ASX: ORP

ORPHEUS URANIUM LTD

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Government Approvals for Advanced-Stage Activities Received, Whilst On-Ground Exploration Activities Commence at Mt Douglas Project, NT

Highlights

- **Geological reconnaissance and sampling have commenced at Mount Douglas (NT) targeting unconformity-style uranium mineralisation similar to other uranium deposits in the Pine Creek Orogen.**
- **Initial focus on airborne and surface radiometric anomalies coincident with structures.**
- **Localised gravity survey to be completed in collaboration with the NTGS/Geoscience Australia's regional gravity survey planned for commencement in 2024.**
- **Approval received from the Northern Territory Government for a Mining Management Plan (MMP) allowing Orpheus to undertake advance-stage exploration activities at Mt Douglas.**

Orpheus Uranium Limited (ASX: ORP) (*Orpheus* or *the Company*) is pleased to announce that on-ground exploration activities have commenced within the Company's Mt Douglas Project in the Northern Territory (see Figure 1 & Figure 2).

The exploration program will "ground truth" extensive anomalies within the project defined from historical airborne and surface radiometric surveys (see Figure 3). The program will include geological mapping and systematic rock chip sampling to identify zones of potential primary uranium mineralisation.

To date, observed outcropping minerology confirms uranium occurs in primary ore minerals that are mobilised (see Figure 4). As such, uranium mineralisation appears to be structurally controlled similar to unconformity style deposits, including those found in the nearby Rum Jungle Uranium Field, the site of Australia's first large-scale uranium mine. This will provide targets for immediate drill testing.

Complementing on-ground field activities, Orpheus has collaborated with the Northern Territory Geological Survey (NTGS) to undertake a locally (500m) spaced helicopter-supported ground gravity survey over the project area. The survey will be run simultaneously with the regionally spaced Pine Creek ground gravity survey being conducted by the NTGS and targeted for completion by the end of the calendar year.

Results of the gravity survey will be combined with historic magnetic and radiometric datasets to refine target areas of interest. The primary output of this work will assist in identifying locally derived alteration zones that are associated with regional structures with potential to control uranium deposit formation.

The results of these preliminary programs will continue to develop an understanding of the geological setting of the project area. This will ultimately guide advanced-stage activities including trenching and/or drilling for which Orpheus' has recently received government approval to undertake within nominated areas associated with these preliminary activities.

Commenting on the exploration program, Orpheus Chief Executive Officer Clint Dubieniecki commented:

> *"We are excited to commence on-ground activities within the Mt Douglas project. The project was acquired by Orpheus on the basis that the geology and historical radiometric data shows all the hallmarks of a large and high-grade unconformity-style uranium district, similar to the Rum Jungle (Pine Creek) or Ranger (Alligator Rivers) deposits. This work represents an important first step in delineating key structures and defining surface uranium mineralisation that will be prioritsed for drilling."*
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> **-END-**

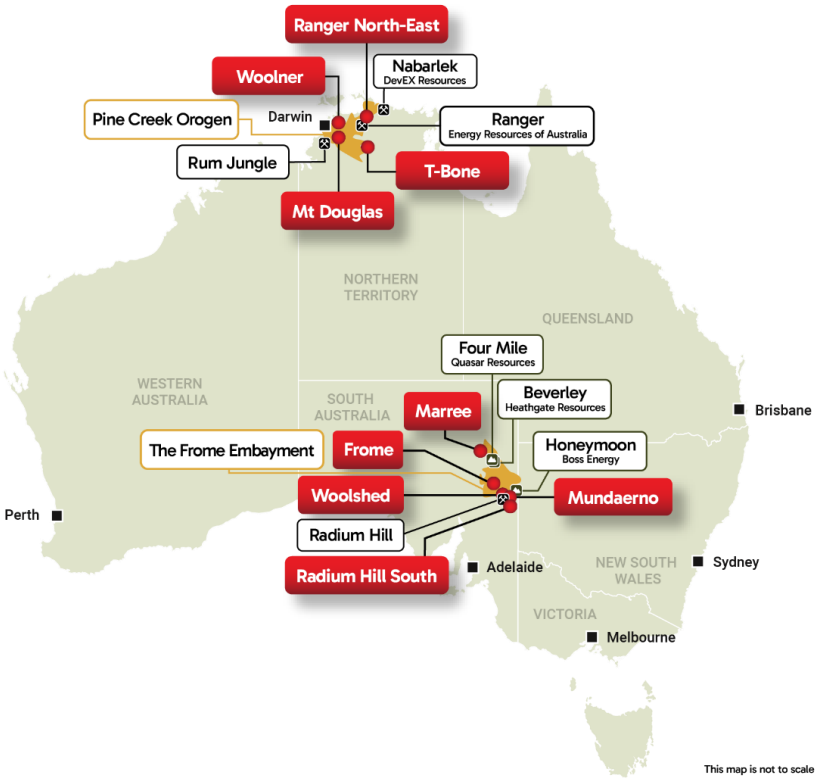

Figure 1: Location map of uranium assets owned by Orpheus located in South Australia and Northern Territory (not to scale).

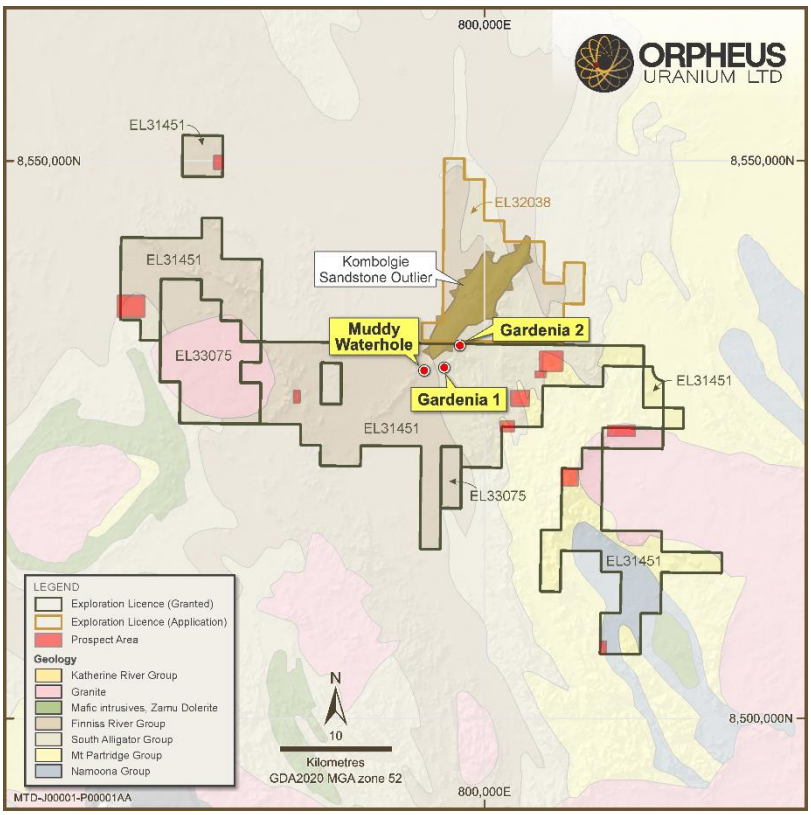

Figure 2: Mount Douglas Project (EL31451, EL 33075, & ELA 32038) Regional geological maps displaying sites of radiometric anomalies (red dots) and prospect areas (red squares).

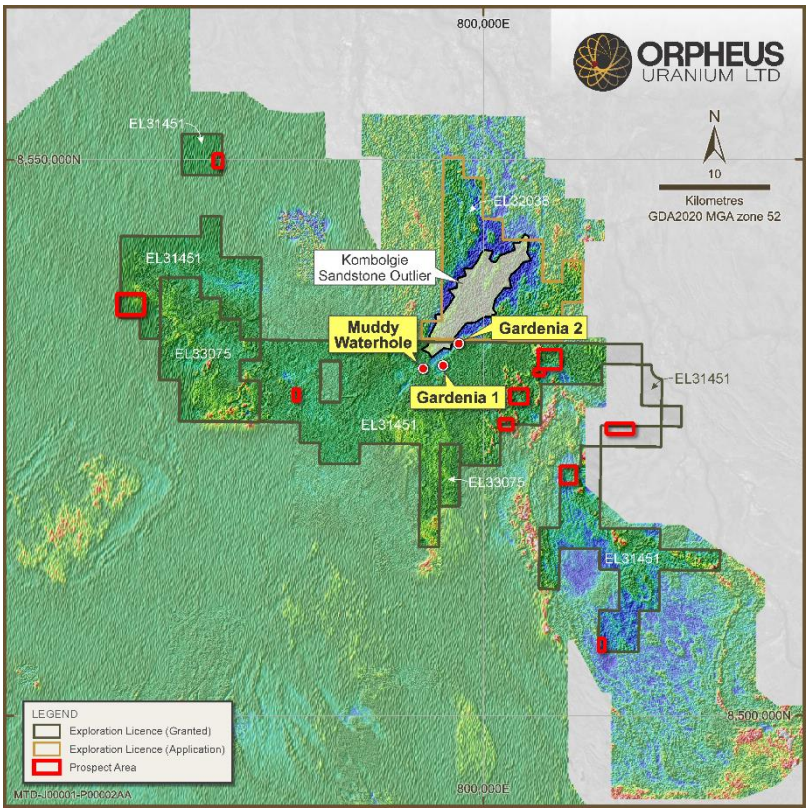

Figure 3: Mount Douglas Project (EL31451, EL 33075, & ELA 32038) Regional radiometric grid (Total Counts), noting that this is multiple historical surveys combined into the one map, therefore radiometric scale is relative.

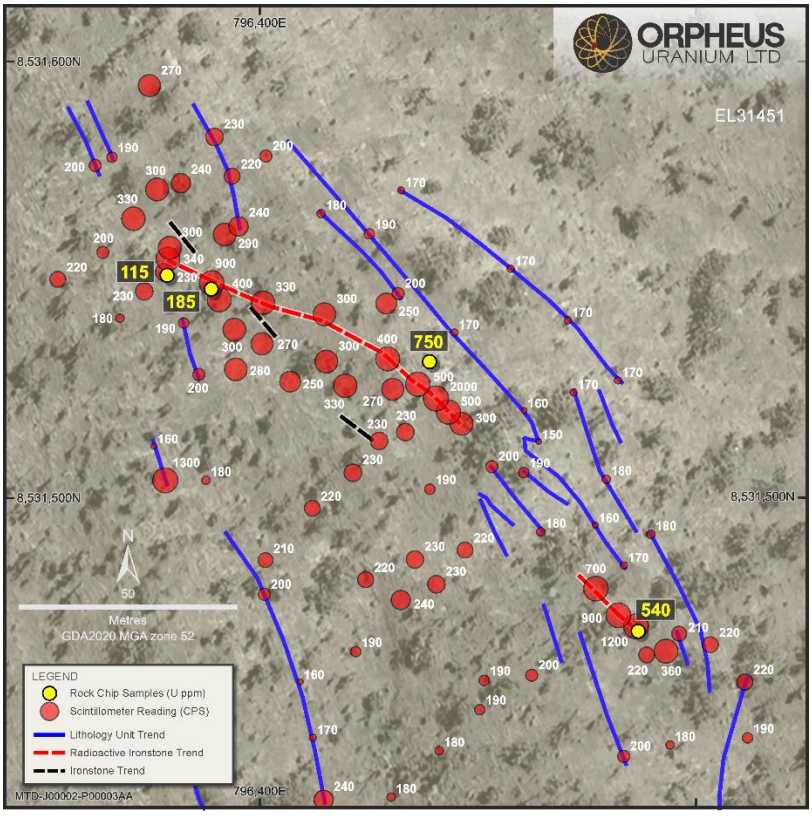

Figure 4: Mount Douglas Project (EL31451) Gardenia 1 prospect with historical grab sample locations in Yellow (U ppm), with surficial uranium in uncalibrated CPS (white numbers) showing relative radiometric highs associated with the 'ironstone trend'.

This announcement was approved for release by the Board of Orpheus Uranium Limited.

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About Orpheus Uranium

Orpheus Uranium Limited is an Australian Securities Exchange listed exploration company exploring for uranium in South Australia and the Northern Territory, both jurisdictions which allow uranium mining and processing.

Competent Person Statement

Sections of information contained in this report that relate to Exploration Results were compiled or reviewed by Mr Clinton Dubieniecki BSc (Hons), who is a Member of the Australian Institute of Geoscientists and is a full-time employee of Orpheus Uranium Limited. Mr Dubieniecki has sufficient experience which is relevant to the style of mineral deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr Dubieniecki consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

Forward Looking Statements

The written presentation may contain forward-looking statement regarding the outlook for the Company's interpretation, work programs, and financial results. These forward-looking statements generally can be identified by phrases such as "anticipates", "potential", "plans", "intends", "believes", "likely", "appears", "expects", "likely", "appears" or other words or phrases of similar impact. There is inherent risk and uncertainty in any forward-looking statements. Variance will occur and some could be materially different from management's opinion. Developments that could impact the Company's expectations include a variety of known and unknown risks, uncertainties and other factors that could cause actual events or results to differ from those expressed or implied, including, without limitation, business integration risks; uncertainty of development plans and cost estimates, commodity price fluctuations; political or economic instability and regulatory changes; currency fluctuations, the state of the capital markets, Orpheus' ability to attract and retain qualified personnel and management, potential labour unrest, unpredictable risks and hazards related to the development and operation of exploration programs that are beyond the Company's control, the availability of capital to fund all of the Company's projects. These forward-looking statements are made as of the date of this presentation and the Company assumes no obligation to update these forward-looking statements, or to update the reasons why actual results differed from those projected in the forward-looking statements, except in accordance with applicable securities laws.

Appendix 1 – Current Exploration Results

Table 1: Mount Douglas Project (EL31451) Gardenia 1 prospect historical grab sample locations (associated with figure 4). All survey sites are projected in GDA2020 UTM Zone 52.

Sample ID	Easting	Northing	U (ppm)
M001249	796379	8531552	115
M001250	796389	8531549	185
M001251	796439	8531532	750
M001252	796487	8531470	540

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 (eg 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 (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.*	• Rock chip samples collected by Auschin Resources Pty Ltd were submitted to North Australian Laboratories Pty Ltd for geochemical analysis using the following methods: • Four Acid Digest plus ICP-MS (G400M) method to measure Uranium
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*	• Not applicable due to no drilling undertaken.

	tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Not applicable due to 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.*	• Not applicable due to 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.*	• Samples were nominated based upon association of elevation in counts per second (CPS) captured with handheld scintillometer. • Samples obtained were identified to be in-situ, thus appropriate representation. • No duplicates or standards were obtained, with standard lab-based QAQC entrusted for analytical confidence.

	• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
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.*	• Assay technique is Four Acid Digest plus ICP-MS (G400M), which is appropriate for uranium exploration. • Quality of assay data and laboratory tests are considered to be appropriate for exploration analysis however are not considered appropriate for Mineral Resource estimation purposes.
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.*	• Verification of sampling and assaying was completed by the acquiring geologist.

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.*
		• The grid system for the Mount Douglas Project is:
		  ○ Datum: Geodetic Datum of Australia 2020 (GDA2020)
		  ○ Projection: Map Grid of Australia (MGA)

	• *Quality and adequacy of topographic control.*	○ Zone: Zone 52 • Sample locations have been extracted provided by the acquiring geologist
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Data has been sampled selectively along the lithological unit of interest based upon scintillometer readings (CPS). • Not applicable as no Mineral Resource and Ore Reserve are reported. • No 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.*	• Sampling at Gardenia 1 (previously Radiometric Anomaly 1) targeted a structural zone approximately 0.2 m width by 30 m length containing chlorite and hematite alteration within an iron banded formation.
Sample security	• *The measures taken to ensure sample security.*	• None recorded.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• In 2020, Orpheus Ltd commissioned an Independent Geologist to outline target areas for uranium exploration. Radiometric uranium channel shows folded, uranium rich units of the upper Koolpin Formation. A peak uranium channel anomaly lies at the base of the Kombolgie unconformity at an intersection of NW and NE faults, in an area previously unexplored. Areas of high response also correlate to mapped outcrop of Minglo Granite.

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 Mount Douglas Project is located in the Central Pine Creek Orogen in Northern Territory and comprises two granted and one application exploration licences that are 100% owned by Trachre Pty Ltd (Trachre is a 100% subsidiary of Orpheus Minerals Limited), to include: ○ Exploration licence 31451 Mount Douglas, granted for a period of six years to 7/09/2023 (*Currently being renewed)*. ○ Exploration licence 33075 Mount Douglas (Ban Ban), , granted for a period of six years to 02/01/2029. ○ Exploration licence application 32038 Mount Douglas (Mary River) covers a portion of the Mary River National Park. ○ There are no known impediments to obtaining a licence to operate in the area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Mineral company exploration reports have been sourced from the Northern Territory Geological Database, GEMIS. All historic Company open file reports are publicly available from the online GEMIS website. A summary of historic exploration for uranium and gold conducted across the Mount Douglas package of tenements comprises the following: • **Central Electricity Generating Board Exploration (Australia Pty Ltd), EL 4751 (1987).** Exploration comprised one inclined cored hole for 174 m with a percussion collar to 36 m targeting the Muddy Waterhole Outlier prospect (located within the Mount Douglas Project area) to follow up a radiometric anomaly in strongly brecciated Kombolgie

		Sandstone. Burrell Creek Formation siltstone was intersected at 30 m at a sharp weathering/fresh rock interface. At 140 m an unconformity with the sandstone and the quartz conglomerate of the Kombolgie Sandstone was reached and contained weak pyrite and hematite mineralisation associated with quartz veining. The drill hole was logged using a Geosource type T201 total count scintillometer probe unit, which returned radioactivity up to 145 cps. Core samples were assayed for Cu, Pb, Zn, Co, Ni, Cr, Mn, Ag, Au, Th and U. • **Kennecott Explorations, EL 4944 (1989).** Exploration for gold at the Mt Wells project, targeted structurally controlled gold hosted by the Koolpin Formation, Gerowie Tuff, Mount Bonnie Formation or Wildman Siltstone. Exploration comprised rock chip sampling, geological mapping, stream sediment sampling which led to the discovery of the Hill 5 gold prospect located within the Mount Douglas Project area. An IP survey, petrography and trenching was undertaken prior to the sinking of 5 diamond tailed RC percussion holes for total depth of 717m, average depth 143 m. Best intersect was 6 m @ 0.84 g/t Au in drillhole PDNTMW5. Follow-up work comprised BLEG gold drainage survey, soil sampling, rock chip sampling and prospecting. Rock chip sampling returned 2.94 ppm Au with three follow up channel rock samples averaging 0.25 ppm Au over 6 m. BLEG samples returned anomalous 18.7 ppb Au, believed to be sourced from quartz or quartz-sulphide veins hosted in small shears, dominantly within the Koolpin Formation. • **Geopeko, EL 7426, EL 7915 and EL 7511 (1994).** Exploration targeted gold mineralisation associated with folded and sheared rocks of the Finniss River Group and South Alligator Group. Exploration comprised rock chip sampling, geological mapping, shallow air-core drilling, IP survey and RC drilling of geochemical and geophysical targets. Within the Mount Douglas Project area, Geopeko drilled 13 RC holes at the Margaret River prospect for a total

		of 609 m. Average hole depth was 46 m. RC drilling targeted an aircore geochemical anomaly of up to 450 ppb Au, an IP anomaly and three small outcrops showing evidence of fracturing and quartz-sulphide veining. An anomalous intersect of 2 m @ 1.1 g/t Au was reported (MMRC17). Drillhole MMRC4 was targeting a rock chip (quartz veined gossaneous greywacke) that returned 2.3% Pb and 0.1% Zn. • **Normandy Exploration Limited, SEL 8019 (1994-1995).** Drilled 140 RAB holes at the Area 2 prospect located within the Mount Douglas Project area for a total depth of 1,035 m. Average hole depth was 7 m. Drilling targeted structurally favorable areas covered by black soils for bedrock identification. Samples were analysed for Au, As, Cu, Pb and Zn however results were not considered anomalous. • **Thundelarra Exploration, EL 23506, EL23516, EL23517, EL 23532, EL 24403 and EL 25119, (2011).** Conducted detailed airborne geophysical survey (magnetic/radiometric) and detailed 1:40k geological and geomorphological study comprising lithology and structure highlighting anticline/syncline folds and regional and local faults systems. Further details on Thundelarra airborne surveys, refer to section “Other substantive exploration data”. • **Auschin Resources Pty Ltd, EL 31451 (2017 – 2021).** Sampling from the Mount Douglas Project since the grant of EL 31451 comprises surface rock chip samples collected from prospect locations to include: • Mount Douglas Radiometric Anomaly 1 and 2, eleven rock chips collected from heamatitic ironstone bands with radiometric anomalism, in an area with cross-cutting structures. Rock chip sampling at Radiometric Anomaly 1 was conducted in year 2020, sample M1251 returned 749 ppm U and in 2021, sample M20003 returned 1,089 ppm U from an

		adjacent location. The sampling sites were located targeting an area containing spot readings up to 3,500 cps. • Margaret East Hills, seven rock chips collected in an area anomalous for Au-Pb-As, and to follow-up a Pb in stream anomaly. Gold grades returned up to 0.65 g/t Au, with five of the samples returned >0.1 g/t Au. • Lyn, two rock chips were collected to follow-up a northern extension to a known 1.5% Pb and 0.3% Zn occurrence within ferruginous horizons of the Koolpin Formation (outside of the licence area), returned up to 0.3% Pb and 0.2% Zn. • North Jessops, seven rock chips targeting a linear trend of gold anomalism of 0.89 g/t Au in ferruginous sediments of the Koolpin Formation within a mapped anticline, returned 0.15 g/t Au. • Hill 5, six rock chips collected at the previously defined Hill 5 prospect which contains Au-As anomalism associated with quartz veining within the Koolpin Formation, in a structurally complex anticline (maximum historic drilling results included 6 m @ 0.24 g/t Au and 4 m @ 0.78 g/t Au). Five of the six rock chips returned over 0.1 g/t Au, up to 1.14 g/t Au. • Area 6, eighteen rock chips collected from a previously identified gold-in-soil anomaly, mineralisation is potentially related to NW striking quartz veins along the eastern margin of the Koolpin Formation. Results returned ten samples >0.1 g/t Au, up to 0.41 g/t Au. • Nelson 2 South, seven rock chips collected from a saddlereef targeting quartz veining, maximum value returned 0.45 g/t Au.

		• Mount George North, four rock chip samples collected from a quartz veined gossan, three of the four samples returned >0.1 g/t Au. • Frances Creek North, follow-up of previously defined single rock chip of 3.85 g/t Au to the west of the licence area, for a possible continuation of the Frances Creek gold mineraliased system. Twelve rock chips were collected from quartz veins at the contact between the Mundogie Sandstone and the underlying Masson Formation. Results returned up to 0.74 g/t Au, further structural interpretation warranted.

	• *Deposit type, geological setting and style of mineralisation.*	• The Mount Douglas Project is located in the Central Pine Creek Orogen and comprises prospective stratigraphic horizons of the Mount Partridge Group and the South Alligator Group intruded in places by the Zamu Dolerite and thermal I-type granites of the Cullen Supersuite, and in places, unconformably overlain by the Kombolgie Sandstone.
		• Uranium exploration is targeting:
		  • Hard-rock unconformity-style uranium mineralisation near the base of the Kombolgie Sandstone, similar to uranium deposits, Ranger and Jabiluka mining district.
		  • Structurally-controlled vein-style uranium.
		  • Radiometric contact zone around granite intrusives as a result of contact metamorphsism with the Pine Creek sediments.
		• Gold exploration is targeting:
		  • Structurally-controlled gold mineralisation in units of the Burrell Creek Group and the South Alligator Group.

		• Vein-type hydraulic fracture zones within the Kombolgie Sandstone. • Currently there are four recognised uranium prospects located within the Mount Douglas Project: • **Kombolgie Sandstone Unconformity.** Radiometric anomalies are evident within outcropping uranium-bearing rocks recently identified near the base of the Kombolgie Sandstone which indicates prospectivity for unconformity-related uranium deposits. • **Mount Douglas Radiometric Anomaly 1 & 2.** Evident in airborne radiometrics and followed up by ground truthing identifying 3,500 counts per second (cps) from banded haematitic ironstone cherts of proposed Mount Bonnie Formation. Rock chip sampling of a chlorite and hematite altered unit that occurs within a structural zone approximately 0.2 m by 30 m dips 72º toward 230º returned 750 to >1,000 ppm U. • **Minglo Granite Radiometric Anomaly.** Evident in airborne radiometrics, area of high response in mapped Minglo Granite. • Currently there are thirteen identified prospect areas for follow-up exploration within the Mount Douglas Project: • Radiometric anomaly at base of Kombolgie unconformity (uranium) • Radiometric anomaly within the Minglo Granite (uranium) • Radiometric Anomaly 1 (uranium) • Radiometric Anomaly 2 (uranium)

		• Margaret Hills East (Au-Pb-As) • Lyn (Pb-Zn) • North Jessops (Au) • Hill 5 (Au) • Area 6 (Au) • Nelson 2 (Au) • Mount George North (Au) • Frances Creek North (Au) • Elkedra (Au-As-Pb) • In 2020, Argonaut Resources NL commissioned an Independent Geologist to outline target areas for uranium exploration. Radiometric uranium channel shows folded, uranium rich units of the upper Koolpin Formation. A peak uranium channel anomaly lies at the base of the Kombolgie unconformity at an intersection of NW and NE faults, in an area previously unexplored. Areas of high response also correlate to mapped outcrop of Minglo Granite.
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:* ○ *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*	• Refer to Table XX for drillhole information. • Collar locations have been extracted from Company open file reports and reprojected to the Mount Douglas Project grid system.

	○ *down hole length and interception depth* ○ *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.*	
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.* • *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.*	• A cut-off grade for hard-rock uranium mineralisation is approximately 150 ppm U depending on the deposit. • Exploration will target grades less than the mine cut-off grade, to approximately 50 ppm U, until a resource is defined.
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 (eg 'down hole length, true width not known').*	• Not applicable as no drilling is being undertaken.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should*	• Appropriate diagrams are included in the main body of this report. No significant discovery or drilling is being reported.

	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
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.*	• In 2020, Argonaut Resources NL commissioned an Independent Geologist to outline target areas for uranium exploration. Radiometric uranium channel shows folded, uranium rich units of the upper Koolpin Formation. A peak uranium channel anomaly lies at the base of the Kombolgie unconformity at an intersection of NW and NE faults, in an area previously unexplored. Areas of high response also correlate to mapped outcrop of Minglo Granite.

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.*	• **Thundelarra (2011).** Conducted the following geophysical surveys.
		  • A high resolution detailed geophysical survey (magnetic and radiometric) was flown over the area by Thomson Aviation Pty Ltd in August 2010. Flight line separation was 70 m with a terrain clearance of 30 m, using GDA94 zone 52. This survey is considered substantive exploration data that highlights areas considered prospective for uranium, evident in the uranium channel of the radiometric grids.
		  • Commissioned a detailed geological mapping study to understand the geological and geomorphological setting using air photos, remotely sensed data (Landsat, Quickbird and SPOT) integrated with high resolution geophysics. A 1:40k scale map was produced which detailed lithology and structure highlighting anticline/syncline folds and regional and local faults systems.
		• **Geoscience Australia (2011).** Conducted a geophysical survey.
		  • A significant regional airborne electromagnetic survey, the Pine Creek AEM Survey (Pine Creek AEM Survey), was

		completed by Geoscience Australia in 2011. The goal of the Pine Creek AEM survey was to characterise the electromagnetic response of Paleoproterozoic rocks, particularly graphitic units adjacent to Archean granite domes, and map these units in regions of extensive cover, such as the Woolner Granite, and Daly River Basin areas. The project also attempts to map key sub-surface unconformities and structures which may have units in regions of extensive cover, such as the Woolner Granite, and Daly River Basin areas. The project also attempts to map key sub-surface unconformities and structures which may have influenced mineralising fluids.

Further work	• *The nature and scale of planned further work (eg 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.*
		• Exploration targets proposed for future work that are indicative at this stage includes:
		
		  • Unconformity-type uranium mineralisation targeting radiometric anomalies evident within outcropping uranium-bearing rocks recently defined near the base of the Kombolgie Sandstone.
		
		  • Uranium, gold and base metal mineralisation associated with the Cullen Supersuite, which comprises late-orogenic Palaeoproterozoic I-type granites, causing contact/thermal aureoles which contains most of the gold and other mineralisation in the Pine Creek Orogen.
		
		  • Radiometric anomalism evident within the Koolpin Formation and the overlying Gerowie Tuff units of the South Alligator Group.
		
		  • Uranium-bearing ironstone units (banded iron formation) of the Koolpin Formation and the Mount Bonnie Formation.

		• Regional and prospect scale structures, faults and fold hinges, displaying evidence of mineralisation, in addition to structures along the granite/sediment contact.
		• Exploration methodologies include:
		  • Review historical data and re-process geophysics to improve the understanding of the area.
		  • Systematically ground truth radiometric and surface anomalism and conduct reconnaissance surface sampling.
		  • Prospect scale geological mapping and detailed surface geochemical programs.
		  • Regional and Prospect scale geophysical surveying such as gravity, and detailed radiometric.
		  • Trenching and Drilling of target areas where surface uranium, gold or base metals has been confirmed in assays.