the project. This involved subscribing for $1.5M ABM shares in placement with a six month escrow period and spending $6M on exploration on the project over 4 years. |
| **Exploration done by other parties** | - EL24915 was previously explored by BHP in the South Tanami JV. BHP flew a Geotem survey in 1999 and completed ground EM and drilling in 2004 targeting Ni sulphides. |
| **Geology** | - The project area is considered highly prospective for orogenic shear hosted gold deposits based on similarities that exist between the West Arunta and the Granites- Tanami Block with respect to gold deposition timing and structural settings.<br>- The region is also considered by IGO and ABM to have potential for the discovery of deposits having a number of mineralisation styles including: :<br>• Iron-ore-copper-gold (IOCG) deposits<br>• Volcanogenic hosted massive sulphide deposits (VMS)<br>• Mafic or ultramafic intrusion related Ni-Cu-PGE |
| **Drill hole Information** | - Refer to Appendix 1 in the ASX release for details of drill holes completed to date. |
| **Data aggregation methods** | - Drill hole intercept results are reported using a 1 g/t Au or 1.0% Cu grade cut-off with maximum dilution within an interval of 2m.<br>- No capping or top-cutting of high grades were undertaken.<br>- The intercepts are calculated on a length weighted basis.<br>- Higher grade intercepts within lower grade halos are reported for transparency.<br>- Metal equivalent grades were not reported. |
| **Relationship between mineralisation widths and intercept lengths** | - Only downhole intersection widths are provided as mineralisation given the understanding of the geometry of the mineralisation is at an early stage. |
| **Diagrams** | - A representative long section and tenement plan are included in the body of the ASX release. |
| **Balanced reporting** | - Results above 1g/t Au or 1% Cu were reported. The remainder of the results are considered low grade and geologically significant sulphide zones are reported in Table 2. |
| **Other substantive exploration data** | - Surface EM survey and DHEM survey generated plates are displayed in the sections in the body of the ASX release. |
| **Further work** | - Further drilling is required to intersect the thicker zone of mineralisation in the positions interpreted based on the DH EM surveys. |