

26 September 2023

ASX: MDI

NEW TARGETS-BARKLY COPPER-GOLD SUPER PROJECT EXPLORATION UPDATE

HIGHLIGHTS:

- **High priority targets identified (out of a total of 55 targets);**
- **Range of target depths – from areas of outcrop to 100-400m cover;**
- **Prospect scale sampling, and geophysics underway to refine drilling plans;**
- **Initial phase of field work to focus on shallow targets;**
- **New shallow targets include areas of anomalous silver – (a pathfinder to copper-gold);**
- **Up to 3m at 52.3g/t Ag and 1m at 87.2g/t Ag in top of bedrock historical vacuum drill samples.**

Middle Island Resources Limited (ASX: **MDI** or “**Middle Island**”) is pleased to update shareholders on our Barkly Project exploration and targeting programme.

The work is targeting prospective areas for IOCG and Sediment Hosted Cu-Zn-Pb-Ag deposits at Tennant Creek and Barkly. The company's exploration holdings in the region now covers some 6,918 sq kms with the addition of new application EL33585 to secure a new target (Zermatt).

High priority exploration targets have been identified for immediate follow-up. A total of 55 targets have been identified for ongoing assessment (Figure 1).

Targeting was based on deposit conceptual model parameters evidenced by magnetic, gravity and structural model signatures. Rankings consider the character, amplitude and size of the target signatures in addition to simplicity to explore including depth to target.

Targets are predominantly 'blind' beneath post-mineralisation cover ranging from 100-400m but include several targets in areas of outcropping prospective basement or shallow cover.

Of note are new shallow targets, Eiger and Zermatt, identified within EL32291 and new application EL33585 where extensive areas of anomalous silver - up to 3m at 52.3g/t silver and 1m at 87.2g/t silver – are recorded in top of bedrock samples from historical vacuum drilling (refer to Appendix 1 for details).

Many of the high-grade copper-gold deposits in the Tennant Creek region contain significant silver, for example the nearby recently discovered Hermitage Project (Figure 2).

The ranked targets will inform MDI's exploration strategy. Initial field testing of the targets applying soil sampling has commenced using sampling and analytical methods that may detect low level metal anomalies in unmineralised cover above 'blind' deposits. The soil sampling programmes have started on the new shallow targets in addition to further work on the Crosswinds Prospect copper occurrence which was drilled in 2022.

Commenting on the company's exploration programme, MDI Chief Executive Officer, Roland Bartsch said;

"On joining MDI in April, one objective was to reassess the many Barkly Project exploration opportunities. The advancement to prospect scale work on the assembled portfolio of priority targets, that includes shallow opportunities, is an exciting next step toward drill plans on a spread of drill targets.

The systematic approach adopted is integral to MDI's exploration strategy to add value through growth of scientific understanding and concepts, enabling resources and future drilling to be focused on the top targets, maximising the potential for exploration drilling success."

RELEASE AUTHORISED BY THE MDI BOARD:

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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

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Roland Bartsch, BSc(Hons), MSc, MAIG. Mr Bartsch is a full-time employee of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaking 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 Bartsch consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

APPENDIX 1: EXPLORATION UPDATE

Exploration Targeting

The Company's technical team aided by data processing and modelling conducted by SGS consultants has identified a total of 55 exploration targets within the Barkly tenements for ongoing assessment (Figure 1). A number of high priority targets have been identified for immediate following.

This initial targeting exercise considered prospectivity for IOCG and Sediment Hosted Cu-Zn-Pb-Ag deposits, based on deposit conceptual model parameters evidenced by magnetic, gravity and structural model signatures (refer to Appendix 2, Table 1 for regional geological context). Rankings consider the character, amplitude, and size of the target signatures in addition to simplicity to explore including depth to target.

New opportunities outside the Company's current holdings in the Barkly - Tennant Creek region are being identified in the targeting process. New application EL33585 has been applied for to secure a new target (Zermatt) that is yet to be granted. The company's exploration holdings (granted and applications) now cover some 6,918 sq kms.

Targets are predominantly 'blind' beneath post-mineralisation cover ranging from 100-400m but include several targets in areas of outcropping prospective basement or shallow cover.

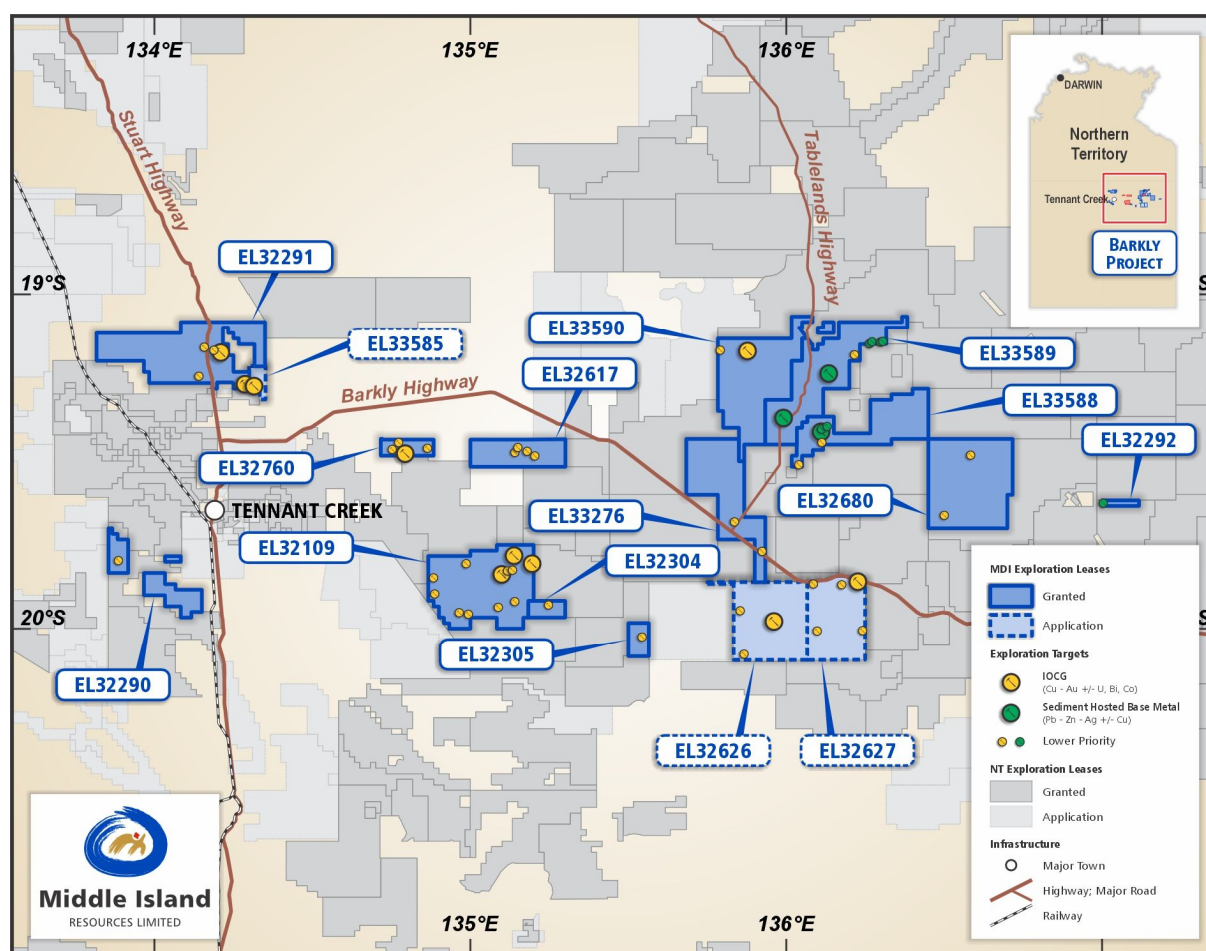


Figure 1. Barkly Project tenements and exploration target locations.

Detailed prospect scale soil sampling has commenced across a selection of targets on EL32291, EL32290, EL32760, EL 33276 and EL33588. First to be addressed are shallow priority targets that have advanced to the Prospects stage on EL32291 and new application EL33585 (Eiger & Zermatt Prospects; refer below). Detailed ground gravity surveys are also planned to constrain potential drill targets on EL32991, EL32109, EL33589 and EL33588.

Eiger and Zermatt Prospects

Priority targets were identified in EL32291 and new application EL32585 in areas of outcrop and shallow cover. These included two discrete gravity highs evident in the NT public domain datasets and two geochemical targets (Eiger and Zermatt Prospects) in interesting structural settings.

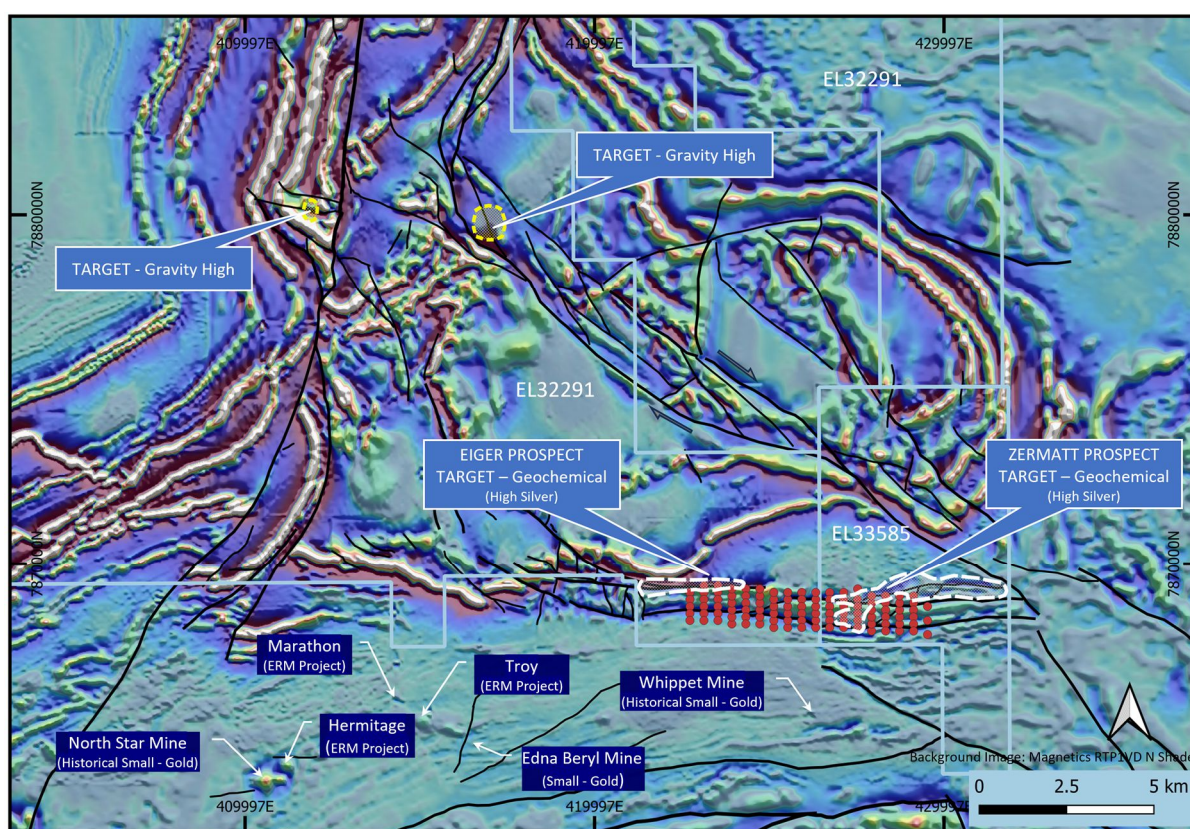


Figure 2. Location of priority prospects and targets within EL32291 and EL33585 with respect to nearby projects where high-grade copper-gold mineralisation occurs in association with silver. Silver anomalies at the Eiger and Zermatt Prospects are defined by widely spaced (400 x 200m) vacuum drill hole top of bedrock samples (red dots). The anomalies are situated on an E-W structure along a similarly orientated magnetic and gravity ridge corresponding with IOCG prospective stratigraphy (Warramunga Formation or lower Ooradigee Group).

At the Eiger and Zermatt prospects two extensive areas of anomalous silver have been identified based on top of bedrock samples from historical vacuum drilling conducted by Normandy Gold Pty Ltd in 1997 (refer to Appendix 1 for details). Sample assays up to **3m at 52.3g/t silver** and **1m at 87.2g/t silver** were recorded. The drilling is widely spaced 400 x 200m with a single geochemical sample at the top of bedrock.

Many of the high-grade polymetallic deposits in the Tennant Creek region contain significant silver; results from examples currently being assessed by other explorers (including the nearby Hermitage Project; Figure 2) that demonstrate the relationship are:

Hermitage Project (IOCG) (ASX ERM Release: 17 August 2022)

Drill hole HERCDD010: 94m at 2.7% copper, 5.6g/t gold, 17.8g/t silver and 0.4% bismuth

Rover 1 Deposit (IOCG) (<https://www.castile.com.au/projects/rover-project/>)

Mineral Resources Estimate (JORC 2012): 6.9 Mt at 1.74 g/t gold, 2.07 g/t silver, 1.2% copper, 0.14% bismuth, 0.06% cobalt

Explorer 108 Deposit (Lead-Zinc Sediment Hosted) (<https://www.castile.com.au/projects/rover-project/>)

Mineral Resources Estimate (JORC 2012): 11.9Mt at 11.1g/t silver, 2.0% Pb, 3.2% zinc

Bluebird Project (IOCG) (ASX TMS Release: 1 September 2023)

Drill hole BBDD026: 18m @2.66% copper, 11.08g/t gold, 5.4g/t silver and 1.47% bismuth

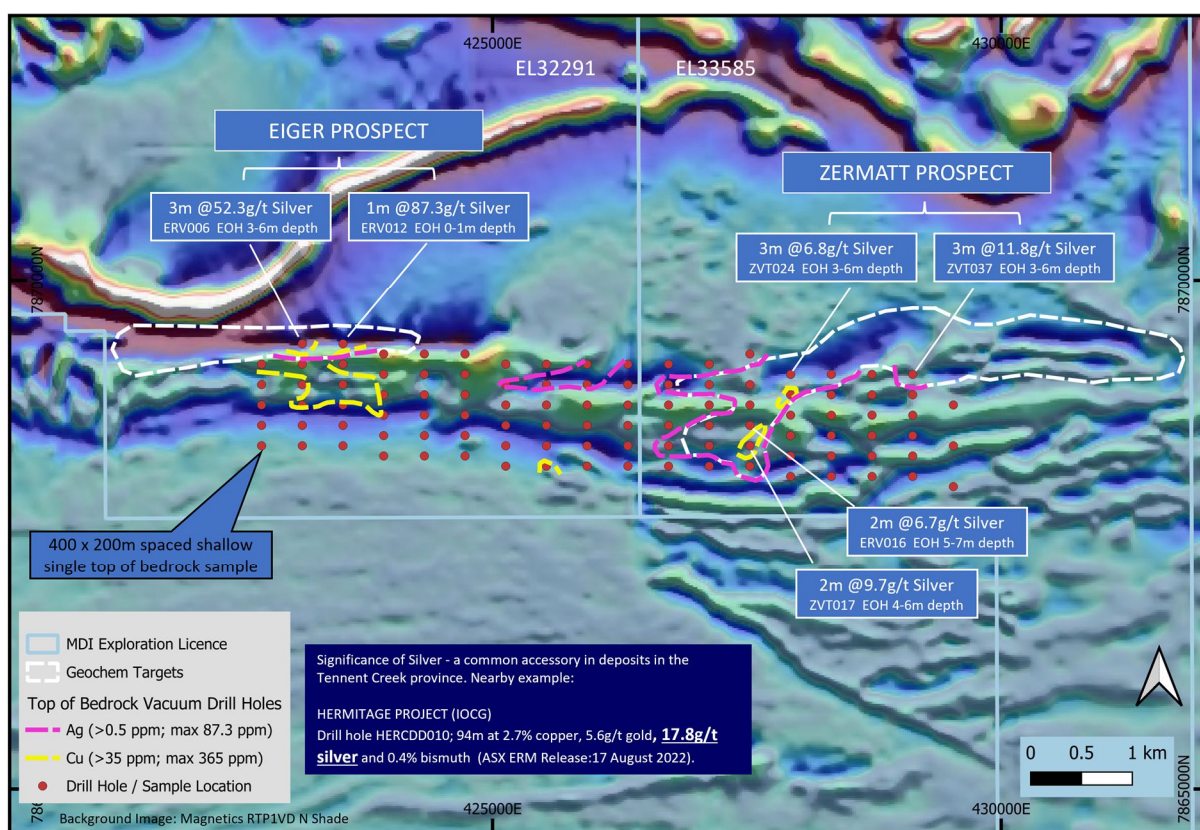


Figure 3. Location and extent of silver and copper anomalies at the Eiger and Zermatt Prospects defined from top or bedrock vacuum drill sampling.

The Eiger and Zermatt silver anomalies are situated on an E-W structure along a similarly orientated magnetic and gravity ridge along contact mapped as Warumungu Formation (the primary host of iron stone hosted polymetallic deposits in the Tennant Creek district) or alternatively interpreted as lower Ooradigee Group which are also considered prospective (interpreted to overlap the intrusion of the Tennant Supersuite and recognised IOCG mineralisation period).

At Eiger **two samples in holes 400 metres apart recorded 52.3g/t and 87.3g/t silver**; located on the edge of the drill grid the samples are along strike on a fault structure (evident as an E-W magnetic low) that's open and untested to the east and west.

At Zermatt, within a broader silver anomaly, the >1g/t silver contour area is approximately **1.2km x 400m with a peak of 9.7g/t silver** that's open and untested to the east along the potential extension of the structure evident at Eiger.

A significant portion of the identified target areas is masked by shallow recent alluvium cover varying to 16m depth in the historical vacuum drill holes.

The silver anomalies are spatially associated with low level anomalous copper and while gold is anomalous above background it is very low (up to 0.6ppb with the >1ppm silver assays). The silver-copper anomalies are however considered significant in that the Tennant Creek copper-gold deposits have small tight footprints in plan (typically <200 x 50m), significantly smaller than the vacuum drill grid spacing of 400 x 200m.

As part of the current field programmes soil sampling is being undertaken to validate the historical results that rely on data sourced from historical exploration compliance reports submitted to the NT DTDME.

References

P Mouchet (1998): Final Report for Exploration Licence 9180 Tennant Creek District, Northern Territory, Eiger Prospect, Tennant Creek 1:250,000 Sheet SE 53-14. Volume 1 of 1. Normandy Gold Pty Limited report to the NT DTDME CR1998-0407.

P Mouchet (1998): Normandy Gold Pty Limited, Final Report for Exploration Licence 9499 for the Period 30/5/96 to 5/5/98 Tennant Creek District, Northern Territory, Zermatt Prospect, Tennant Creek 1:250,000 Sheet SE 53-14. Volume 1 of 1. Normandy Gold Pty Limited, report to the NT DTDME CR1998-0476.

APPENDIX 2: TABLE 1 OF THE 2012 EDITION OF THE JORC CODE

The table below is a description of the assessment and reporting criteria used in reporting the Exploration Results that reflects those presented in Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<p><u>General</u></p> <p>There are no reported new exploration results or samples. The drill program and results listed under the headings Eiger and Zermatt Prospect are from NT open file exploration reports CR1998-0476 and CR1998-0407.</p> <p><u>Eiger & Zermatt Prospects</u></p> <p>Historical (1997) Normandy Gold Pty Ltd top of bedrock sampling was via a vacuum drill rig. A composite 3m sample of the bottom of each hole was collected, penetration permitting.</p>
Drilling techniques	<p><u>Eiger & Zermatt Prospects</u></p> <p>Drilling was conducted by Tracey's Drilling of Tennant Creek using a tractor mounted Edison vacuum drill rig. 59 and 45 holes were drilled at Eiger and Zermatt respectively. Drilling was conducted on a 400 x 200m grid. Holes were vertical with depths varying from 1 to 19m to sample top of bedrock.</p>
Drill sample recovery	<p><u>Eiger & Zermatt Prospects</u></p> <p>No recovery data recorded in the historical reports.</p>
Logging	<p><u>Eiger & Zermatt Prospects</u></p> <p>All drill hole samples were logged for lithology, only lithology data is reported in the historical reports.</p>
Sub-sampling techniques and sample preparation	<p><u>Eiger & Zermatt Prospects</u></p> <p>No drill core. All vacuum drill hole samples were sent to ALS Alice Springs for analysis. Sample preparation consisted of drying, crushing (and splitting where sample weight >4kg), and pulverising. Sample sizes are not recorded in the historical reports.</p>
Quality of assay data and laboratory tests	<p>Drill Samples</p> <p><u>Eiger & Zermatt Prospects</u></p> <p>All drill samples were sent to ALS Alice Springs for analysis. Sample preparation consisted of drying, crushing (and splitting where sample weight >4kg), and pulverising, then:</p> <p>a) Analysis for Au by PM225 (modified aqua regia digest, solvent extraction, graphite furnace/AAS, with Zeeman background correction (ZARG)).</p> <p>b) Base metals analysis by IC588 (hydrochloric acid dissolution with hydrogen peroxide oxidant, solvent extractions, ICP determination)</p> <p>No Quality Control data (including standards or blanks) is recorded in the historical reports.</p>

Criteria	Commentary																																								
	<p>Elements analysed & detection limits Au (0.1ppb), Cu (1ppm), Bi (0.2ppm), As (0.2ppm), Zn (1ppm), Ag (0.1ppm), Cd (0.1ppm), Fe (100ppm), Mn (5ppm), Co (1ppm) Ni (1ppm), Mo (ppm).</p> <table><tr><th colspan="10">Data range for key elements</th></tr><tr><th>Element</th><th>Ag_ppm</th><th>Au_ppm</th><th>Bi_ppm</th><th>Co_ppm</th><th>Cu_ppm</th><th>Fe_%</th><th>Mo_ppm</th><th>Pb_ppm</th><th>Zn_ppm</th></tr><tr><td>Min</td><td>-0.1</td><td>-0.0001</td><td>-0.2</td><td>-1</td><td>2.55</td><td>1.04</td><td>-0.2</td><td>1.73</td><td>-1</td></tr><tr><td>Max</td><td>87.24</td><td>0.0027</td><td>0.6</td><td>469.88</td><td>364.77</td><td>15</td><td>10.04</td><td>30</td><td>191.95</td></tr></table>	Data range for key elements										Element	Ag_ppm	Au_ppm	Bi_ppm	Co_ppm	Cu_ppm	Fe_%	Mo_ppm	Pb_ppm	Zn_ppm	Min	-0.1	-0.0001	-0.2	-1	2.55	1.04	-0.2	1.73	-1	Max	87.24	0.0027	0.6	469.88	364.77	15	10.04	30	191.95
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Verification of sampling and assaying	<p><u>Eiger & Zermatt Prospects</u></p> <p>All drill hole samples were logged for lithology and the data reported in the historical source reports.</p> <p>Drill samples were manually transcribed to MDI's database and internally checked for data entry errors by the Project Geologist.</p> <p>No verification sampling is reported in the historical reports and has been carried out by MDI.</p> <p>No adjustments have been applied to the results.</p>																																								
Location of data points	<p><u>Eiger & Zermatt Prospects</u></p> <p>Drill grids were located by compass hip and chain gridding.</p> <p>The historical data has been converted to/is presented in GDA94 MGA Zone 53.</p> <p>MDI geologists conducted site visits to validate drill hole locations. While hole collars have been rehabilitated and could not be found, drill access tracks were still evident and consistent with the reported grid locations.</p>																																								
Data spacing and distribution	<p><u>Eiger & Zermatt Prospects</u></p> <p>Vacuum drill spacing is generally 400 x 200m. Holes are vertical. Depths vary form 1-19m deep (typically <10m). A single top of bedrock sample was collected and analysed.</p> <p>Exploration results are not for Mineral Resources. Drill spacing is only used as a guide for target definition. Known IOCG deposits in the Tennant Ck area typically have small footprints <200 x 50m compared to the 400 x 200m drill spacing.</p>																																								
Orientation of data in relation to geological structure	<p><u>Eiger & Zermatt Prospects</u></p> <p>The strike of stratigraphic/structural grain at Eiger and Zermatt is interpreted to be East-West bound to the north by a steep south dipping reverse fault. 400m spaced drilling grid lines are orientated N-S at 90° to better test the dominant stratigraphic/structural grain.</p>																																								
Sample security	<p><u>Eiger & Zermatt Prospects</u></p> <p>No available data in historical source reports.</p>																																								
Audits or reviews	<p><u>Eiger & Zermatt Prospects</u></p> <p>Internal reviews of historical datasets collected by Normandy Gold have been undertaken. The data has only been validated against the source references which do not include original laboratory assay reports or laboratory report numbers. Assays and logs are in the form of database printouts. Mapped metal distributions</p>																																								

Criteria	Commentary
	<p>were reviewed and make coherent patterns consistent with the geology and geophysics. Sampling is planned to further validate the historical drill sampling results.</p> <p>No QA/QC samples are reported in the historical source reports.</p> <p>MDI geologists conducted site visits to validate drill hole locations. While hole collars have been rehabilitated and could not be found, drill access tracks were still evident.</p> <p>No external audits or reviews have been undertaken.</p>

Section 2: Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	<p>Barkly Copper-Gold Super Project (Barkly Project) comprises 16 exploration licences (13 granted & 3 applications; Figure 1). All tenements are in good standing. The granted tenements are predominantly in the 2nd to 4th years of their terms and are in good standing. The Exploration Licences are 100% owned by Middle Island.</p> <p>No joint ventures apply.</p> <p>There are no agreements in place with the native title holders.</p> <p>No significant historic sites or national parks are located within the reported exploration prospect or target areas.</p>
Exploration done by other parties	<p><u>Eiger & Zermatt Prospects</u></p> <p>No previous modern exploration by other parties has been conducted. Historical exploration has been undertaken by several parties:</p> <p>a) Uranex Australia (1978-1980) on a regional basis mapping, radiometric & magnetic surveys, rock-soil-stream sampling, and RAB drill program comprising 4 holes at Eiger that did not test the MDI defined targets (Open file report CR1982-0051).</p> <p>b) Western Mining Corporation (JV with Giants Reef Mining) (1991-1994) airborne magnetics and radiometrics; and a subregional gravity survey.</p> <p>c) Normandy Gold Pty Ltd (1996-1998) top of bedrock vacuum drilling (103 holes) targeting the E-W Eiger & Zermatt magnetic ridge (Open file reports CR1998-0476 and CR1998-0407). A dolerite dyke was intersected in several holes which Normandy thought may explain the magnetic response (MDI's review of the data indicates this may not be the sole contributor to the magnetic stratigraphy). The Normandy reports focused on an assessment of Cu-Au-Bi geochemistry levels and determined the results were low and the area not prospective. No consideration was given to silver levels or metal zonation pattern in the historical reports. In addition, no acknowledgement of the coarse sample spacing (ie one sample on a 400x 200 m grid, where all the deposits in the Tennant Creek region have very restricted footprints in plan of $\leq 200 \times 100 \text{m}$).</p>
Geology	<u>General</u>

Criteria	Commentary
	<p>The Barkly tenements extend from outcropping areas near Tennant Creek and the interpreted eastward extensions of prospective Proterozoic stratigraphy that includes the East Tennant Ridge and Burnette Downs Rift corridor beneath shallow to moderate depth Georgina Basin cover.</p> <p>The Georgina Basin extends east from Tennant Creek across the border to Mt Isa and is sub-divided by several basement highs into sub-basins. The principal basement high, the East Tennant Ridge, runs through the Barkly Project area, where the interpreted depths of post-mineral Georgina Basin sedimentary cover range from 100 -250m along the ridge axis, increasing on the flanks of the ridge. The underlying basement and Paleoproterozoic are relatively unexplored as a result of the veneer of younger sedimentary rocks.</p> <p>The East Tennant corridor has gained recognition as a priority, largely unexplored, IOCG mineral province (Figure 2). IOCG deposits, which are MDI's primary target to date, include large lower grade deposits to smaller high-grade variants. Australian deposit examples include Olympic Dam, Prominent Hill, and Carrapateena in South Australia; Ernest Henry in Queensland, and Warrego and Juno located to the west of the Barkly Project at Tennant Creek.</p> <p>IOCG deposits and alteration surrounding them have elevated levels of iron oxide minerals magnetite and hematite, which give rise to elevated magnetic and gravity (density) signatures that can be mapped readily with geophysical surveys (magnetics and gravity). The copper-gold mineralisation that makes up the deposits occurs as sulphide minerals with a more restricted areal extent that can commonly be mapped by other geophysical techniques (IP, EM, MT). The often-strong geophysical signatures of the alteration and mineralisation lends itself to effective explorations under cover, as is the case at Barkly. 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-mineralisation cover.</p> <p>The corridor is also considered to be prospective for other styles of mineralization including large sediment hosted Cu-Zn-Pb-Ag deposits like those found in the Mt Isa Inlier to the east and southern McArthur Basin to the north. Deposit examples include Cannington, Mount Isa, Hilton, George Fisher, Lady Loretta, Century, Walford Creek and McArthur (HYC). The East Tennant Ridge is fault bound and marks the southern margin to the Burnette Downs rift corridor. Palaeoproterozoic sedimentary strata within the rift grabens and onlapping onto the basement highs include rocks interpreted to be extensions of the superbasins that host many of the listed deposits.</p> <p><u><i>Eiger & Zermatt Prospects</i></u></p> <p>Mineralisation is considered to be similar to other IOCG deposits in the area. The Eiger and Zermatt silver anomalies are situated on an E-W structure along a similarly orientated magnetic and gravity ridge mapped as Warumungu Formation (the primary host of iron stone hosted polymetallic deposits in the Tennant Creek district) or alternatively interpreted as lower Ooradigee Group which are also</p>

Criteria	Commentary
	considered prospective (interpreted to overlap the intrusion of the Tennant Supersuite and recognised IOCG mineralisation period).
Drill hole Information	<p><u>Eiger & Zermatt Prospects</u></p> <p>No new exploration drill data. All results are from Open File historical exploration annual or final reports CR1982-0051, CR1998-0476 and CR1998-0407.</p> <p>No material information has been excluded.</p>
Data aggregation methods	<p><u>Eiger & Zermatt Prospects</u></p> <p>Not applicable.</p> <p>These exploration results are not from Mineral Resources.</p>
Relationship between mineralisation widths and intercept lengths	<p><u>Eiger & Zermatt Prospects</u></p> <p>Not applicable. Only single top of bedrock drill hole geochemical sample assays reported.</p>
Diagrams	Please refer to Figures 1 to 3.
Balanced reporting	<p><u>General</u></p> <p>A full compilation of available data collected by MDI and compiled from previous explorers that are relevant to the prospects described has been referenced in this Table 1.</p> <p><u>Eiger & Zermatt Prospects</u></p> <p>The range for all the top of drilling dataset for each element analysed has been reported with best results for Ag and Cu illustrated in Figure 3.</p> <p>These exploration results are not for Mineral Resources.</p>
Other substantive exploration data	<p>Exploration results are not for Mineral Resources.</p> <p><u>Eiger & Zermatt Prospects</u></p> <p>Normandy report applying of an having granted an AAPA Sacred Site Authority Certificate for the vacuum drilling area. To date no ground disturbance work has been undertaken by MDI that would trigger a need for new clearances.</p>
Further work	Additional work will consist of prospect scale mapping, soil sampling and ground-based geophysics (such as gravity and IP) and RC and diamond exploration drilling.