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:
586 million ordinary shares
38,300,000 unlisted options

Cash
$1.3m (as at 30 September 2017)

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 – 14 November 2017

508.3m at 1.38g/t Au intersected in Two Mile Hill diamond drilling at Sandstone gold project, WA

- **Following completion of a 231m diamond core extension to hole MSDD156 (to a final depth of 730m), a revised gold intercept of 508.3m at 1.38g/t Au was intersected at the Two Mile Hill deeps deposit within Middle Island's Sandstone gold project in WA.**
- **MSDD156 is mineralised from the start of coring to 592m depth, including an intercept of 160m at 2.31g/t Au (from 432m to 592m depth).**
- **When combined with the RC pre-collar (MSDD155) immediately adjacent to MSDD156, the extended mineralised intercept becomes 551m at 1.33g/t Au.**
- **The intercept in MSDD156 is entirely consistent with previous diamond drilling at Two Mile Hill, including intersections of 372.7m at 1.52g/t, 230.4m at 1.62g/t, 353.3m at 1.04g/t, 141.0m at 2.30g/t and 156.3m at 1.14g/t Au.**
- **Drilling confirms the presence of a substantial and ubiquitously mineralised system measuring 250m in strike and up to 90m in width that is mineralised to at least 713m depth and remains open beneath this level.**
- **This latest drill intercept, along with encouraging results derived from recent metallurgical and mineralogical testwork, increases the potential for bulk underground mining beneath the proposed open-pit cutback at Two Mile Hill.**

SANDSTONE GOLD PROJECT (WA)

Two Mile Hill Tonalite Deeps Diamond Drilling

A diamond core extension to drill hole MSDD156 was completed at the Two Mile Hill tonalite deeps deposit during September. The 230.9m NQ2 diamond core extension on MSDD156 (730m total depth) comprised the remaining drilling available under Round 14 of the WA Government's Exploration Incentive Scheme (EIS) grant, following a successful variation request.

The original MSDD156 generated an intercept of 415.2m at 1.34g/t Au from the commencement of coring at 83.7m depth to the end of the hole at 498.9m. This broader intercept ended with an intersection of 66.9m at 3.27g/t Au from 432m to end of hole at 498.9m, finishing in strongly mineralised material.

Details of the original hole can be found in the Company's ASX release dated 7 June 2017, and updated in an ASX release dated 11 October 2017.

The primary purpose of the MSDD156 extension was to establish to what extent the higher grade zone persisted with depth.

The initial 95m of the extension was visually strongly mineralised, characterised by intense sheeted quartz veining and associated sericite-carbonate alteration, including logged instances of visible gold.

At 599m depth the hole transitioned into basalts comprising the western (hangingwall) contact of the tonalite. Navigational drilling (during which there is no core recovery) was employed to bring the hole back into the tonalite. A further 90.1m of more weakly quartz-veined tonalite was then intersected before the hole once again deviated into the hangingwall basalts. As this process would likely be repeated, given the expense of navi-drilling and having reached the anticipated limit of the EIS grant funding, the hole was terminated in basalt at 730m depth.

Details of diamond hole MSDD156 are provided in Table 1 below.

Table 1
Diamond drillhole location & orientation

Hole ID	Deposit	Easting	Northing	mRL	Grid	Depth	Dip	Azimuth
MSDD156	Two Mile Hill	723134	6892624	520	MGA94_50	730.0m	-75°	270°

The aggregate result is that MSDD156 is **mineralised from the commencement of coring at 83.7m depth to 592m depth**, with logging and assaying demonstrating **remarkably consistent vein densities, alteration intensity** (as shown in Figure 1) **and gold grades.**

Figure 1
A selection of core trays from MSDD156

Although not a focus of logging, **visible gold was noted to be associated with quartz veins at depths of 118m, 290m, 470m, 528m and 586m** with an example provided in Figure 2.

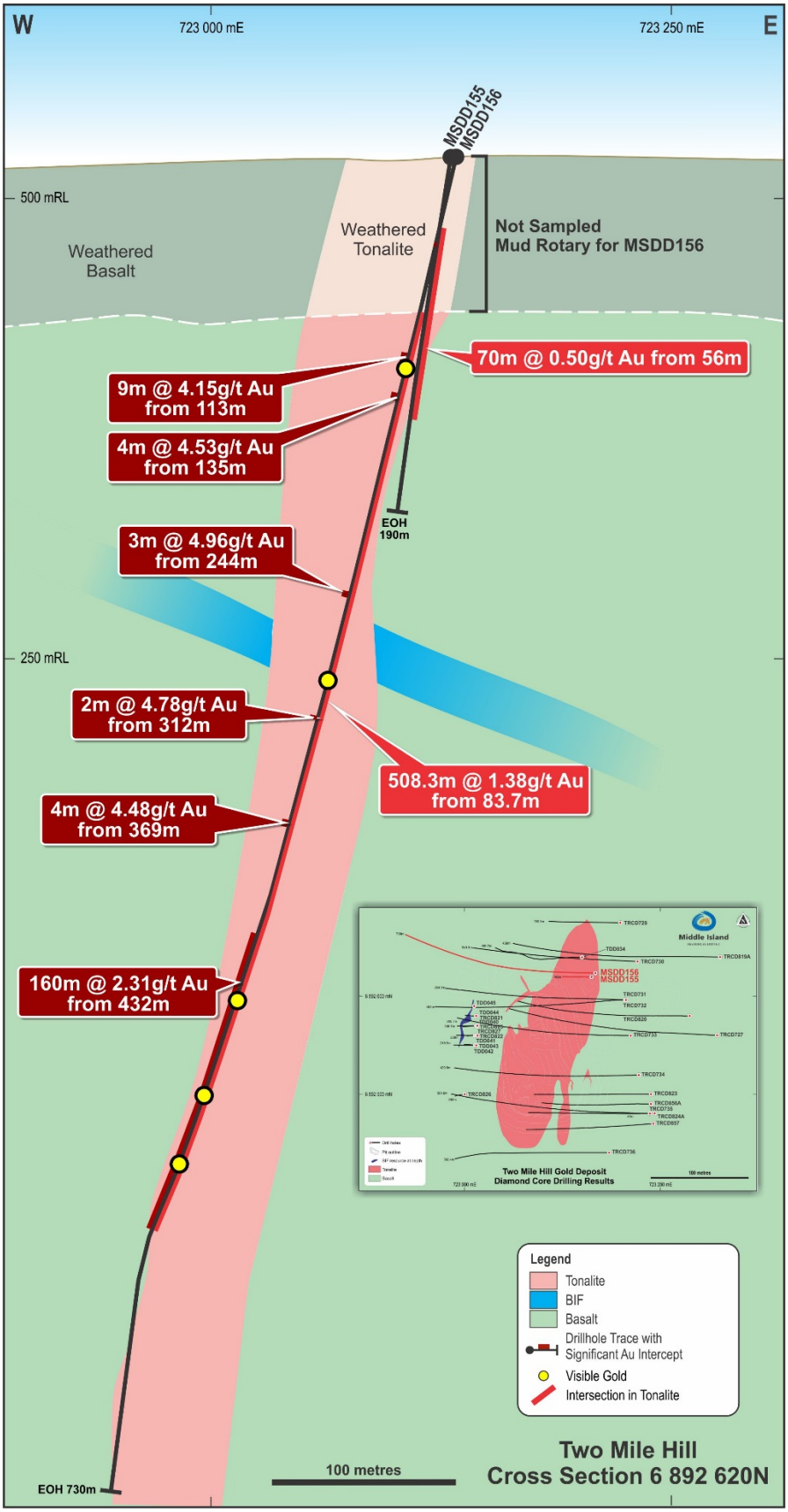
Figure 2
Example of visible gold at 586m depth in MSDD156

Applying a minimum intercept grade of 0.5g/t Au, a lower cut-off grade of 0.1g/t Au and maximum 5m interval of included waste, MSDD156 generated an aggregate intercept of **508.3m at 1.38g/t Au from the commencement of coring at 83.7m depth to 592m**. This broader intercept includes several intervals of higher grade, the most significant being **160m at 2.31g/t Au from 432m to 592, itself including intervals of 22m at 5.95g/t and 4m at 22.6g/t Au**.

When matched with the immediately adjacent RC pre-collar in MSDD155 (the MSDD156 pre-collar being un-sampled mud rotary) and applying the same parameters, the overall mineralised intercept increases to **551m at 1.33g/t Au**.

An updated drill section incorporating MSDD156 is included as Figure 3.

Figure 3
Two Mile Hill diamond drill section 6,892,620N showing MSDD156



More significant gold intercepts from MSDD156 are summarised in Table 2.

Table 2
Significant diamond drilling results – MSDD156

Hole	Depth From (m)	Depth To (m)	Interval (m)	Grade (g/t Au)
MSDD156	88	90	2	2.53
MSDD156	95	99	4	2.29
MSDD156	115	121	6	6.13
MSDD156	131	140	9	2.51
MSDD156	225	227	2	2.67
MSDD156	241	252	11	2.21
MSDD156	264	272	8	2.42
MSDD156	278	280	2	2.08
MSDD156	290	292	2	2.68
MSDD156	312	327	15	2.28
MSDD156	331	339	8	2.06
MSDD156	343	346	3	2.12
MSDD156	356	362	6	2.05
MSDD156	364	374	10	2.07
MSDD156	398	400	2	2.34
MSDD156	436	442	6	9.51
MSDD156	448	450	2	2.25
MSDD156	454	476	22	5.95
MSDD156	495	503	8	2.35
MSDD156	528	532	4	2.66
MSDD156	549	552	3	5.21
MSDD156	583	587	4	22.6
MSDD156	634	636	2	3.61

Minimum intercept grade of 2g/t Au.
Lower cut-off grade of 0.3g/t Au, with no upper cut.
A maximum of 2m of continuous included dilution.

Two Mile Hill Geology

The Two Mile Hill deposit comprises an ovoid (elongate north-south), intrusive tonalite stock or plug that measures some 250m long and up to 90m wide at surface that plunges steeply to the west. The intrusive appears to be ubiquitously mineralised to at least 713m depth, the gold being associated with sheeted quartz veining comprising two, essentially sub-horizontal, vein sets. Free gold is frequently evident in quartz veins, with a possible bias towards veins that include stringers of chlorite. Quartz veining is associated with pervasive sericite-carbonate alteration (imparting a pale apple-green colour to the tonalite), frequently accompanied by disseminated pyrite.

Although now classified as a tonalite, having been corrupted by the intense alteration, the original composition may well have been more consistent with a granodiorite. The style of mineralisation at Two Mile Hill is broadly akin to Gold Road's Gruyere deposit, reported to be a tonalite that was originally a monzonite porphyry.

Two Mile Hill Tonalite Deeps Metallurgy

Initial metallurgical testwork on the tonalite deeps deposit indicates that **overall gold recoveries of 93% to 97% can be anticipated, with >58% recoverable via gravity concentration** prior to leaching. Testwork exhibits rapid leach kinetics, with **90% of total gold extraction achieved within the first two hours** on run-of-mine (ROM) composite samples following gravity gold recovery.

A **Bond ball mill work index of 16.4kWh/t, low reagent consumptions and the absence of deleterious elements** confirms technical amenability for treatment through the Company's Sandstone gold processing plant.

Details of the metallurgical testwork are provided in the Company's ASX release dated 6 September 2017.

Two Mile Hill Tonalite Deeps Mineralogy

Initial mineralogical testwork on separate composite samples of quartz veining and tonalite from the Two Mile Hill Deeps deposit suggests that **in excess of 99% of the gold is hosted by the quartz veins**. The composite sample of **quartz vein material averaged 34.8g/t Au**, while tonalite-only composites averaged 0.15g/t Au.

Details of the mineralogical testwork are provided in the Company's ASX release dated 11 October 2017.

Two Mile Hill Ore Sorting Trials

The initial mineralogical results indicate that the concept of reviewing ore sorting as a valid means of upgrading mill feed, thereby lowering process operating costs (and consequently the mining cut-off grade) for a possible bulk underground mining operation, is readily justified. Despite the substantial scale of the Two Mile Hill tonalite deposit, if successful, the ore sorting concept could prove compatible with the milling capacity of the Sandstone processing plant.

Initial characterisation testwork and ore sorting trials are in progress, with results anticipated later in the December quarter.

Resource Update & Underground Mining Concept Study

The Company intends to update the mineral resource estimate for the Two Mile Hill tonalite deeps deposit prior to completing the underground mining concept study during the December quarter.

Two Mile Hill Exploration Potential

Diamond drilling completed to date at Two Mile Hill clearly demonstrates that the mineralised tonalite plug is open at depth below 713m, providing considerable immediate exploration upside. Insufficient drilling has been completed at depth to determine if the intrusive remains a relatively constrained plug or bells out into a larger chamber at deeper levels. MSDD156 at least suggests that the hangingwall contact remains reasonably consistent with depth, but less information is available for the eastern (footwall) contact.

An infill ground gravity survey completed on a 25m x 50m grid pattern over the Two Mile Hill area clearly identifies the Two Mile Hill tonalite and indicates the presence of sub-surface extensions to the Two Mile Hill tonalite and/or additional intrusive bodies with a similar gravity expression to the northeast of Two Mile Hill. The ground gravity survey image is provided as Figure 5, while the recently completed 3D inversion modelling (corrected for oxidation and elevation) is presented in Figure 6.

Figure 5

Ground gravity image showing the Two Mile Hill tonalite and possible extensions and/or proximal analogues (darker blue)

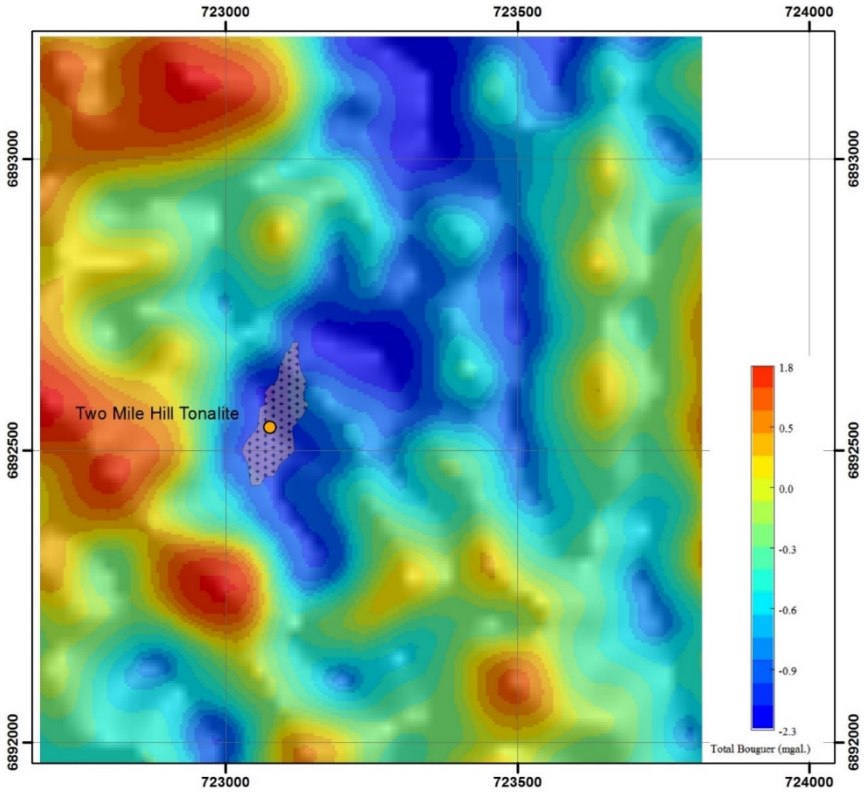
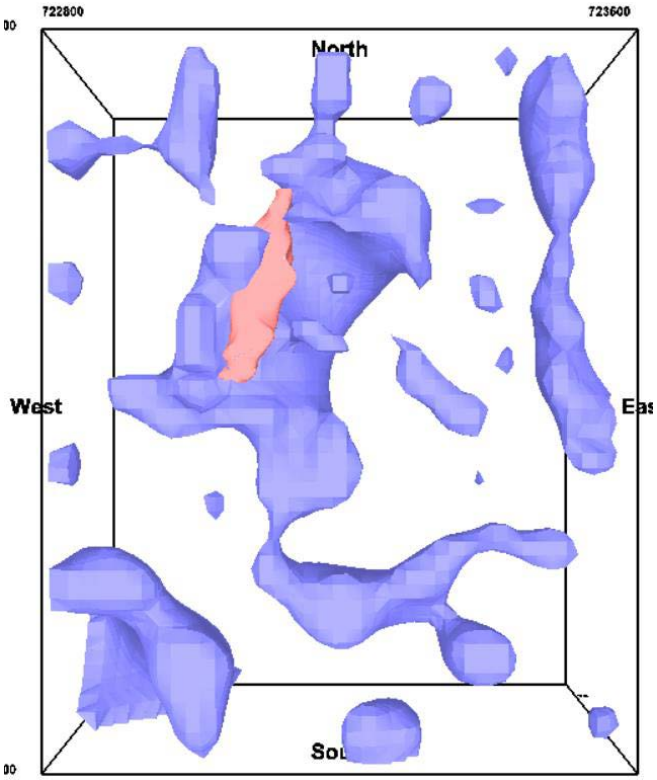


Figure 6

Three dimensional inversion modelling of Two Mile Hill ground gravity data with the Two Mile Hill tonalite shown in pink, with possible extensions and/or repetitions in blue.



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.

Appendix 1

The following Table and Sections are provided to ensure compliance with the JORC Code

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. 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 (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3kg was pulverised to produce a 30g 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 (e.g. submarine nodules) may warrant disclosure of detailed information.*	• *The diamond drill core samples comprised half HQ and NQ core, with sample intervals of 1m.* • *Core recovery was excellent throughout. Core was re-aligned prior to splitting and the left-hand side half core section was consistently sampled. For the quarter core the right-hand side half core was split with the left-hand side core consistently sampled.* • *From the half and quarter HQ and NQ core 1-2kg was sent to the laboratory to be crushed (-10mm) and pulverised to produce a 300g pulp, then split to a 50g charge for fire assay analysis.*
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• *The oriented diamond drill core is HQ (63.5mm) and NQ (47.6mm) in size (diameter).*
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.*	• *Diamond core recovery data was measured for each drill run/interval and captured in a digital logging software package. The data has been reviewed and the core recovery was effectively 100% throughout.* • *The water table was encountered at a 40 – 60m down-hole depth but Middle Island had no issues with the water table effecting the samples.* • *No relationship between sample recovery and grade has been established.*

Criteria	JORC Code explanation	Commentary
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.*	• *The diamond core was logged for lithology, weathering, structure, mineralogy, mineralisation, alteration, colour, RQD and geotechnical parameters. Logging was carried out according to Middle Island Resources internal protocols at the time of drilling.* • *Diamond core was logged continuously to record all relevant features, regardless of length. Core was also photographed wet and dry within each core tray.*
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.* • *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.*	• *Core was cut by diamond saw with the remaining half core left in the core tray for reference purposes.* • *Half core samples were bagged in 1m intervals.* • *All samples were collected and couriered to the Intertek laboratory in Maddington, W.A for sample preparation and analysis.* • *The samples were dried and crushed to -10mm before being split and then a 300g subsample pulverized to 95% passing 75 microns. This fraction was then split again to a 50g sample charge for fire assay. The Intertek laboratories are internationally certified.* • *Middle Island's diamond core routine sample procedure was to consistently cut the core along the orientation line and collect the same side of the cut core for analysis. A second core split was collected off the primary jaw crusher at a frequency of 1:20 samples to provide a field duplicate sample.* • *Sample size and assay charge size are considered appropriate for the style of mineralisation.*
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• *Middle Island Resources adopted a 50g fire assay method with an ICP-OES finish. This technique is considered suitable for gold mineralisation associated with sulphides.* • *No other measurement tool/instrument was used to derive assays, however a gyroscopic survey instrument was used to monitor down-hole deviation.* • *Middle Island included laboratory duplicates, field duplicates and certified standards routinely in the assay train at a 1:9 frequency, and a quartz wash was used after each sample pulverised.*

Criteria	JORC Code explanation	Commentary
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.*	• *Sampling was undertaken by experienced geologists from Middle Island Resources who confirmed the intersections as prospective for gold mineralisation.* • *No twinned holes or umpire assaying were used as part of this programme.* • *Sampling data were imported and validated using a GBIS database software system by an experienced database consultancy.* • *Assay data were not adjusted.*
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.* • *Quality and adequacy of topographic control.*	• *Surface collar coordinates were surveyed by DGPS. Given magnetism inherent in the host rock, a high quality downhole gyro was used to determine the dip and azimuth of the diamond holes at 25m intervals.* • *MGA94 Zone 50.* • *The topographic surface was calculated from previous mine survey pickups and confirmed by DGPS.*
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.*	• *Core samples are reported at 1m sample/assay intervals.* • *The data spacing is adequate to provide continuity of grade for exploration drilling and resource estimation purposes.* • *No sample compositing was adopted.*
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.*	• *The hole was drilled down the axis of the tonalite in order to orthogonally intercept the dominant, sub-horizontal orientation of mineralised sheeted quartz vein sets. As such these holes do not represent an accurate interrogation of host rock disposition, but the reported mineralised intercepts are effectively true widths.*
Sample security	• *The measures taken to ensure sample security.*	• *All samples were held at the Middle Island exploration camp in the custody of Middle Island employees prior to collection by the courier for transport to the laboratory in Perth.*
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• *Field data collected were logged and validated in a custom field logging tool.* • *The database was again validated and audited by recognised external database consultants, Expedio.*

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 sampled diamond core is derived from Mining lease M57/128, which is 100% owned by Sandstone Operations Pty Ltd, a wholly-owned subsidiary of Middle Island Resources Limited.* • *As of 5/12/2016 Sandstone Operations Pty Ltd was the sole owner of the project, including Mining Lease M57/128.*
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• *Previous exploration was undertaken and reported by Herald Resources Limited and Troy Resources NL during their respective tenure of the Sandstone gold project.*
Geology	• *Deposit type, geological setting and style of mineralisation.*	• *The Two Mile Hill deposit comprises a late stage, near vertical intrusive tonalite stock that intrudes the local stratigraphy of mafic volcanics and BIF. Mineralisation is associated with sub-horizontal sheeted to stockwork quartz veining within the tonalite, accompanied by pervasive sericite-carbonate alteration.*
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	• *See table and plan within the release.* • *Data is tabulated within the release.*

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. 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.*	• *Data aggregation and reporting parameters are clearly stated within the text and tables comprising the release.* • *Diamond drilling results are summarised using averages that are length-weighted and the method of aggregation is provided as a footnote to the table and within the text.* • *Not applicable.*
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 (e.g. 'down hole length, true width not known').*	• *The hole was drilled down the axis of the tonalite in order to orthogonally intercept the dominant, sub-horizontal orientation of mineralised sheeted quartz vein sets. As such these holes do not represent an accurate interrogation of host rock disposition, but the reported mineralised intercepts are effectively true widths.*
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• *See figures (map, section and isometric view) within the release.*
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.*	• *Not applicable*
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.*	• *Reported within the release as appropriate and relevant.*
Further work	• *The nature and scale of planned further work (e.g. 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.*	• *Stated within the release as appropriate and relevant.*