Middle Island Resources Limited
ACN 142 361 608
Suite 1, 2 Richardson Street
West Perth WA 6005
PO Box 1017
West Perth WA 6872
Tel +61 (08) 9322 1430
Fax +61 (08) 9322 1474
info@middleisland.com.au
www.middleisland.com.au

Middle Island
RESOURCES LIMITED

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ACN 142 361 608
ASX code: MDI
www.middleisland.com.au

Capital Structure:
1,047 million ordinary shares
378,950,719 unlisted options

Cash & Liquid Investments
$602,000 (as at 30 September 2019)

Directors & Management:
Peter Thomas
Non-Executive Chairman
Rick Yeates
Managing Director
Beau Nicholls
Non-Executive Director
Dennis Wilkins
Company Secretary

Contact:
Rick Yeates
Mob: +61(0)401 694 313
rick@middleisland.com.au

ASX Release – 15 November 2019

Maiden move into Northern Territory under new IOCG project for Middle Island

- **First entry by Perth-based explorer and aspiring gold developer, Middle Island, into Northern Territory's substantial mineral exploration upside**
- **'Barkly super-project' comprises 10 tenement applications aggregating 3,912km² to secure first-mover advantage in recently identified and highly prospective East Tennant iron oxide-copper-gold (IOCG) province east of Tennant Creek**
- **The applications semi-continuously extend for >350km from Tennant Creek across the Barkly Tableland towards the Queensland border**
- **Competing applications with Rio Tinto and Newcrest Mining provide endorsement of technical merit and strategy**
- **Project represents low entry cost and low initial exploration cost opportunity to identify high value targets of interest to major and mid-tier resources companies**
- **East Tennant Ridge identified as a priority area via collaborative research by Geoscience Australia (GA) and Northern Territory Geological Survey (NTGS)**
- **Consistent with other recent, successful, collaborative, pre-competitive research examples leading to major mineral discoveries under cover, including Winu and Havieron in the Paterson Province of WA and Four Eagles and Tandarra beneath the Murray Basin of northern Victoria**
- **It is anticipated that exploration on the Barkly super-project will commence during the 2020 dry season, once all regulatory approvals have been addressed.**

BARKLY SUPER-PROJECT – NORTHERN TERRITORY

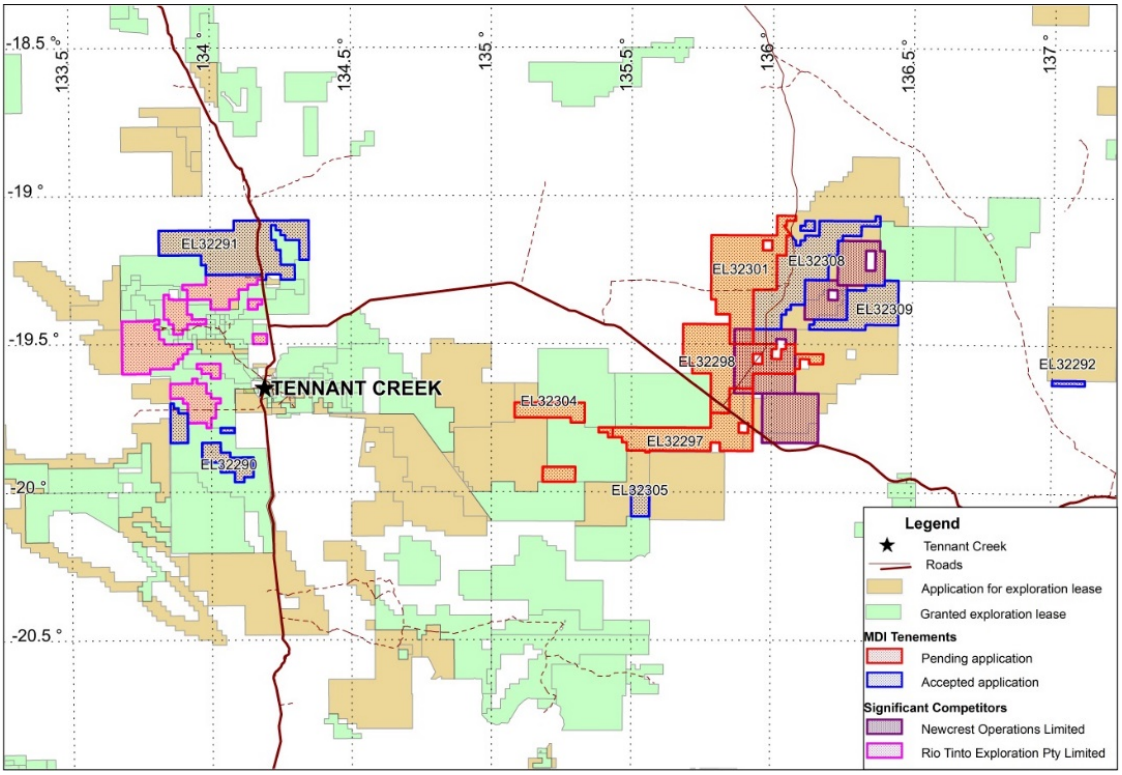
Introduction

Explorer and aspiring gold developer, Middle Island Resources Limited (**Middle Island**, **MDI** or **the Company**) is pleased to announce that the Company has applied for 10 exploration licences, covering an aggregate area of 3,912 square kilometres, within the East Tennant region of the Northern Territory (NT). The applications semi-continuously extend for over 350km along the axis of the East Tennant Ridge from Tennant Creek, east across the Barkly Tableland, towards the Queensland border.

Six of these applications, covering some 1,890 square kilometres, have been accepted. An additional four applications, representing a further 2,022 square kilometres, were lodged by Middle Island as part of a competitive process following the lifting of a moratorium over the East Tennant (Barkly) area. They are currently the subject of partially or wholly competing applications made by several companies, including Newcrest Mining, the outcome of which will be judged on the technical merit of proposed exploration programs in each case.

The 10 tenement applications represent Middle Island's maiden entry into one of the NT's historically strongly mineralised copper-gold provinces. This strategy positions the Company as a first-mover within the newly identified, iron oxide-copper-gold (IOCG)-prospective, East Tennant area (Figure 1), which extends across the Barkly Tableland. The tenement applications will collectively comprise the 'Barkly super-project'.

Figure 1
Middle Island tenements and applications comprising the Barkly super-project, Northern Territory



Collaborative GA/NTGS research has identified the East Tennant region as a priority area to host IOCG mineralisation.

Setting

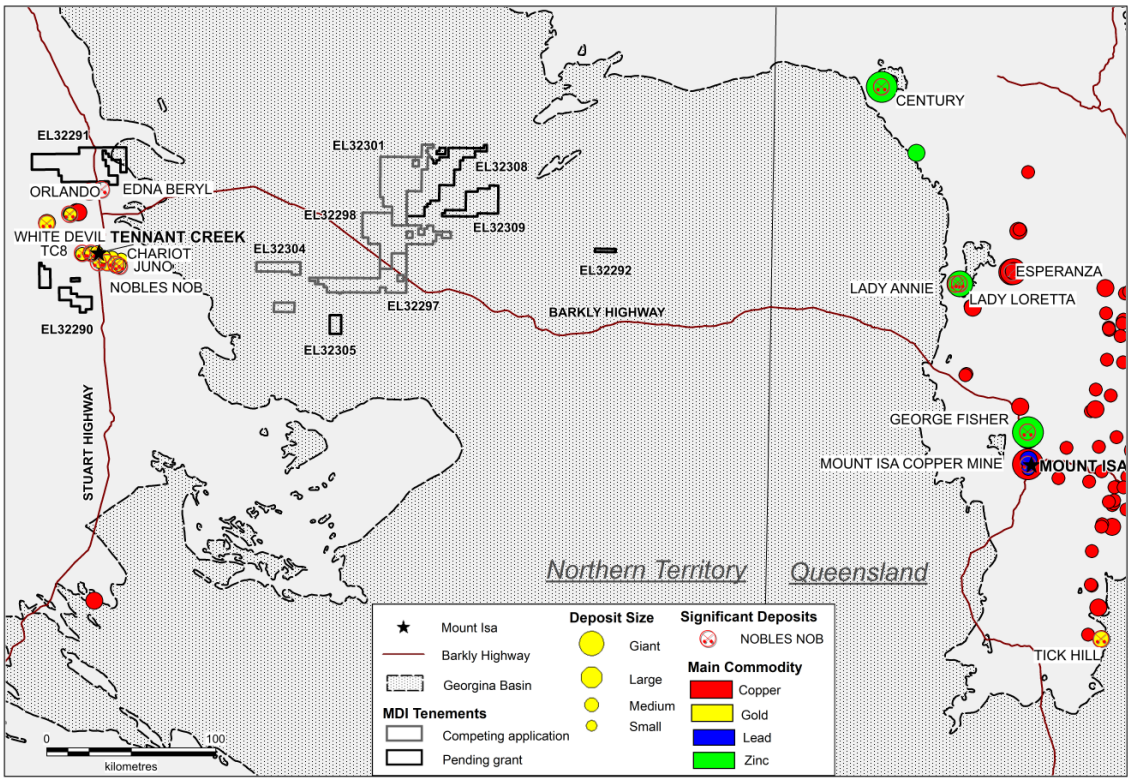
To the north and east of the Georgina Basin, the Proterozoic Mount Isa Inlier in northwest Queensland is recognised as a world-class mineral province, hosting an estimated 75% of the State's total copper, lead, zinc and silver resources. The majority of the Mount Isa Inlier is interpreted to lie beneath Georgina Basin cover, and is prospective for IOCG deposits, sedimentary exhalative (Sedex) Zn-Pb-Ag deposits, and structurally controlled Cu+/-Au deposits. The Sedex deposits of Mount Isa collectively contain 90Mt of combined Pb-Zn metal, plus 300Mt of ore grading 2.8% Cu, and silver at grades of up to 150g/t Ag. The Mount Isa, George Fisher and Century Sedex deposits, are the largest examples of their type in the world.

To the west of the Georgina Basin, the Tennant Creek Block in the central Northern Territory hosts high grade Proterozoic gold and copper-gold deposits and mines associated with magnetite-haematite-rich ironstones of IOCG affinity. These deposits are generally structurally controlled and tend to align within a number of distinct mineralised corridors. Tennant Creek has produced 5.5Moz of gold at an average grade of 19.3g/t Au, along with 488,000t of copper at an average grade of 2.9% Cu and 5,000t of bismuth. The discovery of the haematite-magnetite-hosted Chariot deposit in 1998 demonstrates potential for variations on the classic magnetite ironstone-hosted gold and copper-gold deposits, whereby lower order magnetic and gravity geophysical anomalies can define new targets. Discovery of the Malbec West, Marathon and Billy Boy deposits further supports this concept.

The disposition of Middle Island's tenement applications relative to deposits surrounding the Georgina Basin is shown in Figure 2 below.

Figure 2

Middle Island applications relative to major deposits peripheral to the Georgina Basin.



Background

Middle Island identified the Barkly Tableland region, east of Tennant Creek, as an extensive area of unexplored basement potential. Assessment of Exploring for the Future (EFTF) data sets, integrated with historic open file data, led to the identification of several priority targets of interpreted IOCG affinity, extending beneath sedimentary cover along a sinuous corridor from Tennant Creek to Mount Isa.

Middle Island's early focus on the East Tennant area afforded the Company the opportunity to confirm priority targets prior to the public release of GA and NTGS pre-competitive research data, and to be well-positioned when the exploration licence moratorium was lifted on 7 October 2019.

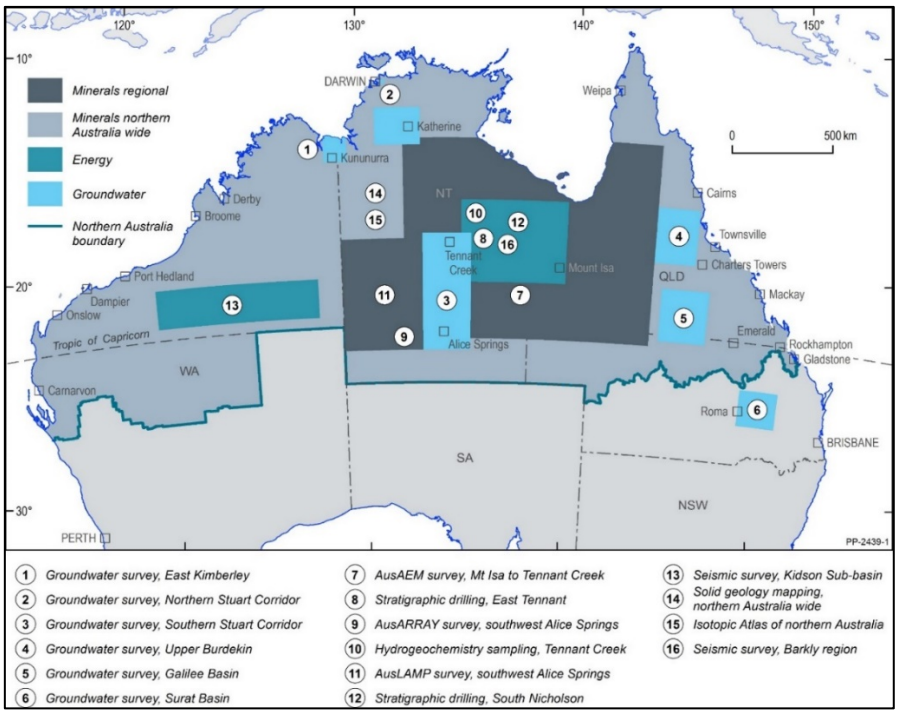
In addition to competition from Rio Tinto Exploration in the more immediate Tennant Creek area, several Middle Island tenement applications in the Barkly (East Tennant) area partially coincide with competing applications by Newcrest Mining and others, further justifying the strategy and selection rationale.

Exploring for the Future Initiative

The East Tennant Province has been the focus of several comprehensive completed and on-going pre-competitive studies by GA and NTGS in recent years, and is rapidly gaining attention as a priority, yet largely unexplored, IOCG mineral province.

Interest in the East Tennant area has grown significantly since it was selected as one of the focus areas for the EFTF program, a $100.5 million initiative by the Australian Government dedicated to boosting investment in Australian mineral exploration. The four-year EFTF program focuses on northern Australia, as shown in Figure 3 below.

Figure 3
Current extent of EFTF activities across northern Australia (GA, 2019).



As a result of the EFTF initiative, the Tennant Creek to Mount Isa region is now one of the best-imaged lithospheric terranes in the world, with multiple geophysical datasets, surface and down-hole geochemistry, solid geology interpretations, isotopic mapping, isometric cover thickness models and U-Pb geochronology.

The first quarter of 2019 saw the release of data from the Australian Airborne Electro-Magnetic (AusAEM) survey, the world's largest of its type, extending over east and central Northern Territory and western Queensland. This survey was conducted as a collaboration between GA, NTGS and the Geological Survey of Queensland (GSQ).

The datasets also include the Australian Lithospheric Architecture Magneto-telluric Project (AusLAMP) to model lithospheric conductivity. Data is collected using a passive geophysical technique that measures the Earth's electric and magnetic fields to determine the conductivity/resistivity of the subsurface in three dimensions. The data is processed to produce a model of the conductivity of the earth from ten to hundreds of kilometres depth, through the crust and upper mantle.

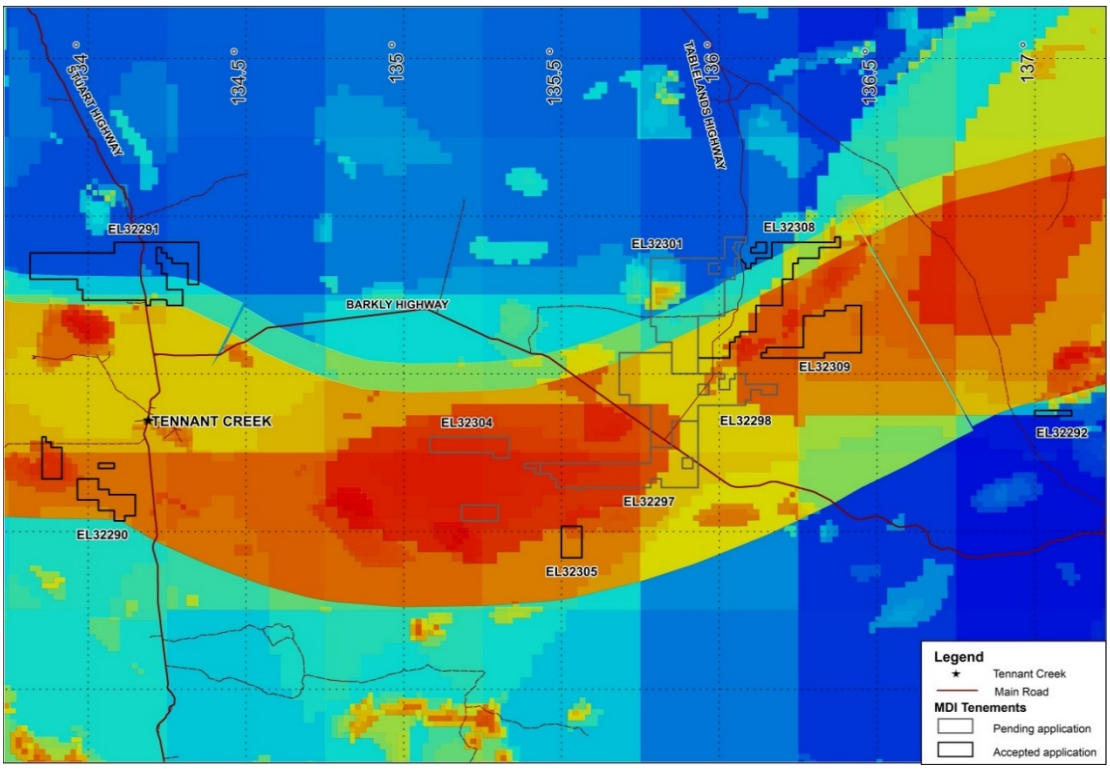
In addition to the AusAEM and AusLAMP surveys, the relevant pre-competitive data comprises airborne magnetic, gravity and seismic surveys, and geochemical and stratigraphic drilling programs specific to the East Tennant area. Preliminary findings of this work were released at an industry seminar in Perth in September 2019, with notable conclusions highlighting the IOCG prospectivity of the East Tennant region in particular (termed the East Tennant Ridge), including:-

- Large-scale and deep-seated structural architecture.
- High conductivities modelled to extend from the mantle.
- Modelled iron-oxide alteration.
- Modelled mineral potential.
- Accessible basement depths.

All datasets were utilised by GA to generate an IOCG prospectivity map, shown in Figure 4 below.

Figure 4

Middle Island applications relative to the GA IOCG prospectivity mapping (hot colours being most prospective).



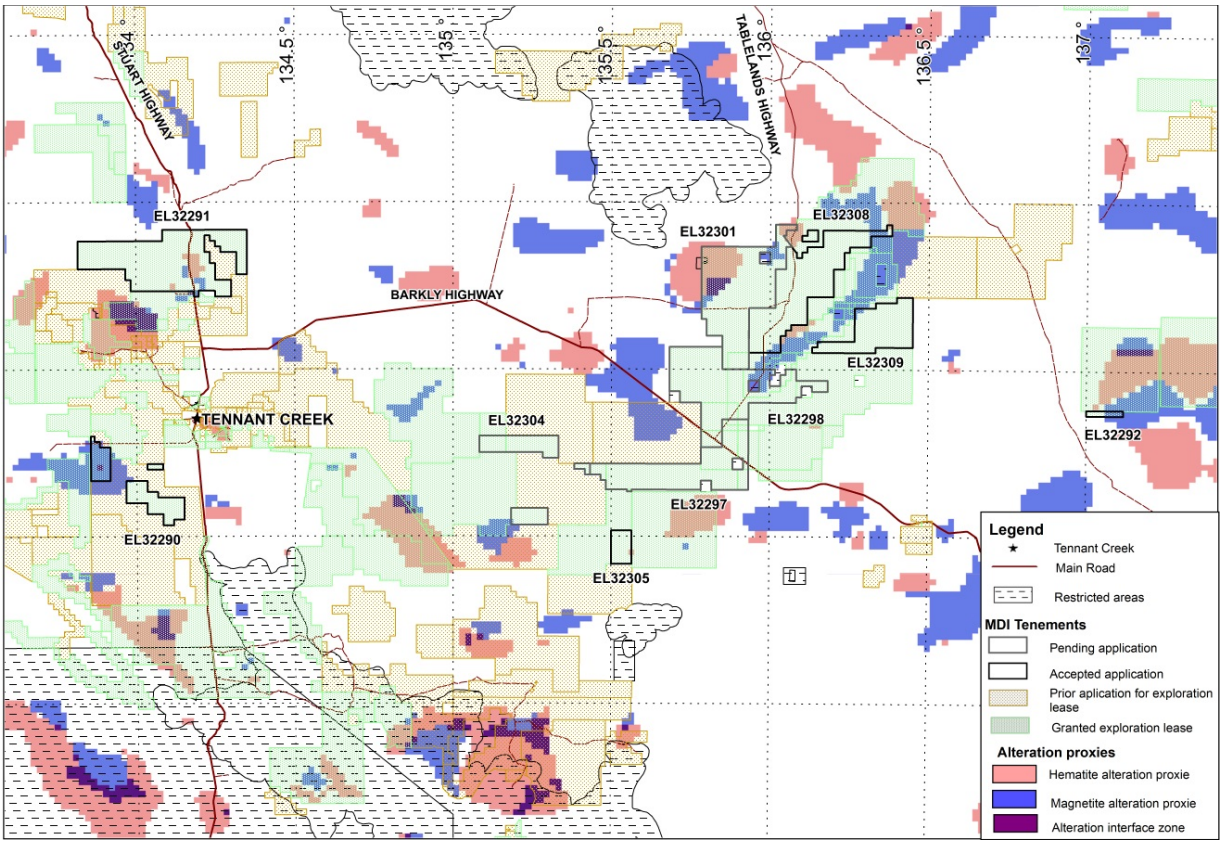
Several studies are on-going, including stratigraphic and geochemical basement drilling, and further deep crustal seismic traverses, with final results expected in 2020.

Significant outcomes from the work completed and analysed to date are the projected shallow depth to mantle, coincident with the shallow sedimentary cover along the East Tennant Ridge, and the modelled IOCG mineral potential. These findings establish linkages between the mantle as a fluid, heat and mineral source, and northeast-southwest trending crustal-scale faults, associated with the East Tennant Ridge, that act as fluid pathways to bring metal concentrations close to the surface.

The third outcome of work carried out by GA, was to predict and map the presence of IOCG-related alteration using 3D magnetic susceptibility and density models, produced by inverting gravity and magnetic intensity data sets. These inversion models provide an indication of the volume and distribution of these physical properties within the earth. Volumes with relatively high densities and magnetic susceptibilities were treated as proxies for magnetite-rich alteration, and volumes with high density and low magnetic susceptibility were treated as proxies for haematite-rich alteration, as shown in Figure 5 below.

Figure 5

Middle Island applications relative to hematite and magnetite alteration proxies, potentially associated with mineralised IOCG systems.



It is within such alteration zones, particularly at the interface between the two, that copper, gold, uranium and rare earth element mineralisation, consistent with the IOCG model, may be present. However, the inversion modelling will also inevitably identify a number of false-positives, requiring more detailed datasets and/or inversion modelling to enable discrimination from true IOCG-related alteration.

Exploration Opportunity

The Barkly tenement applications are focussed on an interpreted eastward extension of the economically prospective Warramunga Formation, referred to as the East Tennant Ridge, under shallow Georgina Basin cover. This model is consistent with major recent mineral discoveries in basement rocks reported from 'blind' targets veneered by younger sedimentary cover in WA's Paterson Province (Winu and Havieron) and extensions of the prolific Victorian gold belts under Murray Basin sedimentary cover (Four Eagles and Tandarra). These regional examples were, at least in part, similarly generated as a result of extensive, collaborative, government research projects.

Significant examples of 'blind' IOCG deposits discovered beneath substantial sedimentary cover include BHP's Olympic Dam and Oak Dam deposits in South Australia, which are respectively overlain by approximately 400m and 900m of post-mineral sedimentary cover.

The Georgina Basin extends east from Tennant Creek across the Queensland border to Mount Isa, and is subdivided by several basement highs into smaller sub-basins. The principal basement high, the East Tennant Ridge, runs northeast under the Barkly Project area, where the interpreted depth of cover ranges from 100m to 250m along the ridge axis, increasing to ~800m on the flanks of the ridge.

The East Tennant Ridge is of particular significance in that, aside from phosphate exploration within the overlying Georgina Basin, previous exploration activity within the Proterozoic basement rocks is extremely limited or non-existent.

Exploration Timeline

With respect to uncontested applications, it is anticipated that Native Title and other regulatory protocols will not see these tenements granted prior to March 2020. Competing tenement applications are anticipated to be clarified in January 2020, with Native Title and other regulatory protocols taking at least a further four months, out to May 2020, prior to grant. As such, it is likely that exploration might reasonably be anticipated to commence during the 2020 dry season.

Initial Middle Island work will focus on capturing any outstanding open file and pre-competitive data, the modelling of exploration targets and the planning of high resolution geophysical surveys to refine modelled targets in preparation for drill testing.

Where targets are modelled to lie beneath shallow sedimentary cover, Middle Island will look to drill in its own right. However, where modelled targets are interpreted to lie at greater depth, the Company will contemplate introducing a joint venture partner with a stronger balance sheet, consistent with an 'incubator' exploration strategy.

Middle Island Managing Director, Mr Rick Yeates:

"The then pending, and now completed, divestment of the Reo gold project in Burkina Faso provided the opportunity for Middle Island to identify a new project, with the focus very much on a lower risk, Australian gold or copper-gold opportunity.

"On the basis of extensive internal and pre-competitive government research, and recognising increasing corporate interest in junior explorers with large, prospective landholdings, we are extremely pleased to be able to present the Barkly IOCG copper-gold super-project, which we firmly believe represents a significant, accessible, highly prospective, low entry cost, greenfields exploration opportunity to complement the more advanced and wholly owned Sandstone pre-development gold project in central WA."

COMPANY CONTACTS:

Rick Yeates – Managing Director +61 (0)401 694 313

MEDIA CONTACT:

Kevin Skinner Field Public Relations +61 (0)8 8234 9555 / +61 (0)414 822 631

WEBSITE: www.middleisland.com.au

Forward Looking Statements

Statements contained in this release, particularly those regarding possible or assumed future performance, costs, dividends, production levels or rates, prices, resources, reserves or potential growth of Middle Island, industry growth or other trend projections are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors.

Competent Persons' Statement

Information in this report relates to exploration results that are based on information compiled by Mr Rick Yeates (a Member of the Australasian Institute of Mining and Metallurgy). Mr Yeates is a fulltime employee of Middle Island and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration 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 Yeates consents to the inclusion in the release of the statements based on his information in the form and context in which they appear.