



RC Drilling Commenced at Golden Crown Prospect

25th January, 2024

Mt Malcolm Mines NL (ASX:M2M) (Mt Malcolm or the Company) is pleased to provide an update on exploration activities at Leonora.

Highlights

- RC Drilling aimed at providing a maiden Mineral Resource has commenced at Golden Crown (M37/475).
- A closely spaced (8m x 12m) program (65 drill holes for 2,475m) is planned.
- The exploration target* is estimated in the range of 150,000t – 120,000t at a grade range of 10-15g/t Au.

Following a comprehensive geological review, the proposed RC drilling at Golden Crown has commenced. (M2M:ASX 20th September 2023). The tenement is regarded as a significant producer hosting several old stopes and shafts boasting historical high-grade gold production of 1,720oz at 29g/t Au (Kelly 1954).

The tenement has been subject to relatively minor exploration in the past by listed companies such as Jubilee Gold Mines NL, North Ltd and Melita Mining NL who conducted limited shallow drill programs. M2M followed up these holes with further RC drilling (M2M:ASX 11th January 2022 and 1st December 2021).

Historical, previously announced, RC drilling (ASX:M2M 20th September 2023) conducted by Melita (MD series), Jubilee (MRC series), North (MSR series) and M2M (21GCRC series) returned the following peak intercepts.

- **4m @ 10.4 g/t Au** (32-36m) in MSR 344
- 4m @ 5.01 g/t Au (17-21m) in MRC 53
- 8m @ 3.2 g/t Au (29-37m) in MRC 67
- 12m @ 2.4 g/t Au (15-27m) in MRC 55
- 8m @ 1.3 g/t Au (40-48m) in MSR 345 and
- 16m @ 1.63 g/t Au (8-24m) in MDRC004 incl. 6m @ 3.12 g/t Au (18-22m).
- 3m @ 11.97 g/t Au (37-40m) incl. **1m @ 33.61 g/t Au** (37-38m) in 21GCRC001
- 4m @ 2.99 g/t Au (28-32m) incl. 1m @ 5.78 g/t Au (29-30m) within 10m @ 1.56 g/t Au (28-38m) in 21GCRC008

* Note: The potential quantity and grade of the Exploration Target is conceptual in nature and as such there has been insufficient exploration drilling conducted to estimate a mineral resource. At this stage it is uncertain if further exploration drilling will result in the estimation of a mineral resource. The Exploration Target has been prepared in accordance with the JORC Code (2012).

Following data compilation, inaugural drill campaigns, geochemical analysis and surface mapping a shallow drill target envelope has been identified. Geological modelling indicates new shallow north plunging hangingwall ore shoots. The shoots represent a 100m wide target corridor following the dip of the volcanic stratigraphy and the proposed Exploration Target* (Fig 1). It is planned to test these gold lodes and extensions with the closely spaced shallow RC program.

The identified lithological sequence from footwall to hanging wall comprises dacite, rhyolite, rhyodacite, basalt and andesitic dacite and a magmatic intrusive lamprophyre dyke. North dipping gold lodes are focused along the hanging wall rhyolite contact. All the currently intersected mineralisation is hosted within the rhyolite and to a lesser extent the rhyodacite, however the basalt is poorly tested.

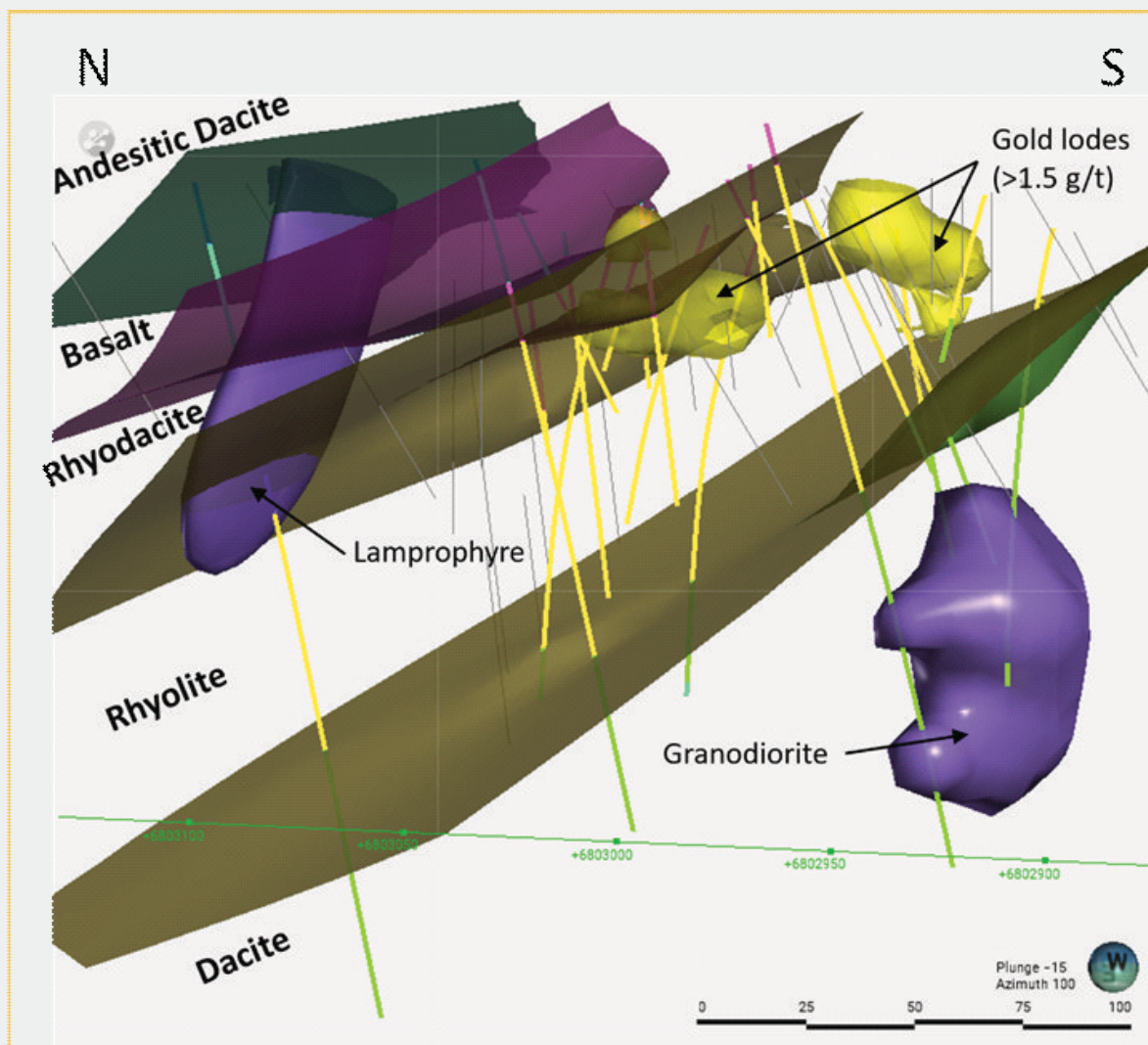


Fig 1 Cross section looking obliquely east with existing drill traces and identified mineralised envelopes.

Golden Crown is the first of the Company's key prospects earmarked for model review and drill planning as part of our strategy to continue to build a high-grade resource base and our two-year objective of developing a sustainable production base from progressing shallow mining opportunities.



Fig 2. Drill Rig operating at Golden Crown

References

- Davis G. (1993) Jubilee Gold Mines N.L. Malcolm Project Leonora, WA. ELs 37/225, 302; PLs 37/3494, 3509, 3515, 3545, 3559, 3590-91, 3606, 3704, 3977-78, 4081, 4101-02, 4275, 4300-02, 4374, 4534, 4622. Annual Mineral Exploration Report No. 45 for the period Nov. 1992 – Nov. 1993 (A39883).
- Evans W.J (1997) Report No. W98/15S. Annual Mineral Exploration Report on the Malcom South Joint Venture Tenements. Leonora Project, for the period 1st Dec 1996 to 30th Jan 1998. (A53682)
- Kelly L.F. (1954) List of cancelled gold mining leases which have produced. Mines Department of Western Australia.
- Wilkinson D.P. (1988) Melita Mining N.L. Malcolm Dam Prospect, Mt Margaret Mineral Field, WA. Mining Lease M37/114. Annual Mineral Exploration Report for the period Aug. 1987 – Aug. 1988 (A25350)

Competent Person

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr. Paul Maher, a Competent Person and a full-time employee of the company who is a Member of The Australasian Institute of Mining and Metallurgy in addition to being a shareholder in the company. Mr. Paul Maher 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Paul Maher consents to the inclusion in the report of the matters based on the information compiled by him, in the form and context in which it appears.

Forward Looking Statements

Forward-looking statements are only predictions and are not guaranteed. They are subject to known and unknown risks, uncertainties and assumptions, some of which are outside the control of the Company. Past performance is not necessarily a guide to future performance and no representation or warranty is made as to the likelihood of achievement or reasonableness of any forward-looking statements or other forecast. The occurrence of events in the future are subject to risks, uncertainties and other factors that may cause the Company's actual results, performance or achievements to differ from those referred to in this announcement. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. Any forward-looking statements in this announcement speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and the ASX Listing Rules, the Company, its directors, officers, employees and agents do not give any assurance or guarantee that the occurrence of the events referred to in this announcement will occur as contemplated.

The company is not aware of any new information or data that materially affects this release.

This announcement has been authorised by the Board of Mt Malcolm Mines NL.

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APPENDIX A

JORC 2012 TABLE 1 Mt MALCOLM MINES NL

GOLDEN CROWN PROSPECT

SECTION 1 – Sample Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	Reverse Circulation (RC) drill samples (GCRC series) were collected by M2M over 1m downhole intervals from beneath a cyclone attached to the rig. Typically, 3-4kg sub-samples were obtained via a stationary cone splitter attached to the underside of the cyclone. Sub-samples were collected in pre-numbered calico bags for submission to the analytical laboratory. The remaining bulk residue was stored in plastic bags at the drill site. All the samples were collected dry and no samples were wet. The sampling techniques and methodologies used are deemed appropriate and industry standard for this style of exploration. Historical drill data obtained by other companies, such as Melita Mining NL (MDRC series), Jubilee Gold Mines NL (MRC series) and North Limited (MSR series) is lacking some meta data and not complete. Melita drilled 7 RC holes and collected single metre samples, which were composited into 2m intervals. Jubilee's sampling of RC chips was composited over 2m intervals. North's sampling of RAB drilling was composited over 4m intervals.
<i>Drilling techniques</i>	RC drilling was carried out using conventional, industry standard methodologies and utilising face-sampling hammers with bit shrouds. Drill bit diameters were typically 140-145mm. RC drilling was conducted by iDrillings truck-mounted Hydco 350RC 8x8 Atcross drill rig with a 600/700psi 1800cfm air compressor with auxiliary and booster air compressors (when required). All recovered samples were dry and there were no wet samples. Holes were surveyed down-hole utilising an Axis Mining Technology's Champ Gyro probe (Serial No #13561). The majority of holes are relatively straight and only deviated slightly (< 5° overall). North's drilling programs were conducted by Challenge Drilling. Drilling by Melita and Jubilee make no mention of the drill contractor. It is assumed they were conducted to the industry standards of the day. No down hole surveys were conducted on earlier drilling.
<i>Drill sample recovery</i>	M2M sample recoveries and collection utilised a cyclone splitter attached to the rig. The sample reject is collected in plastic bags and a 3-4kg sub-sample is collected in calico bags for submission to the assay laboratory. Following the sample collection the cyclone is flushed with compressed air at the end of each 6m drill rod. The sampling cyclone is thoroughly cleaned at the end of each rod. This process was maintained throughout the program. Recovery percentages were recorded. No sample recoveries are recorded in the Melita, Jubilee or North drill programs. Collected samples are deemed reliable and representative of drilled material. No material discrepancy, that would impede a mineral resource estimate, exists between collected RC primary and sub-samples. No indication of sample bias is evident nor has it been established. No relationship has been observed to exist between sample recovery and grade
<i>Logging</i>	All drill holes are geologically logged in their entirety at 1m intervals to the end of the hole. Drill hole data is either digitally or physically captured. Validated and standardisation are required prior to being uploaded to the Mt Malcolm data base. The level of logging detail is considered appropriate for exploration and is appropriate to support mineral resource estimation, mining studies, and metallurgical studies. Historical logging of holes is not as thorough or detailed as today's, however the data is considered useable for the purposes of Mineral Resource Estimation. Qualitative logging includes classification and description of lithology, weathering, oxidation, colour, texture and grain size. Quantitative logging includes identification and percentages of mineralogy, sulphides, mineralisation and veining.

Criteria	Commentary
<i>Sub-sampling techniques and sample preparation</i>	M2M samples were collected at 1m down-hole intervals. Typically a 3-4kg sub-sample split was obtained via a stationary cone splitter attached to the underside off the cyclone. Sampling methodologies are considered industry standard. Sub-samples were collected at the end of each day and transported to a secure location; the remaining residue (stored in plastic bags) are retained at a "bag farm" on site for future reference. Samples were kept dry by the use of auxiliary and booster compressors; no wet samples were encountered. Field duplicates, blanks and Certified Reference Material ("CRM") were periodically inserted into the M2M sample batches at a ratio of 1:50, 1:50 and 1:20 respectively. Sub sampling and sample preparation techniques are considered to be acceptable; results indicate reasonable and acceptable analytical repeatability. The QA/QC procedures implemented during the drill program is considered to be appropriate for this style of mineralisation and industry standard practice. No duplicate or standard samples were submitted by Melita or Jubilee. At least 1 or 2 duplicates were submitted by North per hole but no standards were incorporated. Sample size and collection methodologies are considered appropriate for this style of gold mineralisation and as an industry accepted method for evaluation of gold deposits in the Eastern Goldfields of Western Australia.
<i>Quality of assay data and laboratory tests</i>	Analysis of sample was conducted by either Jinning Laboratories, Kalgoorlie or SGS, Kalgoorlie. Samples were dried, crushed and totally pulverised. Samples were assayed for gold only using classical Fire Assay technique with AAS finish on a 50 gram subsample (0.01ppm Au detection limit). Field duplicates and Certified Reference Material, standards and blanks are regularly inserted into the sample batch. The laboratory also includes standards and blanks as part of their internal QA/QC control. Repeatability and standard results are within acceptable limits. No geophysical tools were used to determine any element concentrations. Historical analysis (Au, As, Cu, Pb, Zn) conducted by North was by Genalysis Laboratory services. Gold only analysis by Jubilee was conducted by Leonora-Laverton Assay Laboratory Pty Ltd. Gold only analysis, fire assay, conducted by Melita sourced Australian Assay Laboratories Group.
<i>Verification of sampling and assaying</i>	No adjustment or calibration have been made to any of the assay data. Sampling and assay techniques are conducted at today's standard. In the past sampling and assaying were conducted to the standards of the day.
<i>Location of data points</i>	All GCRC drill hole collar location points were initially recorded by M2M using a hand held GPS and reported to datum GDA94 and UTM MGA94 zone 51 coordinate system, with horizontal accuracy to $\pm 3\text{m}$. Collar were then surveyed using a RTK DGPS with $\pm 3\text{mm}$ accuracy. The Melita grid control is not recorded however its assumed to be a local grid. Jubilee and North recorded their data in AMG84 grid coordinate system. All historical drill collar data has been converted to MGA94 UTM zone 51. Several historical drill hole collars have been visually verified in the field and were used as control points in conjunction with aerial photo confirmation.
<i>Data spacing and distribution</i>	Drill spacing and drill technique is sufficient to establish the degree of geological and grade continuity appropriate for any mineral resources and ore reserve estimation procedures and classifications applied. The mineralised systems remain open and additional infill or deeper drilling is required to close off and confirm the full extent of identified mineralisation, particularly at depth. Data acquired and processed is only being considered for exploration purposes.

Criteria	Commentary
<i>Orientation of data in relation to geological structure</i>	The main outcropping quartz vein at Golden Crown is coincident with the position of the rhyolite-rhyodacite contact. WNW-dipping shear zones (thrusts) crosscut the vein and the external shear zone foliation merged with laminations in the quartz. These sections of laminated quartz were the only mined portions of the reef. There is also a significant change in the orientation of thrust shears as they track across reactivated contacts. It is considered that minimal sample bias has been introduced by sample orientation. No orientation sampling bias has been identified in the data thus far. Drilling and sampling programs are conducted generally orthogonal to the strike of the mineralisation, to obtain unbiased drill sample data. The regional geological structure is considered to be complex.
<i>Sample security</i>	Once M2M samples are collected from the field they were securely stored in a locked yard at Leonora and/or transported to the analytical laboratory by courier. Once received by the laboratory, samples are checked against the field manifest, sorted and prepared for assay. Samples were then processed and assayed under the supervision of the analytical laboratories. Once in the laboratories possession adequate sample security measures are assumed to be adopted. No sample security sample details are available for historical drilling and analysis.
<i>Audits or reviews</i>	Sampling methodologies, assay techniques and QA/QC protocols used in the various historic drilling programs are not as thoroughly documented when compared to today's current standards. Reviews of the various available historical company reports regarding drilling and sampling techniques indicate that they were conducted to industry standard practice of the day. In some cases data is not well validated and confidence levels are low with respect to collar co-ordinates, assay and logging techniques and sampling procedures. Further audits or reviews are not considered necessary at this particular exploration stage

Section 2 – Reporting of Exploration Results

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	The Mt Malcom Project's tenements are located within the Shire of Leonora in the Mt Margret Mineral Field in the centre of the North Eastern Goldfields of Western Australia. The Golden Crown prospect is located on M37/475. The tenement is in in good standing. M37/475 is held by Mt Malcolm Gold Holdings Pty Ltd, a wholly owned subsidiary of Mt Malcolm Mines NL. The tenements are managed and explored by Mt Malcolm Mines NL. The details of all Company tenements are disclosed in Annexure B "Solicitor's report on tenements" which was released by the company in its IPO Prospectus dated 2nd August 2021 "Mt Malcolm Mines NL CAN 646 466 435 Prospectus" as supplemented by a supplementary Prospectus dated 19th August 2021 (Prospectus). All gold production is subject to a Western Australian government royalty of 2.5%
<i>Exploration done by other parties</i>	The Golden Crown tenements have been explored and drilled by a number of exploration and mining companies over numerous years dating back to the late 1980s, more active gold exploration companies include, Chevron, North Limited, Jubilee Gold Mines and Melita Mining NL. All have contributed to various exploration programs utilising a wide variety of standard exploration techniques. Exploration activities by these companies covered all aspects of mineral exploration with a particular focus on gold. On ground activities included geophysics, geochemistry, geological mapping, drill programs (RAB, Aircore, RC), sampling, structural interpretation and geological assessments. Historical reporting and descriptions of laboratory sample preparation, assay procedures and quality control protocols for the samples from the various drilling programs are variable in their descriptions and completeness. The drilling database has been assembled, interrogated and scrutinised to a satisfactory level however, in the majority of cases the data is historical and predates JORC 2012 compliance. It has not been possible to fully verify the reliability and accuracy of all portions of the data however it appears that no serious problems have occurred. Historical exploration techniques and reported mineralisation was conducted to the industry standards of the day.
<i>Geology</i>	The Project area is located 12km east of Leonora in the North Eastern Goldfields which covers segments of the altered mafic basalt/felsic volcanoclastic/sedimentary sequences of the Malcolm Greenstone Belt, including the Golden Crown sequence positioned within the greenstones of the Kurnalpi Terrain. Local lithologies are characterized by linear trending steeply dipping structures and highly sheared stratigraphy. Rock outcrop is evident and the project area is located on a small hill. Structurally the area is intensely sheared and folded. Regionally gold mineralization is associated with lithological contacts hosted by NW, NNW & EW trending shear zones often associated with quartz veining. There are several old workings and open stopes evident at the Golden Crown prospect. The sequence from footwall to hangingwall is dacite, rhyolite, rhyodacite, basalt and andesitic andesite. Gold lodes represented by shallowly N-plunging shoots are focussed along the hangingwall of the rhyolite unit with a repetition within the overlying rhyodacite. An additional 'out of sequence' and laterally restricted basalt unit at the base of drill hole 21GCRC005 indicates further potential for differentiation of the volcanic pile at depth.
<i>Drill hole Information</i>	The location of drill hole collars is recorded in the company database and presented as part of the significant intersection table in the body of this report. All hole depths refer to down hole depth in metres. Drill hole depths are measured down-hole from the collar (top) of the hole to the bottom (end) of the hole.

Criteria	Commentary
<i>Data Aggregation methods</i>	No averaging of the raw assay data was applied. Raw data was used to determine the location, width of gold intersections and anomalous gold trends. Geological assessment and interpretation were used to determine the relevance of the plotted intersections with respect to the sampled medium. When drill holes are quoted individual grades are reported as down hole length weighted average grades. Only intersections greater than or close to 1.0g/t Au are regarded as significant or anomalous. Intersections > 0.5g/t Au are regarded as indicative of potential mineralisation; they are viewed as anomalous but not considered to be significant however they are useful as a guide to potential mineralisation trends and relevant to any surrounding mineralisation halo. Significant intersections are tabled in the body of this report. No top cuts were applied to any assay values. There is no reporting of metal equivalent values.
<i>Relationship between Mineralisation widths and intercept lengths</i>	In general, the drill hole orientation may not be at an optimal angle to the strike of the greenstone sequence (NW-NNW) and the identified gold mineralisation. However, the majority of holes are orientated in a westerly or south westerly direction. Since the greenstone sequence is generally steeply dipping east, drill intercepts are reported as downhole widths. As a result, the reported intersections do not necessarily represent true widths. Orientation and geometry of the mineralisation zones has been primarily determined by interpretation of historical drilling. The maximum and minimum sample width within the reported mineralised zones is 1m. Quoted intersections are length weighted averages.
<i>Diagrams</i>	Relevant "type example" plans or diagrams are included in the body of this announcement.
<i>Balanced Reporting</i>	Only gold results regarded as significant or anomalous are discussed and reported, generally samples assaying > 1.0 g/t Au which represents a low order mineable grade is referred to in the significant intersections section.
<i>Other Substantive exploration data</i>	Regarding the results reviewed no other substantive data is currently considered necessary. The project area has been historically explored by several listed companies in the past, only results regarded as substantial, by those companies, have been reported in the past. All meaningful and material information is presented in this document. Further data collection will be reviewed and reported as and when considered meaningful or material.
<i>Further work</i>	The potential to increase the existing zones of mineralisation is viewed as probable, however committing to further work does not guarantee that further delineation of the extent, size and geometry of some areas within identified zones of gold mineralisation will be the result. Planned future work at the Golden Crown project includes closely spaced (8m x 12m) shallow RC drilling, database consolidation and potentially diamond drilling. On ground truthing, geophysical interpretation and geological investigation will continue.